United States Department of Agriculture

NRCS

Natural Resources Conservation Service
359 East Park Drive, Suite 2
Harrisburg, PA 17111

USDA

State Technical Committee

AGENDA

Wednesday, July 22, 2020

This meeting will be conducted via WebEx internet conferencing:

Meeting Number: 1468111602

Video Link:

https://ociocts-usda.webex.com/ociocts-usda/e.php?TID=m5e83dfc24a0d0ffa152de9958e2d25e6

Audio Call Number: 1-888-844-9904

Access Code: 2112698

1:00 pm Welcome – Denise Coleman, State Conservationist

1:10 pm Technical Guide Reports

- Engineering – Peter Vanderstappen, State Engineer
- Ecological Sciences – Jared Shippey, Acting State Resource Conservationist
- Soils – Yuri Plowden, State Soil Scientist

1:40 pm FY 2020 Financial Programs – Barry Frantz, Assistant State Conservationist for Programs

- Subcommittee to develop criteria for AGI waiver
- Agricultural Management Assistance (AMA)
- Environmental Quality Incentives Program (EQIP)
- Conservation Stewardship Program (CSP)
- Conservation Innovative Grants (CIG)

2:40 pm Agricultural Conservation Easements Program and Regional Conservation Partnership Program Reports – Susan Marquart, Assistant State Conservationist for Partnerships

Agricultural Land Easement (ALE)

- FY 2020 Geographic Area Rate Caps (GARC)
- Applications for FY 2021

Wetland Reserve Easement (WRE)

- Document: Wetland Restoration Criteria and Guidelines. Send comments on the document to Hathaway.Jones@usda.gov by August 21, 2020.
- Applications for FY 2021

Healthy Forest Reserve Program (HFRP)

- New National HFRP Guidelines are being developed.
- Input welcome on what species from the State Wildlife Action Plan to target. Send species input and rationale to Hathaway.Jones@usda.gov by August 21, 2020.
- Subcommittee to work on new PA HFRP – if interested send contact information to Hathaway.Jones@usda.gov by August 21, 2020.

Regional Conservation Partnership Program (RCPP)

- FY 2019 Funded RCPP Classic Projects
- FY 2020 RCPP Applications for Alternative Funding Arrangements

3:15 pm Committee Input: Do the State Technical Committee members have any suggestions for topics or agenda items for future meetings?

The next State Technical Committee Meeting will be held on Thursday October 22, 2020.

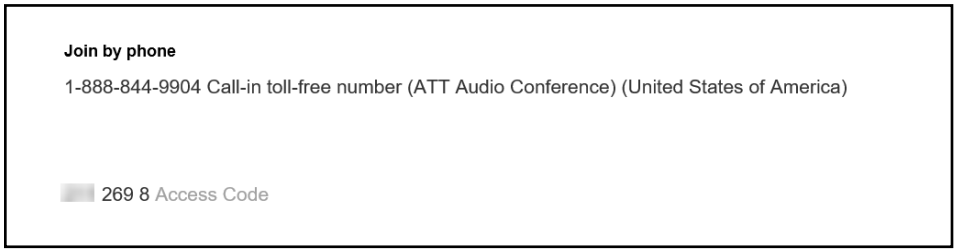
Dates for the 2020 State Technical Committee Meetings:
Wednesday, July 22, 2020
Thursday, October 22, 2020

Connecting to the Teleconference and WebEx Application

The WebEx application will be used for the WebEx meeting. The application does not need to be installed on attendees' computers and can be used on a home PC, if needed. Training audio will be provided by telephone.

Teleconference Connection

1) The telephone number and passcode will be included at the bottom of the meeting invitation.



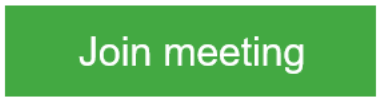
2) Enter the access code followed by # when prompted.

3) When prompted to enter your member ID, simply press # to be connected to the teleconference.

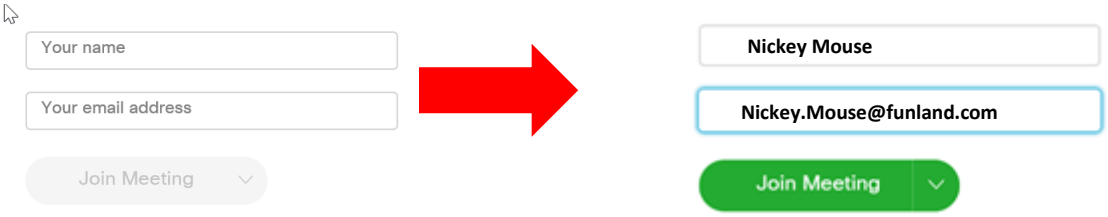
4) **Please mute your phone.**

WebEx Connection

1) Click on the **Join Meeting** link in the invitation.

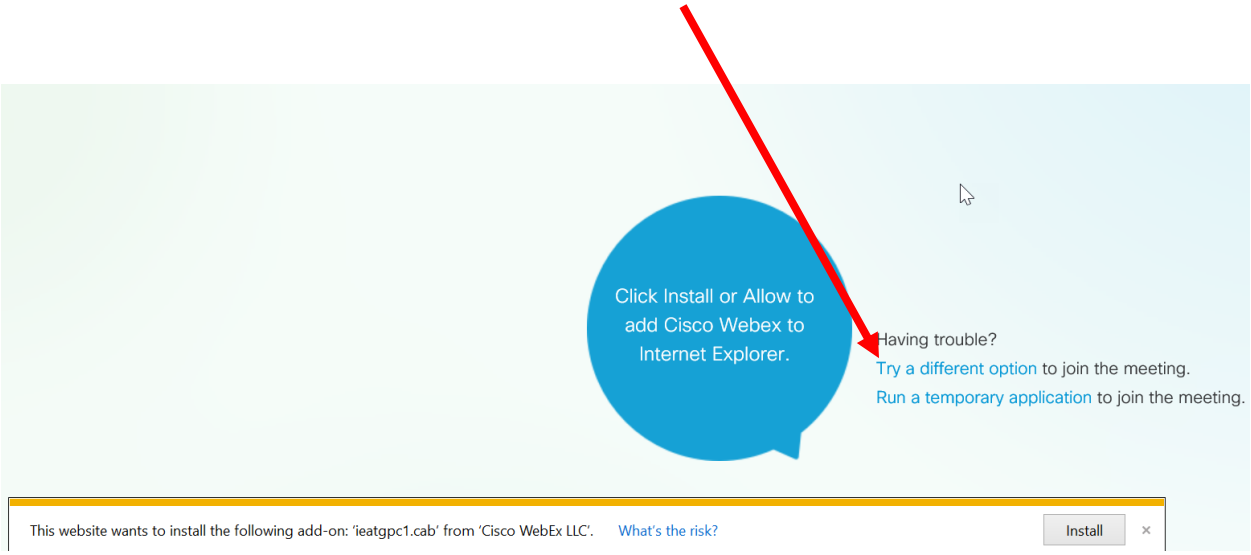


2) When the webpage opens, **enter your name and email address** (note: the join meeting option will be greyed out until the name and email address are complete).

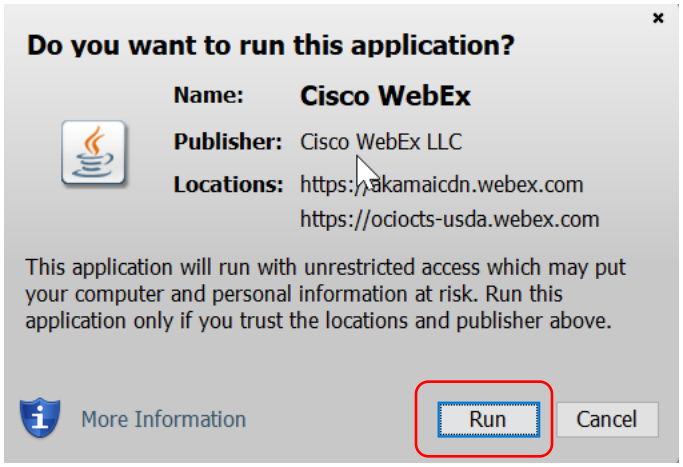


3) Click **Join Meeting**

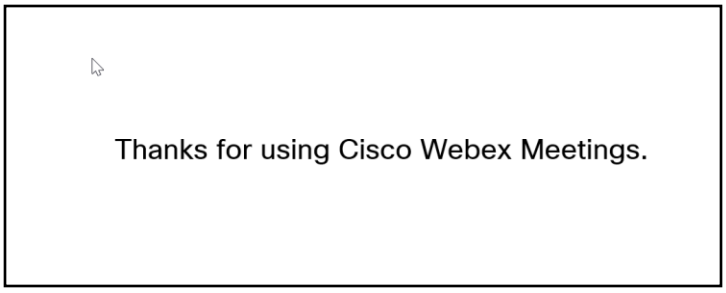
4) When the screen below displays, click on **Try a different option to join the meeting**.



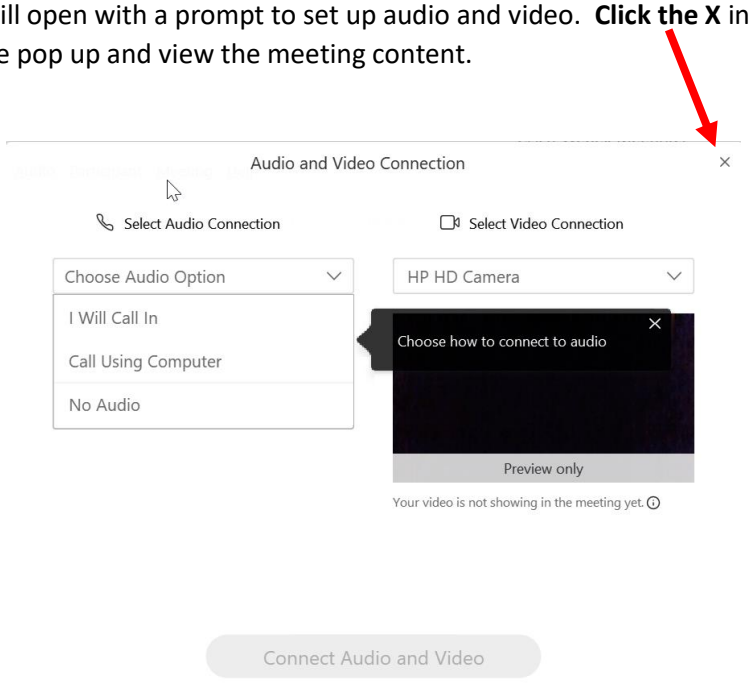
5) When prompted, click **Run** to connect to the meeting.



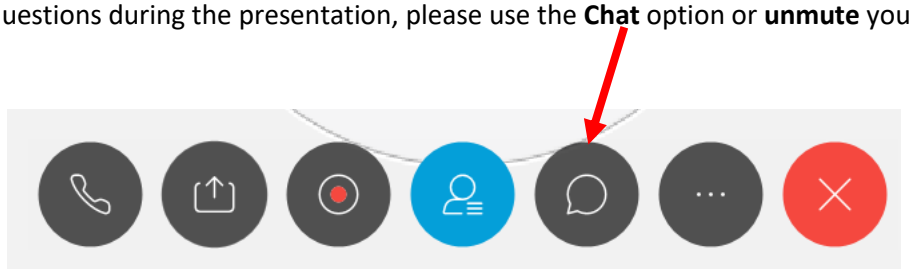
6) The screen below will display for a few moments and you will then be taken to the meeting.



7) The meeting will open with a prompt to set up audio and video. **Click the X** in the upper right-hand corner to close the pop up and view the meeting content.



8) To ask questions during the presentation, please use the **Chat** option or **unmute** your phone.



Pennsylvania State Technical Committee Meeting

July 22, 2020

The Pennsylvania State Technical Committee Meeting was held by WebEx Internet Conferencing on Wednesday, the 22nd of July 2020. It was noted that copies of the presentations being made can be found on the PA NRCS public website.

Denise Coleman (NRCS) (Natural Resources Conservation Service) opened the meeting at 1 PM. and thanked all who were joining by WebEx and those joining by the Toll-Free Number.

Pete Vanderstappen (NRCS) State Engineer was introduced and proceeded to provide an Engineering update. (See attached hand-out). He started his presentation with an update on the NRCS Dam Rehabilitation Program, in particular, the Hibernia Dam Rehab project. He shared some pictures of related activities and explained the progress. He explained that NRCS is digging a trench to establish a concrete wall so that the emergency spillway will not wash out. The Hibernia project is in Chester County in Southeast Pennsylvania. He stated that the Brandywine PA-433 project design has been submitted to DEP for review and the plan is to bid it out this fall; Neshaminy PA-620, the design is in process; Thatcher Run PA-112 – the design is completed and ready for bidding once the sponsor gets funding. Plan was to bid it out early spring of 2020; the Green-Dreher PA-439 design is 90% done; the Mill Creek PA-454 design is in its initial stages; Marsh Creek PA-602 design is underway; and Lackawaxen Tributaries, multiple sites, the planning is underway. He indicated that we are in the process of contracting ten (10) more assessments for this year. We are working on PL 566 Land Treatment Watershed projects and we have four of those approved for 2020. We have Chiques Creek land treatment in Lancaster County. The district is in process of getting business plan for that particular project. The next one is a Spent Mushroom Composting Land Treatment in Chester County. They have a contractor selected, now they're negotiating the final price to do actual work. We have a Jacobs Creek Flood Control project in Westmoreland County where we are finalizing price proposal and going to award stage for the planning phase. The contractor is picked we are negotiating the final price and getting ready to award that one. Martins Creek Flood Control in Wyoming County, we are negotiating and finalizing the proposal for bid. We have a contractor selected and getting ready to release it to the planning phase. Conservation Practice Implementation, although the Field Offices have been operating on a limited basis, the Field Office Staff have been going out to the field, observing social distancing, etc. to ensure that implementation of conservation practices were continuing. Under Emergency Watershed Protection (EWP), the 2018 EWP status, 93 sites have been awarded cost-share, we have 28 sponsors, all the work has been completed and now we are doing the final paperwork and closeout activity. NRCS has obligated 75% and

DEP is covering the remaining 25% or $1.3 Million. Boot Camp I and II updates: NRCS WebEx Boot Camp is now a model for a NE Regional Boot Camp. Boot Camp I and II field portions are currently being rescheduled for this fall. It should be noted that several other trainings such as Cultural Resources and ACA training are also in the works. FOTG (Field Office Technical Guide) Update: Section IV of the Pennsylvania FOTG has transitioned to a cloud based system. NRCS National Level is finalizing the comments and will be releasing updated Practice Standards within the next few months. Also a complete review of Practice Standards nationwide has been mandated by the 2018 Farm Bill. They have been actively pursuing that process for the last year and a half, and I think we're in the final stages of public comments and supposedly within the next month or two they are going to start updating some of our Practice Standards, and once that happens Pennsylvania will have to readapt and move forward with the new standards.

PA NRCS ENGINEERING UPDATE

PETE VANDERSTAPPEN, PE

STATE CONSERVATION ENGINEER

JULY 22, 2020

Dam Rehabilitation Program

Hibernia Dam Rehab Project is under construction

- Construction entrance and trailer has been setup

-Initial excavation has been done on emergency spillway cutoff wall

-Haul road installed for materials movement on-site

-Contractor installing dewatering system sump

Work started Includes:

- Excavation of earth in emergency spillway
- Material road down to work in outlet area
- Installation of sump

Additional Dam Rehab Updates

1. Brandwine PA-433 Design in for DEP Review
    1. Plan to bid out this fall
2. Neshaminy PA-620 Design in process
3. Thatcher Run PA-112 Design and Ready for bidding once sponsor gets funding
    1. Plan to bid out early spring of 2020
4. Green-Dreher PA-439 Design 90% done
5. Mill Creek PA 454 Design in initial stages
6. Mill Run PA-460 Contract for Design Firm being finalized
7. March Creek PA-602 Design is underway
8. Lackawaxen Tributaries, Multiple Sites, Planning under way

Watershed Rehabilitation Assessments

10 sites are being assessed this year.

Multiple sites have had assessments updated to reflect new rainfall data.

In process of contracting and additional 10 assessments for 2020

PL-566 Land Treatment Watershed Projects

Four projects approved for 2020

Chiques Creek Land Treatment in Lancaster County	Solicitation for bids to develop a plan has been released.
Spend Mushroom Composting Land Treatment in Chester County	Finalizing Price Proposal and going to award stage for Planning Phase.
Jacobs Creek Flood Control in Westmoreland County	Finalizing Price Proposal and going to award stage for Planning Phase.
Martins Creek Flood Control in Wyoming County	Negotiating and finalizing Price Proposal for Planning Phase.

Conservation Practice Implementation

NRCS offices were closed but field support for implementation of practices continued.

Social distancing, phone calls versus site visits, email, etc. were used to make sure our personal and our clients were safe while continuing to carry out program implementation.

Emergency Watershed Protection

2018 EWP Status

-93 sites awarded cost-share

-28 sponsors

-All work has been completed

- Doing final paperwork and closeout

-NRCS 75% cost-share spent $3.9 million dollars

- DEP covered the remaining 25% or $1.3 million dollars

Boot Camps I and II Update

NRCS WebEx Boot Camp is now a model for a NE Regional Boot Camp

Boot Camp I and II field portions are being rescheduled for this fall

Several other trainings such as Cultural Resources and ACA training are also int the works.

FOTG Update

Section IV of the Pennsylvania FOTG has transitioned to a cloud based system.

NRCS at the National level is finalizing the comments and will be releasing updated Practice Standards within the next few months.

- A complete review of the standards was mandated by the 2018 Farm Bill

Jared Shippey, NRCS Acting State Resource Conservationist was introduced and presented updates on Ecological Sciences. Jared said that he had reached out to Mark Goodson (NRCS State Agronomist) and Susan Parry (NRCS Grassland Conservationist) to get their input on updates. There have been two Technical Guide documents that have been updated since our last Technical Committee Meeting in April 2020. One being the Pasture Planning Tool and the Nutrient Calculator Spreadsheet. The Nutrient Calculator Spreadsheet was updated to correct an error related to the Nitrogen availability when planning multiple pasture alternatives. Also NRCS updated the NRCS CPA-52, which is the Environmental Evaluation Worksheet with some current NIPA documentation. We added the programmatic references for our Regional Conservation Partnership Program (RCPP). There have been some revisions for a resource concern Fact Sheets and also updated the CPPPE values (Conservation Practical Practice Physical Effect) on that worksheet. As far as Practice Standards being updated, there two draft new standards that will be distributed to the State Technical Committee for review and comment later this month. Once those are distributed, there will be a three week turnaround for comments. I know one of them is our 590 Standard and that Mark Goodson sent that out to the partners asking for comments on it, and there is only one minor change to that one. Basically we are looking for soil test that are going to be two years back verses three years of what it was. It is compatible with PA's Act 38, also with DPA's requirements and it was reviewed. As I said, Mark sent it out and it was reviewed by DPA, Penn State's PDA, and State Conservation Commission for technical content. For the 595, our Integrated Pest Management Standard, we discussed that one and we're not going to deviate much from the National Standard right now. Pennsylvania's state standard is pretty much right on with what National is doing and we're looking to try to get this more into conservation plans in the future. Pennsylvania is trying to implement it more throughout some of our programs. So we're not going to add much more to that from what the National one is now. He was asked to clarify what the 595 Standard is. He replied that basically through 595 Integrated Pest Management, we're looking for either some type of Pest Management Plan that is developed by one of the partners to be. We have some vineyards up in the Northwestern part of

the state that we've utilized Extension. There are some partners on the TSP list that can write the IPM Plan. Also we're looking for some type of documentation. I believe there is another exam that somebody can take as far as being certified to write 595 Plans, basically documenting what the current status is, what folks are using as far as their herbicide applications.

Jared Shippey

Since the last State Technical Committee, June 2, 2020, two Technical Guide Notices issued the following documents to the Field Office Technical Guide:

1. The Pasture Planning Tool, Nutrient Calculator Spreadsheet has been updated to correct an error related to the calculation of nitrogen availability when planning multiple pasture alternatives.
2. Updated NRCS-CPA-52 with current National Environmental Policy Act (NEPA) Programmatic references for Regional Conservation Partnership Program (RCPP),
3. Revised Resource Concern Fact Sheets, and the
4. Updated Conservation Practice Physical Effect (CPPE) values.

Two draft Pennsylvania Conservation Practice Standards will be distributed to the State Technical Committee for review and comment later this month. There will be a three-week turn around for comments:

1. The national Integrated Pest Management (595) CPS has been revised. The name of the new 595 standard is Pest Management Conservation System. Pennsylvania's draft tracks very closely with the revised national 595 with few edits.
2. The national Nutrient Management (590) CPS has been revised. Only one minor technical criteria was changed (soil test reports less than two years are required for developing a new plan, previously soil test reports up to three years could be used). The revised standard is compatible with the Pennsylvania Nutrient Management Program's Act 38 and DEP's CAFO nutrient management planning requirements. This draft 590 was reviewed by DEP, Penn State, PDA, and the State Conservation Commission for technical content.

Following State Technical Committee review, expect to release the 590 and 595 to the FOTG at the beginning of the coming fiscal year.

Yuri Plowden (NRCS), PA State Soil Scientist was introduced and provided a PA Soil Survey Update. (See attached hand-out) She started off her presentation stating that PA Soils date is managed by seven (7) different soil Support offices, only one of which is located at Mill Hall, Pennsylvania. We have offices in Marietta, OH; Belmont, NY; Frederick, MD; Hammonton, NJ; and Tolland, CT, and they are responsible for full of data. They look at the world through major land resources areas as indicated by colored shapes on the map in my handout. Those major land resource areas correspond to basically physiographic provinces areas if similar geology climate ecology. Pennsylvania has eleven (11) Major Land Resource Areas (MLRAs). There are several locations in Pennsylvania where soil survey is currently actively taking place or has been recently completed. These areas include: Southeast Delaware County; Northern Potter County; and Central Western Allegheny plateau. She proceeded to note the active worksites in Pennsylvania and the various stages of their progress. She discussed Urban Land Units, indicating that NRCS Standards consider urban land as anything greater than 85% impervious cover, so that's where we are going to have to change mapping it to encompass housing developments. This will allow the full survey to more accurately reflect current land use, include data on it and it will be a better product for users. Continuing, she provided an update of areas mined since the last publication. Approximately 27,000 acres have been mined since the most recent mapping updates. Outdated maps showing "natural" soils will be updated to show these mined areas. The updating will improve usefulness of soil survey for NRCS programs, Farmland Protection Policy Act, land use planning, taxation, etc. She then discussed Alluvial Fan Landforms Glaciated Allegheny Plateau – MLRA 140. This involves investigation of alluvial fan landforms in the glaciated section of Potter County, Pa. The 1958 soil survey did not identify these landforms. She noted that alluvial landforms can be subject to flooding and have higher watertables than adjacent glacial outwash terraces. Delineating alluvial fans will improve consistency with adjacent New York counties and improve interpretations. She discussed the changes being made to the Potter County soils legend. She stated that a continuous

evaluation of existing date for MLRA 147 is ongoing in areas of Buchanan, Hazleton, Berks and Weikert.

USDA

United States Department of Agriculture

Pennsylvania

Natural Resources Conservation Service

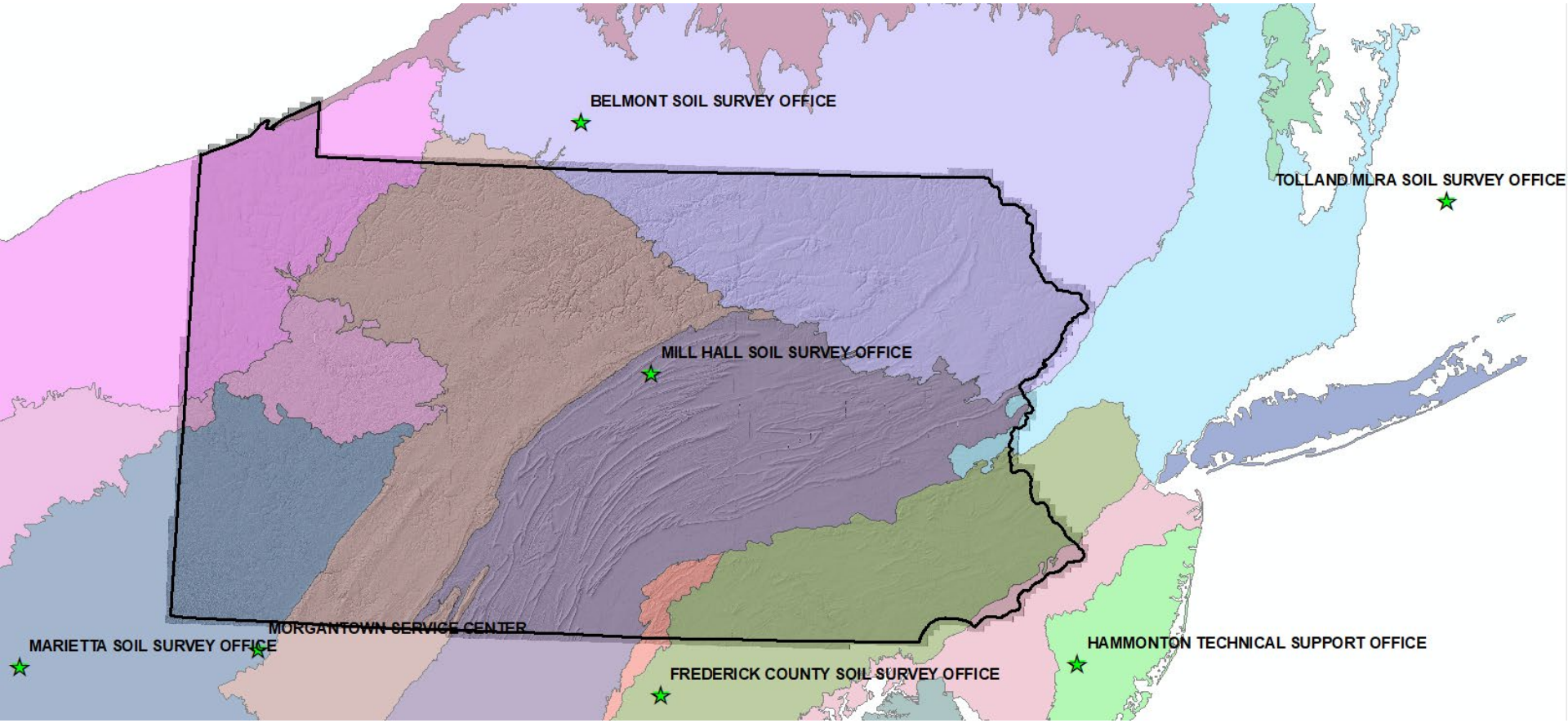
PA Soil Survey Update for the STC

July 22, 2020 – Yuri Plowden, State Soil Scientist, NRCS, Harrisburg, PA

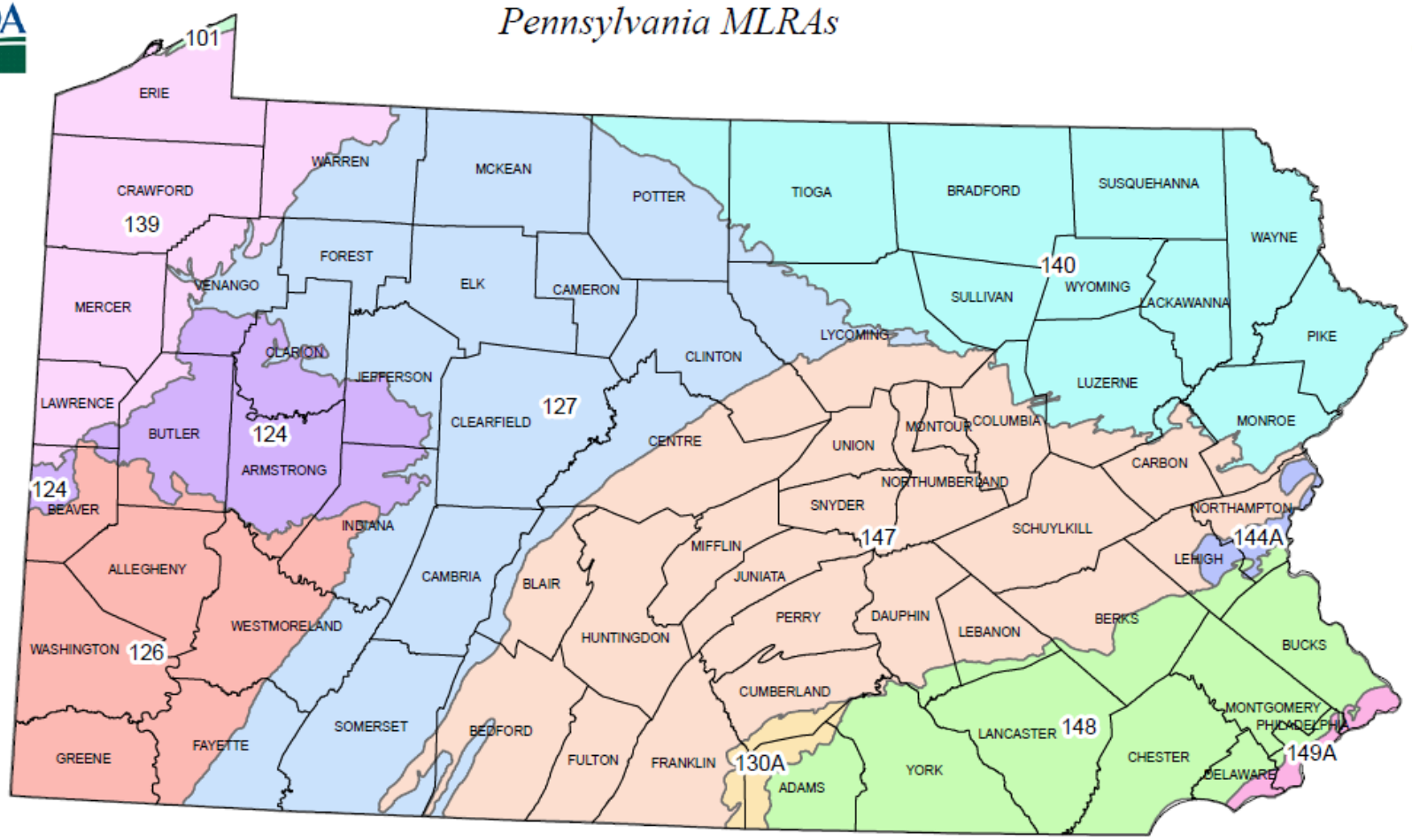
Natural Resources Conservation Service

nrcs.usda.gov/

PA soils data is managed by 7 different soil survey offices



Pennsylvania MLRAs

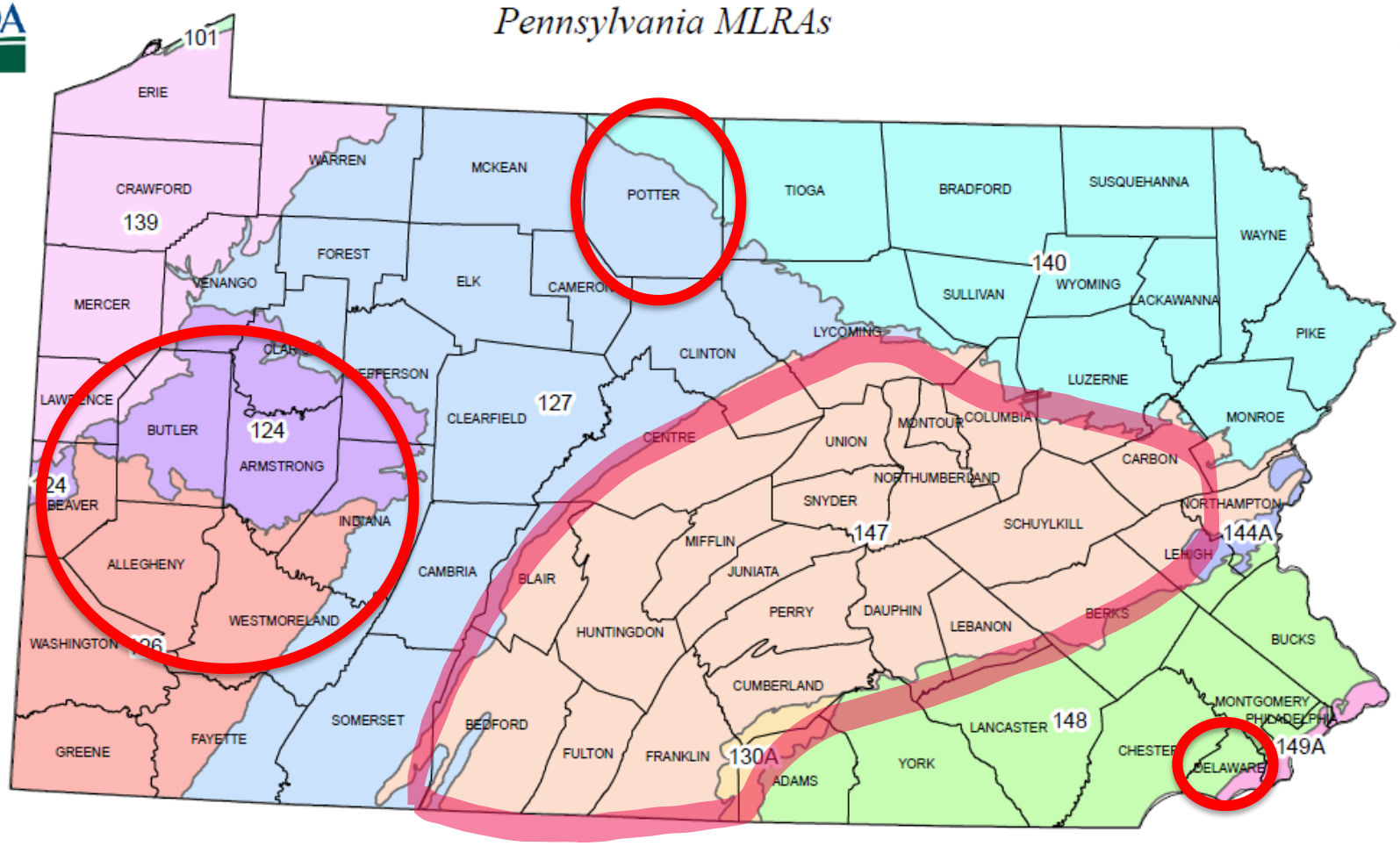


Major Land Resource Areas (MLRAs)

- 101 - Ontario-Erie Plain and Finger Lakes Region
- 124 - Western Allegheny Plateau
- 126 - Central Allegheny Plateau
- 127 - Eastern Allegheny Plateau and Mountains
- 130A - Northern Blue Ridge
- 139 - Lake Erie Glaciated Plateau
- 140 - Glaciated Allegheny Plateau and Catskill Mountains
- 144A - New England and Eastern New York Upland, Southern Part
- 147 - Northern Appalachian Ridges and Valleys
- 148 - Northern Piedmont
- 149A - Northern Coastal Plain

January 2019

Pennsylvania MLRAs



Major Land Resource Areas (MLRAs)

- 101 - Ontario-Erie Plain and Finger Lakes Region
- 124 - Western Allegheny Plateau
- 126 - Central Allegheny Plateau
- 127 - Eastern Allegheny Plateau and Mountains
- 130A - Northern Blue Ridge
- 139 - Lake Erie Glaciated Plateau
- 140 - Glaciated Allegheny Plateau and Catskill Mountains
- 144A - New England and Eastern New York Upland, Southern Part
- 147 - Northern Appalachian Ridges and Valleys
- 148 - Northern Piedmont
- 149A - Northern Coastal Plain

January 2019

Pennsylvania
Natural Resources Conservation Service

Soil Survey Work in Pennsylvania

- 148 - Delaware County Update
- 124 and 126 – Areas Mined Since Publication
- 126 – Conemaugh Ridgetops Project: Gilpin, Culleoka, Rayne
- 140 – Potter County floodplain projects
- 147 – Evaluation Projects

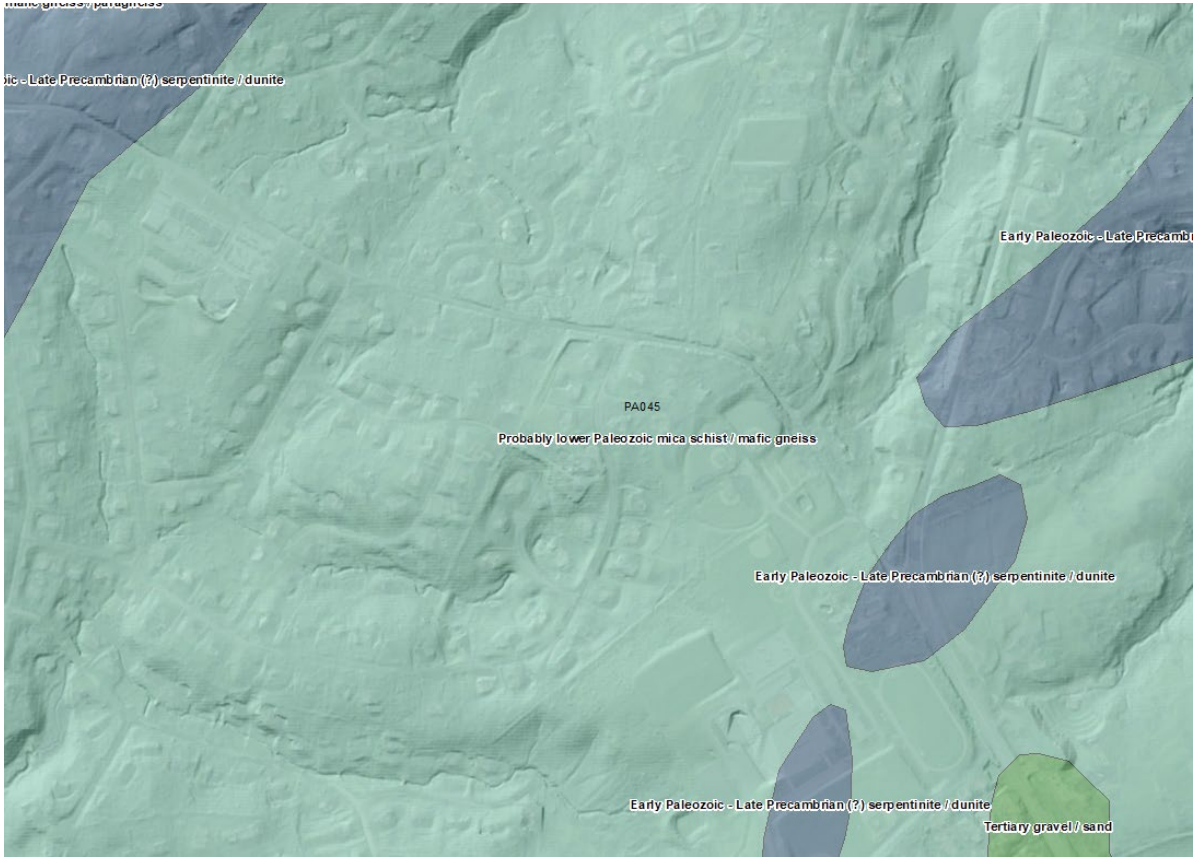
History of Delaware and Chester

- Chester and Delaware counties were a dual county soil survey back in 1960.
- Chester updated in 2008. (but not Delaware)
- NRCS will be doing a partial Delaware County update
  - bringing the mapunits up to current national standards and fixing major GIS edits, mapping current landuse.
- Not a 100% redo.

Example of Spatial Work

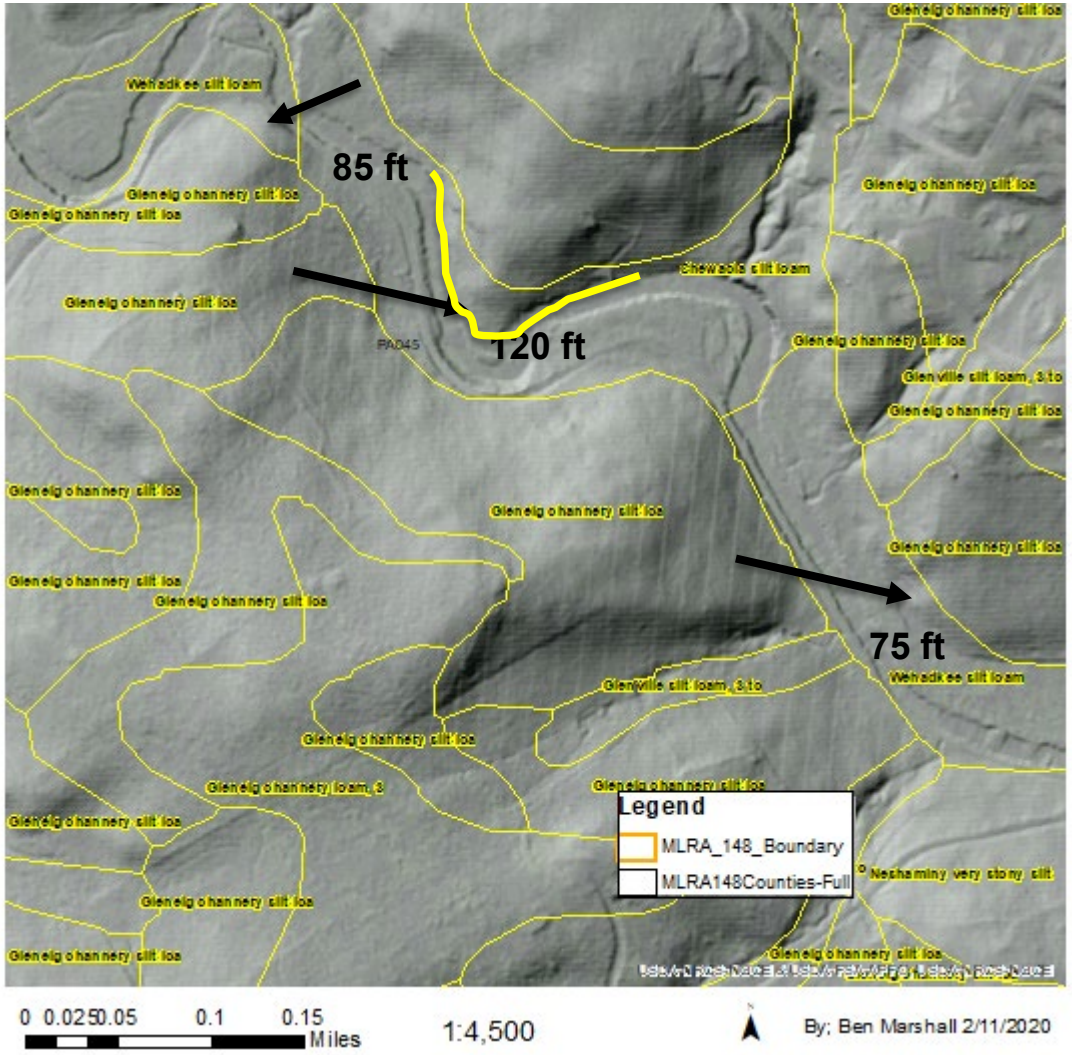
Link to ArcGIS website - http://arcg.is/0nPmbn

Geology Map, from USGS and LIDAR



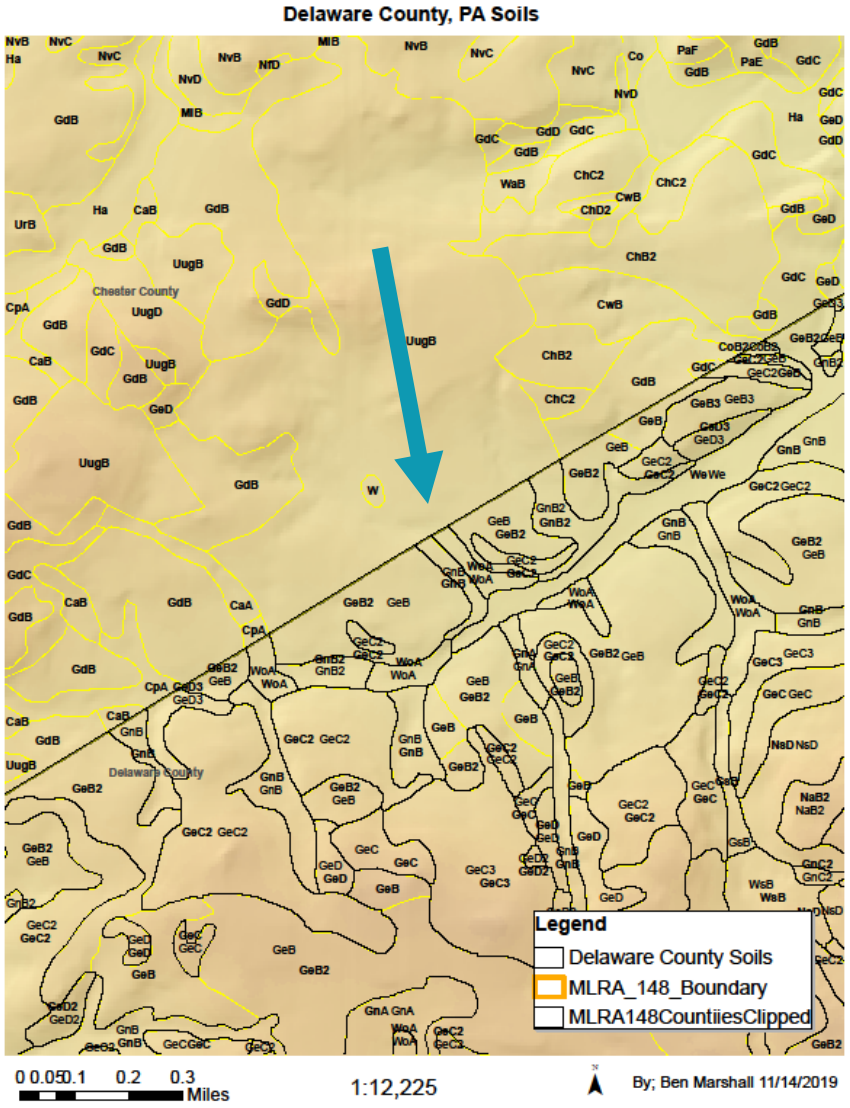
Example of Spatial Work

Floodplain Linework – distance of how far the linework is off.

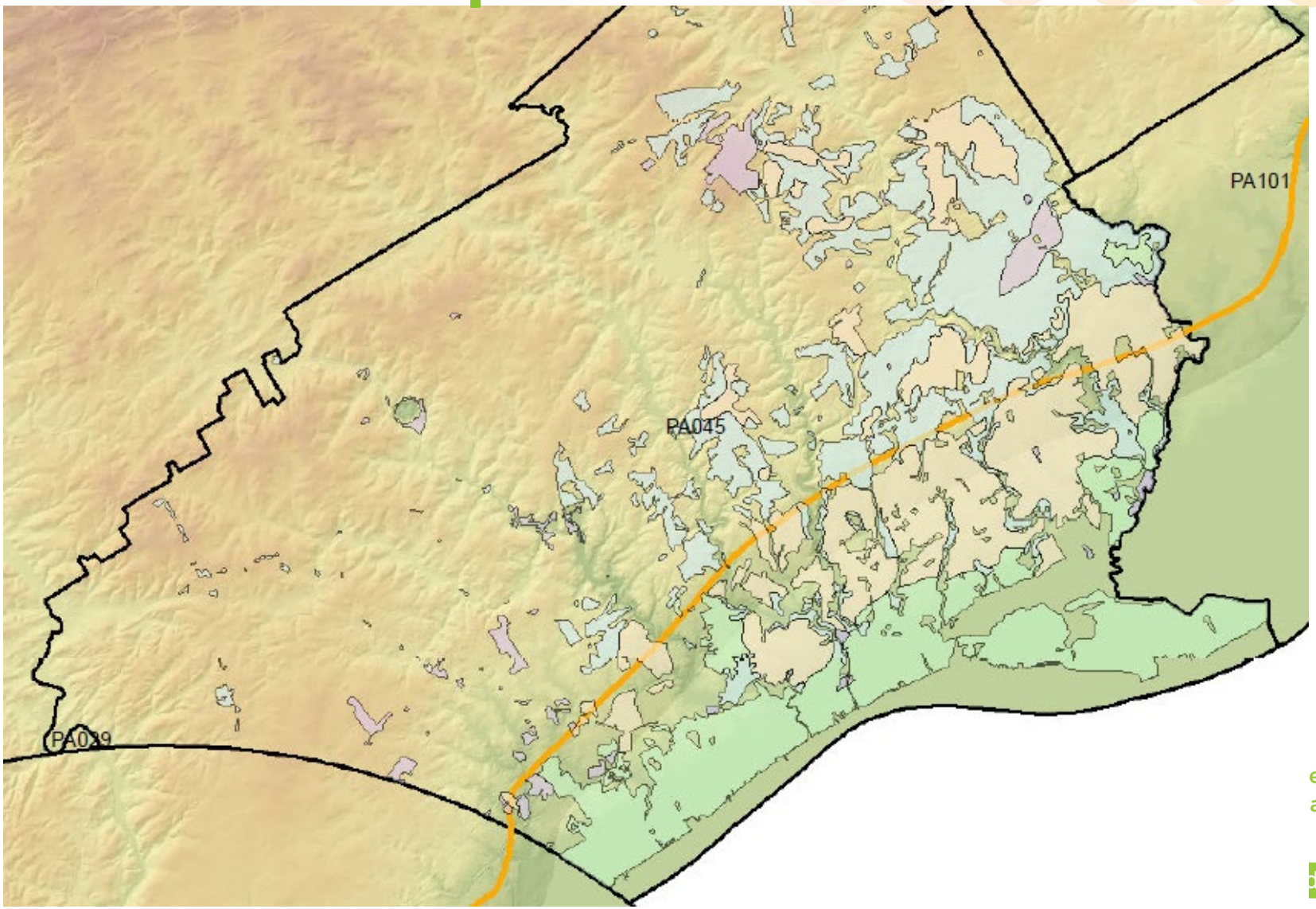


County Boundary Join issues

This is where Chester county , PA joins up with Delaware county



Made Land Mapunits



es
ation

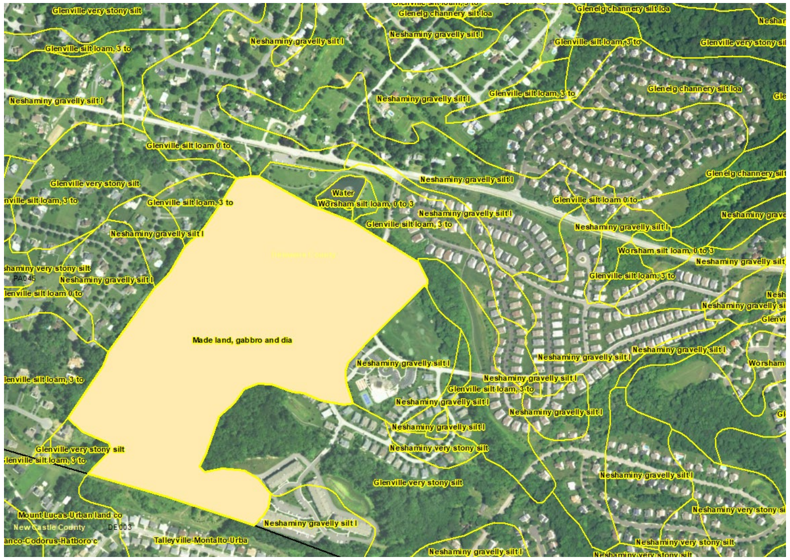
da.gov/

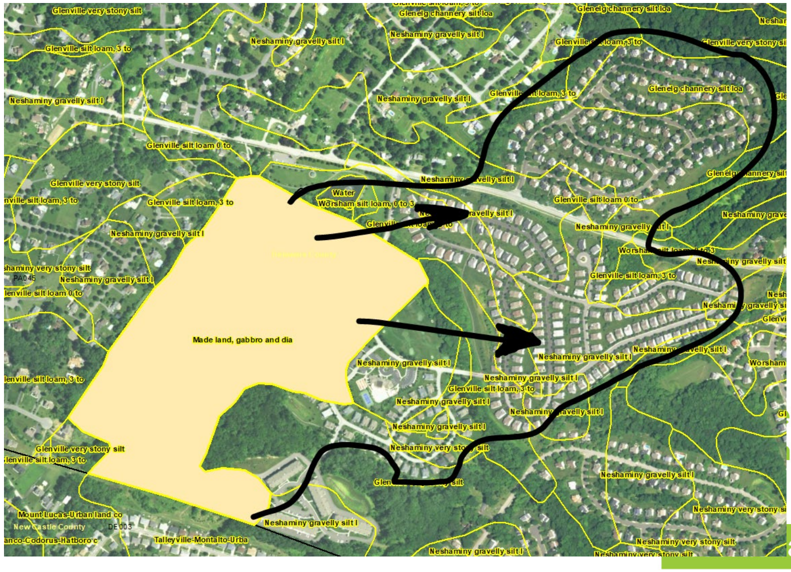
Made Lade Mapunits

A portion of the update will look at these “made land” units and come up with more accurate soils and interpretations of the mapunit

Urban Land Units

- NRCS Standards consider urban land anything >85% impervious cover.





Areas Mined Since Publication

27,700 acres in PA that have been mined since the most recent mapping updates.

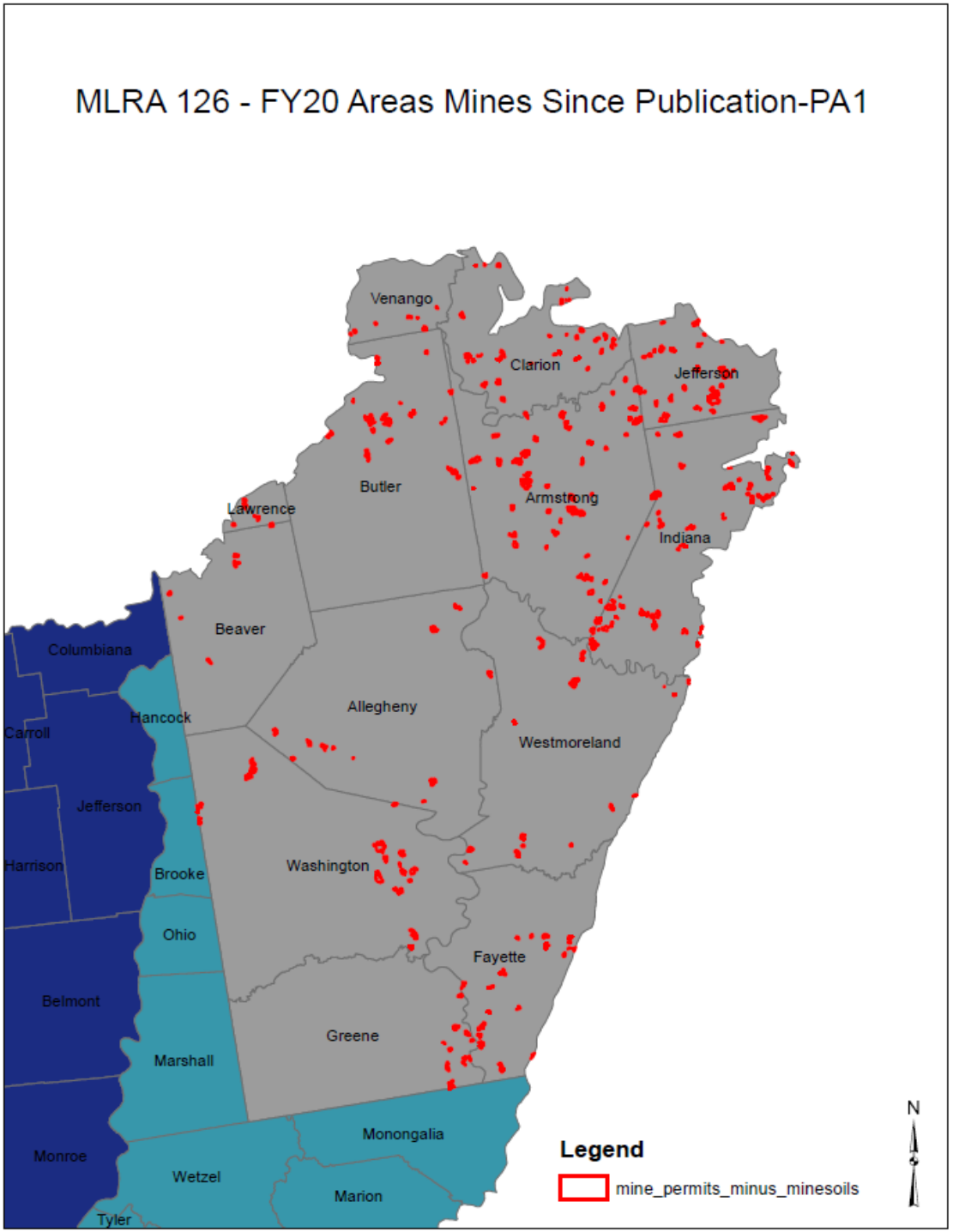
FY2020 - Review 6,769 of above acres: Indiana, Fayette, and Westmoreland Co's.

Soil series for mined soils: Bethesda, Fairpoint, and Morristown.

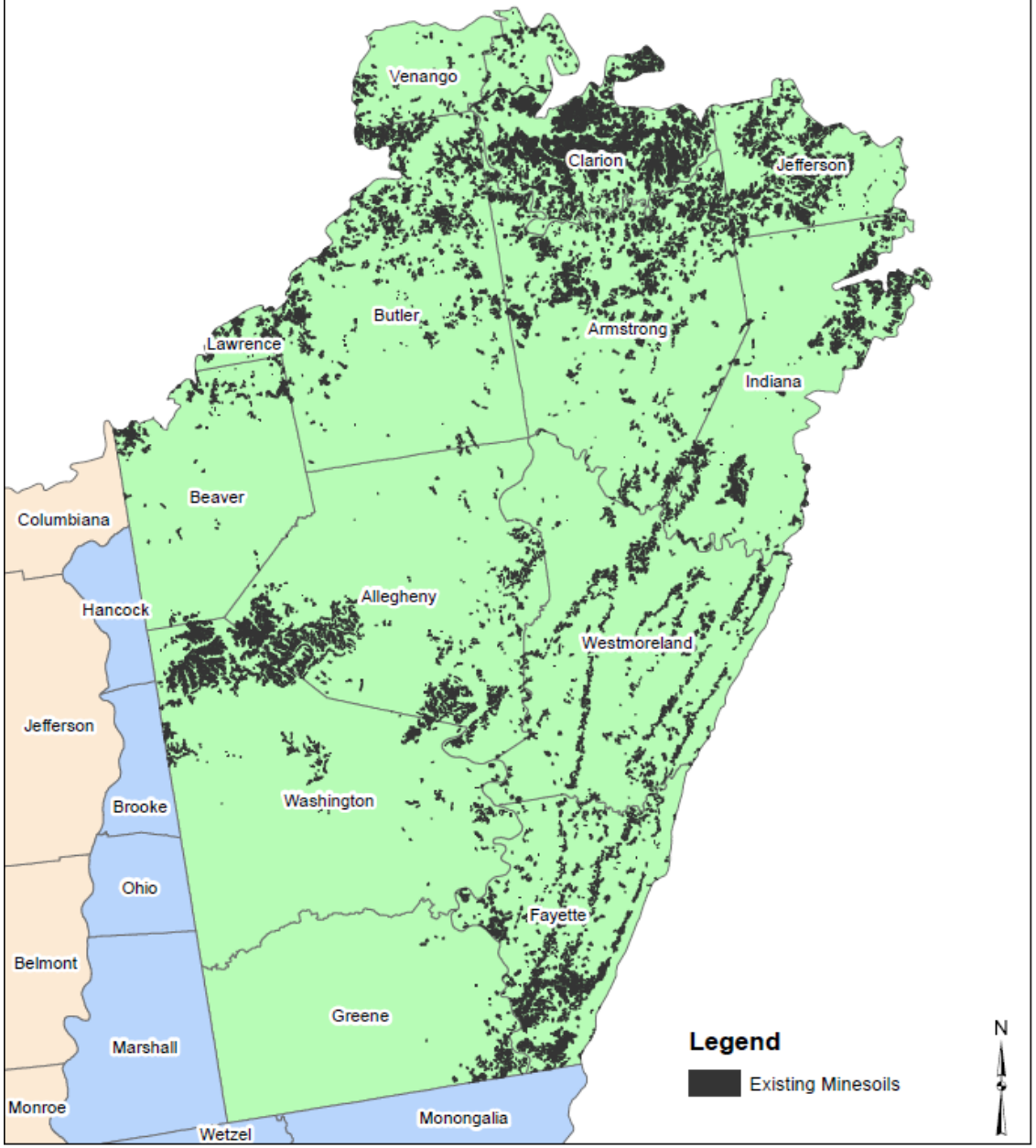
Benefits:

-outdated maps showing 'natural' soils will be updated to show mined areas.

- Will improve usefulness of soil survey for NRCS programs, Farmland Protection Policy Act, land use planning, taxation…


MLRA 126 - FY20 Areas Mines Since Publication-PA1
Venango
Clarion
Jefferson
Butler
Armstrong
Lawrence
Indiana
Beaver
Columbiana
Allegheny
Hancock
Carroll
Westmoreland
Jefferson
Harrison
Brooke
Washington
Ohio
Fayette
Belmont
Greene
Marshall
Monongalia
Monroe
Wetzel
Marion
Tyler
Legend
mine_permits_minus_minesoils
N

MLRAs 124/126 Minesoil Mapunits
Approx. 250,000 acres mapped as of 2019



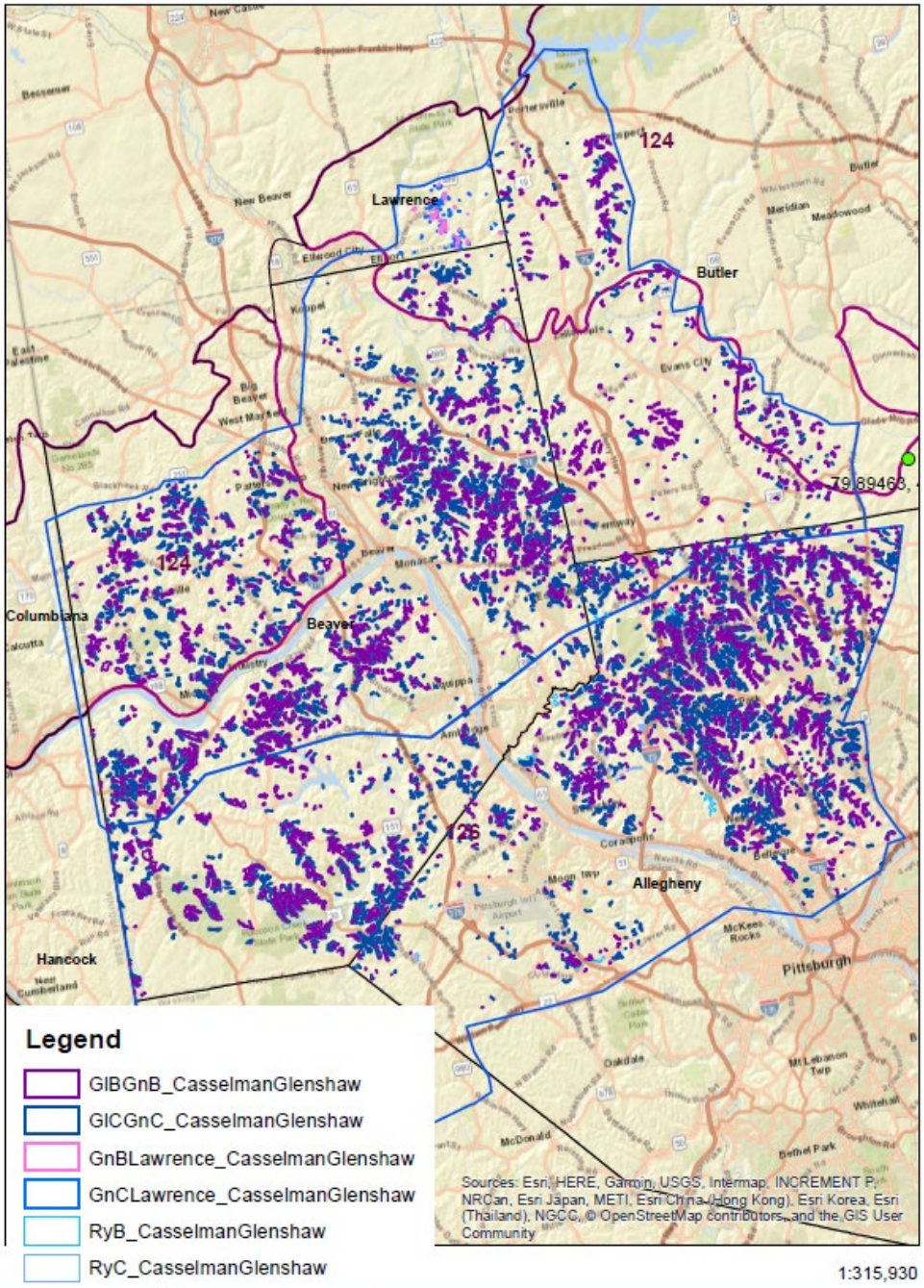
Conemaugh Ridgetops Project

Conemaugh Geology: shale, siltstone, sandstone, red beds, thin impure limestone, and thin nonpersistent coal.

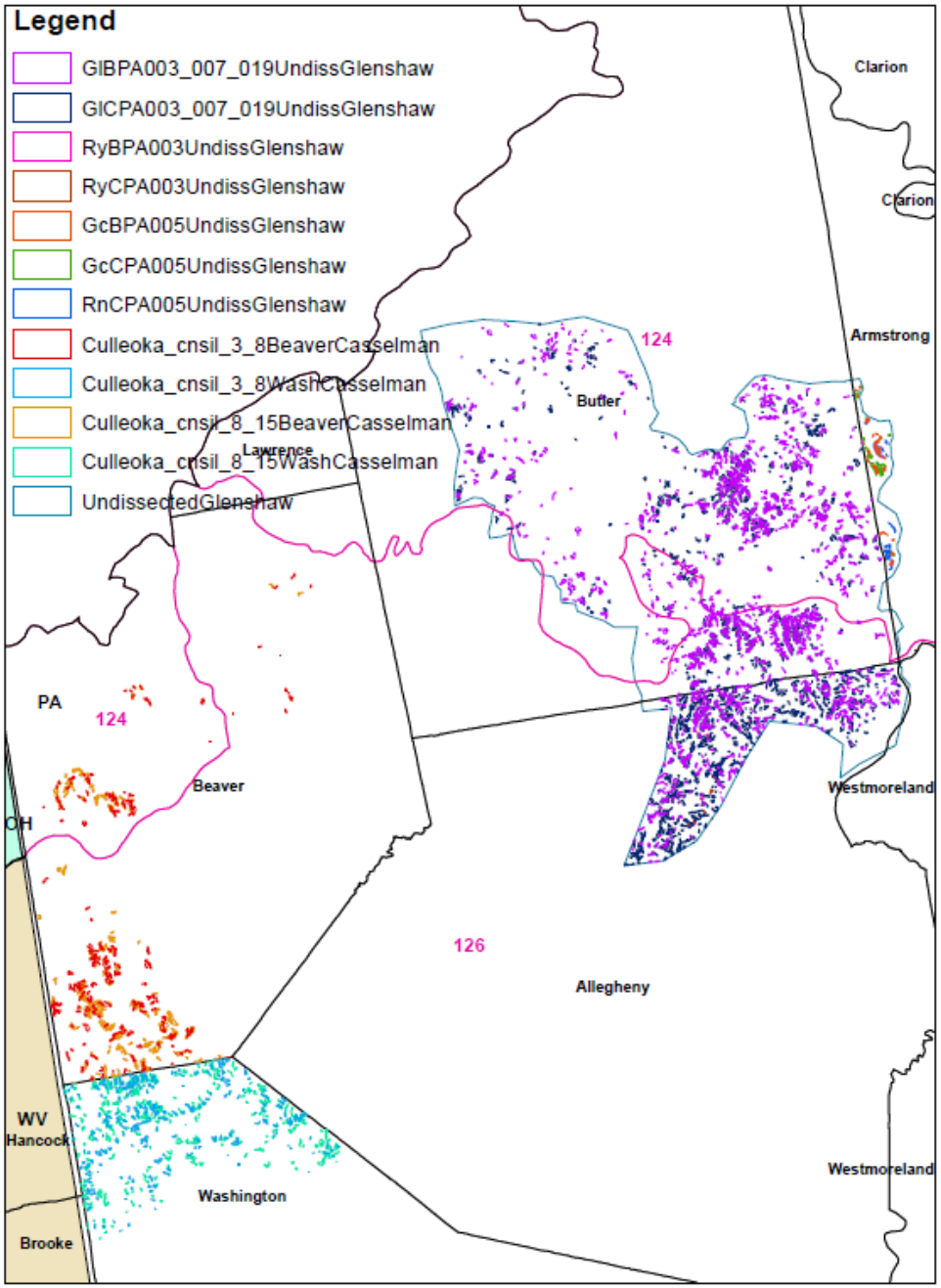
Improve the soil mapping consistency and joins on this geology in 5 PA counties: Allegheny, Beaver, Butler, Washington, and Lawrence.

Soil series include: Gilpin, Rayne, and Culleoka

Conemaugh Ridgetops Phase 1 Map units



6-MAT Conemaugh Ridgetops Phase 2 Project
Mapunit Distribution



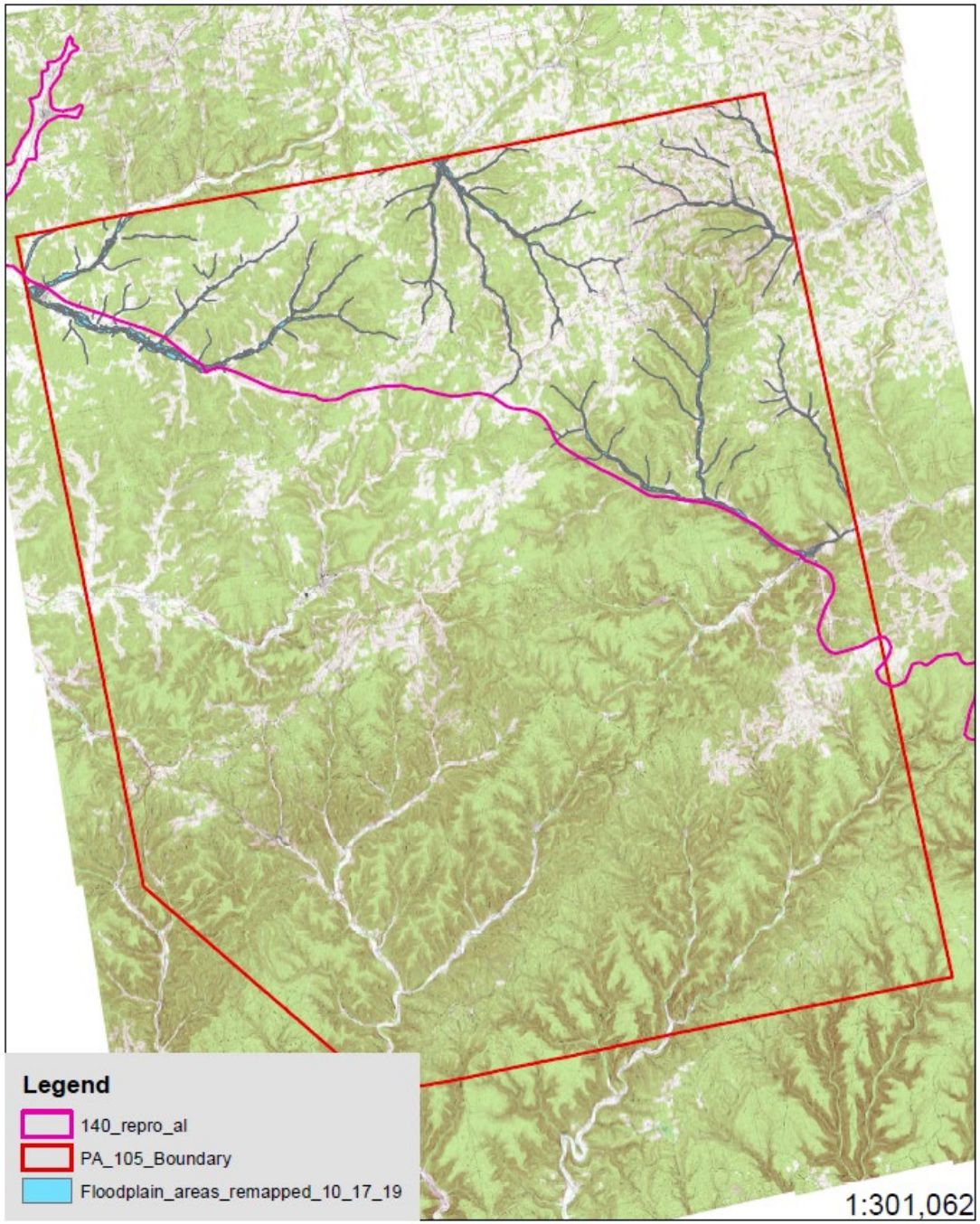
Alluvial Fan Landforms Glaciated Allegheny Plateau – MLRA 140

- Investigation of alluvial fan landforms in the glaciated section of Potter Co., PA
- 1958 soil survey did not identify these landforms
- Alluvial landforms can be subject to flooding and have higher watertables than adjacent glacial outwash terraces
- Delineating alluvial fans will improve consistency with adjacent NY counties and improve interpretations.

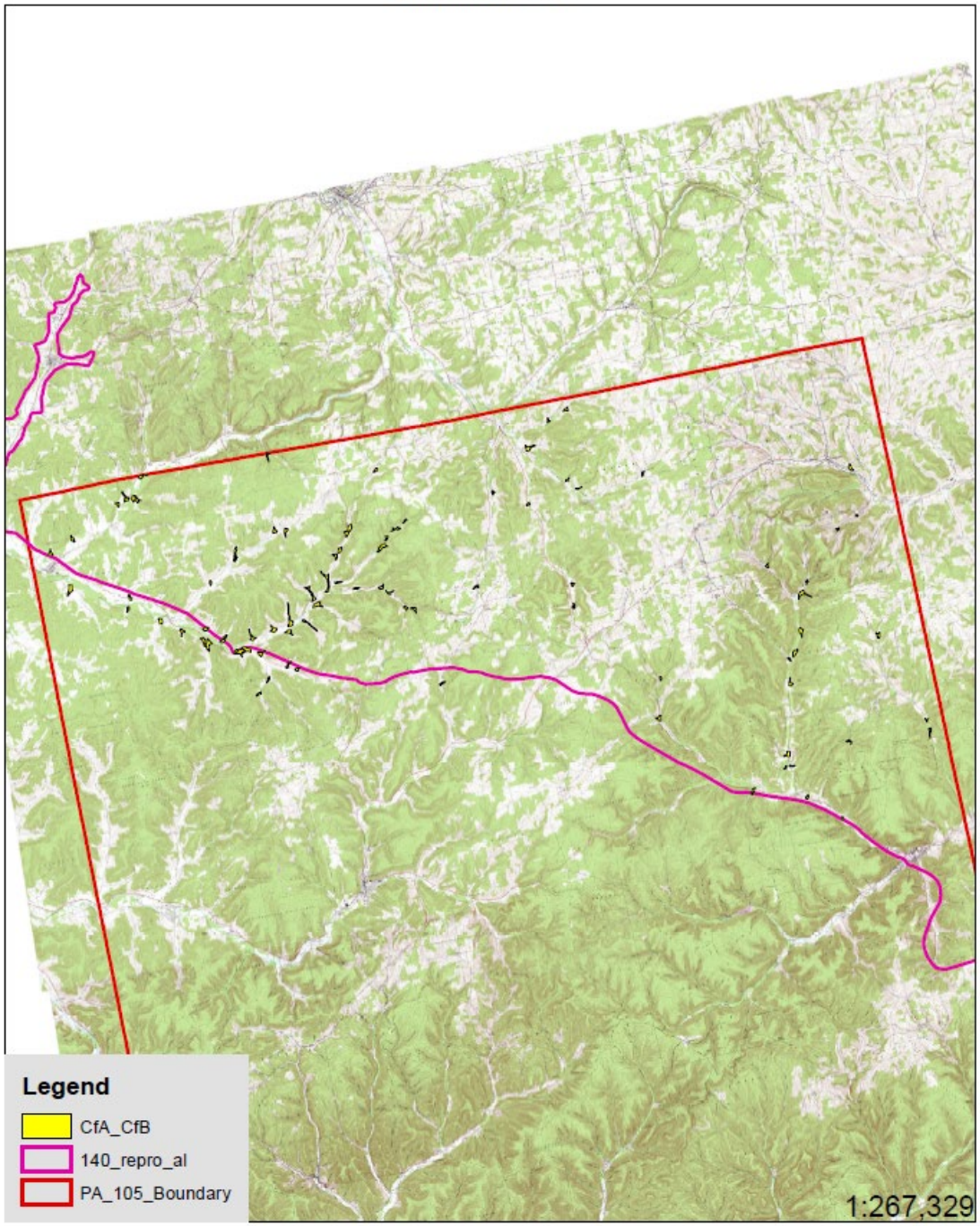
Changes to Potter Co. Soils legend
(not all)

Chenango channery silt loam, alluvial fan, 0 to 3 percent slopes
Chenango channery silt loam, alluvial fan, 3 to 8 percent slopes
Middlebury, acid subsoil and Basher soils, 0-3 percent slopes, rarely flooded
Middlebury, acid subsoil and Basher soils, 0-3 percent slopes, occasionally flooded
Tioga, acid subsoil, and Barbour soils, 0 to 3 percent slopes, occasionally flooded
Tioga, acid subsoil, and Barbour soils, 0 to 3 percent slopes, rarely flooded
Wayland and Wyalusing soils, 0 to 3 percent slopes, frequently flooded

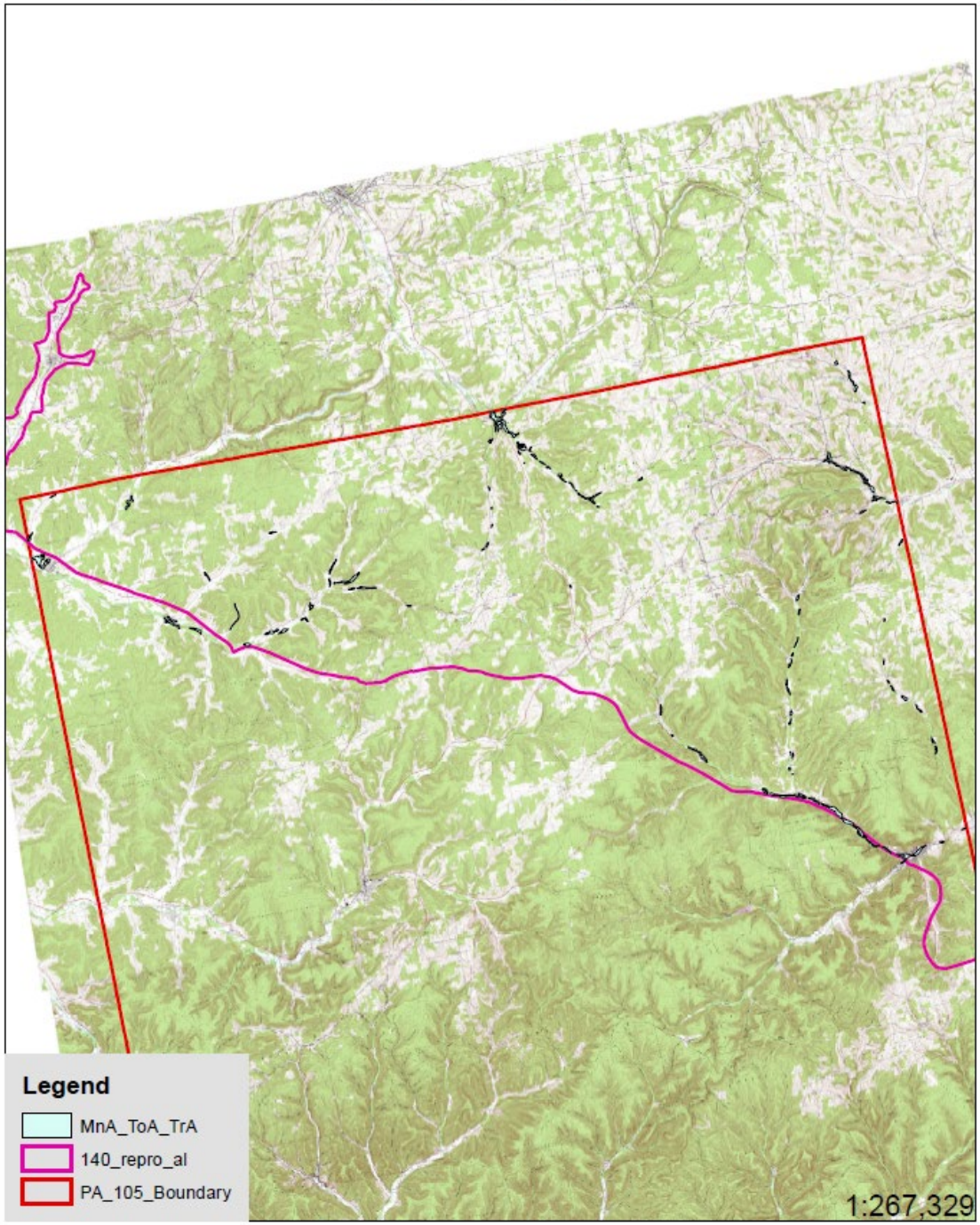
Updated Floodplains



CfA and CfB



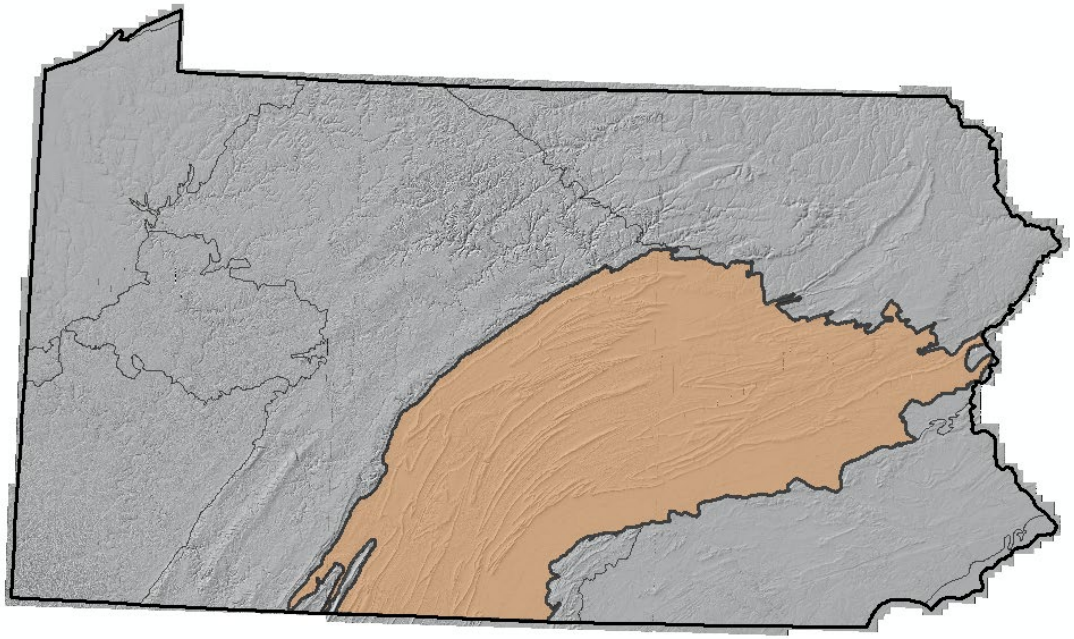
MnA, ToA, TrA



Continuous Evaluation of Existing Data

MLRA 147

Buchanan
Hazleton
Berks
Weikert



Pennsylvania

Natural Resources Conservation Service

Web Soil Survey

Home | About Soils | Help | Contact Us

You are here: Web Soil Survey Home

Search

Enter Keyworc Go

All NRCS Sites

Browse by Subject

- Soils Home
- National Cooperative Soil Survey (NCSS)
- Archived Soil Surveys
- Status Maps
- Official Soil Series Descriptions (OSD)
- Series Extent Explorer
- Geospatial Data Gateway
- eFOTG
- National Soil

The simple yet powerful way to access and use soil data.

START WSS

Welcome to Web Soil Survey (WSS)

Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties and anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information.

Soil surveys can be used for general farm, local, and wider area planning. Onsite investigation is needed in some cases, such as soil quality assessments and certain conservation and

I Want To...

- Start Web Soil Survey (WSS)
- Know Web Soil Survey Requirements
- Know Web Soil Survey operation hours
- Find what areas of the U.S. have soil data
- Find information by topic
- Know how to hyperlink from other documents to Web Soil Survey
- Know the SSURGO data structure
- Use Web Soil Survey on a mobile device

Pennsylvania
Natural Resources Conservation Service

Soil Survey Annual Data Refresh

July 1rst, 2020

Contact Yuri Plowden if you need more information
yuri.plowden@usda.gov

USDA

United States Department of Agriculture

QUESTIONS?

Contact Yuri Plowden
yuri.plowden@usda.gov
717-514-8303 (work cell)

Natural Resources Conservation Service

nrcs.usda.gov/

Barry Frantz (NRCS), Assistant State Conservationist for Programs was introduced and provided updates. (See attached hand-out) Barry indicated that he was going to have Ashley Lenig (NRCS), PA State CSP (Conservation Stewardship Program) Manager and Zenik Crespo (NRCS), acting PA EQIP Program Analyst provide updates for their respective areas.

Zenik Crespo was introduced and presented an update on AMA (Agricultural Management Assistance program), EQIP (Environmental Quality Incentives Program) and RCPP (Regional Conservational Partnership Program) funding. Zenik indicated that she would speak briefly on AMA, EQIP and RCPP funding. She indicated that we are using a new Conservation Assessment Rlanking Tool. This tool is used to assess each farm track and field by identifying the current conditions based on National and State resource concerns. Also NRCS is adding conservation practices to address those research concerns as we did before with ProTracts. Once the assessment is done in this tool, then we move forward to ranking. Even though we are using a different tool, this ranking this year will follow similar to prior year questions and points as well. Also as in prior years, the selection process is based on available funding priority and ranking points. This year the allocation is for the Southeast. Every year, we rotate this funding to the three areas (West, Northeast, and Southeast). So for the Southeast we have about
$360,000 allocated between Cropland Irrigation and the High Tunnel system. That means that the application has been selected for funding. About 90% of that funding in cropland irrigation and also we have allocated 100% for the High Tunnels as well for RCPP we have two projects that we have allocated about 37% of the funding for the Chesapeake Bay Water Quality and about 86% for the PA Preserved Farms. In EQIP, which is our major program, we have an allocation for about $22.6 million. We have approved or selected for funding of about 86% of those. As in prior years in EQIP, we have divided that money between all the time codes the same as we did in prior years and the ranking pools. Due to the changes in the system tools, we are running a bit behind, but Field Offices are working very diligently to deliver the program to our customers in a very timely manner.

Barry Frantz (NRCS) commented on one item in the PA 220 EQIP Fund Pools, that of COVID-19 Mortality Assistance. With some of the processing plants being closed due to COVID-19, some producers were not able to send poultry or livestock to them. This has been a national issue, so we set this up as a contingency. Some producers had to send their animals off to a renderer or a landfill early before they could apply for EQIP funding. We were not able to go and ask if they had done this, and assist in helping pay for those emergency costs. We still have this money available. It is meant for producers who essentially lost their market and had to do something different with their livestock than what they usually do such as they have to send them to a renderer or landfill, and there are composting procedures also available for use. We are hoping that we don't have to use this money as is everyone else, but at least for the time being we have that contingency. He went on to discuss the various PA 2020 EQIP Fund Pools, indicating that we have been using for the last several years. These fund pools seem to meet the needs out there, but that we are still looking at some new ones for next year. Some of which are from the Farm Bill and some are state initiatives. Some of them are coming from the National level, one of which is a variation of the contract option that's in the Farm Bill is the rule for equipped conservation incentive contracts that have not been rolled out yet nationally. Essentially that would be similar to practices to what we already have, but some that might have a significant maintenance expenditure and we might be able to have extra funding to help producers with some of the routine operation and maintenance costs of those. We are expecting additional information concerning soil health testing. He indicated that we are looking at soil health testing and some of the biological activity and that National has brought up a Conservation Activity Plan for soil health. That it is being discussed with some partners to determine the technical detail problems and how to get them ironed out. In order to do so, consultants would have to gear up and be trained on how to do just that. There are several current activities that we have to be working on with training consultants and outreach to farmers working with testing labs that would be doing the soil health testing so we can bring this all together at the same time. He stated that we have a good number of wildlife habitat options right now between ACEP (Agricultural

Conservation Easement Program) with Bog Turtle Habitat, Golden Winged Warbler, some of the forestry activities will support wildlife habitat. We don't have a species neutral fund option in EQIP right now. We have been having some internal discussion on is there a need for some way to support things like pollinator habitats of critical pollinator species, some of the declining bee species is an example. So we don't have that out there yet, but are just looking into it. We would appreciate input that the partners have concerning habitat or target species. What we don't want is just to have a general place where people want to do just a half acre of. Barry spoke briefly about Source Water Protection (SWP). He indicated that there had been some internal discussion. He indicated that the following points are being considered as priority areas to encourage the protection of drinking water sources: Identify local priority areas for drinking water protection in each state in collaboration with State Technical Committees and community water systems; Provide increased incentives for practices that relate to water quality and quantity and protect drinking water sources while also benefitting producers; Dedicate at least 10 percent of funds available for conservation programs (with the exception of CRP), each year beginning in FY 2019 through FY 2023, to be used for source water protection. He noted that two approved SWP projects are Swatara Creek, which is mainly in Lebanon County that continues into Dauphin County as well. The other is the Maiden Creek Watershed project which is in Berks County. He discussed the dedication of 10% Funds. EPA (Environmental Protection Agency) has identified where some of these funded areas are. Information regarding some of these areas is very confidential in regards to national security, and some of these source water areas are not for public dissemination, so we don't have maps of where these are ourselves, but we have a general idea from some of our maps showing in general where the source border areas are. So we're going to be working with DEP to try to target where we will put those high priority practices and hopefully we will get a good overlap of where these are that EPA has identified that will count for the 10%. He said that if there are any questions, to give Ashley Lenig (NRCS) or he a call to discuss them. A question was presented concerning where Nitrifying Bioreactors may be used. Barry answered by saying that he would do so at a Micro level and a Macro

level. At a Micro level, on a farm these are generally at the end of a drainage area or a drainage tile. So on a farm you generally are not going to put those in a grass waterway as it would overflow, but it's something that would take of generally a pipe outlet flow or underground outlet tile, that you can actually contain, run it through one of these surface flows that are overwhelming. So if you have got a soil test and it shows that there is really not an overload of nutrients and they're following a good nutrient plan, you may not have a need for this type of operation. So there could be multiple tools that you could use on a small watershed basis where those might be beneficial. Again, areas where this high nutrient level where they're going through maybe groundwater flow that's being collected. A second question concerning what if the EPA database is in error. Barry answered by saying that in his opinion that all these databases are the best available technology. Because we're looking for 10% of the funds in a large area, we assume it's not going to be perfect and we're using rough number like rough dollars spent for conservation practices in generally defined areas. So he doesn't think we expect to be that perfect and that he doesn't think it matters that it's perfect for this level. We have different targeting methods to put money where there is a need and then the other part is that we actually do have some controls, outreach to farmers and areas where we think there are problems. So that's something we'd like to work with partners to get farmers interested in doing some of these projects if we think there are places we should prioritize for that. He went on to note that concerning Conservation Innovation Grants (CIG), there are currently four applications for FY 2020. One Forestry related and three soil health related that are in final negotiation, for a total request of $222,000. The FY 2020 National On-Farm Trials and the FY2020 National CIG options are to be determined.

United States Department of Agriculture

PA NRCS Programs Team

Financial Assistance Programs Update

Pennsylvania State Technical Committee
July 22, 2020

Natural Resources Conservation Service

nrcs.usda.gov/

AMA,EQIP & RCPP Funding

AMA (Southeast PA)	Current Allocation	Percentage Preapproved
Cropland Irrigation	$247,249.00	89.58%
High Tunnel System	$113,100.00	100.00%

$22,609,485.00	$19,384,127.00	85.73%

RCPP-EQIP Projects (2018 Funds)	Remaining Allocation	Percentage Preapproved
CCCD Partnership for Chesapeake Bay Water Quality	$1,185,693.00	36.81%
Implementing BMP's & CNMP's on PA Preserved Farms	$1,986,134.00	86.19%

PA 2020 EQIP Fund Pools

FY20 Organic
FY20 On-Farm Energy
FY 20 On-Farm Energy CAP
Beginning Farmer - AFO/CAFO
Beginning Farmer - General
Socially Disadvantaged
High Tunnel
AFO/CAFO Livestock
AFO/CAFO Grazing
AFO/CAFO Poultry

Cropland
Forestry
Forest Management Plan
NM/CNMP Plan Development
Conservation Activity Plans
Stream Corridor Management
NWQI
COVID-19 Mortality Assistance
Golden-Winged Warbler
GLRI Nearshore Health

Items to Consider for 2021 EQIP

- Conservation Incentive Contracts
- Soil Health Conservation Activity Plan
- Soil Health Testing
- Possible Pennsylvania Wildlife Fund Pool
- Need to target to species and location to produce results

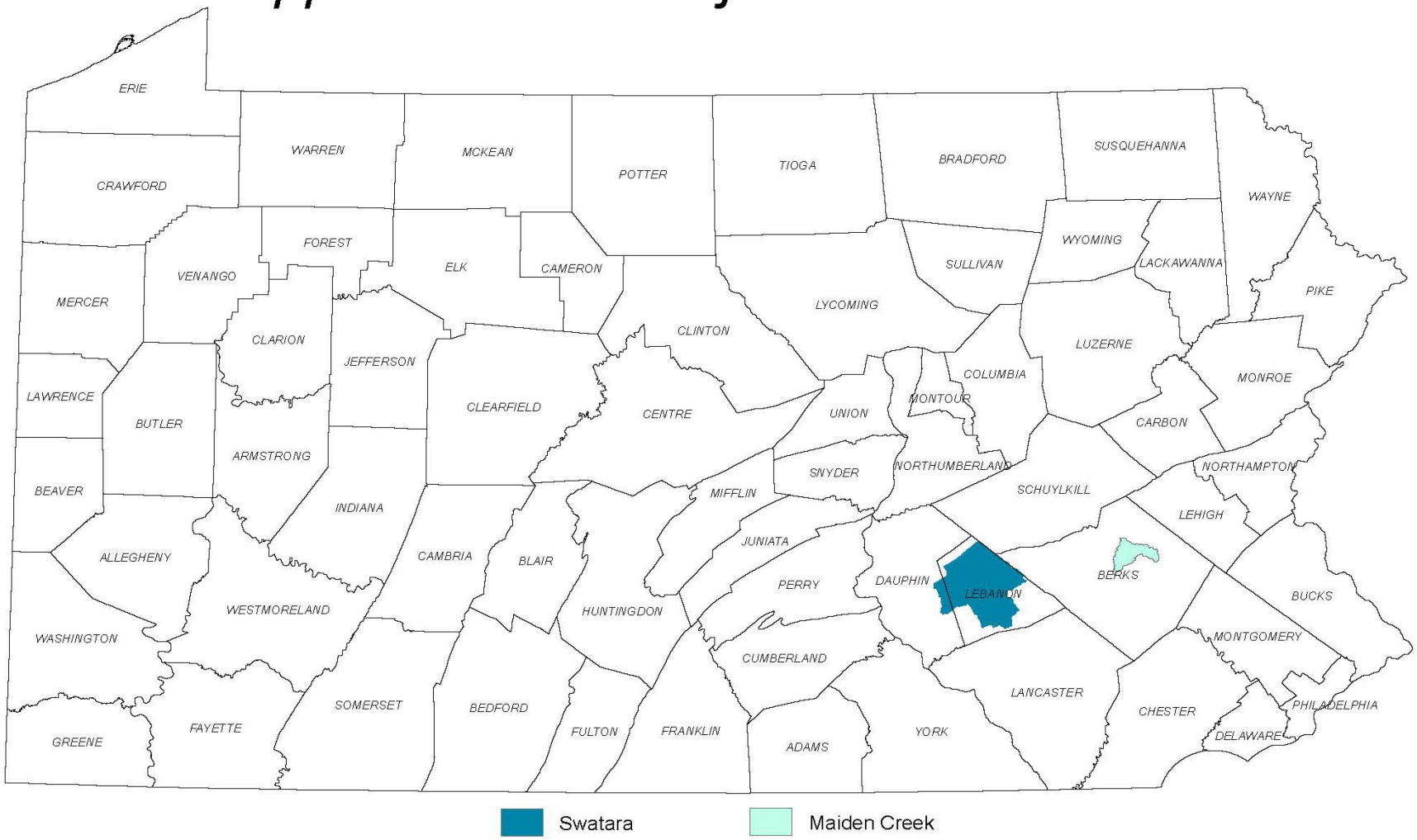
Source Water Protection (SWP) Language in the 2018 Farm Bill

Section 1244(n): Source Water Protection Through Targeting of Agricultural Practices

Encourage the protection of drinking water sources through the following methods:

- Identify local priority areas for drinking water protection in each state in collaboration with State Technical Committees and community water systems
- Provide increased incentives for practices that relate to water quality and quantity and protect drinking water sources while also benefitting producers
- Dedicate at least 10% of funds available for conservation programs (with the exception of CRP), each year beginning in FY 2019 through FY 2023, to be used for source water protection

Approved SWP Projects



USDA

USDA is an equal opportunity provider, employer, and lender.

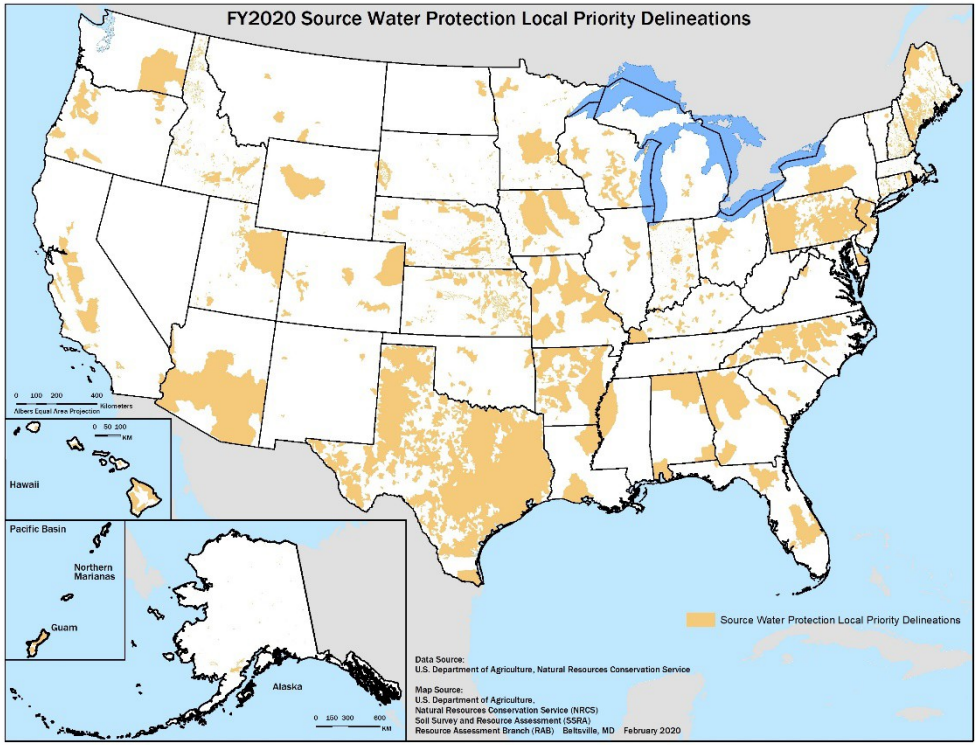
January 2019

FY2020 Source Water Protection – Priority Practices

Practice Name	Practice Code
Denitrifying Bioreactor	605
Karst Sinkhole Treatment	527
Phosphorous Removal System	782
Streambank and Shoreline Protection	580
Well Decommissioning	351

Approval of Local Priorities for FY20

- State-submitted local priorities approved by NRCS leadership in February 2020
- States used a variety of approaches to develop the priority areas – there is inconsistency between states with respect to targeting and size of areas



- NRCS worked with partners at the national level to provide recommendations to states for further targeting source water in FY21 and using a consistent data source

Dedication of 10% Funds

Tracking vs. Targeting

- High priority areas that states select with partner collaboration represent the **targeted areas** in each state where outreach and implementation funding will be focused.
- NRCS will track compliance with the requirement to dedicate 10% of conservation program funds based on ALL source water protection areas across the US, using a stable database provided by EPA
  - High priority areas will, in general, be a subset of the EPA database for surface and ground water systems

FY2020 Conservation Innovation Grants

4 Applications for 2020 Pennsylvania CIG Option

In Final Negotiation

1 Forestry Related

3 Soil Health Related

Total Request ~$222,000

TBD:

2020 National On-Farm Trials

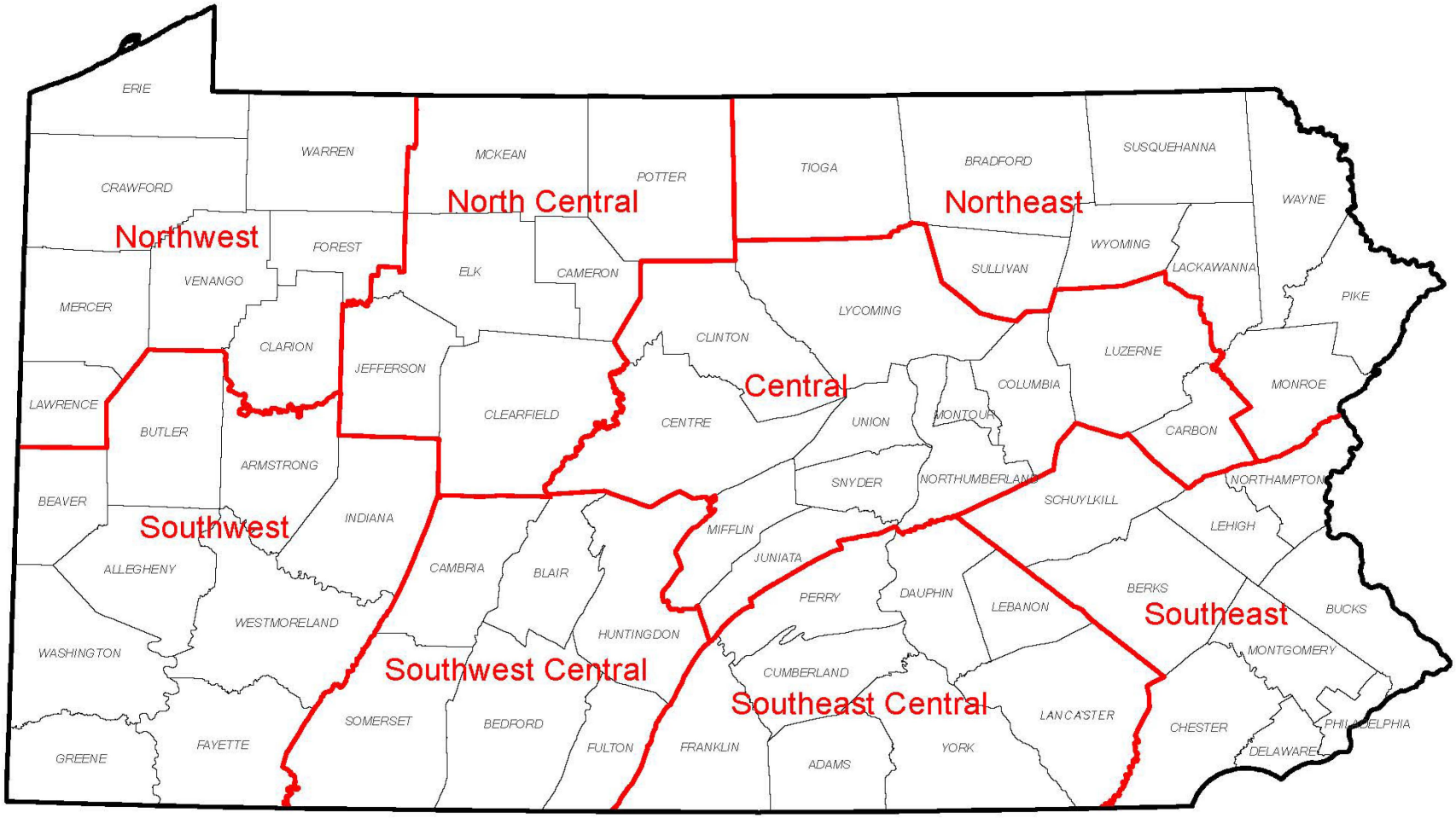
2020 National CIG Option

CSP Funding, Applications and Contracts

CSP Renewal	Contracts	Obligations
CSP Renewal Contracts	22	$1,613,000

CSP "Classic"	Applications	Currently Available Funding ~$4,065,000
Ag Land Applications	161	TBD
NIPF Applications	87	TBD

FY20 PA CSP Geographic Areas - Ag Land

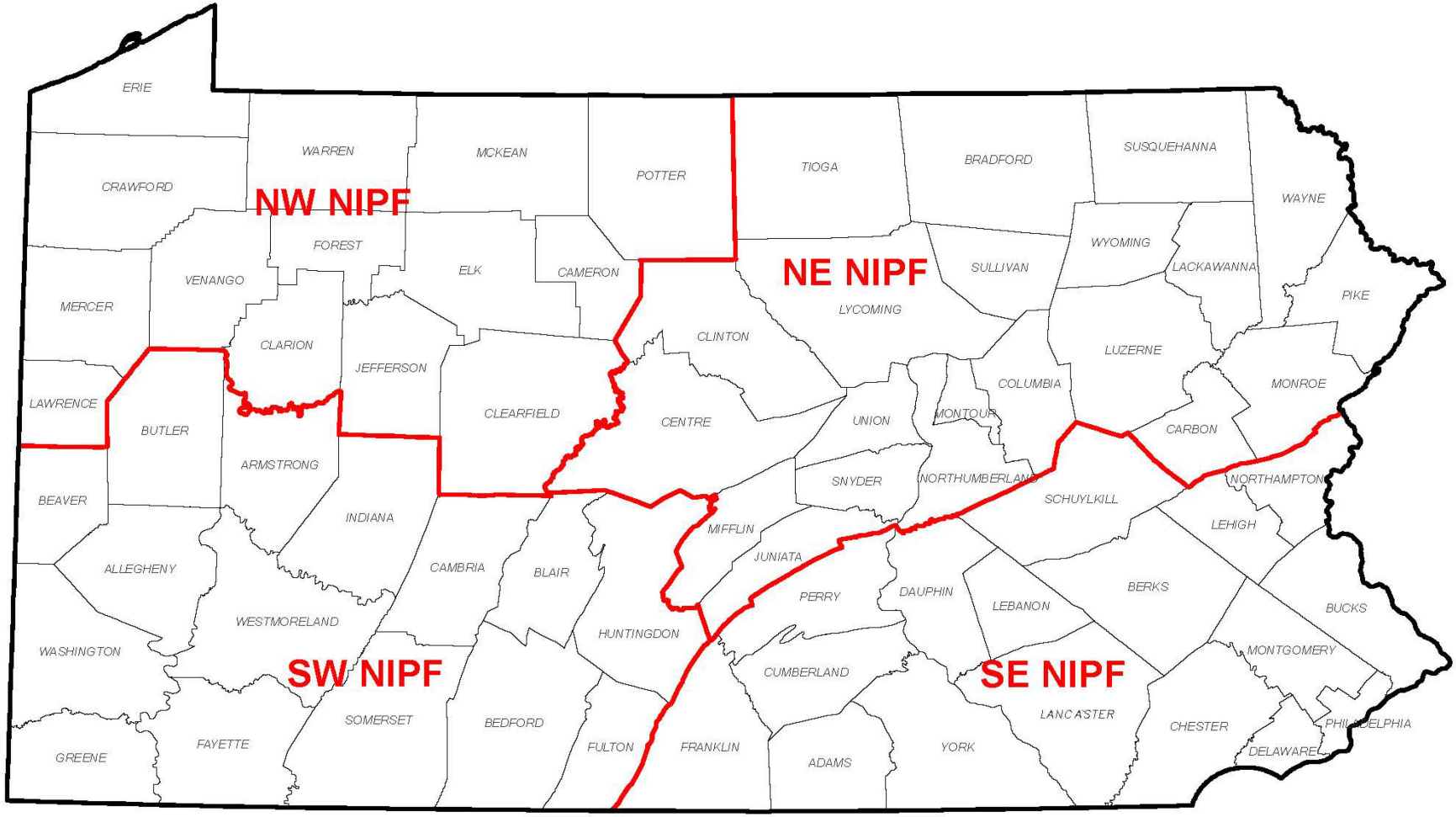


USDA

USDA is an equal opportunity provider, employer, and lender.

March 2020

FY20 PA CSP Geographic Areas - NIPF



USDA

March 2020

Adjusted Gross Income AGI - Overview

Section 1001 D of the Food Security Act of 1985 and 7 CFR Part 1400

- A person or legal entity, including members of the legal entity, that exceeds the AGI limit of $900,000 is not eligible to receive NRCS conservation payments or may be subject to a commensurate reduction of such payments
- NRCS will reduce conservation program payments issued to an AGI-eligible legal entity, general partnership, or joint operation by an amount commensurate with the direct or indirect interest that is held by an AGI-ineligible member or interest holder as determined by FSA

AGI Waiver Option in the 2018 Farm Bill

Two AGI Waiver Types

- **AGI Limitation Waiver –**
  - ACEP, AMA, CIG, CSP, EQIP, and RCPP contracts without an RCPP AGI Applicability Waiver.
- **AGI Applicability Waiver**
  - RCPP Partnership Agreements
  - EQIP projects with Water Management Entities

AGI Limitation Waiver

- May be waived on a **case-by-case basis** if NRCS determines that **environmentally sensitive land of special significance** will be **protected as a result** of the AGI waiver

- Allows NRCS to pay an **AGI-ineligible** person/legal entity associated with a particular enrollment contract or agreement
  - **NOT a waiver of the requirement to file Form CCC-941**
  - **NOT transferable to other applications that the same person/legal entity may be part of**

AGI Limitation Waiver Worksheet

- **STEP 1:** Identify the critical natural resources to be addressed or benefitted through enrollment, such as:
  - Coastal Resources, At-Risk Species, Historic or Cultural Resources, Wetlands, Critical Groundwater Recharge Areas, or
  - Resources identified in an approved Federal, regional, Tribal, or State environmental or natural resource plan or report
- **STEP 2:** Conservation program funding must accomplish **at least one** of the four outcomes identified on the worksheet.

Questions?

Ashley Lenig (NRCS), Conservation Program Manager was introduced and presented an update on CSP Funding, Applications and Contracts. She started off noting that the slogan for CSP (Conservation Stewardship Program) is "Reward the best and motivate the rest". That being said, she stated that we are looking for good stewards of the land that are willing to make additional enhancements on the landscape. The program also wants to highlight soil health and systems approach on agriculture landscapes. She indicated that there are 22 CSP renewal contracts with obligations of $1.6 million dollars on 10,450 acres this year. These were renewals of existing contracts that were actually the first program contracting that we did through our new systems of Conservation Desktop (CD) and Conservation Assessment and Ranking Tool (CART). The use of these new tools changed the way we had been doing things. We are currently working on our CSP Classic and have 469 applications. We have a lot of duplicates and not all of them are eligible and some have been deferred and/or cancelled. As of right now, we have 110 of those pre-approved so far and will be adding more with additional monies that are being received. We are working on building these plans and contracts, making agreement items and creating the maps. We expect to fund at least $3.9 million dollars for applications. People have decided not to proceed on some things, so we have been juggling money around to put it to good use. She proceeded to explain Pennsylvania Fund Pools for FY2020 CSP Geographic Areas for Ag Land and NIPF (Non-Industrial Private Forestland). Pennsylvania fund pools for Ag Land is divided up into 8 geographical areas which helps to spread our funds and resources around the state. We have statewide Organic which includes anyone in the state that is doing Organic. We also have historically underserved groups of beginning farmers within these geographic areas. NIPF is divided into 4 geographic areas, similar to the Ag Land fund pools. These areas are for Forestry Funds and also for socially disadvantaged and beginning farmer categories.

Barry Frantz continued and discussed an overview of Adjusted Gross Income (AGI). He indicated that since 2002, there's been a requirement that participants, in most of the conservation programs that NRCS administers, must meet an adjusted gross income. This means that they make more that a set limit, and they are not eligible for participation. The 2014 Farm Bill sets this limit as $900,000 which is a three-year rolling average. There is a waiver option for people in the RCP programs and the 2018 Farm Bill has expanded this waiver so that it could be considered for other programs such as EQIP, CSP and ACEP. There are two AGI waiver types, the AGI Limitation Waiver for ACEP, AMA, CIG, CSP, EQIP and RCPP contracts without an RCPP AGI Applicability Waiver; the AGI Applicability Waiver for RCPP Partnership Agreements and EQIP projects with Water Management Entities. The AGI Limitation Waiver may be waived on a case-by-case basis if NRCS determines that environmentally sensitive land of special significance will be protected as a result of the AGI Waiver. It allows NRCS to pay an AGI-Ineligible person/legal entity associated with a particular enrollment contract or agreement and is not transferrable to other applications that the same person/legal entity may be part of. He went on to explain the two step process of the AGI Limitation Waiver Worksheet.

Hathaway Jones, NRCS, Management Analyst for Easements, Susan Marquart, PA NRCS Assistant State Conservationist for Partnerships, was introduced and provided an update on the Agricultural Conservation Easements Program (ACEP) for Hathaway Jones. (See attached hand-out)She started off by reminding all about the Easement Deadlines. The deadline for ACEP-ALE (Agricultural Conservation Easement Program – Agricultural Land Easements) and ACEP-WRE (Agricultural Conservation Easement Program – Wetland Reserve Program) applications for FY 2020 was June 1, 2020. She noted that ACEP-ALE and ACEP WRE applications are accepted year-round and applications for next year's enrollment cycle will be accepted at any time. She discussed GARC (Geographic Area Rate Caps) and how GARC values are used to determine the land value for WRE easement acres by region and land use. She drew attention to a map of Pennsylvania that explained GARC for WRE by region, also the tables posted on that map. She then discussed the WRCG (Wetland Restoration Criteria and Guidelines. She noted that the WRCG documents the technical criteria specific to Pennsylvania that are used to manage the WRE program. It includes information on alternative wetland communities, eligibility criteria specific to Pennsylvania, wetland restoration practice types, compatible uses easement management and violations. The WRCG is a "living" document that will be updated over time as the WRE program evolves in Pennsylvania. She indicated that we are seeking comments from the public and that if you have and such comments to forward them to Hathaway Jones (Hathaway.jones@usda.gov) (NRCS), Management Analyst for Easements. She then discussed the HFRP (Healthy Forest Reserve Program), indicating that it is currently being re-vamped. She said that the new HFRP will not be limited to the Indiana Bat in Pennsylvania, but would include other species listed in the State Wildlife Action Plan. Information is forthcoming from the National Office that will provide guidance for states to begin the HFRP programs, and that a subcommittee is being established to provide input on the development of the revised HFRP. The subcommittee will provide input on: species and geographic areas to target; ranking; outreach for new HFRP applicants; and restoration of threatened and endangered species habitat on new HFRP easements.

Wetland Restoration Criteria and Guidelines

MARCH 2020

Pennsylvania NRCS

Updated: May 20, 2020

USDA

United States Department of Agriculture

Table of Contents

In wilderness is the preservation of the world.
~Henry David Thoreau

Section 1 - Introduction

In accordance with Part 528 of the Agricultural Conservation Easement Program (ACEP) Manual, Subpart N, ACEP-WRE Restoration, 528.131 (B), PA NRCS has developed this State-Specific Wetland Restoration Criteria and Guidelines (WRCG) document. This document identifies more specifically the technical information Pennsylvania utilizes to guide decision making for activities related to eligibility, ranking, selection, restoration, enhancement, and management of wetlands and associated habitats under ACEP-WRE to ensure program purposes are achieved.

This document serves as a basis for the technical determinations and decisions related to wetland restoration activities implemented under ACEP-WRE throughout the lifespan of an easement in Pennsylvania.

USDA/NRCS Wetland Easements in Pennsylvania

Pennsylvania has a robust and successful wetland easement program. WRP and WRE easements are located across the state, with higher concentrations in the Northwest corner, Northeast corner and the Southeast. The southeast area contains several Bog turtle easements. Many easements have been completed the Chesapeake Bay watershed, as well. **Table 1a.** lists the Pennsylvania WRP and WRE easements. **Table 1b.** illustrates Bog turtle and Massasauga easements.

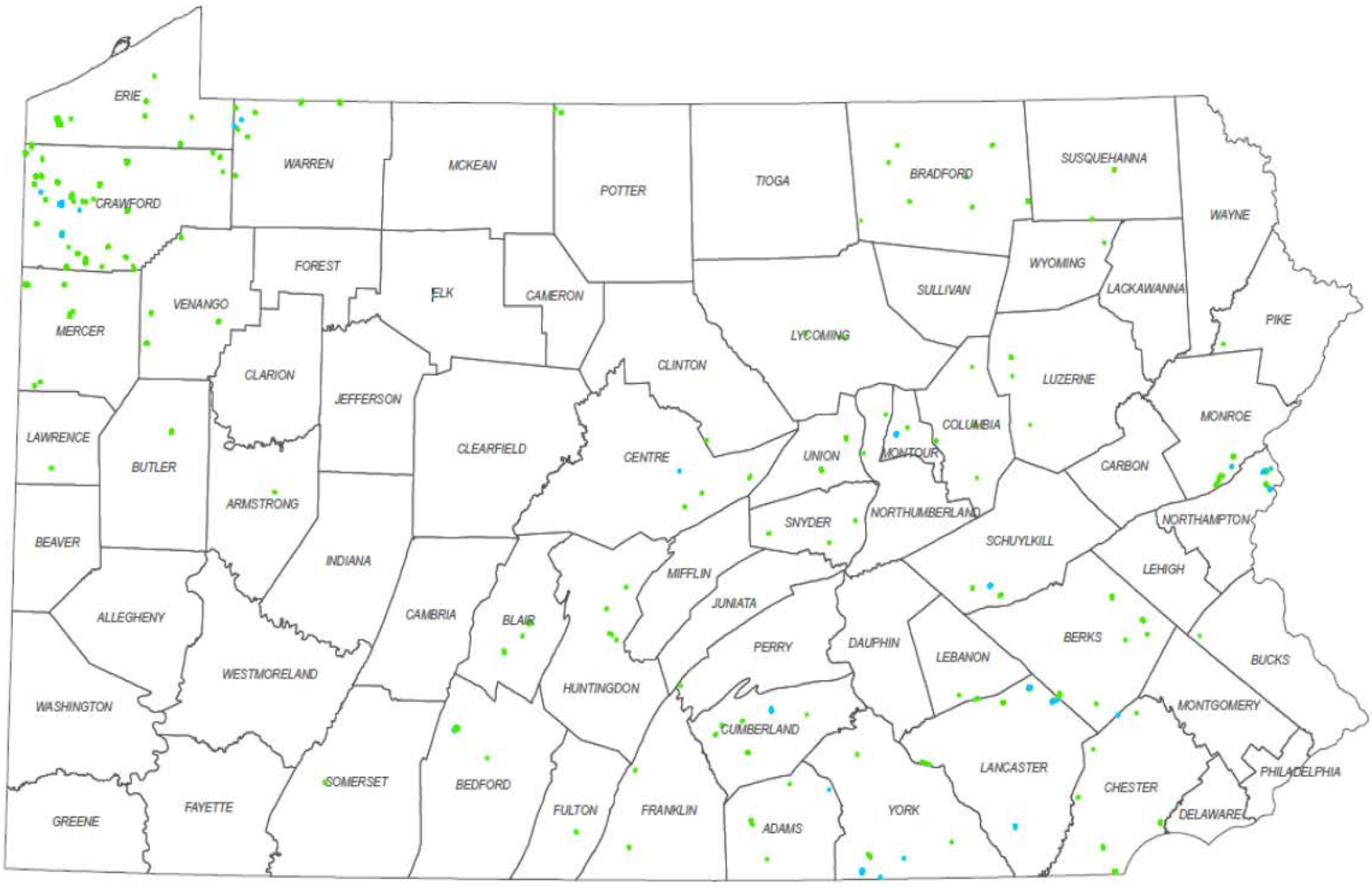
Table 1a.

Program	Number of Easements	Total Acreage	Total Funding
WRP	199	8840	$28,458,884.00
WRE	32	1156	$6,003,091.00
Total:	231	9996	$34,461,975.00

Table 1b.

Easement Type	Number of Easements	Total Acreage	Total Funding
Bog Turtle	56	1497	$13,651,248.00
Massasauga	2	80	$189,889.00

NRCS WRP and WRE Easements



USDA

USDA is an equal opportunity provider, employer, and lender.

March 2020

Section 2 – Historic Wetland Types of Pennsylvania

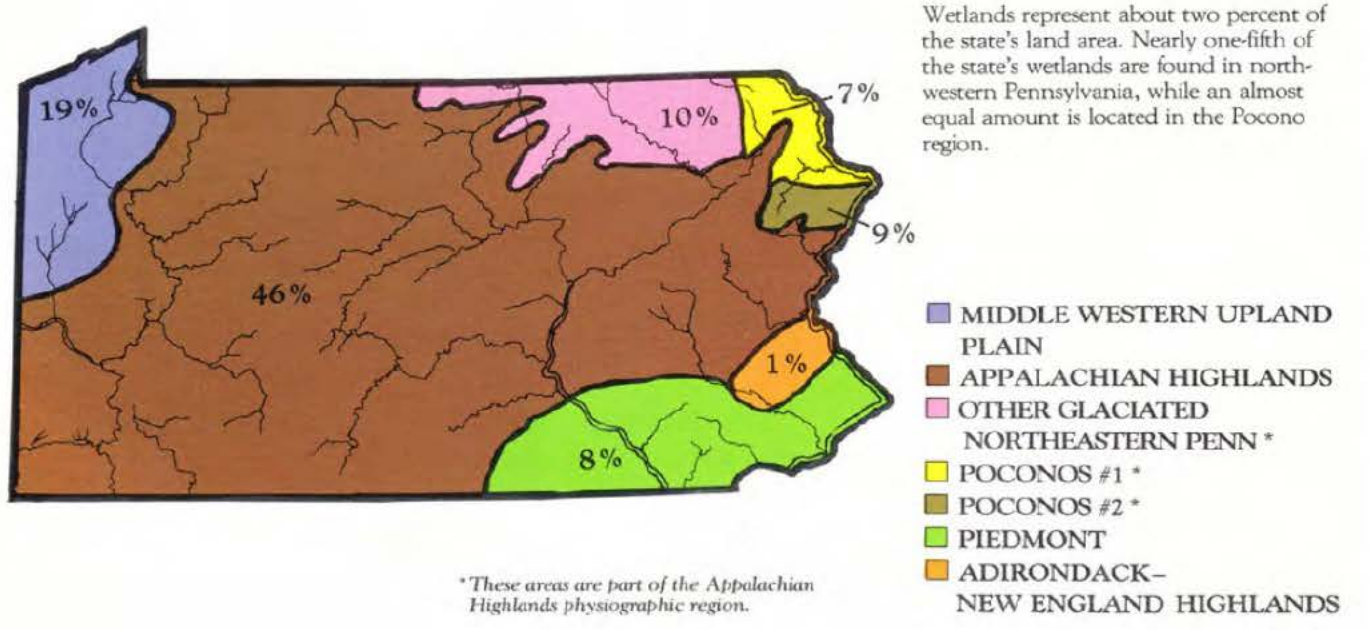
Description of Pennsylvania's Wetlands

Pennsylvania has more than 400,000 acres of wetlands. These include forested wetlands, scrub-shrub wetlands and emergent wetlands. About 97% of the state's wetlands fall within the palustrine system. Lacustrine wetlands, mainly composed of the shallow water zone (less than 6.6 feet in depth) of Lake Erie, represented about two percent of the state total, while riverine wetlands made up the remaining one percent (source: https://www.aswm.org/pdf_lib/state_summaries/pennsylvannia_state_wetland_program_summary_090915.pdf).

Wetlands are most densely distributed in the northwestern and northeastern parts of the State, which were glaciated at least twice and possibly three times. The latest glaciation occurred between 18,000 and 22,000 years ago. Glacial scouring and deposition left surface depressions and impermeable soils that are ideal for wetland development

Geographic Location of Wetlands in Pennsylvania

(https://www.delawareriverkeeper.org/sites/default/files/Documents/Wetland%20Conversion%20Report.pdf)



Wetland Loss in Pennsylvania

According to the United States Fish and Wildlife Service, Pennsylvania has lost over 50% of its original naturally existing wetlands. (https://www.fws.gov/wetlands/data/Water-Summary-Reports/National-Water-Summary-Wetland-Resources-Pennsylvania.pdf)

Historic Wetland Loss/Gain in Pennsylvania

Original Wetland Acreage	Remaining Wetland Acreage	Acreage Lost	% Lost
1,127,000	499,014	627,986	56%

State Definition of Wetlands

Wetlands are "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs and similar areas." (Source: Pennsylvania Code, Chapter 105 Regulations)

https://www.delawareriverkeeper.org/sites/default/files/Documents/Wetland%20Conversion%20Report.pdf

Palustrine Community in Pennsylvania

(Source: http://www.naturalheritage.state.pa.us/Wetlands.aspx)

SEEP GROUP

Areas where groundwater discharges to the surface to either create a localized pool of water (seeps) or channel of flowing water (springs). These communities tend to be small and only vegetation growing within the seep or spring should be used for classification.

Seep Group Types

1. Community occurs along bluffs or steep slopes either adjacent to streams or to Lake Erie, in northwestern Pennsylvania. The community may be dominated by shrubs or herbaceous species.
    a. ***Great Lakes Bluff Seep***: occurs along the bluffs of Lake Erie. Shrub species including red-osier dogwood (Cornus sericea), alder (Alnus spp.), and willows (Salix spp.) often (but not always) provide a substantial component of the community.
    b. ***River Bluff Seep***: Occurs along the steep gorge bluffs beside tributaries to Lake Erie Vegetation is dominated by forbs and grasses.

2. Community occurs in variety of settings, but not typically along bluffs or steep slopes either adjacent to streams or to Lake Erie in northwestern Pennsylvania. Herbaceous cover typically contains golden saxifrage (*Chrysosplenium americanum*).
    a. ***Golden Saxifrage – Pennsylvania Bittercress Spring Run***: Groundwater forms a distinct channel. Herbaceous cover is dominated by golden saxifrage, Pennsylvania bittercress (*Cardamine pensylvanica*), and watercress (*Nasturtium officinale*). Horsetails (*Equisetum* spp.) may also be present.
    b. Groundwater has a diffuse flow, resulting in a broad area of muck soils or small ponds where the groundwater emerges.
        i. ***Serpentine Seepage Wetland***: Community occurs in seeps underlain by serpentine bedrock. Herbaceous layer is dominated by some combination of the following: tufted hairgrass (*Deschampsia cespitosa*), rice cutgrass (*Leersia oryzoides*), New York ironweed (*Vernonia noveboracensis*), slender spike-rush (*Eleocharis tenuis*), and deer-tongue grass (*Dichanthelium clandestinum*) are common.
        ii. Community does not occur in seeps underlain by serpentine bedrock. Skunk cabbage (*Symplocarpus foetidus*) is typically present from April to late-May. These are often small, patch wetland communities that are embedded in other types of plant communities, often closed-canopy terrestrial forests.
            1. ***Golden Saxifrage – Sedge Rich Seep***: Herbaceous cover is dominated by sedges (*Carex* spp.), Pennsylvania bittercress, golden saxifrage, golden ragwort (*Packera aurea*), and skunk cabbage.
            2. ***Skunk-cabbage - Golden Saxifrage Seep***: Herbaceous cover is dominated by skunk cabbage, golden saxifrage, and cinnamon fern (*Osmunda cinnamomea*).

SPARSE VEGETATION GROUP

Areas where groundwater does not discharge to the surface to create a localized pool of water (seeps) or channel of flowing water (springs) and vegetation covers less than 25% of total area with non-vegetated areas consisting of sand, cobbles, or bare rock. These areas are often along riparian shorelines.

Sparse Vegetation Group Types

1. Community occurs along river and stream shores/bars or along lakeshores. Substrate is composed of cobbles, sand, or gravel.
    a. Community occurs along the floodplains of rivers where ice or flooding have scoured the vegetation.
        i. ***Floodplain Scour Community***: Substrate is predominantly exposed bedrock or large boulders with plants growing in soil that accumulates within bedrock cracks. Shrubs

are scattered and may include willows, sevenbark (*Hydrangea arborescens*), smooth azalea (*Rhododendron arborescens*), swamp azalea (*Rhododendron viscosum*), rosebay (*Rhododendron maximum*), buttonbush (*Cephalanthus occidentalis*), and swamp rose (*Rosa palustris*). Trees, such as sycamore (*Platanus occidentalis*), silver maple (*Acer saccharinum*), may be present as young saplings or as battered, stunted individuals of variable age. Common herbaceous species include Indiangrass (*Sorghastrum nutans*), big bluestem (*Andropogon gerardii*), freshwater cordgrass (*Spartina pectinata*), Indian-hemp (*Apocynum cannabinum*), and/or royal fern (*Osmunda regalis*).

ii. ***Periodically Exposed Shoreline***: Substrate is variable, primarily sand, gravel, or cobble of river and stream shores/bars or along lakeshores. Some trees and shrubs such as sycamore, silver maple, willows, and alders may be present as young saplings or as battered, stunted individuals of variable age. Herbaceous layer is typically dominated by smartweeds (*Persicaria* spp.), umbrella sedges (*Cyperus* spp.), blue vervain (*Verbena hastata*), purple loosestrife (*Lythrum salicaria*), common cocklebur (*Xanthium strumarium*), and other common annuals and short-lived perennial plant species.

b. Community occurs only along the shoreline of Lake Erie.

i. ***Great Lakes Sparsely Vegetated Shore***: Community occurs on the unvegetated cobble and gravel shores of Lake Erie. The vegetation is sparse (usually less than 25% total cover). The community may include American beachgrass (*Ammophila breviligulata*), sea-rocket (*Cakile edentula*), beach pea (*Lathyrus japonicus*), and silverweed (*Potentilla anserina*)

ii. ***Great Lakes Palustrine Sandplain***: Community occurs typically along saturated sandy flats, primarily on Presque Isle in Erie County, but may be found in small patches along the entire coast of Lake Erie in Pennsylvania. The herbaceous layer is variable and is mostly dominated by rushes (*Juncus* spp.) and umbrella sedges.

2. ***Sparsely Vegetated Vernal Pool Community***: Community occurs in small upland depressions beneath a canopy of overstory trees rooted in the surrounding upland area. Substrate can be leaf litter, muck, or bare soil and is often saturated. There is usually standing water present during the growing season.

HERBACEOUS GROUP

Areas where vegetation covers 25% or more of total area. The community is dominated by herbaceous or graminoid species. Woody species (shrubs and trees) cover is less than 25% of total area. This group contains types considered "persistent" and "non-persistent" wetlands.

Herbaceous Group Types

1. Community is dominated by graminoid species (grasses, sedge, rushes), but herbs may be present.
    a. ***Bulrush Marsh***: Community is dominated by bulrush species in near monotypic clones: great bulrush (*Schoenoplectus tabernaemontani*), and/or hardstem bulrush (*Schoenoplectus acutus*), or less commonly by chairmaker's rush (*Schoenoplectus pungens*), a bulrush (*Schoenoplectus purshianus*), river bulrush (*Schoenoplectus fluviatilis*), or Torrey's bulrush (*Schoenoplectus torreyi*).
    b. Community is dominated by graminoid species other than bulrush species, primarily grasses (*Poaceae*) and/or sedges (*Cyperaceae*).
        i. Community occurs on river floodplains.
            1. Relative cover for herbaceous layer is dominated by one of the following: reed canary-grass (*Phalaris arundinacea*), Canada bluejoint (*Calamagrostis canadensis*), big bluestem (*Andropogon gerardii*), Indiangrass, or common reed (*Phragmites australis* ssp. *australis*).
                a. Relative cover for herbaceous layer is dominated by reed canary-grass and/or Canada bluejoint.
                    i. ***Reed Canary-grass Floodplain Grassland***: Almost a monotypic stand of reed canary-grass, may contain some other herb or grass species but clearly dominated by reed canary grass. Community typically occurs in floodplains.
                    ii. ***Bluejoint – Reed Canary-grass Marsh***: Dominated by a combination of reed canary-grass and Canada bluejoint. Community occurs in marshes within river backwaters or upland depressions.
                b. Herbaceous layer is dominated by big bluestem, Indiangrass, or common reed.
                    i. ***Big Bluestem – Indian-grass Floodplain Grassland***: Herbaceous layer is dominated by a combination of big bluestem, Indiangrass and/or switchgrass (*Panicum virgatum*). Community typically occurs along the scour zone of floodplains or islands.
                    ii. ***Common Reed Marsh***: Herbaceous layer is almost a monotypic stand of common reed. Other herb or grass species may be present, but the community is clearly dominated by common reed. Community occurs in various settings.

2. Herbaceous layer is dominated by hairy-fruited sedge (*Carex trichocarpa*) or twisted sedge (*Carex torta*).
    a. ***Hairy-fruited Sedge Floodplain Wetland***: Almost a monotypic stand of hairy-fruited sedge, may contain some other herb or grass species but hairy-fruited sedge clearly dominates the herbaceous layer. Community occurs along floodplains of large rivers.
    b. ***Twisted Sedge Stream Margin***: Herbaceous layer is dominated by twisted sedge. Community is usually found along the banks of smaller tributaries.
        ii. Community occurs in headwater basins, upland depressions or seeps.
            1. Vegetation rooted in a substrate consisting of either mineral soil or a thin layer of organic material (muck) over mineral soil.
                a. Herbaceous layer is greater than 75% sedges.
                    i. ***Tussock Sedge Marsh***: Herbaceous layer is dominated by tussock sedge (*Carex stricta*). Other species may be present, but tussock sedge is the clear dominant herbaceous species.
                    ii. ***Sedge – Mixed Forb Fen***: Herbaceous layer is dominated by a combination of sedges like bog sedge (*Carex sterilis*), prairie sedge (*Carex prairea*), a sedge (*Carex lacustris*), or yellow sedge (*Carex flava*). Tussock sedge may be present but community is not a monotypic layer of tussock sedge. Calciphilic species such as grass-of-Parnassus (*Parnassia glauca*) may be present.
                b. Herbaceous layer is dominated by both grasses and sedges. Sedge cover is less than 75%.
                    i. ***Serpentine Seepage Wetland***: Community occurs on seeps underlain by serpentine bedrock. Relative cover for herbaceous layer is dominated by some combination of the following: tufted hairgrass, rice cutgrass, New York ironweed, slender spike-rush, and deer-tongue grass.
                    ii. Relative cover for herbaceous layer is not dominated by reed canary-grass, Canada bluejoint, or common reed.
                        1. Community occurs in small upland depressions that are seasonally inundated; shrubs may or may not be present. The margin of the wetland's basin may or may not be distinguishable.
                            a. ***Rice Cutgrass – Bulrush Vernal Pool***: The community is composed of herbaceous species only; composition is variable among the following: rice cutgrass, mannagrass

(*Glyceria* spp.), three-way sedge (*Dulichium arundinaceum var. arundinaceum*), sedges, or bulrushes. Other common species include bugleweed (*Lycopus uniflorus*), smartweeds, marsh fern (*Thelypteris palustris*), Joe-Pye-weed (*Eutrochium* spp.), cinnamon fern, and royal fern.

b. ***Wool-grass – Mannagrass - Mixed Shrub Vernal Pool***: Community is dominated by a combination of herbaceous and shrubby plant species; wool-grass (*Scirpus cyperinus*) is usually dominant. Associate species include floating mannagrass (*Glyceria septentrionalis*), rattlesnake mannagrass (*Glyceria canadensis*), rice cutgrass (*Leersia oryzoides*), pale meadowgrass (*Torreyochloa pallida*), sedges, three-way sedge, mild water-pepper (*Persicaria hydropiperoides*), marsh-purslane (*Ludwigia palustris*), marsh St. Johns-wort (*Triadenum fraseri*). Shrubs include hardhack (*Spiraea tomentosa*), meadow-sweet (*Spiraea alba*), northern arrow-wood (*Viburnum recognitum*), highbush blueberry (*Vaccinium corymbosum*), and buttonbush (*Cephalanthus occidentalis*).

iii. ***Mixed Forb – Graminoid Wet Meadow***: Community is not located in a small, isolated upland depression that is seasonally inundated, but rather community occurs in a moist field, ditch, or low-lying area; shrubs may or may not be present. Herbaceous layer is dominated by a combination of sedges, grasses and forbs. Sedge species present are usually common in Pennsylvania.

iii. Community composed of vegetation rooted in a substrate consisting of moss or sedge peat.

1. Community is dominated by one or a combination of the following: tussock sedge, prairie sedge, many-fruited sedge (*Carex lasiocarpa*), or a sedge. Other species will be present but the clear dominant species are the sedges above.

a. ***Tussock Sedge Marsh:*** Community is dominated by tussock sedge often in near monotypic stands. Community typically consists of well-developed sedge tussocks interspersed with standing water over organic muck soils.

b. Community composition is variable, often dominated by sedges such as Atlantic sedge (*Carex sterilis*), prairie sedge, a sedge, and yellow sedge,

or cotton-grass (*Eriophorum virginicum*) and/or white beak-rush (*Rhynchospora alba*). Tussock sedge may be present but community is not a monotypic layer of tussock sedge.

i. ***Sedge – Mixed Forb Fen***: Plant community is dominated by calciphilic sedge species such as Atlantic sedge, sedge (*Carex tetanica*), and yellow sedge. Substrate consists of sedge or sphagnum peat. Other calcareous indicators including grass-of-Parnassusand mountain-mint (*Pycnanthemum virginianum*) may be present. Community is influenced by calcium-rich groundwater. Surface water pH is between 6.0 and 7.9 during the growing season.

ii. Plant community is not dominated by calciphilic sedge species; relative cover of sedge species is variable. Community may or may not be influenced by groundwater. Surface water pH is between 3.5 and 5.5 during the growing season. Typically, peat moss (*Sphagnum* spp.) is abundant, often forming a dense mat beneath the vascular flora.

1. ***Many-Fruited Sedge – Bladderwort Poor Fen***: Community is dominated by many-fruited sedge (*Carex lasiocarpa*). Flat-leaved bladderwort (*Utricularia intermedia*) is also a characteristic species. Other associated species may include a sedge, marsh cinquefoil (*Potentilla palustris*), tussock sedge, and marsh fern (*Thelypteris palustris*). Substrate consists of a deep layer of decomposed sedge-peat.
2. Community is dominated by tawny cotton-grass (*Eriophorum virginicum*) and/or white beak-rush. Pitcher-plant (*Sarracenia purpurea*) or sundew (*Drosera* spp.) are typically present.
   a. ***Sphagnum – Beak-Rush Peatland***: Community is dominated by white beak-rush and peat mosses. Acid-indicators are usually present including round-leaved sundew (*Drosera rotundifolia*), spatulate-leaved sundew (*Drosera intermedia*), and pitcher-plant. Cotton-grass (*Eriophorum vaginatum*), and tawny cotton-grassare typically present but at lower coverage. Cranberry (*Vaccinium macrocarpon*) and small cranberry (*Vaccinium oxycoccos*) are abundant in some areas. The pH of the surface water is low (3.5-4.0) and there is little groundwater influence. Community typically associated with a floating mat.

b. ***Cotton-Grass Poor Fen***: Plant species can be variable, but is usually dominated by tawny cotton-grass, white beak-rush, and a sedge. Other species include soft rush (*Juncus effusus*), narrow-panicled rush (*Juncus brevicaudatus*), cinnamon fern, round-leaved sundew, and wool-grass. The pH of the surface water is low (4.0 – 5.0); however, the community is often influenced by groundwater. Community is seldom part of a floating mat. Community patch may include remnant tree stumps and other evidence of historic logging.

2. Community is dominated by forbs, although graminoid species may be present.
   a. Communities of river floodplains and tidal marshes; vegetation composition variable.
      i. Vegetation is rooted in substrates that are periodically flooded and may remain saturated but vegetation is above the mean water level.
         1. ***Japanese Knotweed Floodplain Thicket***: Vegetation is a monotypic stand of Japanese knotweed (*Fallopia japonica*).
         2. Vegetation is not a monotypic stand of Japanese knotweed.
            a. ***Floodplain Meadow***: Vegetation is variable; community occurs along lower floodplain terraces experiencing periodic flooding; may grade into other floodplain communities. Type may represent openings in floodplain forests, dominated by herbaceous species. The herbaceous layer may be dominated by goldenrods and wingstem. Characteristic species include species associated with river floodplain ecosystems: reed canary-grass, common sneezeweed, twisted sedge, cardinal-flower (*Lobelia cardinalis*), smartweeds, blue vervain, bulrush, and big bluestem.
            b. ***Mixed Forb – Graminoid Wet Meadow***: Vegetation is variable; community occurs along higher floodplain terraces that are flooded only in the most extreme flood events; may grade into upland forest and shrubland communities. Herbaceous layer is dominated by a combination of sedges, grasses and forbs common in Pennsylvania.
      ii. Vegetation is rooted in substrates that are nearly permanently flooded or saturated throughout the growing season; standing or flowing water is present except during annual periods of low flow, tidal fluctuation, or where water has been artificially drawn down.
         1. Community occurs along freshwater intertidal zone of the Coastal Plain.
            a. ***Riverbank Freshwater Tidal Marsh***: Occurs on gradually sloping riverbanks in the zone between low tide and mean high tide. Vegetation is typically

separated into three zones. The uppermost zone includes wild-rice (*Zizania aquatica*), salt-marsh water-hemp (*Amaranthus cannabinus*), swamp beggar-ticks, showy bur-marigold (*Bidens laevis*), pickerel-weed, arrow-arum, and dotted smartweed. The middle zone is dominated by chairmaker's rush, spatter-dock, long-lobed arrowhead (*Sagittaria calycina*), arrowhead, mud-plantain (*Heteranthera multiflora*), and Smith's bulrush. The lowest vegetated zone is an exposed mudflat at low tide; subulate arrowhead (*Sagittaria subulata*) is often present along with true aquatic species.

b. ***Freshwater Tidal Mixed High Marsh***: Occurs on areas of low-lying, nearly level land adjacent to the upper edge of the sloping riverbank. No clear zonation of vegetation is visible; herbaceous layer is dominated by wild-rice, swamp beggar's-ticks, showy bur-marigold, and salt-marsh water-hemp. Numerous, more widespread wetland plants may also be present such as sweet flag (*Acorus calamus*), common cat-tail (*Typha latifolia*), arrow-arum, pickerelweed, wapato, dotted smartweed, halberd-leaf tearthumb, marsh-purslane, rice cutgrass, jewelweed (*Impatiens capensis*), sensitive fern, rose-mallow (*Hibiscus moscheutos*), and climbing hempweed (*Mikania scandens*).

2. Community does not occur along intertidal zone of the Coastal Plain.
   a. Community is composed of non-persistent emergent vegetation that occurs in inundated depressions along lakeshores or riparian zones, usually in sloughs. The appearance of these systems changes seasonally from nearly unvegetated substrate in winter and early spring, to dense vegetation during the height of the growing season. Substrate is muck and usually flooded throughout the growing season. Herbaceous layer is dominated by spatterdock and fragrant water-lily, or pickerel-weed, arrow-arum, and wapato.
      i. ***Spatterdock – Water-lily Emergent Wetland***: Herbaceous layer is dominated by fragrant water-lily. Water smartweed (*Persicaria amphibia*), rice cutgrass, arrow-arum, and wapato are typically present at lower cover.
      ii. ***Pickerel-weed - Arrow-arum - Arrowhead Emergent Wetland***: Herbaceous layer is dominated by pickerel-weed, arrow-arum, and wapato.
   b. Community is composed of persistent emergent vegetation that occurs in inundated depressions along lakeshores or riparian zones (often in sloughs)

or on gravel and cobble bars within the stream channel. Herbaceous layer is dominated by either near monotypic stands of cattails (*Typha* spp.), water-willow (*Justicia americana*) or lizard's-tail (*Saururus cernuus*) or is composed of a wide variety of persistent emergent plant species.

i. Community is dominated by either water-willow or lizard's-tail.
    1. ***Water-willow Emergent Bed***: Community is dominated by water-willow. Substrate is gravel or cobbles and is often flooded by flowing water.
    2. ***Lizard's-tail Emergent Bed***: Community is dominated by lizard's-tail. Substrate is sand or silt and is often flooded.

ii. Vegetation composition of community is variable, either dominated by cat-tail species or a wide variety of persistent emergent plant species. Plants rooted in flooded substrate, usually by standing or ponded water.
    1. ***Cat-tail Marsh***: Herbaceous cover is almost a monotypic stand of cat-tail species.
    2. ***Mixed Forb Marsh***: Herbaceous layer is variable; characteristic species include three-way sedge, halberd-leaved tearthumb, tearthumb, rushes, beggar-ticks, and sensitive fern.

b. Communities of basin wetlands and upland depressions; vegetation composition variable.

i. Vegetation composition of community is variable, either dominated by cat-tail species or a wide variety of persistent emergent plant species. Plants rooted in flooded substrate, usually by standing or ponded water.
    1. ***Cattail Marsh***: Herbaceous cover is almost a monotypic stand of cat-tail species. Community may occur in standing water.
    2. Herbaceous cover not a monotypic stand of cattail species. Relative cover for herbaceous layer is variable. Community occurs in moist or saturated low areas of the uplands, or at the margins of permanent water bodies.
        a. ***Mixed Forb Marsh***: Community occurs along lake margins, flooded depressions, and other wetlands that remain inundated throughout the growing season. Composition is variable and includes aquatic emergent plants as well as submerged aquatic species. Species include three-way sedge, halberd-leaf tearthumb, tearthumb, Joe-Pye-weed, rushes, beggar-ticks, sensitive fern, marsh St. John's-wort, arrowhead, wapato, dock, sharp-fruited rush (*Juncus acuminatus*), jewelweed, tussock sedge, sweet flag, rice cutgrass.
        b. ***Mixed Forb – Graminoid Wet Meadow***: Community occurs on substrates that are saturated or inundated early in the growing season, but may be dry by mid- to late-summer. Composition is variable, but herbaceous species dominate.

Species include goldenrods, rice cutgrass, wool-grass, bugleweed (*Lycopus uniflorus*), smartweeds, sedges, tussock sedge, soft rush, Joe-Pye-weed, New York ironweed, reed canary-grass, and bulrush. Scattered shrubs may be present, representative species include steeplebush (*Spiraea tomentosa*), silky dogwood (*Cornus amomum*), gray dogwood (*Cornus racemosa*), red-osier dogwood (*Cornus sericea*), and arrow-wood.

ii. Community is composed of non-persistent emergent vegetation that occurs in inundated depressions along lakeshores or pond margins, and wet depressions. Herbaceous layer is dominated by spatterdock and fragrant water-lily, or pickerel-weed, arrow-arum, and wapato. The appearance of these systems changes seasonally from nearly unvegetated substrate in winter and early spring, to dense vegetation during the height of the growing season. Substrate is muck and usually saturated throughout the growing season.

1. ***Spatterdock – Water-lily Emergent Wetland***: Herbaceous layer is dominated by spatterdock and fragrant water-lily. Water smartweed (*Persicaria amphibia*), arrow-arum and wapato are typically present at lower cover. Community is typically semi-inundated.

    2. Relative cover for herbaceous layer is dominated by pickerel-weed, arrow-arum, and wapato.

SHRUBLAND GROUP

Woody species (shrubs and trees) cover is greater than 25%. Shrubs (woody species 5 meters tall or less) cover greater than 25% of area. Trees (woody species greater than 5 meters tall) cover less than 25% of area.

Shrubland Group Types

1. Riparian vegetation found along floodplains on islands, shorelines, gravel bars, or riverbeds. Shrub layer is dominated by either alders, willows, dogwoods, water-willow, bayberry, buttonbush, sycamore, silver maple, or river birch (*Betula nigra*).
    a. Shrub layer is dominated by some combination of sycamore, silver maple, eastern cottonwood (*Populus deltoides*), river birch, and black willow (*Salix nigra*). ***(Mixed Hardwood Floodplain Thicket)***
    b. Shrub layer is dominated by either alders, willows, dogwoods, bayberry (*Myrica pensylvanica*), water-willow, or buttonbush.
        i. Shrub layer is more alders than willows. Shrub layer is dominated by speckled alder (*Alnus incana ssp. rugosa*) and smooth alder (*Alnus serrulata*) with a combination of black willow, ninebark (*Physocarpus opulifolius*), or silky dogwood. Water-willow or buttonbush are absent or scattered throughout. ***(Alder – Dogwood Floodplain Thicket)***
        ii. Shrub layer is dominated by willows, dogwoods, bayberry, water-willow, or buttonbush. Alders are either co-dominant or absent.
            1. Community is found along scour zones or island heads along major rivers. Sandbar willow (*Salix exigua*) and black willow are typically the dominant short shrubs (<2m in height), with occasional sycamore, river birch, silver maple, box-elder (*Acer negundo*), hardhack, silky dogwood, and honey-locust (*Gleditsia triacanthos*). Herbaceous species may include Indiangrass, big bluestem, Indian hemp, smartweeds, or pink dogbane (*Apocynum androsaemifolium*). ***(Willow – Indiangrass Floodplain Shrub Wetland)***
            2. Community typically occurs along shorelines, back channels, or tributaries.
                a. Black willow is clearly the dominant shrub species with alder, dogwoods, and other willows typically present. Herbaceous layer is variable but usually includes smartweeds, beggar-ticks, and/or reed canary-grass. ***(Black Willow Floodplain Thicket)***
                b. Plant cover is not dominated by black willow.
                    i. Dominant species include one or a combination of the following: bayberry, willows, dogwoods, and/or meadowsweets.

1. Plant communicated is located on Presque Isle within the Great Lakes region of Pennsylvania; dominant species include bayberry, silky dogwood, red-osier dogwood, and willows, with scattered eastern cottonwood and European white birch (*Betula pendula*). ***(Great Lakes Bayberry – Mixed Shrub Wetland)***
2. Plant community is not located on Presque Isle; dominant species include one or a combination of the following: willows, dogwoods, and/or meadowsweets. Other shrub species, such as northern arrow-wood and alders may be present as associate species. ***(Circumneutral Mixed Shrub Wetland)***

ii. Shrub layer is dominated by water-willow or buttonbush.
1. Shrub layer is dominated by water-willow; buttonbush may be present but is not dominant. ***(Water-willow Shrub Wetland)***
2. Shrub layer is dominated by buttonbush; water-willow may be present but is not dominant. ***(Buttonbush Wetland)***

2. Palustrine vegetation found in basin depressions. Shrub layer is dominated by either leatherleaf, alders, swamp rose, dogwoods, willows, meadow-sweets, winterberry holly, mountain holly, highbush blueberry, buckthorn, eastern red-cedar, poison sumac, bayberry, water-willow, or buttonbush.
a. Shrub layer is dominated by either leatherleaf, alders, winterberry, mountain holly, highbush blueberry, swamp rose, dogwoods, willows, or meadow-sweets.
i. Shrub layer is mainly dominated by leatherleaf.
1. Leatherleaf is typically under 0.3 meters in height.
a. Leatherleaf, sedges, and sphagnum moss dominate the community. This community usually occurs in upland depressions influenced by impoundments or may be present in glacial bogs. ***(Leatherleaf – Sedge Wetland)***
b. Leatherleaf is stunted and intermixed with cranberry species and sphagnum moss. This community often represents the zone of rooted vegetation adjacent to open water (*i.e. bog lake*) and may grade into the Leatherleaf - Bog Rosemary Bog type. ***(Leatherleaf – Cranberry Bog)***
2. Leatherleaf is over 0.3 meters in height.
a. Leatherleaf, sedges, and sphagnum moss dominate the community. This community usually occurs in upland depressions influenced by impoundments or may be present in glacial bogs. ***(Leatherleaf – Sedge Wetland)***
b. Leatherleaf is intermixed with other shrub species.
i. Leatherleaf is dominant or co-dominant with sweet-gale (*Myrica gale*) and shrubs are nearly waist high and very dense. Other low shrubs like rhodora

(*Rhododendron canadense*), sheep laurel (*Kalmia angustifolia*), chokeberry (*Photinia* spp.), and bog laurel (*Kalmia polifolia*) are common. Sphagnum moss is typically present. ***(Sweet-gale – Leatherleaf Shrub Fen)***

ii. Leatherleaf is dominant shrub species but is intermixed with sheep laurel, bog-rosemary (*Andromeda polifolia var. glaucophylla*), chokeberry, black huckleberry (*Gaylussacia baccata*), and Labrador tea (*Rhododendron groenlandicum*). ***(Leatherleaf – Bog Rosemary Bog)***

ii. Shrub layer is mainly dominated by swamp rose, dogwoods, willows, meadow-sweets, alder, winterberry holly, mountain holly, or highbush blueberry.

1. Plant community is dominated by one or a combination of swamp rose, dogwoods, willows, or meadow-sweets. Other shrub species, such as northern arrow-wood and alders may also be present as associate species. ***(Circumneutral Mixed Shrub Wetland)***
2. Plant community is clearly dominated by either alders, winterberry holly, mountain holly, or highbush blueberry.
   a. Shrub layer is mainly dominated by either smooth alder, speckled alder, winterberry holly, or mountain holly.
      i. Plant community is dominated by a combination of alders, willows, dogwoods, American elder (*Sambucas canadensis*), buttonbush, and water-willow. Sphagnum moss is generally absent although other mosses may be present. ***(Circumneutral Mixed Shrub Wetland)***
      ii. Plant community is dominated by a combination of alders, maleberry (*Lyonia ligustrina*), winterberry holly, mountain holly, highbush blueberry, and/or leatherleaf. Sphagnum moss and sedges dominate the herbaceous layer. ***(Acidic Mixed Shrub – Sphagnum Wetland)***
   b. Shrub layer is mainly dominated by highbush blueberry.
      i. In addition to highbush blueberry, meadow-sweet is present and herbaceous layer contains very little to no sphagnum moss. ***(Highbush Blueberry – Meadow-sweet Wetland)***
      ii. In addition to highbush blueberry, cinnamon fern, sphagnum moss, and sedges dominate the herbaceous layer. ***(Highbush Blueberry – Sphagnum Wetland)***

b. Shrub layer is dominated by either buckthorn, eastern red-cedar, poison sumac, water-willow, buttonbush, or bayberry.

i. Shrub layer is dominated by either buckthorn, eastern red cedar, poison sumac, or bayberry.

1. Shrub layer is dominated by bayberry.

a. This plant community is located on Presque Isle within the Great Lakes region of Pennsylvania; dominant species include bayberry, silky dogwood, red-osier dogwood, and willows, with scattered eastern cottonwood. ***(Great Lakes Bayberry – Mixed Shrub Wetland)***

b. Shrub layer is dominated by a combination of eastern red cedar, poison sumac, or bayberry. Shrubby cinquefoil (*Potentilla fruticosa*) is often present. ***(Poison Sumac – Red-cedar – Bayberry Fen)***

ii. Shrub layer is not dominated by bayberry.

1. Shrub layer is dominated by alder-leaved buckthorn (*Rhamnus alnifolia*), sedges, and golden ragwort. ***(Alder-leaved Buckthorn – Inland Sedge -Golden Ragwort Shrub Fen)***
2. Shrub layer is dominated by a combination of eastern red cedar, poison sumac, or bayberry. Shrubby cinquefoil is often present. ***(Poison Sumac – Red cedar – Bayberry Fen)***

iii. Shrub layer is dominated by water-willow or buttonbush.

1. Shrub layer is dominated by water-willow, although buttonbush can be present with a lower percent cover. ***(Water-willow Shrub Wetland)***
2. Shrub layer is dominated by buttonbush although water-willow can be present with a lower percent cover. ***(Buttonbush Wetland)***

WOODLAND GROUP

Trees (woody species greater than 5 meters tall) cover 25% - 60% of area.

Woodland Group Types

1. Tree cover in the combined canopy and subcanopy for broadleaf deciduous species is greater than 75%. Red maple (*Acer rubrum*) is typically the dominant tree species.
   a. Shrub layer is less than 25%. Substrate is predominantly standing water between hummocks with a thick sedge herbaceous layer. ***(Red maple – Sedge Palustrine Woodland)***
   b. Relative cover of the shrub layer is greater than 25%.
      i. Shrub layer is dominated by red maple and highbush blueberry. Other shrubs may include rosebay. Herbaceous layer has a strong Sphagnum moss component. ***(Red maple – Highbush Blueberry Palustrine Woodland)***
      ii. Shrub layer is dominated by red maple and a combination of one or more of the following: willows, spicebush (*Lindera benzoin*), winterberry holly, smooth alder, swamp rose, and buttonbush. Sphagnum moss is either absent or sparse in herbaceous layer. ***(Red maple – Mixed Shrub Palustrine Woodland)***
2. Combined canopy and subcanopy cover of coniferous species is greater than 25%.
   a. Combined canopy and subcanopy cover of coniferous species is greater than 25% but less than 75%.
      i. Combined canopy and subcanopy is dominated or co-dominated by red spruce (*Picea rubens*) and/or American larch/tamarack (*Larix laricina*). Common hardwood species include yellow birch (*Betula alleghaniensis*), red maple, black ash (*Fraxinus nigra*), and occasionally blackgum (*Nyssa sylvatica*). The shrub layer can be dense and may include mountain holly, highbush blueberry, winterberry holly, swamp azalea (*Rhododendron viscosum*), and witherod (*Viburnum cassinoides*). Sphagnum moss is usually present and substrate is composed of peat. ***(Red Spruce – Mixed Hardwood Palustrine Woodland)***
      ii. Combined canopy and subcanopy is dominated by eastern hemlock (*Tsuga canadensis*). Associated hardwood species are yellow birch red maple, black ash, blackgum, and gray birch (*Betula populifolia*). Rosebay often forms a dense understory; other shrubs include highbush blueberry, winterberry holly, swamp azalea, mountain holly, maleberry, leatherleaf, sheep laurel, and witherod. ***(Hemlock – Mixed Hardwood Palustrine Woodland)***
   b. Combined canopy and subcanopy cover of coniferous species is greater than 75%.
      i. Combined canopy and subcanopy is dominated by black spruce (*Picea mariana*) and/or American larch/ tamarack. Typically, there is an extensive shrub layer usually

dominated by leatherleaf, highbush blueberry, and/or rosebay. Sphagnum moss is present. Substrate is composed of peat. ***(Black Spruce – Tamarack Palustrine Woodland)***

ii. Combined canopy and subcanopy is dominated by pitch pine (*Pinus rigida*). Leatherleaf typically forms a dense shrub layer. Other shrubs include black chokeberry (*Photinia melanocarpa*), velvet-leaf blueberry (*Vaccinium myrtilloides*), sheep laurel, Labrador tea, rhodora, black huckleberry, and scattered highbush blueberry. Sphagnum moss is present. ***(Pitch Pine – Leatherleaf Palustrine Woodland)***

FOREST GROUP

Trees (woody species greater than 5 meters tall) cover greater than 60% of area.

Forest Group Types

1. Coniferous species comprise greater than 25% of the combined canopy and subcanopy.
    a. Coniferous species cover of the combined canopy and subcanopy is between 25% and 75%. The deciduous portion of the canopy may be a combination of yellow birch, red maple, blackgum, black ash, and/or gray birch.
        i. Canopy cover for coniferous species is dominated by red spruce. Other conifers, such as eastern hemlock, eastern white pine (*Pinus strobus*), American larch/tamarack, or balsam fir (*Abies balsamea*) may also be present at lower coverage. ***(Red Spruce – Mixed Hardwood Palustrine Forest)***
        ii. Canopy cover for coniferous species is dominated by eastern hemlock and/or eastern white pine. Other conifers, such as red spruce, American larch/tamarack, and balsam fir may also be present at lower coverage. ***(Hemlock – Mixed Hardwood Palustrine Forest)***
    b. Coniferous species cover in the combined canopy and subcanopy is greater than 75%.
        i. Combined canopy and subcanopy cover is greater for eastern hemlock and/or eastern white pine than spruce and American larch/tamarack. Community typically has a hummock and pool micro-topography. Rosebay typically forms a dense shrub layer. ***(Hemlock Palustrine Forest)***
        ii. Combined canopy and subcanopy cover is greater for either red spruce, black spruce, or American larch/tamarack than combined cover for eastern hemlock and/or eastern white pine.
            1. Combined canopy and subcanopy cover is dominated or co-dominated by red spruce and/or American larch/tamarack. The substrate is typically either shallow organic soils or mineral soils with substantial surface accumulation of organic material (*histic epipedon*). ***(Red Spruce Palustrine Forest)***
            2. Combined canopy and subcanopy cover is dominated by black spruce and/or American larch/tamarack. The substrate consists of peat. ***(Black Spruce – Tamarack Peatland Forest)***
2. Broadleaf deciduous species comprise more than 75% of the combined canopy and subcanopy.
    a. Combined canopy and subcanopy cover is dominated by maples, elms, black ash, or blackgum. While oak species and green/red ash may be present, they are not dominant in the forest canopy.

i. Combined canopy and subcanopy cover is co-dominated by red maple and some combination of one or more of the following: sweet-bay magnolia (*Magnolia virginiana*), sweetgum (*Liquidambar styraciflua*), blackgum, ash species, and/or elm species.
    1. Community is dominated by red maple and a diverse mix of overstory hardwood species including sweet-bay magnolia and sweetgum. Community is located in either the Coastal Plain or Piedmont of Pennsylvania.
        a. Community is found in permanently inundated wetlands and dominated by red maple; sweet-bay magnolia and sweetgum are also present; sweet pepperbush (*Clethra alnifolia*), fetter-bush (*Leucothoe racemosa*), winterberry holly, smooth winterberry (*Ilex laevigata*), highbush blueberry, swamp azalea, and possum-haw (*Viburnum nudum*). The herbaceous layer is often sparse. Community is located in the Coastal Plain, restricted to low-lying areas of the Coastal Plain, with outliers occurring in the Piedmont and South Mountain sections of the Piedmont within Pennsylvania. ***(Red Maple – Magnolia Palustrine Forest)***
        b. Plant community is located in the Coastal Plain of Pennsylvania, specifically in Bucks County, in depressions that are often flooded during winter and spring and is dominated by sweetgum. The herbaceous layer is variable; it is sparse where water stands for the longest time. Willow oak (*Quercus phellos*) and swamp chestnut oak (*Quercus michauxii*) are also present, in addition to other overstory hardwood species. Swamp dog-hobble (*Leucothoe racemosa*), sweet pepperbush, highbush blueberry, and southern arrow-wood (*Viburnum dentatum*) are characteristic shrubs. ***(Sweetgum – Willow Oak Coastal Plain Palustrine Forest)***
    2. Overstory is a diverse mix of overstory hardwood species, in addition to red maple, which may include blackgum, ash species, yellow birch, and oaks. Forest canopy and subcanopy does not contain sweet-bay magnolia or sweetgum. Community is not limited to the Coastal Plain and Piedmont within Pennsylvania.
        a. Relative cover for combined canopy and subcanopy is dominated by red maple and/or blackgum. Other canopy trees include yellow birch, pin oak (*Quercus palustris*), and eastern hemlock. Soil and water pH are both acidic. ***(Red Maple – Blackgum Palustrine Forest)***
        b. Combined canopy and subcanopy cover is dominated by red maple and ash species. Other canopy trees include yellow birch and pin oak. Blackgum may occasionally occur but is never co-dominant.
            i. Community occurs in the back-swamp of the river floodplain, in abandoned oxbow-wetlands, and in depressions behind natural levees. Combined

canopy and subcanopy cover is dominated by red maple, green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), slippery elm (*Ulmus rubra*), swamp white oak (*Quercus bicolor*), and pin oak. ***(Elm – Ash – Maple Lakeplain Forest)***

ii. Community occurs primarily in headwater wetlands (*not situated within the floodplain of major rivers*). Species composition is influenced by calcareous groundwater; pH is circumneutral. Combined canopy and subcanopy cover is dominated by red maple, black ash, green ash, American elm, or slippery elm.

1. Plant community is located in the Great Lakes Region of Pennsylvania; the canopy and subcanopy are composed of a wide variety of species including red maple, American elm, black ash, green ash, and/or pumpkin ash (*Fraxinus profunda*). Soils are not saturated throughout the year, contributing to the high diversity of wetland and upland tree and shrub species. ***(Red Maple – Black Ash Palustrine Forest)***
2. Combined canopy and subcanopy cover is dominated by red maple, black ash, swamp white oak, and American elm. There is little to no blackgum present. Soils remain flooded and/or saturated throughout the year. ***(Red Maple – Elm – Willow Floodplain Swamp)***

ii. Combined canopy and subcanopy cover is dominated by silver maple (*Acer saccharinum*) or sugar maple (*Acer saccharum*). White ash (*Fraxinus americana*) may be a co-dominant canopy species.

1. Relative cover for combined canopy and subcanopy is dominated by sugar maple. Other canopy species may include American basswood (*Tilia americana*), white ash, silver maple, black walnut (*Juglans nigra*), green ash, bitternut hickory (*Carya cordiformis*), black maple *(Acer nigrum)*, and American beech (*Fagus grandifolia*). Community is usually located along mid- to high-floodplain terraces. ***(Sugar Maple – Mixed Hardwood Floodplain Forest)***
2. Plant community occurs along large rivers on well-developed floodplains and islands. Combined canopy and subcanopy cover is dominated by silver maple but other species can be present, such as sycamore, red maple, black willow, river birch, box-elder (*Acer negundo*), green ash, and elms. ***(Silver Maple Floodplain Forest)***

b. Combined canopy and subcanopy cover is dominated by green ash, oaks, sycamore, or bitternut hickory (*Carya cordiformis*).

i. Combined canopy and subcanopy cover is dominated by green ash or oaks.

1. Combined canopy and subcanopy cover is dominated by green ash. Associate canopy species include black walnut and sycamore. Community occurs on floodplains and terraces. ***(Green Ash – Mixed Hardwood Palustrine Forest)***
2. Canopy and subcanopy cover is dominated by pin oak and/or swamp white oak. Associate canopy species include green ash, American elm, blackgum, and black ash. Community typically occurs in backswamps. ***(Oak – Mixed Hardwood Palustrine Forest)***

ii. Combined canopy and subcanopy cover is dominated by sycamore or bitternut hickory. Community occurs on floodplains or terraces.
1. Canopy is dominated by sycamore.
   a. Combined canopy and subcanopy cover is dominated by sycamore; river birch is co-dominant or sub-dominant. Associate canopy species include sugar maple on smaller tributaries, silver maple, and green ash. ***(Sycamore – Mixed Hardwood Floodplain Forest)***
   b. Combined canopy and subcanopy cover is dominated by sycamore; river birch is typically absent. Co-dominant or associate canopy species include sugar maple on smaller tributaries and silver maple. ***(Sycamore Floodplain Forest)***
      2. Canopy is dominated by bitternut hickory. Co-dominant or associate canopy species include northern red oak (*Quercus rubra*), butternut (*Juglans cinerea*), wild black cherry (*Prunus serotina*), sugar maple, American elm, white ash (*Fraxinus americana*), and silver maple. ***(Bitternut Hickory Floodplain Forest)***

Section 3 – Alternative Wetland Communities

Massasauga Rattlesnake

In addition to being a Federally threatened species under the Endangered Species Act, the Eastern massasauga (rattlesnake) is also a critically imperiled endangered species in Pennsylvania and is identified as a Species of Greatest Conservation Need in Pennsylvania's Wildlife Action Plan with the highest listing as a Species of Immediate Concern. The need for Eastern massasauga protection in Pennsylvania is demonstrated by a rapid decline in species distribution. Habitat loss and vegetative succession are the main reasons for the decline in species distribution. Recovery efforts on private lands are vitally important for long-term species viability.

The Eastern massasauga is a species that requires both wetlands and non-forested upland habitats, such as meadows and reverting agricultural fields, to be close in proximity. Throughout their range, massasaugas are associated with a wide variety of habitats including bedrock, peat forests, wetlands and prairie grasslands. Pennsylvania populations are found in fields of forbs and low-growing grasses having an open canopy and spotty distribution of woody shrubs. Habitat is consistently found in proximity to wetland areas which provide hibernacula habitat where the eastern massasauga overwinters for five to six months annually (https://www.fishandboat.com/Resource/Documents/species-plan-eastern-massasauga.pdf). Hibernacula consist of any burrow or fissure that reaches the water table (Reinert, 1978; Reinert and Kodrich, 1982). Crayfish burrows are commonly utilized in areas where these organisms co-inhabit (Maple, 1968; Reinert and Kodrich, 1982; Seigel, 1986).

Historically, most Eastern massasauga sites in Pennsylvania were hayed or pastured. Many of these areas had some hydrology modification in the past (i.e., stone drains, shallow ditching, or tile lines), but trees have become dominant as cropping and/or livestock grazing decreased or ceased entirely. Trees can negatively impact Eastern massasauga habitat, changing hydrologic functions in the wetlands and increasing shade, making the habitat less suitable for long-term sustainability of Eastern massasauga populations.

The change from open meadow to brush or trees reduces the suitable feeding areas for Eastern massasauga, who prey on insects and rodents. The increased evapo-transpiration of trees compared to the grazed herbaceous vegetation reduces hydrology in the wetlands every year when the trees leaf out in the spring. Trees also encourage the development of channelized flow from the spring

seepages that occur on these wetlands, in contrast to the more dispersed flow when these sites were dominated by native herbaceous vegetation prominent in active pastures.

These hydrologic effects significantly reduce the permanent shallow groundwater flow required by the Eastern massasauga for hibernation. For the purpose of providing Eastern massasauga habitat, in the present condition these sites are hydrologically modified as much by plant succession to forest as by past intentional drainage activities. (Please see Pennsylvania Fact Sheet on the Eastern massasauga: http://www.naturalheritage.state.pa.us/factsheets/11558.pdf)

In order to increase habitat for this imperiled wetland dependent species, PA NRCS will restore the forested habitats occupied by the Eastern massasauga as alternative communities. Restoration will focus on removing woody vegetation and returning the sites to fields of forbs and low-growing grasses having an open canopy and spotty distribution of woody shrubs. This type of wetland restoration, while an alternative community to the historic wetland communities in Pennsylvania, is necessary to support habitat for the Massasauga rattlesnake.

Bog Turtle Wetlands

The bog turtle (*Clemmys muhlenbergii*) is imperiled or critically imperiled throughout its entire range in North America and is classified as Federally threatened by the U.S. Fish and Wildlife Service (USFWS). Bog turtles only occur in very low numbers in southeastern Pennsylvania. Habitat loss, habitat fragmentation and forest succession are major factors in the decline of this species. In the past, as natural wetland succession would occur, bog turtle populations could relocate to nearby wetlands where appropriate habitat was available (http://www.naturalheritage.state.pa.us/factsheets/11522.pdf).

However, with the extreme habitat fragmentation in southeastern Pennsylvania, remaining habitat has become increasingly scarce and isolated; now, without appropriate habitats nearby, wetland succession can lead to localized extinctions of bog turtle populations. Additionally, this species is threatened by decreased water quality, roadway mortality, and predation of nests and juveniles by unnaturally high raccoon populations. Another major threat to the bog turtle is collection by humans. Reptile collectors consider this turtle a valuable prize, as it is the rarest of all North American turtles.

The USFWS, the National Fish and Wildlife Fund (NWFW), and the Environmental Defense Fund (EDF) have identified two priority areas for the recovery of the northern population of the bog turtle: the Hudson/Housatonic area in New York, New Jersey, Massachusetts, and Connecticut; and the Susquehanna/Potomac area in Pennsylvania and Maryland. This area is the targeted area for wetland preservation and restoration for the Bog Turtle in Pennsylvania.

Bog turtles occur in wet meadows and bogs where tussock sedge and grasses dominate the wetlands. They require open conditions associated with early-successional wetland habitats. The substrate must consist of deep mucky soils fed by groundwater seeps, with only modest amounts of open water. If any of these conditions change, the population can decline and may eventually disappear from the area (http://www.naturalheritage.state.pa.us/factsheets/11522.pdf).

Bog turtles are a disturbance-dependent species, so periodic habitat disturbance is necessary. Disturbance provides the best hydrologic conditions for bog turtle habitat (USFWS, Nicole Ranalli, Endangered Species Biologist, 2020). Historical records in the Susquehanna/Potomac priority area suggest bog turtles evolved with the beaver, occupying abandoned de-forested beaver meadows. As beavers and beaver meadows were displaced by agriculture, the bog turtle was able to utilize grazed wetlands.

Unless disrupted by fire, beaver activity, grazing, or periodic wet years, bog turtle habitat areas are slowly invaded by woody vegetation. Once woody vegetation invades, the habitat undergoes a transition into closed-canopy, wooded swamplands that are unsuitable for bog turtles. Such a change in habitat often alters hydrology, and limits habitat suitability to bog turtles.

In Pennsylvania, trees have become dominant where cropping and/or livestock grazing has decreased or ceased entirely. Trees significantly degrade the hydrology of bog turtle wetlands in two ways, making the habitat unsuitable for long-term sustainability of bog turtle populations: First, the higher evapotranspiration of trees, compared to the grazed herbaceous vegetation, reduces wetland hydrology every year when the trees leaf out in the spring. Second, trees also encourage the development of channelized flow from the spring seepages that occur on these wetlands, in contrast to the widespread overland flow that occurred when these sites were dominated by native herbaceous vegetation, including active pastures.

These hydrologic effects significantly reduce the permanent shallow surface flow required by bog turtles for hibernation, for foraging, and for escaping from predators (particularly for juvenile turtles). In terms of bog turtle habitat, in their present condition these sites are hydrologically modified as much by forest succession as by past drainage activities. Changes in annual wetland hydrology, plus

significant increases in overstory shading, can make current or prior habitats unsuitable for continued bog turtle reproduction. Bog turtles are relatively long-lived (40 to 50 years), and many of the remaining/remnant populations in the targeted area contain only older adults. For some of these remnant populations, there has been no successful reproduction in many years--sometimes decades.

Therefore, it is imperative to take actions to maintain or restore bog turtle habitat throughout its range. Proper planning is required within bog turtle wetlands in order to achieve conditions conducive to all stages of the species' life history (USFWS, Nicole Ranalli, Endangered Species Biologist, 2020). In partnership with USFWS, PA NRCS, through the WRP and WRE programs, is preserving and rehabilitating critical habitat for the bog turtle.

PA NRCS will create alternative wetland communities to restore and maintain habitat for the bog turtle, which is persisting, but continuing to decline, in predominantly agricultural landscapes. PA NRCS will convert any now-forested bog turtle habitats to alternative communities similar in composition and function to wetlands from the Herbaceous--Mixed Forb and Graminoid group. Restoration will focus on removing woody vegetation and returning the sites to forbs and low-growing grasses with an open canopy and spotty distribution of woody shrubs. This type of wetland restoration is necessary to create and retain habitat for the bog turtle.

Shallow Water Impoundment

Due to its broad application for water quality, soil quality and habitat improvement, Pennsylvania will continue to utilize the shallow water impoundment as an alternative wetland community in areas best suited to this type of wetland restoration. Although not a historic wetland type in Pennsylvania, the shallow water impoundment provides significant wildlife, soil, and hydrology functions and values. This type of wetland is also aesthetically pleasing and therefore appealing to many WRE participants.

In the past, many wetlands were drained for conversion to agriculture. This was accomplished by altering the hydrology of a wetland through tiling, ditching, filling and stream channelization. In many cases, sites where hydric soils were drained for agricultural purposes provide the best conditions for restoration via a shallow water impoundment wetland. In those areas, shallow water impoundment wetlands provide increased hydric soil restoration that would

otherwise not be possible. These wetlands filter pollutants and sediments from surface and ground water inputs, and catch and slow excess water from storm events, which reduces erosion, provides flood control, and recharges ground water.

Impoundment wetlands also provide habitat and food for many of the bird species that use Pennsylvania as a migration flyway. During dry periods, wetland drawdown within shallow water impoundment wetlands provides optimal conditions for a diverse array of wetland plants, especially emergent plants, which supply food in the form of seeds and tubers to both brood-rearing and migrating waterfowl. When wetlands begin to recharge and hold water, the production of algae and invertebrates also increases, providing an abundant food source important to many wetland-dependent species, including migratory birds (http://www.ducks.org/media/Conservation/GLARO/_documents/_library/_landowner/LandownerGuide.pdf).

Section 4 – Technical Criteria for Eligibility

Eligible Land Type Criteria

Pennsylvania will accept all eligible land types as listed in the ACEP Manual, 528.105, Land Eligibility (C – I) (Eligible Land Types and Other Eligible Land). However, prior to accepting a parcel into the WRE program, Pennsylvania NRCS will screen acreage being offered for enrollment to ensure that adequate hydric soils, hydrology, and other site-specific characteristics support a viable restoration project that maximizes wetland and wildlife habitat. Priority is given in ranking to parcels best suited for restoration of soils, hydrology, and wildlife habitat.

Interdisciplinary Team (IDT) Eligibility Screening

ACEP Policy requires specific processes be followed for the enrollment, acquisition and restoration of WRE easements to ensure that all WRE projects meet basic eligibility criteria, meet legal and programmatic requirements for acquisition and achieve a viable and successful restoration. Successful restoration is a basic requirement for program eligibility.

ACEP policy (528.101 (C)) mandates that NRCS conduct preliminary investigations of each WRE site prior to enrollment. To ensure that acreage is legally and physically eligible for enrollment into the WRE program, in Pennsylvania, every offer of enrollment is reviewed in the field by an Interdisciplinary Team (IDT) consisting of the State Biologist, State Soil Scientist, an NRCS engineer, and the Easement Program Manager. The IDT meets on-site with the landowner and the local county District Conservationist to review the site characteristics and landowner goals. The IDT submits reports to the State Conservationist that document the verification of site eligibility.

During the IDT site visit, the Soil Scientist completes in-field soil observations with corresponding GPS coordinates to outline the hydric soils area and determine the soil, vegetative, and hydrologic suitability of the site. After the site visit, the soil scientist provides a report and a map illustrating the location and extent of the hydric soils. The in-field observation is necessary because the soil survey is too generalized to provide accurate, on-the-ground information about the restoration potential of the site. The in-field soils observation determines how much of the site is hydric soil and how much of the hydric soil can be restored. The soil report also provides site-specific mapping of the hydric soils for the development of the preliminary restoration plan.

The NRCS engineer walks the site and conducts a survey of the site topography during the IDT visit. After reviewing the Soil Scientist report, the engineer determines what restoration practices are feasible on-site based on soils, hydrology, and the topographic survey. The NRCS engineer provides

an Inventory and Evaluation (I&E) Report which lists the restoration practices the site will support as well as an estimated cost for the practices. The engineering I&E report is used to develop the preliminary restoration plan and an estimated cost for restoration.

The State Biologist walks the site to determine how wetland and wildlife habitat can be maximized on-site. The biologist uses the soils and engineering reports to quantify the eligible and adjacent acreage for the site and ensures that the site meets programmatic eligibility requirements. The eligible and adjacent acreage is documented by the biologist on Pennsylvania's "WRE Easement Application Eligibility Planning and Cost Estimates Worksheet". The State Biologist provides a report describing the site eligibility potential and listing the wildlife restoration will support.

The Easement Program Manager walks the site with all three disciplines to ensure the site meets programmatic and legal eligibility requirements. The program manager reviews the site for potential legal and physical issues that may impede access to the site or the restoration of the site. The program manager discusses the program terms, easement restrictions, and restoration potential with the landowner to ensure that landowner goals meet program goals and objectives.

IDT visits are also conducted on Bog turtle and Massasauga rattlesnake sites. However, due to the nature of restoration for these enrollments (vegetation treatment only), the NRCS engineer review and I&E Report are not required. State Biologist and State Soil Scientist reports are used in consultation with USFWS to determine eligibility for enrollment.

After the IDT visit is complete and reports generated, the State Office holds a meeting with IDT team members and the Field Office Representative to discuss the site. The group collectively decides whether or not to move forward with the parcel application and enrollment.

If the site is approved by the group, the reports from each discipline are forwarded to the State Conservationist with the recommendation to approve the enrollment. The State Conservationist reviews all information and the group recommendation. If the State Conservationist agrees that the site is acceptable, the site is officially approved for enrollment. The State Conservationist approval is documented on the Wetland Reserve Enhancement Program (WRE) Interdisciplinary Screening Form (dated *June 2017, see on next page*).

If a project is determined ineligible for enrollment by the Interdisciplinary Team, State Office group, or the State Conservationist, the Easements Program Manager will issue a letter of ineligibility to the landowner.

Wetland Reserve Enhancement Program (WRE)

Interdisciplinary Screening Form (*June 2017*)

ACEP-WRE Policy, Application Process and Eligibility Overview, 528.101 (C)

GENERAL INFORMATION

Landowner:_____ County:_____ ☐ Regular

Address:_____ Farm No:_____ ☐ Massasauga

_____ Tract No:_____ ☐ Bog Turtle

Restoration Objective:

_____

_____

_____

Engineering Review

Restoration Potential: ☐ Yes ☐ No ☐ NA (Bog Turtle/Massasauga)

Engineering Report (attached).....Recommended _____YES _____NO

Soils Review

Restoration Potential: ☐ Yes ☐ No

Screening (see attached report).....Recommended _____YES _____NO

Biology/Habitat Review

Restoration Permit Possible: ☐ Yes ☐ No **Habitat Potential:** ☐ Yes ☐ No

Screening (see attached report).....Recommended _____YES _____NO

Program Review

____Landowner Eligibility ____Title Commitment ____AAI Search ____Proof of Ownership

Program Eligibility Met: ☐ Yes ☐ No

Screening (documents in case file).....Recommended _____YES _____NO

Determination of Program Eligibility/Acceptance

Easement Enrollment Approval

_____ _____

Signature - ASTC Date

Easement Enrollment Approval

_____ _____

Signature - State Conservationist Date

Preferred Eligible Land Types in Pennsylvania

In Pennsylvania, priority will be given to parcels offered for enrollment having the highest soil, vegetative, and hydrologic suitability. Parcels containing an abundance of hydric soils provide the best baseline for successful restoration. Restoring the most acreage on-site as possible allows NRCS to maximize wetland and wildlife habitat on the easement.

Preferred eligible land are those areas that will most easily or successfully restore former wetlands impacted by agriculture into one of Pennsylvania's historic wetland communities. PA NRCS will target the Sparse Vegetation Group, the Herbaceous Group, and the Woodland Group for restoration. These wetland community types lend themselves well to restorations on agricultural land having an abundance of hydric soils.

The Sparse Vegetation Group community includes areas consisting of sand, cobbles, or bare rock often found along river and stream shores or lakeshores. Since the substrate in this type of wetland community is composed of cobbles, sand, or gravel, it can be difficult to create pools or shallow impoundments that hold water. Restoring this type of wetland community would involve plantings of native wetland vegetation coupled with smaller, shallow, berm-less potholes. These restoration projects will often be designed to withstand flood events, as they may often occur in floodplains or backwater areas.

The Herbaceous Group has vegetation covering 25% or more of the total project area, with plant communities dominated by herbaceous or graminoid species (forbs, grasses, sedges, and rushes) and woody species (shrubs and trees) that cover less than 25%. This wetland group contains "persistent" and "non-persistent" wetlands. This is the third most common historic wetland community in Pennsylvania and is an excellent wetland group to target for converting agriculturally impacted hydric soils back into a wetland community. This is also the wetland type needed by the eastern massasauga and bog turtle.

Both the soil type and desired vegetation type of the Herbaceous Group wetland community lend themselves to a high potential of successful restoration. Restoration of this Herbaceous wetlands consists of small shallow-water potholes or shallow impoundments with berms. Native grasses and forbs, along with limited trees and shrubs, are planted to enhance the wetland wildlife habitat.

The Woodland Group consists of trees (woody species greater than 5 meters tall) covering greater than 25% of the area. Wooded wetlands are excellent goals for wetland restoration in Pennsylvania. Restoring this type of wetland community would include creating shallow potholes or seasonal vernal pools in hydric soils and planting native woody or herbaceous vegetation to return the area to

woodland. Since the landscape in Pennsylvania naturally reverts to tree cover, this type of wetland restoration provides for less maintenance throughout the lifespan of the easement.

Restoration Potential of Hydric Soils

ACEP-WRE policy (528.131, (A)(3) requires the restoration of wetland functions and values through the reestablishment of the hydrology and native vegetative communities that would have been found on the enrollment area prior to its manipulation or degradation. To meet this requirement, in Pennsylvania, at least 50% of the hydric soils area must have the potential for restoration practices that will return hydrology to the soil. Restoration potential will be determined on a case by case basis after the IDT field visit and recommendations by the team.

Preferred Eligible Land Types and Permitting

Over the past several years, Pennsylvania NRCS has had difficulty securing permits from the Pennsylvania Department of Environmental Protection (DEP) to conduct wetland restoration under both the Wetland Reserve Program (WRP) and the Wetland Reserve Easement Program (WRE). Sites where recent active agricultural use can be proven, and/or sites clearly labelled as meeting the Prior Converted (PC), Farmed Wetland (FW) or Farmed Wetland Pasture (FWP) criteria have a much higher chance of receiving a permit from DEP for wetland restoration work. Sites lacking these criteria often do not qualify for a permit and, as a result, a proposed restoration project cannot be completed.

Both WRP and WRE mandate completed wetland restoration as part of the program requirements. Additionally, landowners are often disappointed if a restoration cannot be installed because of permitting issues, or if the restoration plan changes drastically from what was planned at enrollment because of permit requirements. To avoid these negative situations related to permitting and restoration, NRCS will give priority for enrollment to parcels with recent history of row crops, hay or pasture activity, and/or land that has been labelled PC, FW or FWP.

Adjacent Land Eligibility

The ACEP Manual requires this WRCG document to address adjacent lands criteria (528.105 Land Eligibility (I)(3)). In Pennsylvania, the Interdisciplinary Team (IDT) determines, on a site-specific basis, whether adjacent acreage is eligible for enrollment. To qualify for eligibility and enrollment, adjacent acres must accomplish one or more of the following:

1) Acreage directly benefits or supports the hydrology of the restoration area.
2) Acreage directly benefits Threatened or Endangered (T&E) species within the restoration area.
3) Acreage connects the offer of enrollment to another permanently protected area (State or Federal forests/parks/easements, Game Lands, or other conservation easements).

4) Acreage creates a simpler, more manageable easement boundary.
5) Acreage provides legal or physical access to the easement.
6) Acreage is part of a bog turtle or eastern massasauga enrollment and is necessary to support or maintain the species-specific habitat on the restoration area.

Section 5 - Technical Criteria for Waiver Determinations

Criteria for State Conservationist Waiver for 1:1 Eligible to Adjacent Acreage

It is sometimes necessary for the State Conservationist to waive the 1:1 eligible-to-adjacent acreage requirement. The State Conservationist will only grant a waiver of the 1:1 acreage requirement if the adjacent acreage meets one or more of the "Adjacent Land Type Criteria" listed in Section 4. Acreage waivers up to a 2 to 1 ratio of eligible to adjacent land are possible, as determined by the Interdisciplinary Team and approved by the State Conservationist on a case-by-case basis. The 2 to 1 ratio is the cap recommended by ACEP-WRE policy, as described in Section 528.105, Land Eligibility, Part I., Other Eligible Lands – Adjacent Lands (3)(iii).

For adjacent acreage benefiting Bog turtle or Massasauga rattlesnake sites, the State Conservationist will waive up to a 5 to 1 ratio. This number has been approved by the National Office for all Bog turtle and Massasauga parcels due to the sensitive nature of these habitats and the need to, in some cases, provide an additional buffer to the core habitat areas.

Acreage that Benefits or Supports the Hydrology of the Restoration Area

When adjacent acreage contains or supplies hydrologic inputs that contribute to, benefit, or support the hydrology associated with the proposed restoration project, the 1:1 ratio of adjacent-to-eligible acreage will be waived to include that acreage within the easement boundary. It is important to capture all acreage contributing hydrology to the restoration to ensure that the restoration will persist throughout the life of the easement. Excluding such acreage from the easement may result in the loss of that hydrologic contribution over time and could negatively impact, or completely undo, the wetland restoration(s) achieved on the landscape. The NRCS Engineer will determine the hydrologic contributions of adjacent acreage during the site-specific IDT screening process. If additional acreage exceeding the 1:1 ratio is recommended by the NRCS engineer, for the purpose of including contributing hydrology, a waiver by the State Conservationist will be granted.

Example: a year-round spring/seep, located outside the proposed boundary of an enrollment offer, provides considerable water flow onto the offered acres, and that water flow is a major component of the restoration efforts for the project. Adjacent acres that include and buffer the spring/seep should be included in the enrollment offer, to protect and maintain the long-term hydrology of the restoration project.

Acreage that Benefits T&E Species within the restoration area (non-bog turtle or eastern massasauga)

When adjacent acreage contains T&E species or their habitats, the 1:1 ratio of adjacent-to-eligible acreage will be waived to allow the inclusion of that acreage within the easement boundary. Inclusion

of such habitat will provide long-term protection and management to these sensitive habitats, thereby benefitting the T&E species. The State Biologist will determine, using a combination of onsite investigation and biological data (PNDI, etc.), the likely presence of T&E species and the habitat value of the adjacent acreage for T&E species during the site-specific IDT screening process. If additional acreage exceeding the 1:1 ratio is recommended by the NRCS State Biologist, for the purpose of including habitat for T&E species, a waiver by the State Conservationist will be granted.
Example: a PNDI search indicates that roost sites for a T&E bat species occur in forested acres adjacent to, but not currently included with, the offered enrollment. Adjacent acres that include and buffer any existing and any probable roost sites should be included in the enrollment offer, to protect and maintain those important habitat features.

Acreage that Connects the Offer of Enrollment to a Permanently Protected Area
This is determined using data layers in Conservation Desktop. The data is located in an Easement layer under Easements in Layer Preferences. The parcel must be mapped against GIS layers showing permanently protected areas and ranked accordingly.

Acreage that Creates a Simpler, More Manageable Easement Boundary
In cases where strict application of the 1:1 eligible to adjacent acreage ratio would create unmanageable boundaries that limit the practical administration of the enrolled area by NRCS, OR where strict application of the 1:1 ratio would leave areas of land remaining outside the enrolled area, creating uneconomic or unmanageable remnant parcels for the landowner, the State Conservationist will waive the 1:1 limit. The applicability of this waiver will be determined on a case-by-case basis by the Interdisciplinary Team during their site visit and/or prior to enrollment. If additional acreage exceeding the 1:1 ratio is recommended by the IDT, for the purpose of creating a more manageable easement layout, a waiver by the State Conservationist will be granted.
Example: a proposed enrollment has an ameboid shape that will be difficult to survey or mark with boundary signs, contains unenrolled "donut holes" in its interior, or creates an isolated area that is not connected to any other land owned by the participant. The overall layout of the enrolled acres should be simplified as much as practical by enrolling the "odd areas" to create a simpler, more sensible, and easier to survey/maintain boundary.

Acreage that Allows Physical or Legal Access to the Easement
Some parcels being offered for enrollment need additional acreage to connect to a public road, or to provide adequate physical access for vehicles and equipment necessary for the restoration, maintenance, and monitoring of the easement. The applicability of this waiver will be determined on a case-by-case basis by the Interdisciplinary Team during their site visit and/or prior to enrollment. If

additional acreage exceeding the 1:1 ratio is recommended by the IDT, for the purpose of securing physical or legal access to the enrolled acres, a waiver by the State Conservationist will be granted. *Example: a proposed enrollment does not physically touch a public road or other point of access. Adjacent acres which form a legal and physical connection between a public road and the main enrollment area must be added to the enrollment offer.*

Acreage that Benefits Bog Turtle Habitat

The landscapes where remnant populations of bog turtles occur in the Susquehanna/Potomac priority area are still predominantly agricultural; however, the target area is interspersed with significant areas of primarily residential development consisting of small tracts. Also, typical farming operations involve relatively small tracts (100 acres or less). The resulting landscape scatters the wetlands which are important for bog turtle recovery throughout a patchwork landscape controlled by several different owners.

In cases where bog turtle habitat spans multiple land holdings, NRCS and USFWS will encourage adjoining landowners to enroll. However, where contiguous bog turtle habitat cannot be enrolled across property boundaries, adjacent acreage area ratios exceeding 1:1 may be necessary on individual parcels to enhance the potential for bog turtle recovery. For bog turtle sites, Pennsylvania will utilize buffer ratios of ***up to*** 5:1. The State Biologist, in consultation with USFWS and the Pennsylvania Fish and Boat Commission (PAFBC), will determine the applicability of the increased buffer potential on a site-specific basis.

NOTE: not all adjacent acres must be enrolled at a 5:1 ratio. 5:1 is the maximum allowed but is not a requirement. 2:1, 3:1, and 4:1 are also acceptable ratios if they provide adjacent acres that fulfill the habitat needs of the resident bog turtles. Adjacent acres will not be enrolled at higher ratios with the intent of increasing the participant's easement value.

Larger adjacent acreage ratios will provide a buffer against predators and poaching, and therefore ensure the long-term functioning of enrolled bog turtle sites. Bog turtle home ranges for reproductive purposes can be relatively small (less than one acre), but encroachments within 300 feet of these areas could significantly reduce the potential for successful bog turtle reproduction; larger buffer areas will also prevent such encroachments. If additional acreage exceeding the 1:1 ratio is recommended by the State Biologist, for the purpose of securing adequate bog turtle habitats and accompanying buffers, a waiver by the State Conservationist will be granted.
Example: bog turtle habitat extends across the properties of two neighboring landowners. One landowner is willing to enroll their acreage, the other is not. If necessary, enroll additional adjacent acres on the eligible property, to ensure that an area of adequate size is protected: all available bog

turtle habitats + 300' buffers in every possible direction around those habitats. Also consider enrolling adjacent acres that benefit or support the hydrology of the bog turtle habitat, if those acres are not already included in the 300' buffers.

Acreage that Benefits Massasauga Rattlesnake Habitat

The landscapes where remnant populations of eastern massasaugas are still predominantly agricultural; however, like the bog turtle, the snake habitat areas are interspersed with significant areas of primarily residential development consisting of small tracts and small, backyard woodlots. Typical property sizes are less than 50 acres. The resulting landscape scatters the wetlands which are important for eastern massasauga recovery throughout a patchwork landscape controlled by several different owners.

In cases where massasauga habitat spans multiple land holdings, NRCS and USFWS will encourage adjoining landowners to enroll. However, where contiguous massasauga habitat cannot be enrolled across property boundaries, adjacent acreage area ratios exceeding 1:1 may be necessary on individual parcels to enhance the potential for massasauga recovery. For massasauga sites, Pennsylvania will utilize buffer ratios of ***up to*** 5:1. The State Biologist, in consultation with USFWS and PAFBC, will determine the applicability of the increased buffer potential on a site-specific basis.

NOTE: not all adjacent acres must be enrolled at a 5:1 ratio. 5:1 is the maximum allowed but is not a requirement. 2:1, 3:1, and 4:1 are also acceptable ratios if they provide adjacent acres that fulfill the habitat needs of the resident eastern massasaugas. Adjacent acres will not be enrolled at higher ratios with the intent of increasing the participant's easement value.

Larger buffer ratios will ensure the long-term functioning of eastern massasauga sites. Massasauga breeding areas can be relatively small (less than one acre), but encroachments within 300 feet of these areas could significantly reduce the potential for successful massasauga reproduction.

By adopting a level of flexibility like that being used in Southeastern Pennsylvania for the bog turtle, NRCS has the potential to restore and maintain habitat for the imperiled eastern massasauga. We are requesting concurrence with: 1) our determination that the forested habitats occupied by the Eastern massasauga are eligible for restoration and protection through WRP, based on the past and ongoing hydrologic modifications described above; and, 2) the use of higher than 1:1 buffer ratios, to provide adequate habitat and protection for the eastern massasauga.

Minimum application/enrollment size requirement

Due to the large amount of staff time (TA) and the expense of the easement enrollment and acquisition process, which includes due diligence activities, Area Wide Market Analysis or appraisal, easement boundary survey, and closing services, PA NRCS will not accept any parcel into the wetland easement program that is smaller than 10 acres in size. The 10-acre minimum can be made up of both eligible acreage and adjacent acreage.

If following the 1:1 requirement of eligible to adjacent acreage set forth in ACEP policy as described in Section 528.105, Land Eligibility, Part I., Other Eligible Lands – Adjacent Lands (3)(iii), a minimum of at least 5 acres of the proposed enrollment must be eligible. This 1:1 eligible to adjacent acreage ratio should not be exceeded except in circumstances where a waiver is warranted.

In most cases, the State Conservationist will not issue adjacent acreage waivers for the 1:1 ratio unless the site contains exceptional value as wildlife habitat or connects a corridor of other preserved acreage. Examples of when this type of exception would be granted include T&E species protection, water quality improvement (i.e., NWQI), or flood control. Additionally, a waiver might be considered for an RCPP that is seeking other wildlife benefits.

The State Conservationist retains the right to make the decision for granting a waiver on a case-by-case basis. The State Conservationist will approve waivers prior to enrollment upon approval by the IDT team. Justification of the waiver based on the special significance of the site must be provided as part of the waiver package executed by the State Conservationist.

When needed, PA NRCS will grant exceptions to the 10-acre enrollment policy for bog turtle or eastern massasauga enrollments.

To qualify for enrollment with less than 10 acres, the offered massasauga or bog turtle acres must:

- -create a corridor of preserved bog turtle or massasauga habitats, or
- -be adjacent to and expand upon another preserved bog turtle or massasauga easement, or
- -contain a large population of the target species, or
- -contain habitat of exceptional value for the target species, as documented by the State Biologist during the IDT visit.

Section 6 - Ranking Criteria

The ranking questions developed in Pennsylvania were created in conjunction with approval of the State Technical Committee Subcommittee, which includes USFWS, PGC, and PAFBC. The ranking questions adhere to policy set forth in 528.110, Subpart L, "ACEP-WRE Ranking". PA NRCS has tailored the ranking system to assign the highest-ranking points to projects that best fit the WRE program in Pennsylvania.

Pennsylvania NRCS gives priority in the WRE ranking for sites having the best combination of hydric soils, hydrology, and other site-specific characteristics to support a viable restoration project that maximizes wetland and wildlife habitat. The ranking also focuses points on parcels offering connectivity to other preserved sites, wildlife habitat areas of significance, or surface waters and watersheds of high value. Lastly, the ranking provides the most points for sites with simplified boundaries and simplified restorations, both of which will ensure less maintenance and management over the life of the easement.

Priority is given in ranking to parcels where a permit is not needed to complete restoration because of the difficulty in securing permits for wetland restoration in Pennsylvania is more fully explained in Section 4 – Technical Criteria for Eligibility.

Pennsylvania has also designated priority watersheds where parcels are given higher ranking points. NRCS identified these watersheds using GIS data to combine maps of hydric soils and agricultural activity. This combination of agriculture and hydric soils provides the strongest candidates for eligibility, which offer higher restoration potential and better meet the purpose of the WRE program.

NRCS also added watersheds which already contain habitat corridors for Threatened and Endangered species, and watersheds where a high potential to establish habitat corridors of preserved acreage exists. Watersheds are referenced by HUC code. Currently approved high-priority watersheds are listed below and can also be found on the PA NRCS Regular WRE Ranking Scoring Worksheet.

High Priority Watersheds in Pennsylvania:

* 20503050202	Lehman Run-Muddy Run
* 020503050307	Doubling Gap Creek
* 020503050303	Laughlin Run-Paxton Run
* 020503050203	Trout Run-Conodoguinet Creek
* 020401040805	Lower McMichael Creek
* 041201010601	Headwaters Conneaut Creek
* 020401050602	Martins Creek-Delaware River
* 050301020402	Big Run
* 020503050901	Reeds Run-Swatara Creek
* 020503050902	Bow Creek-Swatara Creek
* 020401041004	Cherry Creek
* 020401050601	Allegheny Creek-Delaware River
* 050301020304	Booth Run-Pymatuning Creek
* 020401050603	Buckhorn Creek-Delaware River
* 041201010602	East Branch of West Branch Conneaut Creek
* 020503050306	Three Sq. Hollow Run-Conodoguinet Creek
* 050301020401	Sugar Run-Shenango River
* 020503050606	Lower Swatara Creek
* 020503050901	Lower Little Swatara Creek

Pennsylvania NRCS has separated the regular WRE ranking and the Bog turtle/Massasauga rattlesnake ranking to account for the vast differences in ranking questions and points. Parcels offered for enrollment in these two categories will be ranked in separate ranking pools. This will allow only the best Bog turtle or Massasauga sites to be enrolled while also allowing for the regular sites not having these species to rank highly enough for funding and enrollment.

Ranking forms are updated as needed. Each update is presented to the State Technical Committee for review and approval prior to being released for use. Rankings are published on the Pennsylvania NRCS public website as well as the NRCS Share Point.

Pennsylvania NRCS Wetland Reserve Easement Program (ACEP-WRE) Ranking Scoring Worksheet

March 16, 2020

Landowner Name: _____ County: _____ Application Date: _____ Fiscal Year: _____

Interdisciplinary Team Approval Date: _____ Tract: _____ **FINAL RANKING SCORE:** _____

State Biologist Review/Concurrence: _____ **Date:** _____

PART I - Environmental Benefit Considerations

LOCATION		*70 Max. Points*
1. Proximity to designated local, state, or federal wildlife habitat/conservation, or forest area of signifigance		
a. Project is directly adjacent to a designated local, state, or federal wildlife habitat/conservation, or forest area of significance	10	
b. Project is within 5 miles of a designated local, state, or federal wildlife habitat/conservation, or forest area of significance	5	
c. Project is > 5 miles from a designated local, state, or federal wildlife habitat/conservation, or forest area of significance	0	
List area of significance here: _____	subtotal	
2. Proximity and connectivity to permanently protected areas (State or Federal forests/parks/easements, gamelands, other conservation easements)		
a. Project is directly adjacent to an existing permanently protected area	25	
b. Project is within 5 miles of an existing permanently protected area	5	
c. Project greater than 5 miles away from an existing permanently protected area	0	
List permanently protected area here: _____	subtotal	
3. Proximity to existing wetlands, streams, or surface waters		
a. Offered acres connect existing wetlands, streams, or surface waters	10	
b. Offered acres are adjacent to existing wetlands, streams, or surface waters	5	
c. Offered acres are within one mile of existing wetlands, streams, or surface waters	2	
(zero points for projects > one mile from existing wetlands, streams, or surface waters)	subtotal	

4. Offered acres are located within a Pennsylvania WRE Priority Area *(select one)*

___	20503050202 Lehman Run-Muddy Run	___	020401041004 Cherry Creek	25
___	020503050307 Doubling Gap Creek	___	020401050601 Allegheny Creek-Delaware River	0
___	020503050303 Laughlin Run-Paxton Run	___	050301020304 Booth Run-Pymatuning Creek	
___	020503050203 Trout Run-Conodoguinet Creek	___	020401050603 Buckhorn Creek-Delaware River	
___	020401040805 Lower McMichael Creek	___	041201010602 East Branch of West Branch Conneaut Creek	
___	041201010601 Headwaters Conneaut Creek	___	020503050306 Three Sq. Hollow Run-Conodoguinet Creek	
___	020401050602 Martins Creek-Delaware River	___	050301020401 Sugar Run-Shenango River	
___	050301020402 Big Run	___	020503050606 Lower Swatara Creek	
___	020503050901 Reeds Run-Swatara Creek	___	020503050901 Lower Little Swatara Creek	
___	020503050902 Bow Creek-Swatara Creek			

(zero points for projects not located within a WRE priority area) subtotal

HABITAT		*30 Max. Pts.*
5. Threatened, Endangered, and Special Concern Species (maintain rare native species) *(Attach PNDI print to ranking form)*		
a. PNDI shows Threatened, Endangered, or Special Concern Species	15	
b. PNDI shows no Threatened, Endangered, or Special Concern Species	0	
	subtotal	
6. Aquatic Life Use *(select <u>one</u> - list water body or water body designation on the line below)*		
a. Offered acres contain a Wild and Scenic River or Exceptional Value Stream	15	
b. Offered acres contain a stream that outlets directly into a Wild and Scenic River or Exceptional Value Stream	7	
c. Offered acres contain a High Quality Stream (HQ-CWFD, TSF, or WWF)	15	
d. Offered acres contain a stream that outlets directly into a High Quality Stream (HQ-CWF, TSF, or WWF)	7	
(zero points if none apply)	subtotal	

RESTORATION OF HYDROLOGY		*100 Max. Points*
7. Hydric Soils *(select <u>one</u> - use percentage of "restorable hydric soils" of restoration area from Interdisciplinary Team Report)*		
a. Restoration methods restore hydric soils on greater than 70% of the restoration area	50	
b. Restoration methods restore hydric soils on 60-69% of the restoration area	25	
c. Restoration methods restore hydric soils on 50-59% of the restoration area	10	
d. Restoration methods restore hydric soils on less than 50% of the restoration area	0	
	subtotal	
8. Dominant Land Use of the Offered Acreage within the Restoration Area *(select <u>one</u>)*		
a. Row crops produced within the last 3 years	50	
b. Hay produced within the last 3 years	25	
c. Acres used as pasture within the last 3 years	10	
d. No row crop, hay or pasture within the last 3 years	0	
e. Forest	0	
	subtotal	
	PART I - Total Points	

Pennsylvania NRCS Wetland Reserve Easement Program (ACEP-WRE) Ranking Scoring Worksheet

March 16, 2020

PART II - Economic Considerations		
9. Total Easement Restoration Cost		*80 Max. Points*
a. Total restoration cost is < 50% of the total easement value	10	
b. Total restoration cost is between 50 - 80% of the total easement value	5	
c. Total restoration cost is ≥ 80% of the total easement value	0	
	subtotal	
10. Noxious or Invasive Species		
a. <20% of the vegetation in the total easement area is noxious and/or invasive	10	
b. 21-50% of the vegetation in the total easement area is noxious and/or invasive	5	
c. >50% of the vegetation in the total easement area is noxious and/or invasive	0	
	subtotal	
11. Operation and Maintenance costs *(select <u>one</u>)*		
a. Offered acreage/Planned restoration requires no embankments or mechanical structures *(piping, water control boxes, etc.)*	10	
b. Offered acreage/planned restoration requires an embankment	5	
c. Offered acreage/Planned restoration requires mechanical structures *(piping, water control boxes, etc.)*	0	
	subtotal	
12. Permitting		
a. The planned restoration does not require a permit	20	
(zero points if a permit will be required)	subtotal	
13. Type of Proposed Easement		
a. Permanent Easement	20	
(zero points for 30-year easement)	subtotal	
14. Total easement enrollment size		
a. Proposed enrollment is 50 acres or larger	10	
b. Proposed enrollment is 20-49 acres	5	
c. Proposed enrollment is 10-24 acres	2	
(zero points if less than 10 acres)	subtotal	
	PART II - Total Points	

PART III - Easement Offer Configuration		
15. Purpose of Enrollment Offer Adjacent Acreage *(select <u>all</u> that apply)*		*45 Max. Points*
a. Adjacent acres directly benefit the hydrology of the restoration area	10	
b. Adjacent acres directly benefit T&E species within the restoration area	7	
c. Adjacent acres connect offer of enrollment to a permanently protected area (such as those listed in question #2)	4	
d. Adjacent acres create a simpler, more manageable easement boundary	4	
(zero points if none apply)	subtotal	
16. Easement Offer Boundary *(select <u>one option</u> that best fits the easement offer)*		
a. Easement offer boundary is simple with few corners, angles and turns, creating an easily managed polygon	10	
b. Easement offer boundary is moderately simple with minimal corners, angles and turns, creating a moderate to manage polygon	5	
c. Easement offer boundary is complicated with multiple corners, angles and turns creating a difficult to manage polygon	0	
	subtotal	
17. Easement Offer Parcel *(select <u>one option</u> that best fits the easement offer)*		
a. Easement offer parcel is one contiguous block of land with <u>no</u> right-of-ways	10	
b. Easement offer parcel is one contiguous block of land with right-of-ways	5	
c. Easement offer parcel is divided by non-eligible acreage, right-of-ways, non-eligible CRP, or other area not controlled by landowner	2	
d. Easement offer parcel is manipulated by landowner, is cut-up, divided among eligible acreage, or separated by cut-outs or in-holdings	0	
	subtotal	
	PART III - Total Points	

PART IV - ELIGIBILITY CRITERIA SCORE				
18. Eligible Acres Contain: *(select <u>all</u> that apply)*				*75 Max. Points*
a. Prior Converted (PC) hydric soil acres	___ 30	e. Wetland (W) farmed under natural conditions hydric soil ac.	___ 5	
b. Farmed Wetland (FW) hydric soil acres	___ 15	f. Degraded wetlands (which will be restored)	___ 5	
c. Farmed Wetland Pasture (FWP) hydric soil ac.	___ 10	g. Riparian Links (<300' with photo documentation)	___ 5	
d. Eligible CRP/CREP	___ 5	***PART IV - Total Points***		

		Total Ranking Score:	
Employee Signature	**Title**	**Date**	**(Maximum Points = 400)**

Pennsylvania NRCS Wetland Reserve Easement Program (ACEP-WRE) Ranking Scoring Worksheet

Bog turtle/Massasauga Ranking

March 16, 2020

Landowner Name: _____ Application Date: _____ Fiscal Year: _____

County: _____ Interdisciplinary Team Approval Date: _____ Tract: _____

Application Type: __ Bog Turtle __ Massasauga

Final Ranking Score: _____ **State Biologist Review/Concurrence:** _____ **Date:** _____

PART I - Environmental Benefit Considerations		
LOCATION		*50 Max. Points*
1. Proximity to existing permanently protected areas of conservation value for bog turtle or massasauga		
a. Project is directly adjacent to a permanently protected area of conservation value	10	
b. Project is within 0.5 miles of a permanently protected area of conservation value	5	
c. Project is greater than 0.5 miles from permanently protected area of conservation value	0	
List permanently protected area here: _____	subtotal	
2. Proximity to existing wetlands having shallow water (<6") and deep mucky soils *(select one)*		
a. Offered acres connect two wetlands having shallow water (<6") and deep mucky soils	10	
b. Offered acres are adjacent to wetlands having shallow water (<6") and deep mucky soils	5	
c. Offered acres are within 0.5 miles of wetlands having shallow water (<6") and deep mucky soils	2	
	subtotal	
3. Offered acres are located on a USFWS or PAFBC Bog Turtle or Massasauga site		
Parcel is a known or confirmed Bog Turtle or Massasauga Site	30	
Parcel is not a known or confirmed Bog Turtle or Massasauga Site	0	
	subtotal	
HABITAT		*50 Max. Points*
4. Project is located within a Metapopulation Area for Bog Turtle or Massasauga (select one based on targeted site species)		
a. Yes	10	
b. No	0	
	subtotal	
5. Known site use *(select one)*		
a. Site is a known bog turtle or massasuga site that is currently occupied	30	
b. Site is a known bog turtle or massasuga site that has been occupied in the last 5 years	15	
c. Site is a known bog turtle or massasuga site that has been occupied in the last 10 years	7	
d. Site is a known bog turtle or massasuga site that was occupied more than 10 years ago	0	
	subtotal	
6. Current Habitat Condition *(select one based on Interdisciplinary Team Evaluation)*		
a. Excellent bog turtle or massasauga habitat	10	
b. Good bog turtle or massasauga habitat	5	
c. Marginal bog turtle or massasauga habitat	0	
	subtotal	
RESTORATION OF HYDROLOGY		*100 Max. Points*
7. Habitat Restoration Potential (Hydric Soils) *(select one using biology report from Interdisciplinary Team)*		
a. Restoration of hydrology will restore or maintain wetland habitat that is excellent	50	
b. Restoration of hydrology will restore or maintain wetland habitat that is good	25	
c. Restoration of hydrology will restore or maintain wetland habitat that is marginal	10	
(zero points if none apply)	subtotal	
8. Existing Hydric Soils *(select one using soils report from Interdisciplinary Team)*		
a. Habitat area contains contiguous block of hydric soils	50	
b. Habitat area contains isolated areas of hydric soil habitat	25	
c. Habiat area contains no hydric soil	0	
	subtotal	
	PART I - Total Points	

Pennsylvania NRCS Wetland Reserve Easement Program (ACEP-WRE) Ranking Scoring Worksheet

Bog turtle/Massasauga Ranking

March 16, 2020

PART II - Economic Considerations		
9. Existing Vegetation Type in habitat area *(select one)*		*100 Max. Points*
a. Open Meadow or pasture	15	
b. Brushy meadow or brushy pasture	7	
c. Forested	0	
	subtotal	
10. Estimated Easement Restoration Cost *(select one)*		
a. Estimated restoration cost is < 50% of the total easement acquisition value	15	
b. Estimated restoration cost is between 50 - 80% of the total easement acquisition value	7	
c. Estimated restoration cost is > 80% of the total easement acquisition value	0	
	subtotal	
11. Noxious or Invasive Species *(select one)*		
a. <20% of the vegetation in the total easement area is noxious and/or invasive	15	
b. 21-50% of the vegetation in the total easement area is noxious and/or invasive	7	
c. >50% of the vegetation in the total easement area is noxious and/or invasive	0	
	subtotal	
12. Type of proposed easement		
a. Permanent Easement	40	
(zero points for 30-year easement)	subtotal	
13. Total easement enrollment size *(select one)*		
a. Proposed enrollment is 10 acres or larger	15	
b. Proposed enrollment is less than 10 acres	7	
c. Proposed enrollment is less than 5 acres	2	
	subtotal	
	PART II - Total Points	

PART III - Easement Offer Configuration		
14. Benefit of Adjacent Acreage for Bog turtle/Massasauga Habitat *(select <u>all</u> that apply)*		*100 Max. Points*
a. Adjacent acres will be utilized by bog turtle/massasauga and act as an extension of the habitat area	15	
b. Adjacent acres directly benefit the hydrology of the bog turtle/massasauga habitat	15	
c. Adjacent acres connect bog turtle/massasauga habitat to another permanently protected area	10	
d. Adjacent acres create a simpler, more manageable easement boundary	10	
(zero points if none apply)	subtotal	
15. Easement Offer Boundary *(select <u>one option</u> that best fits the easement offer)*		
a. Easement offer boundary is simple with few corners, angles and turns, creating an easily managed polygon	25	
b. Easement offer boundary is moderately simple with minimal corners, angles and turns, creating a moderate to manage polygon	10	
c. Easement offer boundary is complicated with multiple corners, angles and turns creating a difficult to manage polygon	0	
	subtotal	
16. Easement Offer Parcel *(select <u>one option</u> that best fits the easement offer)*		
a. Easement offer parcel is one contiguous block of land with <u>no</u> right-of-ways	25	
b. Easement offer parcel is one contiguous block of land with right-of-ways	15	
c. Easement offer parcel is divided by non-eligible acreage, a right-of-way, non-eligible CRP, or other area not controlled by landowner	5	
d. Easement offer parcel is manipulated by landowner, is cut-up, divided among eligible acreage, or separated by cut-outs or in-holdin	0	
	subtotal	
	PART III - Total Points	

		Total Ranking Score:	
Employee Signature	**Title**	**Date**	**(Maximum Points = 1500)**

Section 7 - Common Restoration Practices in Pennsylvania

Pennsylvania has a list of restoration practices that are common throughout our restorations across the state. The table below lists conservation practices most often included in Pennsylvania WRE wetland restoration work. While this is not an all-inclusive list, it reflects the most commonly used practices. PA NRCS updates the WRE practice list each Fiscal Year and it is reviewed and approved by the State Technical Committee.

The WRE practice list is based on the approved Pennsylvania EQIP practice list in any given Fiscal Year. The practices, as well as their units and costs, match the Pennsylvania approved EQIP practices. Only those practices first approved for use in EQIP can be transferred to the WRE practice list. This allows for continuity between programs and provides sound reasoning and data to support the elected WRE practices.

Wetland Restoration - Common Practices			
Code	**Practice Name**	**Example Component (more choices are available)**	**Category**
342	Critical Area Planting	planting grass after construction	Wetland Construction or Restoration
468	Lined waterway or outlet	rock-lined waterway	Wetland Construction or Restoration
484	Mulching	Erosion Control Blanket	Wetland Construction or Restoration
587	Structure for Water Control	concrete drop box, earthen basin	Wetland Construction or Restoration
620	Underground Outlet	6 inch or less underground outlet pipe	Wetland Construction or Restoration
638	Water and Sediment Control Basin	embankment	Wetland Construction or Restoration
644	Wetland Wildlife Habitat Management	Shallow Micro-Topo Features w/Normal Farm Equip	Wetland Construction or Restoration
645	Upland Wildlife Habitat Management	Deep Micro-Topo Features with Heavy Equipment	Wetland Construction or Restoration
657	Wetland Restoration	Potholes, Drain Tile Plug, embankment or ditch plug	Wetland Construction or Restoration
658	Wetland Creation	Embankment Wetland	Wetland Construction or Restoration
659	Wetland Enhancement	Depression Sediment Removal and Ditch Plug	Wetland Construction or Restoration
314	Brush Management	mowing, herbicide for woody vegetation	Vegetation Management
315	Herbaceous Weed Treatment	mowing, herbicide for herbaceous vegetation	Vegetation Management
647	Early Successional Habitat Development/Mgmt	mowing, disking, wildlife selective tree felling	Vegetation Management
327	Conservation Cover, Pollinator Planting	WSG planting, flower and shrub pollinator planting	Habitat Creation
382	Fence	electric 2, 3 or 4-strand fence	Habitat Creation
391	Riparian Forest Buffer	bareroot, hand planted with tube	Habitat Creation
490	Tree/Shrub Site Preparation	mowing, herbicide	Habitat Creation
612	Tree/Shrub Establishment	Shrub Planting	Habitat Creation
614	Tree/Shrub Establishment	Tree/Shrub Planted Area with Protection	Habitat Creation
666	Forest Stand Improvement	herbicide, wildlife selective tree felling, shelterwood cut	Habitat Creation

Section 8 – Wetland Reserve Plan of Operations (WRPO) Guidance

The guidance listed in this section was developed to assist field employees in completing a Wetland Reserve Plan of Operations (WRPO) for WRP and WRE easements. The guidance below follows the format developed in Pennsylvania for CTA planning and includes detailed information specifically related to WRP and WRE easements to assist the field in developing a WRPO.

Field employees can utilize this guidance as a checklist while they work through the planning process of WRPO creation. The WRPO Conservation Planning Guidance document is intended to provide Conservation Plan guidelines and requirements as they pertain to the site specific WRPO. It is not meant to include any client specific information.

This Conservation Planning Guidance identifies and explains the required elements of a Conservation Plan as it pertains to the site specific WRPO. Every Conservation Plan and corresponding WRPO, developed for the Wetland Reserve Easement (WRE) component of the Agricultural Conservation Easement Program (ACEP), will include all items identified in this document unless they are marked "optional" or "if applicable," or "as needed."

The Conservation Plan document* provided to the client is a quality document containing information that is meaningful for the client. The plan exhibits technical adequacy, administrative completeness, and consistency among documents. All plan documents are in accordance with NRCS policy, planning guidance, and practice standards and specifications.

The Conservation Plan also includes supporting information for treatment of a unit of land meeting planning criteria for one or more identified natural resource concerns as a result of the planning process. The plan describes the schedule of implementation for practices and activities needed to solve identified natural resource concerns and takes advantage of opportunities.

A site specific WRPO is a conservation plan that is developed and approved by NRCS and identifies how the wetland functions and values of the WRE land will be restored, protected, enhanced, maintained, and managed to accomplish the goals of the program. It is developed to ensure that cost effective restoration and maximization of wildlife benefits and wetland functions and values will result. NRCS may review, revise, and supplement the WRPO as needed to ensure that program goals are fully and effectively achieved. Conservation practices included in the WRPO will have planned purposes that meet the goals of the program (i.e. restoration, protection, and enhancement of wetlands on eligible lands while maximizing wetland wildlife habitat benefits).

The WRPO will exhibit technical adequacy, administrative completeness, and consistency among documents. All plan documents will be in accordance with NRCS planning (reference GM 180 Part 409, H 180 Part 600) and program policy (reference GM 440 Part 514 Subpart E-J), planning guidance, practice standards and specifications, and all federal, state, and local laws and regulations.

The WRPO will describe the enhancement, protection, restoration goals, management, and before and after conditions of the site as it relates to wildlife and wetland functions and values. NRCS will

work with landowners and conservation partners (as needed) when developing the WRPO for the Wetland Reserve Easement. It will identify the practices and management steps needed to address the following resource concerns to the planning criteria level: Soil Erosion, Soil Quality Degradation, Excess Water, Water Quality Degradation, Degraded Plant Condition, and Inadequate Habitat for Fish and Wildlife. The WRPO will address wetland, upland, and other habitat components associated with the Wetland Reserve Easement, such as native plant communities and hydrologic regimes, to maximize the habitat benefits for wetland-dependent wildlife.

Ultimately the Conservation Plan and site specific WRPO* are documents that record the landowners', partners', and NRCS' input and decisions. NRCS has the final decision-making authority for contents of the WRPO. If the landowner refuses to accept the Preliminary or Final WRPO, contact the State Office immediately. The WRPO will include a statement identifying the objectives, as well as a standard statement clarifying the goals of the project or "limitations of objectives."

*Note – All NRCS Case Files contain copies of all documents provided to the client, in addition to all other required internal documents.

Include a copy of the following items assembled in a folder or binder:

☐ ☐ ☐ ☐ ☐	Business/Client Information – commonly found on Farm Producer Data sheet and/or Con 6 Notes: **Decision-maker* (Client) Name, Mailing Address, Telephone** **Owner Name, Mailing Address, Telephone** **Operator Name, Mailing Address, Telephone** **Physical address of the easement if different from the landowner's address** ***Note – in the case of a partnership, corporation, etc., clearly identify the individual acting as the decision-maker.**
☐	Assistance Notes (NRCS-CPA-6): **Assistance notes – Notes maintained by planners in the case file for each client receiving planning and/or implementation assistance. These notes are concise, factual, and chronological narrative of significant conservation activities and may summarize progress in planning and implementation. Assistance notes may include text or photographic formats. These notes should be updated after every interaction with the client.** **Include any notes or records of client objectives, technical or management alternatives discussed with client, decisions made when and by whom, etc.** Include photographs that document site conditions before, during, and after restoration with location points of photography recorded on a map of the easement or

	contract area. The points will be located to adequately serve as future monitoring photo points. Photo documentation of access roads or paths that pre-exist the easement should also be included. Documentation should capture the date of communication, recommendations, technical assistance requests, etc. Summarize all communication with client, US Fish and Wildlife Service, PA Game Commission, PA Fish and Boat Commission, local Conservation District, etc. **Correspondence Documents (if applicable) – letters, emails, supporting maps, etc.**
☐	Conservation District cooperative agreement **(if applicable)**

	Conservation Plan Maps: The maps are clear and concise, easy to understand, and serve as a visual summary of activities occurring on the operation.
	All maps contain:
☐	**Title block showing:**
☐	**A map title (i.e. Location Map, Conservation Plan, Soils, Topographic Map)**
☐	**Name of Conservation District, County, and State in which the operation is located**
☐	**The date the map was prepared**
☐	**FSA Farm number (can be placed in "Legal Description" block)**
☐	**FSA Tract number (can be placed in "Legal Description" block)**
☐	**Client's name**
☐	**The following statement, "Prepared with assistance from USDA – Natural Resources Conservation Service"**
☐	**"Assisted by" - Planner's name**
☐	**A scale bar (1:660 or comparable scale is recommended, as applicable to the size of the operation.)**
	Legend - contains information relevant to each map
	North arrow

Required Maps:	
☐	**Priority Resource Concern Map:** **The Priority Resource Concern Map identifies specific resource concerns that are present in the planning area and are of particular importance to the Pennsylvania resource base. The resources identified on the map, as well as alternatives that can improve the identified resource concern(s), should be presented and explained to the client during the initial field visit. The purpose is to support the discussions with the landowner and ensure no topics regarding priority resources or the objectives of the plan are forgotten or overlooked. The document is not part of the customer's conservation plan. A copy of this map will be retained in the office file.** **All priority resource concerns present in the planning area will be identified by checking the box next to the existing priority resource concern and, as appropriate, by showing the resource concern on the map.** **Refer to the "Priority Resource Concerns Layer Guidance," found in Section III of the PA FOTG, for additional information about these resource concerns and how to address them. For information about how to use Priority Resource Concern template, refer to "Priority Resource Inventory: Use of the Map Template for Conservation Planning," Fount in Section III of the PA FOTG**
☐	**Location Map (required if more than one tract in plan):** **The Location Map clearly identifies the location of the operation, showing the intersection of at least two roads, when <u>multiple tracts</u> are involved in the plan (ex. Nutrient Management Plan, Grazing Plan, CSP Contract, Cover Crop Contract). Labels displaying <u>FSA Farm and Tract number</u> are included.**

☐	**Easement Overview Map:**
☐	Property Boundary (Red)
☐	Easement Boundary (Black)[1] based on surveyed easement perimeter
☐	Field boundaries (Yellow)[2]
☐	Field Labels (Yellow)[3]
	Field Numbers (whole numbers)
	NRCS land use designation and applicable modifier[4] (Protected: Wildlife)
	Field acreage (to the 1/10th)
☐	Ingress/Egress Route[5]

☐	Location of all known utilities (power lines, cables, pipelines, etc.)
☐	Include labels for a minimum of two roads. There is no need to display roads where roads are clearly visible on imagery. Do not include labels for "unnamed streets."
☐	Waters of the Commonwealth (Show in blue), with labels of all known tributaries (Labeled in Blue)
	[1] If the property boundary is significantly larger than the easement boundary, two different maps may be needed – one map showing the total property with the easement outlines, and one map showing a close up of the easement area.
	[2] Delineate fields based on soil hydrologic conditions (upland/wetland), unique vegetative cover (forested/grasses), and unique management requirements (early successional habitat/wetland habitat). Correct designation of fields (management units) will allow the Long Term Management Plan (LTMP) to clearly and more meaningfully address the management requirements needed for each field.
	[3] These labels must correspond with the land use/ field numbers in the plan document
	[4] All acreage included a WRE easement will be designated as "Protected" with a "Wildlife" modifier.
	[5] Ingress/egress point or route depicted on map and described as "Ingress/Egress" in map legend.
☐	**Conservation Plan and Practice Detail* map including:**
	The Conservation Plan map clearly identifies the location of the operation, individual land units, land use designations, and acreage for each land unit. HEL designation should also be displayed.
☐	**The Conservation Plan map also identifies the location and extent of <u>all planned and/or existing</u> conservation practices.**
☐	**Field and tract boundaries (yellow)**
	Field Labels (yellow)**
	Field Numbers (whole numbers only)
☐	**NRCS Land Use Designation and applicable Modifiers*****
	Field Acreage (to the 1/10 acre)
☐	**If applicable – non-private land labels (State, Federal, County, etc.)**
☐	**Road Names - Include labels for a minimum of two roads. There is no need to display roads where**
	roads are clearly visible on imagery. Do not include label for "unnamed streets."
☐	**Waters of the Commonwealth (shown in blue), with labels for all named tributaries (labeled in blue)**
	Conservation Practices
	All existing and/or planned structural practices (i.e. 657, 658, 659) with unique symbols**All existing and/or planned vegetative or management practices with a footprint that is less than**

	the whole field, using unique symbols**** Map legend that clearly labels all practices using NRCS conservation practice name, consistent with names of the practices used in the Conservation Practice Schedule. *Note – It may be necessary to use more than one map to show all required information. See Detail Maps below. **Note – These labels must correspond with the land use/field numbers in the plan document. ***Note – Modifiers are used to more accurately define how a land use is being actively managed. ****Note – Use the National Conservation Practice Standard Toolkit symbols for all practices.
☐ ☐ ☐ ☐ ☐	Soils Map including: Field and tract boundaries (yellow) Soils polygons (red)* Transparent Soil Capability Class Layer Map Unit symbols which reference appropriate soil descriptions as provided in the Map Unit Description report. *Note - Soils polygon layer will be the same color as the soils label
☐	Topographic Map* including: (link to sample map) Field and tract boundaries *Note - Contour map is an acceptable substitute if county data is available.

Record of Client's Decision:

This record of decision is also referred to as the Conservation Practice Schedule, Conservation Schedule, Conservation Plan of Operation, Toolkit Conservation Plan Report, or CPA-68.

The record of client's decision includes the client's conservation objective(s) and brief description of the operation, an implementation schedule for all planned practices, a record of

	all existing practices that continue to be operated and maintained, and complete narrative statements for each practice.
☐ ☐ ☐ ☐ ☐	Objective Statement **clearly states the purpose of the client's conservation goals using quantitative or qualitative statements of desired future conditions as determined by the client.** The objective statement also includes basic site history such as cropping system and/or type and number of livestock, providing a brief overview of the historical management of the operation. Conservation goals and objectives (including target species, if applicable) Easement acreage (identify wetland and upland acreage) Existing and planned plant communities Summary of actions needed for restoration of wetland functions and values (i.e. a berm to impound water to develop migratory bird habitat and emergent plan communities)

☐	Implementation schedule - **Includes the appropriate label for the land unit (i.e. Field 1), the official practice name and code, the amount of each planned practice, and month and year the practice is planned* to be implemented.** **The schedule is updated when the practice is implemented. Updates reflect certified amount of applied practice and date practice was certified.** *Note-Restoration practices must begin within 1 year of the easement recording date. Restoration activities, whether the responsibility of NRCS or the landowner, will be implemented within 3 years of such date unless there are extenuating circumstances documented on a CPA-13 form and approved in writing by the State Conservationist.
☐ ☐ ☐	A narrative statement **is included with each practice or activity. The narrative includes a brief description of the practice/activity, addresses practice/activity definition, the purpose(s) of the practice/activity, and what is being done.** The narrative statement must include the following: Description of habitat types and functions being restored or enhanced by each conservation practice,

☐	including any unique habitat types and target species for which the restoration is designed. Each practice narrative must address habitat needs of all species identified during the ranking process (Bog Turtle, Massasauga Rattle Snake) including at-risk, target, and/or threatened and endangered species. As necessary, the narrative will address planting plans, water control structure locations and capacities, reference to structural practice design, management tools, and schedules. An Operation and Maintenance (see detailed requirements in next section) statement or a reference to the location of the O&M Statement – see detailed requirements below. If using a Job Sheet (see detailed requirements in next section) for a specific practice, include a reference to the Job Sheet in the appropriate narrative. If additional information is provided via practice design, engineering plan, or conservation practice standards, those documents should be referenced in the practice narrative. Copies of all documents referenced in the narrative must be provided to the landowner and maintained in the NRCS case file. When a practice is planned to be implemented, the narrative includes enough detail so that the client knows what is expected when applying the practice(s). The basic or 'PA Standard' narratives are modified to fit the planning site and include basic information required for practice certification (refer to practice Check Out Documentation form(s)). For practices that will function together as a system, it is important to clearly identify how these practices will work together (i.e. a Roof Runoff Structure that includes an Underground Outlet and Structure for Water Control). For practices being implemented with NRCS financial assistance, include reference to funding program (i.e. – WRE 2019, etc.) in the practice narrative. If the practice has already been applied and is included in the schedule as part of a management system or for maintenance purposes, please clearly state this in the narrative. In this case, since no management change is occurring, record the original implementation date in both the planned and applied sections of the practice schedule. **The use of Pennsylvania Standard Narratives is encouraged. Adapt these narratives to be more site-specific.**

☐	**Operation and Maintenance (O&M) - NRCS will identify all required operation and maintenance for practices and practice components. If the narrative does not provide complete O&M requirements, then the narrative must reference the location of complete O&M requirements:**
☐	**O&M for *new* structural practices will be referenced in the practice narrative and detailed in the practice design according to the requirements of the practice standard and specification.**
☐	**O&M for *existing* structural practices will be detailed in the practice narrative.**
☐	**O&M for vegetative practices will be referenced by habitat type (water impoundment management, grasslands, shrublands and early successional habitats, management of tree and shrub plantings, and forest stands) in the practice narrative and will refer to the corresponding section of the future LTMP. At a minimum, O&M activities will include management of noxious and invasive species as well as vegetation management via annual mowing of berms during approved timeframes.**
	O&M for non-engineered infrastructure maintenance (i.e. boundary signs, ingress/egress points or routes, mowed walking trails, nesting structures, etc.) will be referenced in the 'infrastructure maintenance' section of the future LTMP.
	O&M is the work performed by the land manager to keep the applied conservation practice(s) functioning for the intended purpose during its lifespan. Operation includes the administration, management and performance of non-maintenance actions needed to keep the completed practice safe and functioning as intended.
	Maintenance includes recurring work needed to prevent deterioration of the practice, repairing damage, or replacement of the practice to its original condition if one or more components fail.
	NRCS is responsible for maintenance and management activities on easement enrollments, but may authorize the landowner, or someone other than the landowner, to perform maintenance and management activities through the Long Term Management Plan (LTMP) (see detailed requirements in next section). To the extent possible, NRCS will consider all O&M activities in a

	comprehensive manner during the development of the final WRPO so that the landowner understands their O&M obligations prior to installation of the practices. If cost-share payments for management or maintenance activities are necessary, NRCS may enter into a conservation program contract with the landowner, or a contribution agreement, a cooperative agreement, an interagency agreement, or federal contract with another entity.
☐	**Pennsylvania Job Sheets/Implementation Requirements* have been developed for many practices. The intent of the Job Sheet/Implementation Requirement is to provide information to the client that would be too cumbersome to include in a brief narrative statement**. A Job Sheet/Implementation contains information about installation, construction, certification, operation, and maintenance of a specific practice. When using Job Sheets/Implementation Requirement, complete all applicable sections.** **When planning a practice for which a Job Sheet exists, use of the Job Sheet is encouraged.** **When planning a practice for which an Implementation Requirement document exists, use of the Implementation Requirement is required.** ***Note – PA Job Sheets/Implementation Requirements are located in Section IV of the PA FOTG. Include copies of all completed Job Sheets/Implementation Requirements in both the client and office file.** ****Note – Job Sheets/Implementation Requirements, as well as all design documents, are required as part of the Final WRPO. It is not necessary to include this level of detail in the Preliminary WRPO documentation.**

☐	**Long Term Management Plan (LTMP)* – NRCS will develop a LTMP which will be provided to the landowner following the implementation of the conservation practices.** **An LTMP is an in-depth description of habitat types, detailing the associated maintenance required to allow the enrolled acres to fulfill the desired program purposes throughout the easement period. The LTMP addresses items such as mowing timeframes, management of water impoundments, management of**

	grasslands, infrastructure maintenance, and may list acceptable activities with locations such as wildlife food plots or observation platforms. Any management activity conducted on the easement acreage will require a Compatible Use Authorization (CUA) prior to conducting the management activity. All requests for a CUA must be submitted to the State Office for review. CUA requests may be denied by the State Conservationist. If approved, the CPA-52 must be revised to ensure compliance with NEPA prior to finalization of the approved CUA. *Note – The LTMP is required following the completion of the restoration project. It is not required as part of the Preliminary or Final WRPO documentation. The LTMP will be developed within one year of completing the final restoration practice.
Land Use Requirements:	
Protected (Designated Protected Area) – Land or water used for the preservation, protections, and observation of the existing resources, archaeological or historical interpretation, resource interpretation, or for aesthetic value. These areas are officially designated by legislation or other authorities, such as a Wetland Reserve Easement (WRE). ***Common modifiers used for this land use include wildlife.***	
☐	For non-Bog Turtle Easements: Wildlife Habitat Management: For all easement acres a wildlife habitat management practice must be included in the conservation plan: ☐ Wetland Wildlife Habitat Management (644) – Include all <u>saturated and seasonally saturated areas</u> ☐ within the easement boundary, detail the desired plant community, targeted wildlife species, and management goals. ☐ Upland Wildlife Habitat Management (645) - Include all <u>upland and vegetative buffer areas</u> within the easement boundary, detail the desired plant community, targeted wildlife species, and management goals. Keep in mind that the planned saturated/seasonally saturated conditions may not perfectly correspond with the mapped hydric/partially hydric soil

	boundaries as practice implementation is meant to alter and increase hydrology. The combined acreage planned under 644 and 645 should match the total easement acreage. Application of 644/645 on all easement acres documents the maximization of wildlife benefits, which in turn helps justify enrollment of those areas in WRE.

☐	For Bog Turtle Easements:
☐	Wetland Enhancement (659): For all Bog Turtle contracts all planned or restored wetland areas should be captured through 659 even those areas being restored incidentally or not undergoing specific manipulation or management. This includes sources of contributing hydrology, whenever applicable.
☐	For example, new or increased saturation resulting from nearby vegetative manipulation where no other activities occurred will be planned as 659. Basically, all areas with wetland hydrology will be captured through 659 in bog turtle contracts. (Unless an onsite determination supersedes the hydric soil maps, use hydric and partially hydric soil boundaries to depict the 659 boundaries even if direct vegetative manipulation is not planned for the entire area.)
	Upland Wildlife Habitat Management (645) - Include all upland and vegetative buffer areas within the easement boundary, detail the desired plant community, targeted wildlife species, and management goals. The combined acreage planned under 659 and 645 should match the total easement acreage. Application of 659/645 on all easement acres documents the maximization of wildlife benefits, which in turn helps justify enrollment of those areas in WRE.

☐ ☐ ☐	**Pennsylvania Wildlife Habitat Evaluation – use form appropriate for the pre-existing land use:** **Pennsylvania Wildlife Habitat Evaluation for Cropland or Pennsylvania Wildlife Habitat Evaluation for** **Permanent Hayland – The form and form instructions are located in Section III of the PA FOTG.** **Pennsylvania Wildlife Habitat Evaluation for Pasture - The form and form instructions are located in** **Section III of the PA FOTG.**

Other Common Land Uses – only use these labels ***if*** land is ***not*** part of the easement**:**

Associated Agricultural Lands (*Toolkit label - Associated Ag Land*) – Land associated with farms that area not purposefully managed for food, forage, or fiber and are typically associated with nearby production or conservation lands. This could include incidental areas such as odd areas, watercourses, riparian areas, field edges, seasonal and permanent wetlands, and other similar areas.

Wildlife is the most commonly used modifier for this land use.

Other (*Toolkit Label - Other Rural Land*) – Land that is barren, sandy, rocky, or that is impacted by the extraction of natural resources, such as minerals, gravel or sand, coal, shale, rock, oil, or natural gas.

Forest – Land that is at least 10-percent stocked by single-stemmed woody species of any size that will be at least 4 meters (13 feet) tall at maturity. Also included is land bearing evidence of natural regeneration of tree cover (cut over forest or abandoned farmland) that is not currently developed for non-forest use. 10-percent stocked, when viewed from a vertical direction, equates to an aerial canopy cover of leaves and branches of 25-percent or greater. The minimum area of classification as forest land is 1 acres, and the area must be at least 100 feet wide. *The most commonly used modifiers for this land use are "Wildlife" or "Grazed."*

Environmental Compliance*

Refer to Pennsylvania FOTG, Section III or the PA NRCS Environmental Compliance webpage for more information about Environmental Compliance.

	***Note: Environmental compliance activities must be coordinated with the NRCS designated agency representative since all findings and interagency consultation are the responsibility of the lead Federal agency.**
☐	**Environmental Evaluation (NRCS-CPA-52)**
☐	**The Purpose and Need for Action are completed and are consistent with the Objective Statement and, if applicable, all financial assistance program documents.**
☐	**The CPA-52 form is completed for <u>all</u> land uses within the Conservation Plan document.**
☐	**The benchmark conditions are comprehensively inventoried for land being addressed by the Conservation Plan.**
☐	**Conservation practices identified in the Conservation Plan address corresponding resource concerns identified in the CPA-52 form, which (if applicable) are consistent with all financial assistance program documents, including the ranking.**
☐	**All applicable resource concerns are identified and evaluated. They are not limited to those the client has agreed to address, nor are they limited to those being addressed in a financial assistance contract.**
☐	**Inventory and evaluation documentation adequately supports the information recorded in the CPA-52 form and all decisions regarding Planning Criteria.**
	The effect(s) of all planned practices and proposed alternatives are documented.
	Complete documentation for all applicable Special Environmental Concerns including benchmark condition and the expected effect of the planned practice(s).
	The CPA-52 is signed by a qualified individual, as specified in the PA Supplemental Policy GM 130, Part 400.14, Supplement 5.
	The Finding has been correctly completed, including the rational supporting the Finding, and is signed by the Responsible Federal Official.
☐	**Cultural Resources Review Worksheet and <u>email verification</u> of review by the NRCS Cultural Resources Coordinator (if applicable*).**

	***Note – This form is required when any practice is rated G or PG-intrusive as per Conservation Practice or CSP Enhancement ratings. For more information refer to the PA Cultural Resources webpage.**
☐	**PNDI Project Environmental Review Receipt(s) with appropriate sections completed and, if applicable, copies of correspondence with the appropriate agency(s). Instructions are located in Section III of the PA FOTG.** **The Pennsylvania Natural Heritage Program, PNDI Project Planning Environmental Review can be accessed at:** **http://www.naturalheritage.state.pa.us/**

National Food Security Act Compliance (if applicable) **This is applicable to all client who are currently participating in certain USDA programs or are applying for participation in certain USDA programs.**	
☐	**'Highly Erodible Land Compliance' / 'Wetland Compliance'**
☐	**Farm Producer Data Report (list of client tracts from FSA) – documents if producer is currently in compliance with HEL/Wetlands**
☐	**NRCS CPA-026E – highly erodible land and wetland determination**
☐	**NRCS CPA-027 – NRCS notification of conservation plan revision (given to FSA)**
	Wetlands evaluation – Practices and activities resulting in draining, dredging, filling, leveling, removal of woody vegetation, diking, impounding, and pumper water away have been evaluated to determine effects directly on or on adjacent wetlands.
Standard Statement:	
☐	**Standard Statement – printed above signature blocks includes additional information for client regarding clarity on conservation goals or to "contain limitations of objectives."**
Signature Block:	
☐	**Client** **Name**

	Signature **Date**
☐	**Certified Planner** **Name** **Signature** **Date**
☐	**Other (if applicable)** **Name** **Signature** **Date**
Receipt for Services – if requested by client	
☐	**Receipt for Services – Official agency record of service provided to, or service refused or delayed by the agency, that is provided upon request of the client.**

NOTE: This planning guidance is not part of the official NRCS Case File and is not an official NRCS document.

Section 9 - Compatible Use Authorizations

Only through a Compatible Use Authorization (CUA) can a landowner complete any activity not expressly permitted by the Warranty Easement Deed. CUAs are permitted, as outlined in 528.152 (A-I) of the ACEP Manual. This section describes how the CUA process works in Pennsylvania, along with guidelines on the type of activities that will be considered for a CUA. CUAs are issued on a case-by-case basis as approved by the State Biologist and/or the State Conservationist.

Landowners with acreage enrolled into the WRP and WRE programs in Pennsylvania have sold the USDA Natural Resources Conservation Service (NRCS) a conservation easement, in perpetuity, on those acres. NRCS is responsible for restoring and maintaining wetlands, wetland hydrology, wildlife habitat, and the functions and values of these on the easement acres.

I. Warranty Easement Deed----Rights Retained by Landowner

Landowners retain limited reserved rights to the easement acres: those rights are listed below. Any activity that is conducted beyond these rights is a violation and must be remediated.

1. Title- Landowner still owns the land and has the right to sell the property at any time.
2. Quiet Enjoyment- Landowner has the right to enjoy the property and the habitat we improved. Walking, camping, hunting.
3. Control of access- General public does not have the right to utilize the property because of the federal easement. NOTE: does not apply to NRCS staff or contractors; who are permitted to enter the property anytime.
4. Recreational Uses- Must be consistent with the long-term protection and enhancement of the wetland and other natural values of the Easement area.
    a. Hunting is allowed. Hunting leases may be permitted on the WRE.
    b. Hunting blinds are permitted without a CUA, if they;
        i. Can be easily moved without the use of heavy equipment
        ii. Are rustic and easily assembled and disassembled.
        iii. Will not accommodate more than 4 people
    c. If the structure meets all the criteria above, it will not require a CUA.
5. Subsurface Resources- Right to oil, gas and minerals, and geothermal resources under the easement area. All mining activities must take place outside of the easement area and have no negative effect on the easement.

The Warranty Easement Deed (WED) signed by the Landowner and NRCS **prohibits any activity not specifically reserved to the landowner in the WED, Part II, subparts A-F.**
(see WED, Part III, Subpart A:1 – 13 for the official list of prohibitions.).

Table 4. Common violation activities and the WED reference prohibiting those actions.

Table 4. Common actions taken or requested by WRE participants and applicable prohibitions in the Warranty Easement Deed (WED).

Action(s)	WED, Part III, Subpart A: 1 - 13[a]
Mowing for any reason (fields, paths, etc.)	**1, 2, *10*, *11*, 12**
Grazing livestock	**2, 9, 12**
Cutting trees (logging, firewood, etc.)	**2, 4, *10*, 12**
Earth moving	**2, 5, *6*, *10*, 12, *13***
Buildings / Structures (pavilions, cabins, etc.)	***1*, 2, *5*, 7, *10*, *11*, *12*, *13***
Developed recreation (camp/picnic sites, etc.)	***1*, 2, *3*, *5*, *10*, 11, *12***
Planting or harvesting any crop	**2, 8, *10*, 12**

[a] Numbers in boldface indicate a WED reference specifically prohibiting the associated action; numbers in normal type indicate a WED reference that applies to the associated action but is not specific to the action; numbers in *italics* indicate a WED reference that may apply to the associated action, depending on site-specific conditions.

II. Compatible Use Authorizations (WED)

While the WED prohibits certain actions, it also allows NRCS the flexibility to grant Compatible Use Authorizations (CUAs) which function as temporary and site-specific adjustments to the list of prohibited actions. Under the WED, CUAs:

-are approved solely by NRCS
-are temporary
-can be revoked by NRCS at any time
-must support the long-term protection and enhancement of the wetlands, habitats, and other natural values of the easement acres
-DO NOT vest any rights in the Landowner.
-Can accept economic returns realized by the landowner as a result of a CUA being implemented.

CUA Package Documentation

In order to be considered for a CUA, the Field Office must provide the documentation listed below:

1. AD- 1160

2. Map(s)
3. CPA-52
4. PNDI (if applicable)
5. Photos

III. Compatible Use Authorizations (per PA NRCS Policy)

A. In addition to the WED criteria above, Pennsylvania CUAs:

1. are offered and written solely by PA NRCS
2. do not exceed one year in length, unless specifically written otherwise to address unique management goals or implementation requirements
3. are based on site-specific conditions and do not imply or grant PA NRCS approval for any actions beyond the amount, location, scope or timing specifically described in the CUA.

B. PA NRCS will only offer CUAs for actions that improve the easement acres. Actions allowed through Pennsylvania CUAs must:

1. feasibly benefit the hydrology, habitat or management of the easement acres (expected benefits may be immediate or eventual, brief or prolonged, etc.)
2. improve the protection, restoration or management of the wetlands, habitats, or other natural values of the easement acres
3. only occur in areas of implementation that reflect PA NRCS's management goals
4. only occur with timing and frequency that reflect PA NRCS's management goals.

C. Common CUAs and their justifications are listed in Table 2 below. Possible CUAs are not limited to these actions and can be expanded to include new technologies or methods as needed.

D. All CUA activities must be consistent with the long-term protection and enhancement of the wetland and other natural values of the easement.

Table 5. Common CUAs granted by PA NRCS, and their justification(s).

CUA Action(s)	Justification / reason for acceptance
Installation of structure (hunting platform)	**Semi-permanent hunting blinds which meet all the following size and location restrictions:** • **External dimensions of no more than 80 sq. ft.** • **Height is less than 8 ft.** • **Location does not disrupt wildlife activity** • **May permit heavy equipment to remove structure, as long as the removal has minimal ground disturbance**
Food Plots	**A planted area set aside to act as a supplemental food source for wildlife.** • **Cumulative food plot acreage is capped at 5% of total easement acreage.** • **Food plots cannot be harvested** • **Location, configuration, spatial arrangement, and other details are prescribed by NRCS for the specific site.** • **Food plots will be located or configured to avoid or minimize habitat fragmentation.**
Mowing/Haying	**Vegetation management; site preparation for other actions; temporary access for other actions. Activity will be identified in the WRPO and permitted through a CUA.** • **Must occur between July 15 and September 1.** • **Must ensure there is adequate regrowth of vegetation to provide winter cover and early spring nesting cover (not cut less than 6").** • **Not permitted in areas where woody vegetation is being established or maintained.**

Grazing livestock	**Vegetation management, particularly the control of undesired woody or invasive plants where mechanical or chemical methods are difficult.** • **No signs of overgrazing.** • **Limited stocking density, as determined by NRCS.** • **No adverse effects on ground nesting birds and other wildlife.** • **Contributes to establishment and maintenance of wildlife habitat or other wetland functions and values.** • ****Time of year restriction**** • **Bog Turtle CEAP study only**
Forest Management	**Promote a healthy and functioning forest within the easement area.** • **Forest management plan completed and approved by NRCS before a CUA is completed.** • **Forest management activity will further wildlife habitat and wetland functions and values.** • **Maximization of timber harvest for economic gain is not permitted.** • **Cannot negatively impact at-risk species.**
Invasive Species Control	**Vegetation management, particularly the control of noxious or invasive herbaceous species.** • **Application method will be clearly defined in the CUA (hand, machine, herbicide).** • **Time of year is chosen to assure the treatment is effective.** • **Cannot have a negative effect on surrounding wildlife.** • **If heavy equipment is utilized, the affected areas must be seeded to promote healthy regeneration.**

	• **Done at a time of year with minimal impacts to soil and wildlife**
Earth moving	**Site-specific hydrology management; erosion repair or control; repair of engineered features on the easement area (embankments, swales, etc.).** • **All ruts will be smoothed and seeded.** • **A plan will be submitted and approved by NRCS before a CUA is drafted.** • **Done at a time of year with minimal impacts to soil and wildlife**
Ingress/Egress	**Easement landlocks a portion of land not in the easement which cannot be accessed without going through the easement.** • **Travel path avoid wetland areas** • **Any ruts will be closed and seeded.** • **Time of year restrictions.** • **Machinery will be cleaned to impede the spread of noxious and invasive species.** • **Done at a time of year with minimal impacts to soil and wildlife**
Firewood Harvest	**Harvest selected trees from a pre-designated area within the easement for firewood.** • **Must be within the upland** • **Area should be close to the easement boundary to minimize disturbance** • **Cannot remove high value trees** • **Trees should have little habitat value** • **Done at a time of year with minimal impacts to soil and wildlife**
Easement Management	**Performing easement management activities (mowing berm, mowing walking paths, managing water levels..)**

Section 10 – Violations

PA NRCS will take enforcement action as necessary to address violations in accordance with Title 440, Part 527.170, Subpart S.

Pennsylvania NRCS takes a preventative approach to violations. The Interdisciplinary Team Screening process described in Section 4 was developed partly to thoroughly vet each property prior to enrollment. Properties having a high risk of violation are screened out of enrollment before they become a permanent easement.

During the screening site visit, the landowner is interviewed, and the property walked in its entirety. The easement deed terms, and restoration requirements are fully explained to the landowner in detail and a copy of the Warranty Easement Deed is provided. Landowner considering enrollment will always be clear on the requirements of the easement before electing to enroll into the program.

Any issues that could lead to a violation are discussed in detail. If the team finds the landowner or the land may pose a threat of future violations for the easement, the property is either not enrolled, or enrollment is deferred until a decision can be made regarding the property's compatibility with easement deed requirements.

The list of activities below are prohibited by the terms of the Warranty Easement Deed. PA NRCS will take enforcement action against any activity prohibited by the Warranty Easement Deed. The list of prohibitions is found in **PART III., "Obligations of the Landowner", A. "Prohibitions"**, and includes;

1. Haying, mowing, or seed harvesting for any reason;
2. Altering of grassland, woodland, wildlife habitat, or other natural features by burning, digging, plowing, disking, cutting, or otherwise destroying the vegetative cover;
3. Accumulating or dumping refuse, wastes, sewage, or other debris;
4. Harvesting wood or sod products;
5. Draining, dredging, channeling, filling, leveling, pumping, diking, impounding, or related activities, as well as altering or tampering with water control structures or devices, except as specifically set forth in EXHIBIT D, if applicable;
6. Diverting or causing or permitting the diversion of surface or underground water into, within, or out of the Easement Area by any means, except as specifically set forth in EXHIBIT D, if applicable;
7. Building, placing, or allowing to be placed structures on, under, or over the Easement Area, except for individual semi-permanent

hunting or observation blinds for undeveloped recreational uses, the external dimensions of which will be no more than 80 square feet and 8 feet in height, with the number, locations, and features of blinds approved by NRCS under Part IV;

8. Planting or harvesting any crop;
9. Grazing or allowing livestock on the Easement Area;
10. Disturbing or interfering with the nesting or brood-rearing activities of wildlife including migratory birds;
11. Use of the Easement Area for developed recreation. These uses include but are not limited to, camping facilities, recreational vehicle trails and tracks, sporting clay operations, skeet shooting operations, firearm range operations, and the infrastructure to raise, stock, and release captive raised waterfowl, game birds and other wildlife for hunting or fishing;
12. Any activities which adversely impact or degrade wildlife cover or other habitat benefits, water quality benefits, or other wetland functions and values of the Easement Area; and
13. Any activities to be carried out on the Landowner's land that is immediately adjacent to, and functionally related to, the Easement Area if such activities will alter, degrade, or otherwise diminish the functional value of the easement Area.

Boundary Disputes

If the easement boundary cannot be clearly defined or if there is a disagreement on where the boundary lies, violations of the easement deed may occur. Once a property is enrolled, the enrollment boundary is reviewed in the field during the survey process. NRCS field employees walk the property the offered acres with the surveyor and landowner to verify the easement boundary and identify any potential issues, such as encroachments by neighboring landowners. If an encroachment is found, NRCS requires the landowner to address the issue with their neighbor.

If a boundary dispute arises after the survey is completed, NRCS will pause the easement acquisition. Resolving a boundary dispute may require the landowner to hire their own surveyor for verification of the boundary or to hire an attorney to verify and document boundary rights. NRCS will not provide any landowner with legal or financial assistance to address a boundary dispute. If the boundary dispute remains unresolved, NRCS will not acquire the easement. The easement acquisition will remain on-hold until the landowner resolves the dispute.

Depending on the circumstances of the encroachment activity, NRCS and the landowner may elect, during the boundary survey process, to adjust the easement boundary. For example, some

encroachments could be easily avoided by altering the boundary line. However, it is the landowner's decision how they will deal with a neighboring landowner who encroaches on the enrollment acres.

Encroachments

During the lifespan of an easement it is likely for neighboring landowners to encroach upon the easement, creating violations within the easement boundary. Mowing, tree removal, dumping, gardens, fencing, and sheds are some of the common encroachments for the WRP and WRE easements across Pennsylvania. Often, easement boundary signs are purposefully removed by neighboring landowners. In some cases, neighboring landowners are either unaware of the boundary line, or erroneously believe that they own the property that has been placed into easement.

When an encroachment occurs, typically PA NRCS asks the easement landowner to address the issue, because ultimately, the easement landowner is responsible for addressing violations incurred from encroachments. However, if an encroachment violation is severe, the NRCS State Office may take action against the party or parties responsible. In these cases, the State Office will send an official letter via certified mail informing the violator that the actions must cease. PA NRCS can and will take legal action against responsible parties if encroachment violations are not remedied in a timely and efficient manner.

In cases when limited numbers of boundary signs are missing/have been purposefully removed, NRCS Field Office employees will replace them. If the boundary is unclear and the survey pins cannot be located, the State Office will hire a licensed surveyor to replace the boundary signs. A licensed surveyor will also be hired when all or many easement boundary signs are missing. The need for a licensed surveyor will be determined on a case by case basis as funding and policy mandates permit.

Grazing

Pennsylvania NRCS has taken a unique position for the grazing of WRP and WRE enrollments. In Pennsylvania, grazing on WRP or WRE easements is not permitted and is considered a violation of the Warranty Easement Deed (WED). However, for a select few WRP and WRE easements containing Bog turtle habitat, grazing may be permitted on a case by case basis.

Grazing has been widely recommended as a Best Management Practice (BMP) to reduce woody vegetation succession within Bog turtle habitat. The issue is that little quantitative data has been collected to show what impacts grazing has on bog turtle habitat and the turtles themselves. Additional data is needed to demonstrate how turtles react to different types of vegetative cover in

both the upland and hydric soils within known sites. Data is also needed to show the impact of different animal types grazing within the upland and core hydric soil areas.

To answer the questions surrounding how grazing impacts Bog turtle habitat, starting in 2019, PA NRCS, in partnership with Virginia Tech and several other states, began conducting a Conservation Effects Assessment Project (CEAP) study on the feasibility of grazing WRP and WRE acres under easement for the protection of the bog turtle. The study will assess grazing livestock on bog turtle habitat and the bog turtle response related to grazing.

In Pennsylvania grazing on WRP and WRE easements will only be permitted on sites participating in the CEAP study through a Compatible Use Authorization. Grazing will be temporarily allowed on these sites; continued or future grazing depends on the outcomes of the CEAP study. Grazing animals must not cause adverse resource concerns to bog turtle habitat for the duration of the study. If negative impacts result, PA NRCS will suspend grazing and will terminate the related CUAs. Once a CUA is terminated, any grazing on-site will be considered a violation of the easement.

The CEAP study is scheduled to conclude in 2022 and will hopefully provide more definitive evidence regarding grazing as a compatible use to enhance bog turtle habitat. In the meantime, landowners participating in the study can continue to graze the bog turtle easement areas following recommendations for grazing timing and animal density provided by NRCS. Any grazing activities not approved through a CUA for the purpose of the study are considered a violation of the easement.

Restoration Requirements

When landowners voluntarily execute the Warranty Easement Deed for either WRP or WRE, they sell to the United States most surface rights to the land. By signing the deed and accepting the easement payment, landowners agree to the restoration of the Easement Area and grant the right to carry out such restoration to the United States acting through the Natural Resources Conservation Service (USDA-NRCS).

The Warranty Easement Deed on Restoration:

1) Under "Purposes and Intent":
   The purpose of this easement is to restore, protect, manage, maintain, and enhance the functional values of wetlands and other lands, and for the conservation of natural values including fish and wildlife and their habitat, water quality improvement, flood water retention, groundwater recharge, open space, aesthetic values, and environmental education. It is the intent of

NRCS to give the Landowner the opportunity to participate in the restoration and management activities on the Easement Area.

2) Under Part III, "Obligations of the Landowner, D. Restoration"
The Landowner shall allow the restoration and management activities NRCS deems necessary for the Easement Area.

NRCS will provide every opportunity for landowners to participate in planning the restoration on their property. NRCS will have open discussions about the restoration the easement can support with the landowner from the initial Interdisciplinary Team site visit through the post easement closing engineering design. During the planning and engineering of the restoration, NRCS will follow standards and specifications for all planned practices on the easement.

Although NRCS will provide ample opportunities for landowners to participate in the planning and design of the restoration, it is not possible to meet every landowner's vision for restoration of the easement. Past reasons for disagreement include new landowners/property managers who don't have the same intent or goals as the original easement participant, landowners who change their minds after an easement closes, and unexpected changes to the site due to natural events. In some cases, landowners will not agree with the NRCS recommended restoration treatment on their property and will refuse to comply with restoration of the property. This is a violation of the Warranty Easement Deed and NRCS will take action to uphold the right to restore the property.

In these circumstances, PA NRCS will, through a Federal contract, hire contractors to complete the restoration work. The Federal contract option will allow NRCS to complete the restoration and reimburse the contractor. This process removes the landowner completely from the restoration planning and contracting process. It is always the goal of NRCS to work with a landowner throughout the restoration process, and this option will be utilized only as a last resort.

Section 11 – Easement Maintenance and Management

In general, NRCS requires the landowner to manage and maintain the easement, as is required by the Warranty Easement Deed. However, some management issues may not be resolved easily by a landowner; this section provides guidance for specific situations related to maintenance and management of easements which may challenge landowners.

Beaver Dams

Beaver dams can occur on Wetland Reserve (WRE/WRP) easements, either before or after the establishment of the easement and the restoration of the wetlands in the easement. This is not surprising, since beavers are naturally drawn to areas with easily flooded land, a reliable water source, and trees. NRCS's wetland easements meet all these criteria and can become home to beavers as a result. However, the presence of a beaver dam sometimes causes concerns about easement maintenance, increased ponding of water, and possible impacts to Threatened and Endangered (T&E) species.

WRE/WRP easements have two main environmental goals: to restore wetlands that were negatively affected by agriculture and to provide habitat for wildlife. Beaver dams accomplish both of those goals, and often do so with more natural results than the human-led efforts that were part of the WRE/WRP wetland restoration. Participants, landowners, and neighbors often express concerns about beaver dams on WRE/WRP acres, but by their very nature beaver dams meet the two main goals of the program—wetland restoration and wildlife habitat—and therefore are usually beneficial to the function and performance of the easement. In most cases, there is no requirement or need to remove beavers or their dams in most situations in Pennsylvania.

However, beaver dam removal may be necessary when field staff and state office Easement Staff agree that one of the following is occurring or is reasonably likely to occur:

- Hydrology changes associated with a beaver dam are having negative effects on properties, structures, rights-of-ways, roads, etc. (Negative effects can occur on or off the WRE/WRP easement.)
- Ponded waters associated with a beaver dam are expanding beyond the easement boundary;
- Ponded waters associated with a beaver dam are negatively affecting important habitats or features.
    - This will most often apply to terrestrial animal and plant species, but may include other species or concerns (*i.e.*, aquatic species, geologic features, or cultural resources).

- If multiple species of concern occur onsite and have conflicting management recommendations, prioritize management actions by the status of the species involved, in the following order: federally Endangered, federally Threatened, state Endangered, state Threatened, state Species of Greatest Conservation Need, Candidate for listing under federal or state agencies.

Any party interested in removing or manipulating a beaver dam on a WRE/WRP easement should contact their local NRCS office for a field visit to the beaver dam involved. Once field staff have seen the site and concur with the validity of the request, they should forward the request to both the Easement Programs Manager and the State Biologist.

Muskrats

Muskrat burrowing activities can damage water impoundments, such as are found on many of Pennsylvania's WRP and WRE wetland restoration sites. Muskrats either dig dens in steep banks or build dome-shaped lodges in open water using vegetation and mud. Signs of muskrat damage to banks from burrowing activities include burrow entrances, erosion and cave-ins. Muskrats also cause damage by eating vegetation. Loss of vegetation from muskrat foraging can impact wetland viability and habitat for other species, including waterfowl. (USDA-APHIS, https://www.aphis.usda.gov/wildlife_damage/reports/Wildlife%20Damage%20Management%20Technical%20Series/Muskrat-WDM-Technical-Series.pdf)

Although muskrats are an important part of the wetland ecosystem, when they create issues with functionality of the wetland restoration, steps must be taken to control the damage. PA NRCS requires landowners, as part of regular maintenance and management of the WRP or WRE restoration, to remediate muskrat damage. If muskrat issues are managed and treated often by an active landowner, it is unlikely that serious damage to the wetland restoration will occur.

While most damage created by muskrat tunneling or digging can be corrected by a landowner actively managing the situation, if a landowner has neglected to treat the muskrat damage for a long period of time, a larger issue may occur. In these cases, PA NRCS will not provide financial assistance. It is the landowner's responsibility to maintain the wetland restoration. Technical assistance, however, is always available from NRCS, if needed.

Noxious and Invasive Species

The Warranty Easement Deed (WED) states, in PART III. Obligations of the Landowner, B., Noxious Plants and Pests:

The Landowner is responsible for noxious weed control and emergency control of pests as required by all Federal, State, and local laws.

PA NRCS understands that in some cases noxious and invasive species control may be more than the landowner can reasonably manage. In these instances, PA NRCS will offer technical and financial assistance through a Federal contract. Whether a site receives assistance with noxious/invasive species control will be determined on a case by case basis.

When determining if a site receives assistance, PA NRCS will consider the following criteria:

- Site condition and characteristics
- Landowner ability to participate in maintenance activities
- Severity of the noxious/invasive issues

Bog Turtle and Masasauga Rattlesnake Site Maintenance

Pennsylvania's landscapes naturally return to early successional habitat and eventually trees/forest. Unfortunately, this natural succession does not support the habitat required for bog turtle and eastern massasauga rattlesnakes, which both require large, open grass areas. As such, bog turtle and massasauga sites will require continual maintenance over the lifespan of the easement to limit succession and ensure adequate habitat is available.

Due to the very sensitive nature of bog turtle and massasauga habitat, PA NRCS does not permit landowners to conduct management or maintenance activities on their own for these sites. Instead, contractors certified by the US Fish and Wildlife Service (USFWS) to work in the habitats of the target species will perform maintenance on these sites. Site monitoring and maintenance will follow an annual process established by NRCS, in consultation with USFWS and the PA Fish and Boat Commission (PAFBC) as necessary.

The USFWS, and/or NRCS employees trained as bog turtle specialists, will actively monitor bog turtle sites on a rotating schedule. Monitoring will focus on sites where the habitat restoration occurred 5 or more years in the past. The monitoring will determine if the restoration was successful and whether follow-up vegetation control treatments are needed.

Each year, PA NRCS will create a list of bog turtle sites that were restored 5 or more years prior. USFWS or NRCS will visit each site and will draft a report detailing the current site condition and the success of the initial restoration and will recommend follow-up maintenance activities as needed.

PA NRCS will consolidate the recommendations for maintenance work on several sites into a Statement of Work for one Federal contract. Sites will be grouped by geographic location to simplify the maintenance schedule. Even through Federal contracts, only certified bog turtle specialists will be offered the opportunity to conduct maintenance work on the bog turtle sites in Pennsylvania.

Section 12 - Enrollment and Acquisition Strategic Process Guide

The Enrollment and Acquisition Strategic Process Guide was developed as a tool for Pennsylvania NRCS Field Employees. The Guide lists steps of the WRE easement application and enrollment. The Guide also lists the steps required to move an enrollment through to closing and restoration. The Guide will be updated in Pennsylvania as needed to allow for Farm Bill and Policy changes.

The Enrollment and Acquisition Strategic Process Guide is attached to this section.

Wetland Reserve Easement (WRE) Program Enrollment and Acquisition Strategic Process Guide

Part 1 - Application, Eligibility Determination and Enrollment

Step Check		Description	Responsible Party	Forms/Documents	Average Time	
Step 1 - Creation of High Priority Areas						
	a.	Identifies high priority areas across the state and creates maps to show location.	State Office	High Priority Area Maps	FY prior to enrollment	
	b.	Creates a mailing list with addresses of eligiblie landowners in high priority areas.	State Office	Mailing list in excel		
Step 2 - Education and Outreach						
	a.	Selects landowners in targeted high priority areas and mail outreach materials.	Field Office	Cover Letter, WRE Deed, WRE Acquisition Guide	FY prior to enrollment	
	b.	Contacts USFWS and/or PAFBC to find Bog Turtle or Massasauga sites to enroll.	State Office	~~		
Step 3 - Landowner Interest in Program						
	a.	Completes the NRCS-CPA-1200 application form for ACEP-WRE.	landowner	NRCS-CPA-1200	3rd Friday in October	STOP HERE if documentation is not filed,is incomplete, or if eligibility is not met. Do not proceed without a copy of an ownership deed. Report application status to S.O.
	b.	Files AGI and 1026 with FSA.	landowner/FSA	AGI and 1026 Forms	30 days	
	c.	Provides copy of Property Ownership Deed.	landowner	Ownership deed		
	d.	Enters landowner information into SCIMS.	Field Office	~~		
	e.	Reviews WRE Deed with landowner.	Field Office	WRE Easement Deed		
	f.	Drafts boundary map to identify the area landowner is offering for enrollment.	Field Office	Basic Toolkit map		
Step 4 - Field Office Visit to Site						
	a.	Provides Priority Resourcce Inventory map to landowner. Walks proposed easement area for visual review of site. Looks for problem areas such as encroachment from neighbors, trash/dump sites, buildings, any other items that are questionable.	Field Office	~~	14 days	STOP HERE if site does not meet program requirements. Report site condition to State Office.
	b.	Ensures physical and legal access are available.	Field Office	~~		
	c.	Completes the Landowner Disclosure Worksheet with the landowner.	Field Office	Landowner Disclosure Worksheet		
	d.	Drafts maps of proposed easement area. Include Ingress/Egress, soils map, topo/LiDAR map. Include cropping history. Include 026e (if available).	Field Office	Draft boundary maps that show ROW and soils, cropping history and 026e (if available)		
	e.	Obtains cropping history and 026e (if available).	Field Office	~~		
	f.	Forwards all documents and maps to the Easements Program Manager.	Field Office	~~		
Step 5 - Preliminary In-Office Screening						
	a.	State Biologist/State Soil Scientist completes in-office eligibility review using maps and documents from F.O. If site looks eligible, an Interdisciplinary Team site visit is recommended. If not eligible, sends ineligibility letter to landowner and Field Office.	State Office	Maps and information from Field Office, ineligibility letter from State Office (if applicable)	14 days	STOP HERE if IDT in-office review determines the site is not eligible. State Office will send ineligibility letter to landowner with cc to Field Office.
	b.	If in-office review determines site may be eligible, coordinates a date/time easements staff, the Interdisciplinary Team (Soils, Biology, Engineering) and the landowner to visit the proposed enrollment. D.C. must also attend site visit. Proceed to Step 6.	Field Office	Field office provides maps, location, date and time and coordinates site visit		
Step 6 - Preliminary On-Site Eligibility Screening (Interdisciplinary Team)						
	a.	Onsite meeting to review eligibility. Soil Scientist, Engineer, and Biologist visit the site on the same date/time with District Conservationist (D.C.) and easements staff.	Interdisciplinary Team (IDT)	Easement Acquisition Guide, WRE Deed	30 days	STOP HERE if landowner discloses items during the visit that are red flags for an easement acquisition. Landowner should agree to the boundary and to the terms of the WRE deed.
		Soil Scientist - Surveys soils for hydric soil and restoration potential.				
		Biologist - Reviews wildlife habitat maximization potential.				
		Engineer - Reviews for hydrology and restoration potential.				
		Easements staff - Discusses easement requirements with landowner.				
	b.	D.C. - Project coordinator, liason between Landowner, IDT and easement staff.	Field Office	~~		
		Landowner - Shows easement area to NRCS, learns about WRE program	Landowner	~~		
Step 7 - Final Eligibility Determination (Interdisciplinary Team Reports)						
	a.	Provdes reports and maps documenting site eligibilty. Creates final eligible easement boundary. Send reports to Easements Program Manager and Field Office.	Interdisciplinary Team	Interdisciplinary Team Trip Reports (3)	14 days	STOP HERE if engineering, soils, or biology on-site report results find that the site is ineligible. All three disciplines must agree on eligibility.
	b.	Schedules meeting with IDT and D.C. to discuss enrollment approval.	State Office	~~	30 days	
	c.	STC reviews IDT reports and if accepted, signs Interdisciplinary Approval Worksheet. Easements program manager informs the Field Office to begin Step 8.	State Office	~~		
	d.	After IDT approval, Easement Program Manager uses maps and property deed to order title commitment and environmental database search. Reviews reports.	State Office	Title Commitment, Environmental Database Search		
	e.	Informs partners (USFWS, PAFBC, etc) that NRCS has approved a WRE site, coordinates partner site visit (if needed), and provides maps and other information.	State Biologist	~~		
	f.	Sends eligibility summary letter and map with IDT findings to landowner and F.O.	State Office	Template Eligibility Summary Letter		
Step 8 - Preliminary WRPO, Ranking, and Application Packet Completion						
	a.	Begins PNDI and Cultural Resources Review Process (NEPA).	Field Office	~~	30 days	STOP HERE if: *Application not dated before third friday in October. Defer until next FY. *Eligibility worksheet shows acreage is not eligible. *Title Commitment or Database search show ineligibile items. *Hazardous worksheets show red flags. *PNDI or CRRW indicate unavoidable conflicts. *Ranking shows conflicts. *Subsidiary Reports show landowner not certified or compliant for AGI or 1026. *Landowner disagrees with program terms, estimated easement dollar value, estimated boundary or proposed restoration.
	b.	Uses IDT reports, field notes and associated documentation to create Preliminary WRPO, which includes the Conservation Plan for WRE restoration, the draft NRCS-CPA-1155, the NRCS-CPA-52, and Restoration Practices Plan Map. Conservation plan must be signed by a certified conservation planner.	Field Office	Conservation Plan, NRCS-CPA-1155, Restoration Practices Map		
	c.	Completes GARC Determination (Section II.) on Eligibility Worksheet. (State Biologist completes NEST reporting and program eligibility Sections I and III).	Field Office, State Biologist	Eligibility Worksheet		
	d.	Meets landowner on-site. Reviews Preliminary WRPO documenatation and maps.	Field Office	Preliminary WRPO , Eligibility Worksheet		
	e.	Reviews Eligibility Worksheet and proposed enrollment area with landowner.	Field Office	Eligibility Worksheet		
	f.	Signs Conservation Plan and Eligibility Worksheet, agreeing to restoration and to GARC Rate/easement value. (1155 is not signed at this time)	Landowner	Conservation Plan, Eligibility Worksheet		
	g.	Completes Hazardous Materials Site Visit Checklist and Landowner Interview due diligence documentation for property.	Field Office	Hazardous Materials Site Visit Checklist, Hazardous Materials Landowner Interview		
	h.	Completes ranking of parcel. State Biologist reviews ranking.	Field Office, State Biologist	Ranking Form		
	i.	Obtains 026e for property.	Field Office			
	j	Obtains Subsidiary Reports for each landowner listed on the property deed.	Field Office	Subsidiary Reports		
	k.	Forwards full application packet to the Easements Program Manager.	Field Office	Application Packet		
Step 9 - Enrollment						
	a.	Reviews full application packet and finalizes eligibilty, acreage, and easement value.	State Office	Application Packet	60 days	Enrollment Complete
	b.	Provides proof of clearance on PNDI hits and CRRW Review. Notify State Office if Phase I needed.	Field Office	~~		
	c.	Creates Funds Reservation with national financial teams (APSB, BSSB).	State Office	~~		
	d.	Requests approval by Internal Controls 1st and 2nd Level for all easements, or National Level if > $250K or random selection.	State Office	~~		
	e.	Financial Management stamps Agreement to Purchase Conservation Easement (APCE) with funds approval.	State Office	Agreement to Purchase Conservation Easement (APCE)		
	f.	APCE sent to landowner for signature.	State Office	~~		
	g.	APCE executed by State Conservationist.	State Office	~~		
	h.	APCE submitted to financial team (NAPST) for final obligation.	State Office	~~		
	i.	Complete FSA Base Acres Letter and forward to FSA and to the State Office	Field Office	Base Acres Letter for FSA		
	j.	Easement documentation is entered into NEST (easements database).	State Office	~~		

4/19/2019

Wetland Reserve Easement Program Enrollment and Acquisition Strategic Process Guide

Part 2 - Survey and Closing

Step Check		Description	Responsible Party	Forms/Documents	Average Time	
Step 1 - Surveying the Proposed Easement Boundary						
	a.	Finalize Phase I Cultural Resources if required. Notify State Office of results.	Field Office	~~	30 days	STOP HERE if landowner or surveyor have issues with the proposed boundary, or if Phase I findings indicate problem with boundary or proposed restoration. Notify State Office. Survey should not commence if issues exist.
	b.	Contracts WRE voundary survey with professional licensed surveyor	State Office			
	c.	Notifies Field Office and Surveyor in an email that the survey contract has been obligated and the survey can begin.	State Office	~~		
	d.	Schedules on-site meeting with Field Office representative, surveyor, and landowner.	Field Office	~~		
	e.	Meets on-site with landowner and surveyor. All parties physically walk the easement boundary and agree on the final placement of corners, pins, access areas and the location of the easement boundary.	Field Office	~~		
	f.	Returns to the site and surveys the agreed-upon boundary.	Surveyor	~~		
Step 2 - Survey Boundary Checkout and Eligibility Review						
	a.	Sends State Office easement staff draft survey shape files, boundary description and boundary drawing.	Surveyor	~~	14 days	STOP HERE if issues arise from survey or Preliminary Certificate. Boundary should have no significant changes from what accepted at the time of enrollment. Notify State Office immediately if boundary changes or issues are observed during the checkout.
	b.	Notifies Field Office that the preliminary survey work has been completed, provides boundary shape files, draft boundary description, and draft boundary drawing.	State Office	~~		
	c.	Completes survey boundary checkout onsite with the landownerand obtains landowneer signature.	Field Office, State Office	Easement Boundary Survey Field Review Memorandum to File		
	d.	Revises Eligibility Worksheet to reflect final survey acreage GARC rate for post-survey parcel.	Field Office			
	e.	Revises Eligibility Worksheet to reflect final survey acreage for eligible and adjacent acres, and NEST reporting acres.	State Biologist			
	f.	Completes Preliminary Certificate of Inspection and Possession (must be signed by NRCS employee, NOT NRCS affiliate), and revises eligibility worksheet to document that the site is still eligible for WRE post-survey.	Field Office	Preliminary Certificate of Inspection and Possession, Revised Eligibility Worksheet		
	g.	Reviews completed field office documentation and requests final survey documents from surveyor. Requests invoice from surveyor for payment of survey.	State Office	~~		
Step 3 - Closing						
	a.	Completes the packet of legal documentation to request a Preliminary Title Opinion (PTO) from the Office of General Counsel (OGC). Packet includes calculation of final easement value, maps, eligibility documentation, Environmental Database Search, Title Commitment with Use and Consent Form, and draft Warranty Easement Deed with boundary survey attached as Exhibit A (boundary description) and B (access description).	State Office/OGC	Draft Warranty Easement Deed	60-90 days *(This step may exceed 60-90 days due to legal title or closing issues beyond the control of NRCS)*	STOP HERE if OGC finds legal issues with proposed easement. All issues must be resolved prior to moving forward. All items listed in the PTO must be addressed prior to closing the easement. This includes documentation that property taxes were paid, mortages were subordinated, or other items (as applicable).
	b.	Sends landowner cover letter outlining change in dollars and acres post survey. Landowner signs letter, acknowledging the changes, and returns it to State Office.	State Office	Sample PTO		
	c.	Receives PTO from OGC.	State Office	~~		
	d.	Sends PTO Closing Agency requesting final documentation needed for closing.	State Office	~~		
	e.	Requests approval by Internal Controls 1st and 2nd Level for all easements, or National Level if > $250K or random selection.	State Office	~~		
	f.	Reviews final documentation from Closing Agency. STC signs Acceptance of Grantee indicating Agency approval of closing. State Office orders closing.	State Office	~~		
	g.	Closing agency representative meets with landowner. Easement deed and HUD-1 are executed. Landowner recieves payment for easement. Easement closing completed.	Closing Agency			
Step 4 - Perfecting the Easement Post-Closing						
	a.	Final closing documents (recorded easement deed, final title insurance policy, final executed HUD-1) are returned to State Office from Closing Agency.	Closing Agency	Recorded easement deed, Title Insurance, HUD-1	30 days	Closing Complete
	b.	Submits final closing documents to Field Office and requests Final Certificate of Inspection and Possession (must be signed by NRCS employee, NOT NRCS affiliate) and FSA Base Acres Recorded Letter.	Field Office	Final Certificate of Inspection and Possession, DOJ Certificate, FSA Base Acres Recorded Notification Letter		
	c.	Requests Final Title Opinion (FTO) from OGC. Once OGC issues the FTO, the easement is considered legally and programatically perfected.	State Office/OGC	~~		
	d.	Uploads final documents to NEST database and reports closing to NEST. Part 3, Restoration, can now begin.	State Office	~~		

Section 13 - Geographic Area Rate Caps

ACEP Policy 528.122, Determining Easement or 30-Year Contract Compensation 258.122, Section A. General, Item (3) states:

> In order to comply with the statutory provisions regarding easement and 30-year contract compensation, States must determine the fair market value of the land, the GARC value, and the landowner offer (if any) for each transaction prior to enrollment. The easement compensation value must not exceed the fair market value of the land

PA NRCS elects each year to obtain Geographic Area Rate Caps (GARCs). PA NRCS also requests, each year, to have the GARC cap of $5,000 per acre waived for some areas of the state where higher compensation to landowners is warranted. In the interest of preserving wetland habitat, reducing encroachment and habitat fragmentation, building connectivity and maintaining ecologically-important habitat, PA NRCS must offer landowners competitive easement compensation values or risk losing landowner participation in the WRE program and the ability to preserve valuable wetland acres and critical bog turtle and massasauga rattlesnake habitat.

ACEP Policy 258.122, in D. Geographic Area Rate Caps (GARCs), (4), (vii) states that the State conservationist must document in writing, for GARCs greater than $5,000 per acre, a justification of the ecological importance of enrolling higher-cost lands.

The rationale used by PA NRCS to justify removal of the $5,000 per acre GARC cap is below. This rationale illustrates the ecological importance, and therefore higher dollar value, of some regions within Pennsylvania.

Development Pressure, Population Growth, and Agricultural Land

If retained, a $5,000.00 cap will impede protection efforts in the following counties: Butler, Venango, Bedford, Blair, Cambria, Fulton, Huntingdon, Somerset, Schuylkill, Bradford, Lycoming, Sullivan, Susquehanna, Tioga, Wyoming, Carbon and Monroe, Adams, Berks, Cumberland, Dauphin, Franklin, Lebanon, Lehigh, Northampton, Perry, and York, and Lancaster, Bucks, Chester, Delaware and Montgomery.

These Pennsylvania counties/regions are located in areas with high development pressure and contain the highest population density of any counties in Pennsylvania.

This is because:

- Pennsylvania farmland has continually decreased since 1997. The areas of decrease are in the higher population dense areas of the state.

- The population of Pennsylvania has increased steadily over the past 50 years. Population increase was concentrated in a few counties.

- The counties within Regions 8 and 9 contain the most highly valued agricultural land in Pennsylvania.

Marcellus Shale

Bradford, Lycoming, Sullivan, Susquehanna, Tioga, Wyoming, Carbon, Lackawanna, Luzerne, Monroe, Pike, and Wayne Counties experienced a Marcellus Shale boom. The total net feet of organic rich shale in these regions is higher than in the rest of Pennsylvania. As such, land in these Regions is under continued pressure of conversion for Marcellus Shale drilling operations.

The Marcellus Shale geologic formation underlies most of northern and western Pennsylvania. With the development of increased gas extraction technology, future Marcellus drilling could occur in any of these counties. For Butler and Venango Counties, where PA NRCS has removed the $5,000 cap to protect the massasauga rattlesnake. WRE easements must offer landowners in these locations a competitive alternative to gas drilling leases.

Protecting the Chesapeake Bay Watershed

The GARC rate cap impacts most counties in Pennsylvania located within the Chesapeake Bay Watershed area. Some of the higher developed bay counties include: Adams, Berks, Cumberland, Dauphin, Franklin, Lebanon, Perry, York, Schuylkill, Lancaster, and Chester. Due to high population density and increasing land development, these counties contain land values per acre higher than the $5,000 mandated cap from current WRE program policy. In order to provide adequate incentive to landowners to enter into wetland easements valuable to the Chesapeake Bay Watershed and its native species, NRCS must offer an easement acquisition rate that is competitive.

Executive Order 13508, issued by President Obama on May 12, 2009 was created to "protect and restore the health" of the Chesapeake Bay and the "natural sustainability of its watershed" (United

States, Strategy for Protecting and Restoring the Chesapeake Bay Watershed 1). The Order declared the Chesapeake Bay a "national treasure constituting the largest estuary in the United States and one of the largest and most biologically productive estuaries in the world" (FR Vol. 74, 23099). The Strategy for Protecting and Restoring the Chesapeake Bay Watershed illustrates how wetland acres within the Chesapeake Bay Watershed need to be protected to prevent loss of habitat, threat of conversion, loss of connectivity and loss of ecologically important areas. The strategy to protect additional wetlands in the watershed is compatible with the key outcome identified in the Presidential Strategy:

"Restore 30,000 acres of tidal and non-tidal wetlands and enhance the function of an additional 150,000 acres of degraded wetlands by 2025".

Threat of Conversion/Encroachment

Protecting wetland habitat from conversion in the Chesapeake Bay Watershed is a critical part of the Federal Leadership Committee for the Chesapeake Bay's "Strategy for Protecting and Restoring the Chesapeake Bay Watershed" which was drafted in response to Executive Order 13508. The land conservation component of the strategy focuses on conserving habitat in the bay watershed where "Poorly planned development increasingly pressures both natural and cultural lands" and where "100 acres per day are lost to development" (United States, Strategy for Protecting and Restoring the Chesapeake Bay Watershed 6). With this type of intensive conversion, protecting wetland areas and upland buffers in the Chesapeake Bay Watershed by offering competitive GARC rates to landowners is critical to preserving valuable habitat in perpetuity.

Loss of Habitat

As previously stated, habitat recovery efforts are to include the restoration of 30,000 acres of wetlands (United States, Strategy for Protecting and Restoring the Chesapeake Bay Watershed 6). Wetland easements are key to habitat protection within the Chesapeake Bay Watershed. Chesapeake Bay wetlands are habitat for a variety of plants, fish, and wildlife, including migrating birds and the federally threatened bog turtle and NRCS can more effectively preserve these areas in perpetuity by providing GARC rates that are equal to other land values in the region.

Threat of Fragmentation/Loss of Connectivity

According to the Strategy for Protecting and Restoring the Chesapeake Bay Watershed states that wetlands within the Bay Watershed provide "habitat highways" for migrating birds, and also provide

"species of plants, fish and wildlife with the places they need to find food, shelter, reproduce, and rear their young" (United States, Strategy for Protecting and Restoring the Chesapeake Bay Watershed 6). The Bay Strategy "seeks to restore a network of land and water habitats to support priority species" (United States, Strategy for Protecting and Restoring the Chesapeake Bay Watershed 5). With competitive GARC rates, wetland acres can be protected through the WRE program to prevent these valuable habitat corridors from being converted to other uses.

Ecological Importance

The ecological importance of wetlands to the Chesapeake Bay Watershed cannot be overstated. Wetland habitats have "an important role in filtering nitrogen, phosphorus, and sediment pollution before it reaches local waterways, and ultimately the Chesapeake Bay" that helps "sustain healthy populations of fish and wildlife, which contribute to a resilient ecosystem" (United States, Strategy for Protecting and Restoring the Chesapeake Bay Watershed 7). Through providing landowners adequate compensation through GARC rates that are comparable to actual value, NRCS can preserve greater easement acreage through WRE.

Protecting the Federally Threatened Bog Turtle in Pennsylvania

The GARC rate cap impacts most of the counties in Pennsylvania located within the United States Fish and Wildlife Service's (USFWS) Susquehanna/Potomac Bog Turtle Recovery Unit and the PA NRCS Bog Turtle Initiative area. The counties include: Monroe, Adams, Berks, Cumberland, Lehigh, Northampton, York, Lancaster, Bucks, Delaware, and Montgomery. Due to high population density and increasing land development, these counties contain land values per acre much higher than the $5,000 cap mandated WRE program policy. In order to provide adequate incentive to landowners to enter easements on bog turtle habitat, NRCS must provide an easement acquisition rate that is competitive with land values per acre in each county, or risk losing the enrollment of much valued bog turtle habitat through the WRE program.

According to the USFWS Bog Turtle Recovery Plan, the northern bog turtle population is in decline. The bog turtle was listed as threatened on November 4, 1997 (Bog Turtle ((Clemmys muhlenbergii)) Northern Population Recovery Plan 1). The bog turtle population has decreased by 50 % in both range and density over the past 20 years. Major factors influencing the decrease in population include "loss, fragmentation, and degradation of its fragile, early successional wet-meadow habitat" (Bog Turtle ((Clemmys muhlenbergii)) Northern Population Recovery Plan 1). The bog turtle recovery

plan illustrates how ecologically important wetlands containing bog turtle habitat with adjacent upland must be protected from threat of conversion, fragmentation, and loss of habitat to preserve the remaining bog turtle population.

Threat of Conversion/Encroachment

Conversion and/or encroachment onto the bog turtle habitat is an important factor in bog turtle decline. Protected areas are "usually relatively small and, although encompassing the turtle's primary habitat, leave the drainage basin largely unprotected" (Bog Turtle ((Clemmys muhlenbergii)) Northern Population Recovery Plan 20). Wetland drainage basins surrounding protected habitat can be converted and encroached upon, altering the function of the drainage basin and the amount of water feeding the bog turtle habitat. This type of alteration can dramatically change the habitat and eventually render the areas unsuitable for habitation. By utilizing competitive GARC rates in the bog turtle areas experiencing development pressure and high population growth, bog turtle habitat and upland buffers can be protected through the WRE program to prevent this valuable habitat from being destroyed by drainage basin conversion/encroachment.

Loss of Habitat

Loss of habitat is the most important factor in the decline of the bog turtle species. According to the USFWS, "outright loss and alteration" of habitat and of "the ecological systems that sustain" the habitat is "the most significant threat to the survival of this species" (Bog Turtle ((Clemmys muhlenbergii)) Northern Population Recovery Plan 19). Bog turtle wetlands are smaller and easy to manipulate, drain and eradicate from the landscape. In addition, other threats from development pressure to bog turtle habitat include flooding of habitat, "chemical and heavy metal pollution, nutrient enrichment from fertilizer and septic runoff, and the establishment of alien plants" (Bog Turtle ((Clemmys muhlenbergii)) Northern Population Recovery Plan 20). Development pressure and associated population growth contribute to bog turtle habitat loss and decline to the species, making it imperative that these habitats are protected through WEP easements that offer landowners compensation comparable to existing land values in the county and region.

Threat of Fragmentation/Loss of Connectivity

In areas of greater population density and increased residential, commercial and industrial development, such as is being experienced in the Susquehanna/Potomac Recovery Unit, bog turtle habitat is exposed to increasing levels of fragmentation and loss of connectivity. Bog turtle habitat is "highly specialized wetland habitat" that contains "long-lived adult animals" (Bog Turtle ((Clemmys

muhlenbergii)) Northern Population Recovery Plan 19). Fragmentation damages bog turtle populations by exposing turtles to "elevated risk of incidental mortality" from crossing roads, predation and poaching (Bog Turtle ((Clemmys muhlenbergii)) Northern Population Recovery Plan 19). In order to protect the delicate bog turtle habitat and provide safe haven for migrating turtles, the preservation of connectivity is imperative.

The USFWS in partnership with NRCS through the PA NRCS Bog Turtle Initiative is focused on acquiring easements on adjacent properties to connect corridors of bog turtle habitat. It is imperative that NRCS continue to offer landowners of high-value bog turtle wetland habitat comparative GARC rates to existing land values and also to existing WRE Bog Turtle Initiative enrollees, or risk losing the ability to protect new bog turtle habitat and provide needed habitat connectivity.

Ecological Importance

The Federally threatened bog turtle is dependent upon the preservation of its specialized habitat and of upland buffers around that habitat. Bog turtle habitat is described as "open-canopy, herbaceous sedge meadows and fens bordered by wooded areas" that "are a mosaic of micro-habitats that include dry pockets, saturated areas, and areas that are periodically flooded" and bog turtles "depend upon this diversity of micro-habitats for foraging, nesting, basking, hibernation and shelter" (Bog Turtle ((Clemmys muhlenbergii)) Northern Population Recovery Plan 12). According to the Bog Turtle Recovery Plan, "the continued existence of these habitat mosaics, as well as the ecological connections between these areas, is required to maintain bog turtle populations" (Bog Turtle ((Clemmys muhlenbergii)) Northern Population Recovery Plan 12). NRCS must continue to work with USFWS to enroll willing landowners of bog turtle habitat into permanent easements through the WRE program. Maintaining the GARC rates at competitive per acre values will ensure that landowners will choose easement enrollment over other options, such as selling or developing the property.

Protecting the State Endangered Massasauga Rattlesnake in Pennsylvania

In addition to being a federal candidate species for listing, the Eastern massasauga (rattlesnake) is also a state endangered species and is identified as a Species of Greatest Conservation Need in Pennsylvania's Wildlife Action Plan with the highest listing as a Species of Immediate Concern. The Pennsylvania Fish and Boat Commission (PFBC) and the Western Pennsylvania Conservancy (WPC) have identified and prioritized four areas where the Eastern massasauga still occurs in Pennsylvania for recovery: the Jennings, Glades, and Fenelton areas in Butler County; and the Tippery area in Venango County.

The GARC rate $5,000 cap impacts two counties (Butler and Venango Counties, Regions 1 and 2) within these prioritized areas in Pennsylvania. Through Farm Bill programs like WRE, NRCS has the opportunity to restore and permanently protect habitat for this imperiled wetland-dependent species.

Threat of Conversion/Encroachment and Loss of Habitat

The Eastern massasauga is a species that requires both wetlands and non-forested upland habitats, such as meadows and reverting agricultural fields, within close proximity. Historically, most Eastern massasauga sites in the targeted area were hayed or pastured. Many of these areas had some hydrology modification in the past (i.e., stone drains, shallow ditching, or tile lines), but trees have become dominant as cropping and/or livestock grazing decreased or ceased entirely. Trees can negatively impact Eastern massasauga habitat, changing hydrologic functions in the wetlands and increasing shade, making the habitat less suitable for long-term sustainability of Eastern massasauga populations.

Threat of Fragmentation/Loss of Connectivity

The need for Eastern massasauga protection in Pennsylvania is demonstrated by a rapid decline in species distribution. An inventory conducted 2003 - 2005 of 19 historic Eastern massasauga sites in Pennsylvania confirmed only four sites where this species is still found. Habitat loss and vegetative succession are the main reasons for the decline in species distribution. Of the four sites in Pennsylvania, two occur on private lands and two on a mix of public and private lands. Recovery efforts on private lands are vitally important for long-term species viability.

Ecological Importance

The change from open meadow to brush or trees reduces the suitable feeding areas for Eastern massasauga, who prey on insects and rodents. The increased evapo-transpiration of trees compared to the grazed herbaceous vegetation reduces hydrology in the wetlands every year when the trees leaf out in the spring. Trees also encourage the development of channelized flow from the spring seepages that occur on these wetlands, in contrast to the more dispersed flow when these sites were dominated by native herbaceous vegetation prominent in active pastures.

These hydrologic effects significantly reduce the permanent shallow groundwater flow required by the Eastern massasauga for hibernation. For the purpose of providing Eastern massasauga habitat, in the present condition these sites are hydrologically modified as much by plant succession to forest as by past intentional drainage activities (Pennsylvania Fact Sheet on the Eastern massasauga, website).

Conclusion

In order to provide landowners in counties within the Marcellus Gas Drilling Area, within the Massasauga Rattlesnake Initiative area, within the Chesapeake Bay Watershed, and counties within the Bog Turtle Recovery Unit/Initiative area a viable alternative for land management in the face of gas extraction and drilling pressure, land development pressure, rising land values and agricultural acreage loss, and in order to effectively protect habitat, prevent fragmentation, and prevent conversion to other uses, it is imperative that NRCS provide competitive per acre compensation for easements. PA NRCS waives the $5,000 cap for counties where land values exceed the cap for parcels located within the Chesapeake Bay Watershed and for parcels that are being considered for WRE under the PA bog turtle and massasauga rattlesnake initiatives.

NRCS must fairly compensate landowners willing to preserve these valuable wetland habitats. With the ability to offer landowners higher easement acquisition rates, NRCS can compete with private industry, development and population growth to target areas for habitat protection and land conservation as required by the Strategy for Protecting and Restoring the Chesapeake Bay Watershed, and as recommended by the Bog Turtle (Clemmys muhlenbergii) Northern Population Recovery Plan.

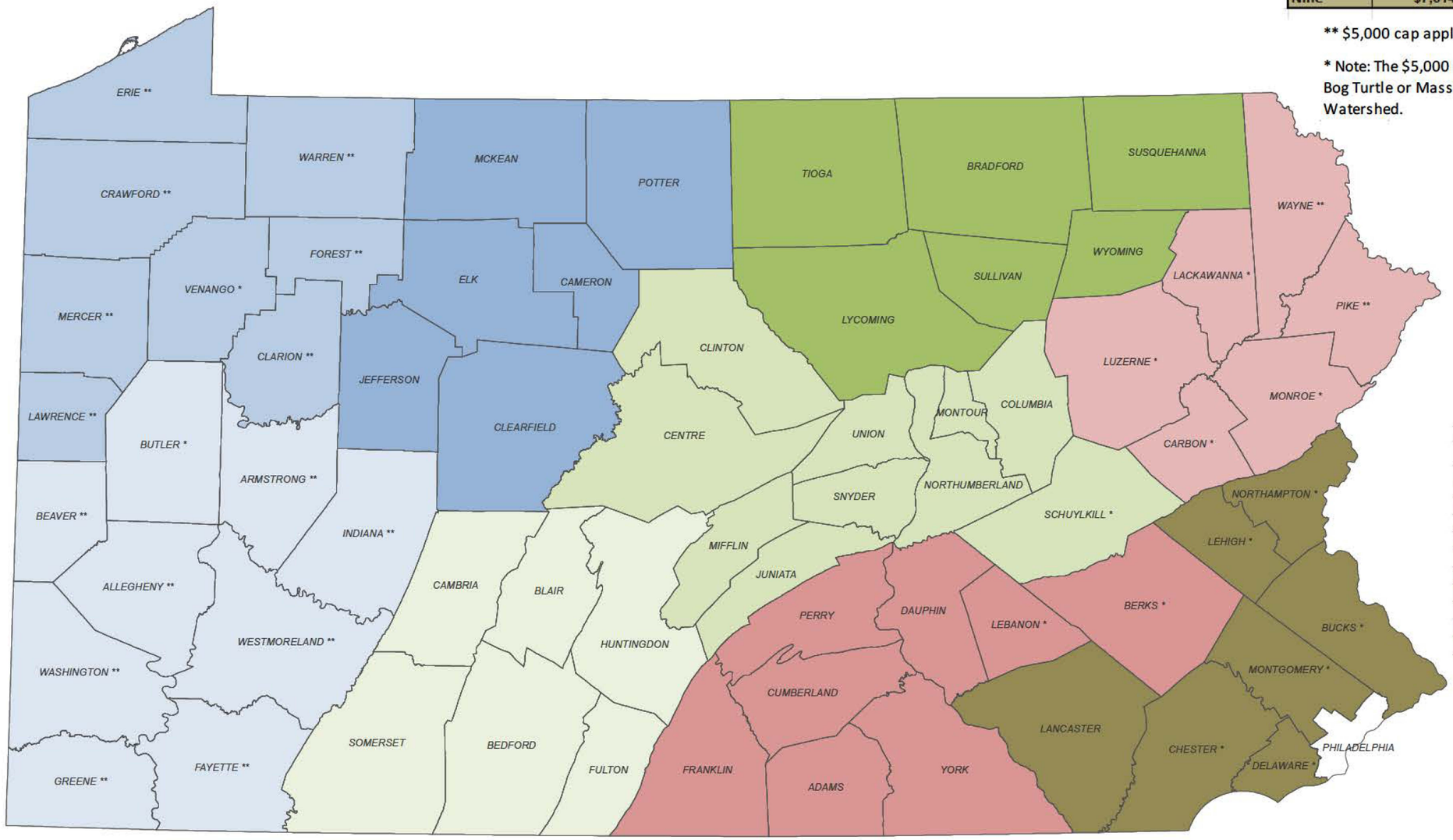
Geographic Area Rate Caps (GARC) for Wetland Reserve Easement Program (WRE) by Pennsylvania Region for FY 2020

Legend

PA Region	GARC			
	Cropland	Pasture	Forest	Upland
One	$4,313	$3,244	$2,166 (20-59ac) $1,900 (60-140ac)	$5,477
Two	$3,012	$2,057	$1,853	$5,296
Three	$2,565	$2,043	$1,772	$4,147
Four	$2,755	$1,924	$1,967	$5,273
Five	$4,707	$3,173	$2,242	$6,968 (20-39ac) $6365 (40-95ac)
Six	$3,401	$2,076	$2,000	$6,764
Seven	$4,551	$3,805	$2,978	$7,377
Eight	$5,748	$3,743	$2,921	$9,495
Nine	$7,814	$4,327	$3,943	$15,124

** $5,000 cap applied per WRE policy

* Note: The $5,000 cap applies to these counties for any parcel that is NOT in the Bog Turtle or Massasaga Initiatives and is NOT located within the Chesapeake Bay Watershed.



NTE Rate for Appraisals per Acre in Pennsylvania

PA Region	GARC
One	$5,477
Two	$5,296
Three	$4,147
Four	$5,273
Five	$6,968
Six	$6,764
Seven	$7,377
Eight	$9,495
Nine	$15,124

GARC Acreage Range for Regions by Land Type (parcel acreage outside of these ranges in each region will require an appraisal)

PA Region	Cropland Ac Range	Pasture Ac Range	Forest Ac Range	Upland Ac Range
One	20-150	25-90	20-59/60-140	20-105
Two	20-130	20-65	20-175	20-100
Three	20-60	20-60	20-200	20-90
Four	20-145	40-120	20-250	25-125
Five	35-100	15-55	20-150	20-39/40-95
Six	15-105	25-65	20-100	20-65
Seven	12-50	15-50	20-150	20-60
Eight	40-150	20-125	20-90	20-150
Nine	20-130	15-85	11-60	20-100

Section 14 - Works cited/References

AREA-WIDE MARKET ANALYSIS for the Commonwealth of Pennsylvania. April 16, 2020, Revised May 5, 2020, print.

"Chesapeake Bay Protection and Restoration. Final Rule." Federal Register Vol. 74 No. 93 (15 May 2009): 23099-23104. Print

Eastern Massasauga Fact Sheet (web): http://www.naturalheritage.state.pa.us/factsheets/11558.pdf)

Pennsylvania Fact Sheet on the Eastern massasauga (web): http://www.naturalheritage.state.pa.us/factsheets/11558.pdf

Pennsylvania Natural Heritage Program, Palustrine Community Descriptions (web): http://www.naturalheritage.state.pa.us/Wetlands.aspx

Pennsylvania Wetland Resources (web): https://www.fws.gov/wetlands/data/Water-Summary-Reports/National-Water-Summary-Wetland-Resources-Pennsylvania.pdf

Species Action Plan: Eastern Massasauga, PAFBC (web): https://www.fishandboat.com/Resource/Documents/species-plan-eastern-massasauga.pdf

The Effects of Converting Forest or Scrub Wetlands to Herbaceous Wetlands in Pennsylvania. Prepared for the Delaware Riverkeeper Network, Bristol, Pennsylvania (web): https://www.delawareriverkeeper.org/sites/default/files/Documents/Wetland%20Conversion%20Report.pdf

United States. Federal Leadership Committee for the Chesapeake Bay. Strategy for Protecting and Restoring the Chesapeake Bay Watershed. May 12, 2010. Print.

United States Fish and Wildlife Service. Bog Turtle (Clemmys muhlenbergii) Northern Population Recovery Plan. Hadley, Massachusetts, 2001. Print.

Wetland Habitat Management – A Guide for Landowners, Ducks Unlimited (web):
http://www.ducks.org/media/Conservation/GLARO/_documents/_library/_landowner/Landowner_Guide.pdf

Wildlife Damage Management Technical Series, Muskrats, U.S. Department of Agriculture (web):
https://www.aphis.usda.gov/wildlife_damage/reports/Wildlife%20Damage%20Management%20Technical%20Series/Muskrat-WDM-Technical-Series.pdf

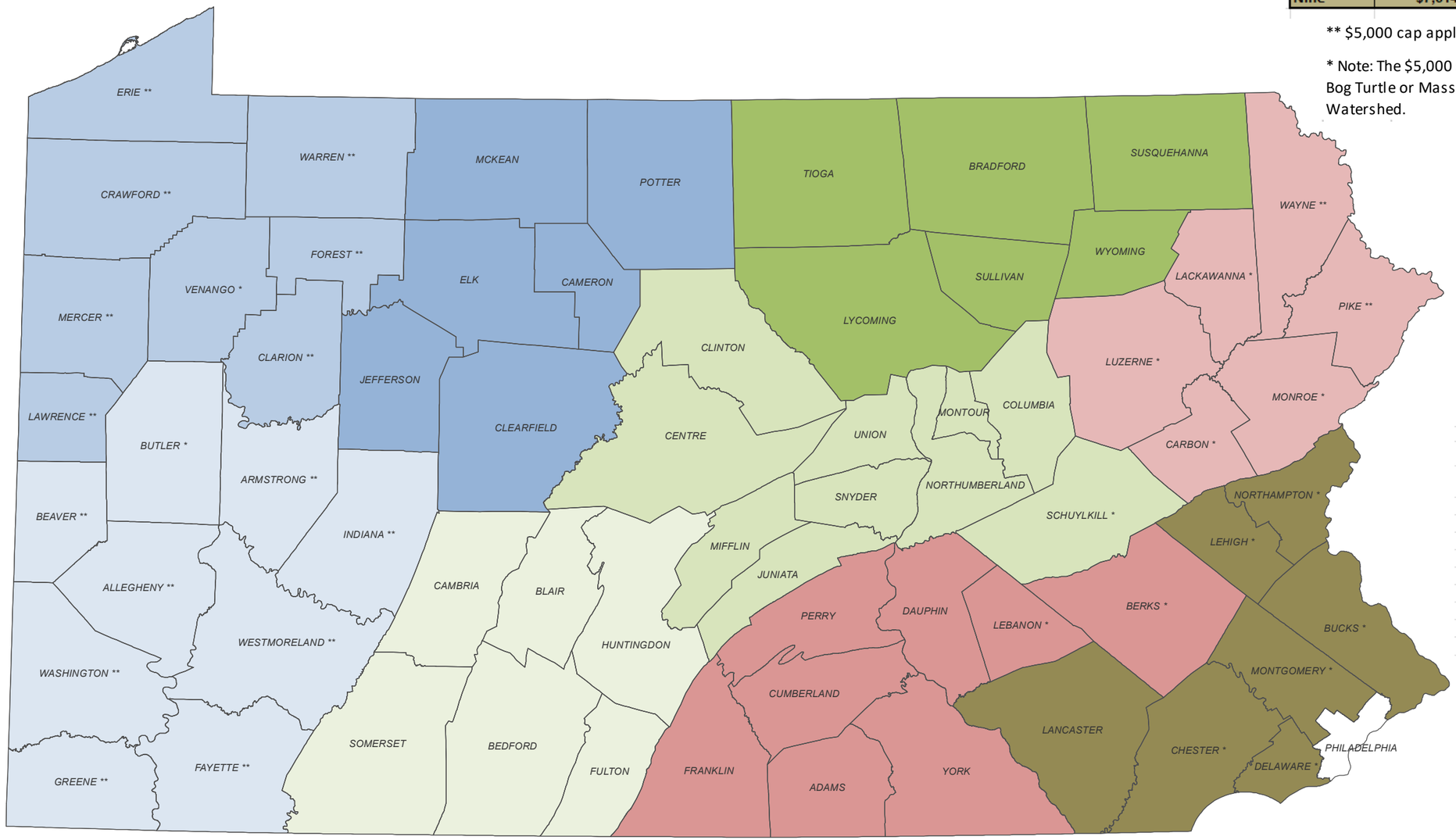
Geographic Area Rate Caps (GARC) for Wetland Reserve Easement Program (WRE) by Pennsylvania Region for FY 2020

Legend

PA Region	GARC			
	Cropland	Pasture	Forest	Upland
One	$4,313	$3,244	$2,166 (20-59ac) $1,900 (60-140ac)	$5,477
Two	$3,012	$2,057	$1,853	$5,296
Three	$2,565	$2,043	$1,772	$4,147
Four	$2,755	$1,924	$1,967	$5,273
Five	$4,707	$3,173	$2,242	$6,968 (20-39ac) $6365 (40-95ac)
Six	$3,401	$2,076	$2,000	$6,764
Seven	$4,551	$3,805	$2,978	$7,377
Eight	$5,748	$3,743	$2,921	$9,495
Nine	$7,814	$4,327	$3,943	$15,124

** $5,000 cap applied per WRE policy

* Note: The $5,000 cap applies to these counties for any parcel that is NOT in the Bog Turtle or Massasaga Initiatives and is NOT located within the Chesapeake Bay Watershed.



NTE Rate for Appraisals per Acre in Pennsylvania

PA Region	GARC
One	$5,477
Two	$5,296
Three	$4,147
Four	$5,273
Five	$6,968
Six	$6,764
Seven	$7,377
Eight	$9,495
Nine	$15,124

GARC Acreage Range for Regions by Land Type (parcel acreage outside of these ranges in each region will require an appraisal)

PA Region	Cropland Ac Range	Pasture Ac Range	Forest Ac Range	Upland Ac Range
One	20-150	25-90	20-59/60-140	20-105
Two	20-130	20-65	20-175	20-100
Three	20-60	20-60	20-200	20-90
Four	20-145	40-120	20-250	25-125
Five	35-100	15-55	20-150	20-39/40-95
Six	15-105	25-65	20-100	20-65
Seven	12-50	15-50	20-150	20-60
Eight	40-150	20-125	20-90	20-150
Nine	20-130	15-85	11-60	20-100

Pennsylvania NRCS ACEP-WRE GARC Rates FY 2020

Geographic Area By Region and County		Market Analysis	Market Analysis	Market Analysis	Market Analysis	GARC (95%)	GARC (95%)	GARC (95%)	GARC (95%)	
Region	County	Cropland $/ac	Pasture $/ac	Forest $/ac	Upland $/ac	Cropland $/ac	Pasture $/ac	Forest $/ac	Upland $/ac	
1	Allegheny	$4,540	$3,415	$2,280 (20-59 ac) $2,000 (60-140ac)	$5,765	$4,313	$3,244	$2,166 (20-59ac), $1,900 (60-140ac)	$5,000	**
1	Armstrong	$4,540	$3,415	$2,280 (20-59 ac) $2,000 (60-140ac)	$5,765	$4,313	$3,244	$2,166 (20-59ac), $1,900 (60-140ac)	$5,000	**
1	Beaver	$4,540	$3,415	$2,280 (20-59 ac) $2,000 (60-140ac)	$5,765	$4,313	$3,244	$2,166 (20-59ac), $1,900 (60-140ac)	$5,000	**
1	Butler	$4,540	$3,415	$2,280 (20-59 ac), $2,000 (60-140ac)	$5,765	$4,313	$3,244	$2,166 (20-59ac), $1,900 (60-140ac)	$5,477	*
1	Fayette	$4,540	$3,415	$2,280 (20-59 ac), $2,000 (60-140ac)	$5,765	$4,313	$3,244	$2,166 (20-59ac), $1,900 (60-140ac)	$5,000	**
1	Greene	$4,540	$3,415	$2,280 (20-59 ac), $2,000 (60-140ac)	$5,765	$4,313	$3,244	$2,166 (20-59ac), $1,900 (60-140ac)	$5,000	**
1	Indiana	$4,540	$3,415	$2,280 (20-59 ac), $2,000 (60-140ac)	$5,765	$4,313	$3,244	$2,166 (20-59ac), $1,900 (60-140ac)	$5,000	**
1	Washington	$4,540	$3,415	$2,280 (20-59 ac), $2,000 (60-140ac)	$5,765	$4,313	$3,244	$2,166 (20-59ac), $1,900 (60-140ac)	$5,000	**
1	Westmoreland	$4,540	$3,415	$2,280 (20-59 ac), $2,000 (60-140ac)	$5,765	$4,313	$3,244	$2,166 (20-59ac), $1,900 (60-140ac)	$5,000	**
2	Clarion	$3,170	$2,165	$1,950	$5,575	$3,012	$2,057	$1,853	$5,000	**
2	Crawford	$3,170	$2,165	$1,950	$5,575	$3,012	$2,057	$1,853	$5,000	**
2	Erie	$3,170	$2,165	$1,950	$5,575	$3,012	$2,057	$1,853	$5,000	**
2	Forest	$3,170	$2,165	$1,950	$5,575	$3,012	$2,057	$1,853	$5,000	**
2	Lawrence	$3,170	$2,165	$1,950	$5,575	$3,012	$2,057	$1,853	$5,000	**
2	Mercer	$3,170	$2,165	$1,950	$5,575	$3,012	$2,057	$1,853	$5,000	**
2	Venango	$3,170	$2,165	$1,950	$5,575	$3,012	$2,057	$1,853	$5,296	*
2	Warren	$3,170	$2,165	$1,950	$5,575	$3,012	$2,057	$1,853	$5,000	**
3	Cameron	$2,700	$2,150	$1,865	$4,365	$2,565	$2,043	$1,772	$4,147	
3	Clearfield	$2,700	$2,150	$1,865	$4,365	$2,565	$2,043	$1,772	$4,147	
3	Elk	$2,700	$2,150	$1,865	$4,365	$2,565	$2,043	$1,772	$4,147	
3	Jefferson	$2,700	$2,150	$1,865	$4,365	$2,565	$2,043	$1,772	$4,147	
3	McKean	$2,700	$2,150	$1,865	$4,365	$2,565	$2,043	$1,772	$4,147	
3	Potter	$2,700	$2,150	$1,865	$4,365	$2,565	$2,043	$1,772	$4,147	
4	Bedford	$2,900	$2,025	$2,070	$5,550	$2,755	$1,924	$1,967	$5,273	
4	Blair	$2,900	$2,025	$2,070	$5,550	$2,755	$1,924	$1,967	$5,273	
4	Cambria	$2,900	$2,025	$2,070	$5,550	$2,755	$1,924	$1,967	$5,273	
4	Fulton	$2,900	$2,025	$2,070	$5,550	$2,755	$1,924	$1,967	$5,273	
4	Huntingdon	$2,900	$2,025	$2,070	$5,550	$2,755	$1,924	$1,967	$5,273	
4	Somerset	$2,900	$2,025	$2,070	$5,550	$2,755	$1,924	$1,967	$5,273	
5	Centre	$4,955	$3,340	$2,360	$7,335 (20-39ac), $6,700 (40-95ac)	$4,707	$3,173	$2,242	$6,968 (20-39ac), $6365 (40-95ac)	
5	Clinton	$4,955	$3,340	$2,360	$7,335 (20-39ac), $6,700 (40-95ac)	$4,707	$3,173	$2,242	$6,968 (20-39ac), $6365 (40-95ac)	
5	Columbia	$4,955	$3,340	$2,360	$7,335 (20-39ac), $6,700 (40-95ac)	$4,707	$3,173	$2,242	$6,968 (20-39ac), $6365 (40-95ac)	
5	Juniata	$4,955	$3,340	$2,360	$7,335 (20-39ac), $6,700 (40-95ac)	$4,707	$3,173	$2,242	$6,968 (20-39ac), $6365 (40-95ac)	
5	Mifflin	$4,955	$3,340	$2,360	$7,335 (20-39ac), $6,700 (40-95ac)	$4,707	$3,173	$2,242	$6,968 (20-39ac), $6365 (40-95ac)	
5	Northumberland	$4,955	$3,340	$2,360	$7,335 (20-39ac), $6,700 (40-95ac)	$4,707	$3,173	$2,242	$6,968 (20-39ac), $6365 (40-95ac)	
5	Schuylkill	$4,955	$3,340	$2,360	$7,335 (20-39ac), $6,700 (40-95ac)	$4,707	$3,173	$2,242	$6,968 (20-39ac), $6365 (40-95ac)	*
5	Snyder	$4,955	$3,340	$2,360	$7,335 (20-39ac), $6,700 (40-95ac)	$4,707	$3,173	$2,242	$6,968 (20-39ac), $6365 (40-95ac)	
5	Union	$4,955	$3,340	$2,360	$7,335 (20-39ac), $6,700 (40-95ac)	$4,707	$3,173	$2,242	$6,968 (20-39ac), $6365 (40-95ac)	
5	Montour	$4,955	$3,340	$2,360	$7,335 (20-39ac), $6,700 (40-95ac)	$4,707	$3,173	$2,242	$6,968 (20-39ac), $6365 (40-95ac)	
6	Bradford	$3,580	$2,185	$2,105	$7,120	$3,401	$2,076	$2,000	$6,764	
6	Lycoming	$3,580	$2,185	$2,105	$7,120	$3,401	$2,076	$2,000	$6,764	
6	Sullivan	$3,580	$2,185	$2,105	$7,120	$3,401	$2,076	$2,000	$6,764	
6	Susquehanna	$3,580	$2,185	$2,105	$7,120	$3,401	$2,076	$2,000	$6,764	
6	Tioga	$3,580	$2,185	$2,105	$7,120	$3,401	$2,076	$2,000	$6,764	
6	Wyoming	$3,580	$2,185	$2,105	$7,120	$3,401	$2,076	$2,000	$6,764	
7	Carbon	$4,790	$4,005	$3,135	$7,765	$4,551	$3,805	$2,978	$7,377	*
7	Lackawanna	$4,790	$4,005	$3,135	$7,765	$4,551	$3,805	$2,978	$7,377	*
7	Luzerne	$4,790	$4,005	$3,135	$7,765	$4,551	$3,805	$2,978	$7,377	*
7	Monroe	$4,790	$4,005	$3,135	$7,765	$4,551	$3,805	$2,978	$7,377	*
7	Pike	$4,790	$4,005	$3,135	$7,765	$4,551	$3,805	$2,978	$5,000	**
7	Wayne	$4,790	$4,005	$3,135	$7,765	$4,551	$3,805	$2,978	$5,000	**
8	Adams	$6,050	$3,940	$3,075	$9,995	$5,748	$3,743	$2,921	$9,495	
8	Berks	$6,050	$3,940	$3,075	$9,995	$5,748	$3,743	$2,921	$9,495	*
8	Cumberland	$6,050	$3,940	$3,075	$9,995	$5,748	$3,743	$2,921	$9,495	
8	Dauphin	$6,050	$3,940	$3,075	$9,995	$5,748	$3,743	$2,921	$9,495	
8	Franklin	$6,050	$3,940	$3,075	$9,995	$5,748	$3,743	$2,921	$9,495	
8	Lebanon	$6,050	$3,940	$3,075	$9,995	$5,748	$3,743	$2,921	$9,495	*
8	Perry	$6,050	$3,940	$3,075	$9,995	$5,748	$3,743	$2,921	$9,495	
8	York	$6,050	$3,940	$3,075	$9,995	$5,748	$3,743	$2,921	$9,495	
9	Lancaster	$8,225	$4,555	$4,150	$15,920	$7,814	$4,327	$3,943	$15,124	
9	Bucks	$8,225	$4,555	$4,150	$15,920	$7,814	$4,327	$3,943	$15,124	*
9	Chester	$8,225	$4,555	$4,150	$15,920	$7,814	$4,327	$3,943	$15,124	*
9	Delaware	$8,225	$4,555	$4,150	$15,920	$7,814	$4,327	$3,943	$5,000	**
9	Lehigh	$8,225	$4,555	$4,150	$15,920	$7,814	$4,327	$3,943	$15,124	*
9	Montgomery	$8,225	$4,555	$4,150	$15,920	$7,814	$4,327	$3,943	$15,124	*
9	Northampton	$8,225	$4,555	$4,150	$15,920	$7,814	$4,327	$3,943	$15,124	*

** NOTE: The $5,000 cap applies to these counties for any parcel that is NOT in the Bog Turtle or Massasauga Initiatives and is NOT located within the Chesapeake Bay Watershed*

***$5,000 cap applied per WRE policy*

Susan Marquart, NRCS Assistant State Conservationist for Partnerships, continued and provided an update on RCPP (Regional Conservation Partnership Program). She announced the 2019 RCPP Classic Awards: the Kittatinny Ridge Conservation Landscape. The Lead Partner is the PA Dept of Agriculture. The funding amount is $9,928,571 with partnership contributions amounting to $38,982,500 from the Critical Conservation Areas (CCAs) Funding Pool for the Chesapeake Watershed. The Ag BMP Implementation in the Chesapeake Bay. The Lead Partner is the Berks County Conservation District. The funding amount is $2,232,143 with partnership contributions amounting to $2,294,875 from the Critical Conservation Areas funding pool. The Buffalo Creek Watershed Conservation Alliance. The lead partner is the Audubon Society of Western Pennsylvania. The funding amount is $1,169,618 with partnership contributions amount to $1,163,815 from the State/Multi State funding Pool. She went on to describe the new events happening with RCPP. She indicated that: NRCS is currently developing agreements with the Lead Partners for the new RCPP Classic Projects; NRCS National Office is reviewing the 2020 AFA (Alternative Funding Arrangement) applications; and that the next round for RCPP Classic applications is expected to be announced soon.

United States Department of Agriculture

Agricultural Conservation Easements Program (ACEP)

PA State Technical Committee
July 22, 2020

Natural Resources Conservation Service

nrcs.usda.gov/

Easement Deadlines

- The deadline for ACEP-ALE and ACEP-WRE applications for FY 2020 was June 1, 2020.
- PA NRCS accepts ACEP ALE and WRE applications year-round and will accept applications for next year's enrollment cycle at any time.
- Now is an excellent time to outreach to new applicants and conduct reviews of land and landowners for basic program eligibility in preparation for FY 2021.

Geographic Area Rate Caps (GARC)

- Due to inconsistencies with per acre land values determined for the Area Wide Market Analysis, the GARC values were revised for FY 2020.
- GARC values are used to determine the land value for WRE easement acres by region and land use.
- The revised GARCs were approved by the NRCS National Appraiser on 06/03/2020 and can now be used for easement values for FY 2020 WRE applicants

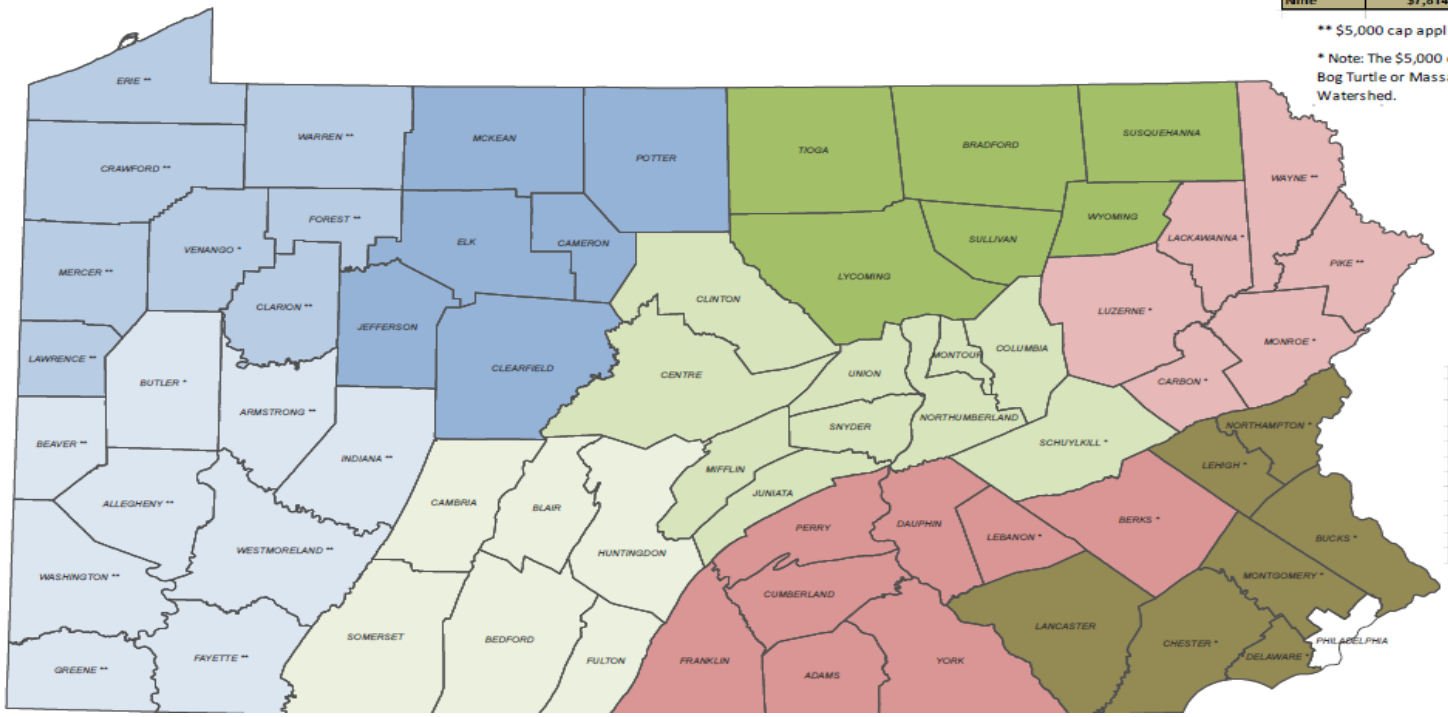
Geographic Area Rate Caps (GARC) for Wetland Reserve Easement Program (WRE) by Pennsylvania Region for FY 2020

Legend

PA Region	GARC			
	Cropland	Pasture	Forest	Upland
One	$4,313	$3,244	$2,166 (20-59ac) $1,900 (60-140ac)	$5,477
Two	$3,012	$2,057	$1,853	$5,296
Three	$2,565	$2,043	$1,772	$4,147
Four	$2,755	$1,924	$1,967	$5,273
Five	$4,707	$3,173	$2,242	$6,968 (20-39ac) $6365 (40-95ac)
Six	$3,401	$2,076	$2,000	$6,764
Seven	$4,551	$3,805	$2,978	$7,377
Eight	$5,748	$3,743	$2,921	$9,495
Nine	$7,814	$4,327	$3,943	$15,124

** $5,000 cap applied per WRE policy

* Note: The $5,000 cap applies to these counties for any parcel that is NOT in the Bog Turtle or Massasaga Initiatives and is NOT located within the Chesapeake Bay Watershed.



NTE Rate for Appraisals per Acre in Pennsylvania

PA Region	GARC
One	$5,477
Two	$5,296
Three	$4,147
Four	$5,273
Five	$6,968
Six	$6,764
Seven	$7,377
Eight	$9,495
Nine	$15,124

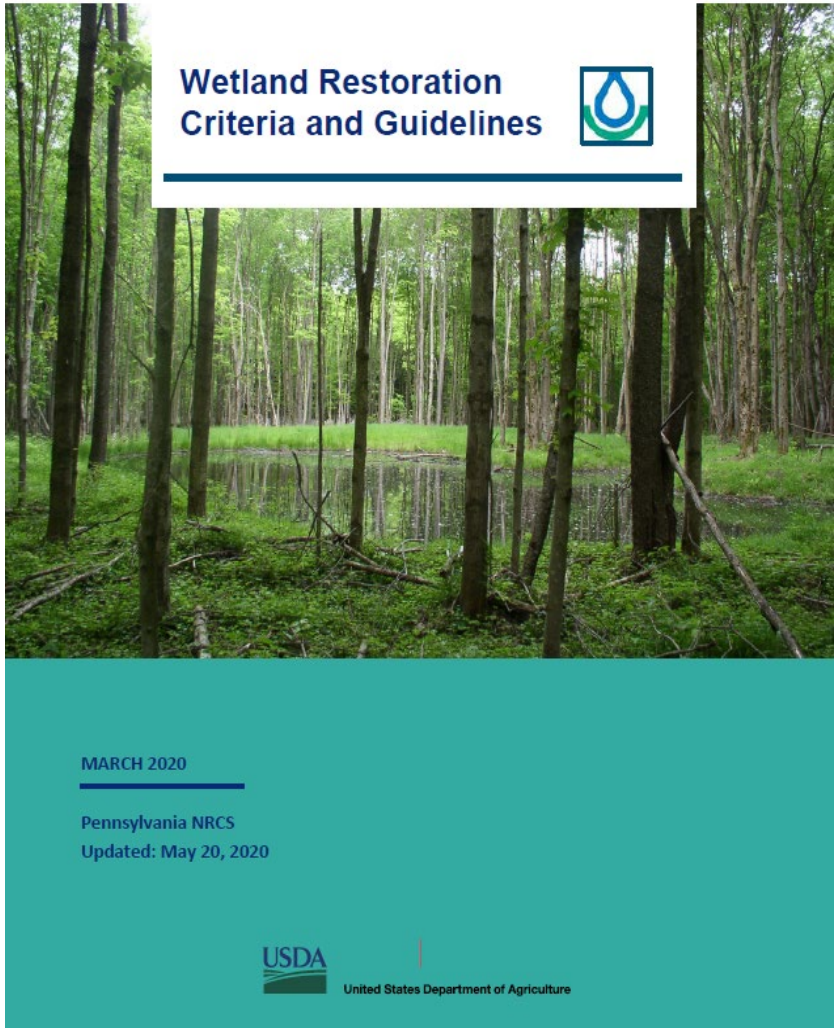
GARC Acreage Range for Regions by Land Type (parcel acreage outside of these ranges in each region will require an appraisal)

PA Region	Cropland Ac Range	Pasture Ac Range	Forest Ac Range	Upland Ac Range
One	20-150	25-90	20-59/60-140	20-105
Two	20-130	20-65	20-175	20-100
Three	20-60	20-60	20-200	20-90
Four	20-145	40-120	20-250	25-125
Five	35-100	15-55	20-150	20-39/40-95
Six	15-105	25-65	20-100	20-65
Seven	12-50	15-50	20-150	20-60
Eight	40-150	20-125	20-90	20-150
Nine	20-130	15-85	11-60	20-100

Natural Resources Conservation Service

nrcs.usda.gov/

Wetland Restoration Criteria and Guidelines



Natural Resources Conservation Service

nrcs.usda.gov/

Wetland Restoration Criteria and Guidelines (WRCG)

- The WRCG documents the technical criteria specific to Pennsylvania that is used manage the WRE program.
- It includes information on alternative wetland communities, eligibility criteria specific to PA, wetland restoration practice types, compatible uses, easement management, and violations.
- The WRCG is a 'living' document that will to be updated over time as the WRE program evolves in Pennsylvania.

Wetland Restoration Criteria and Guidelines (WRCG)

Please send comments on the WRCG to Hathaway Jones

Hathaway.Jones@usda.gov

by 08/21/2020.

Healthy Forest Reserve Program (HFRP)

- **NRCS is re-vamping the HFRP program.**
- **The new HFRP will not be limited to the Indiana Bat in PA, but could include other species listed in the State Wildlife Action Plan.**

Healthy Forest Reserve Program (HFRP)

- Information is forthcoming from the NRCS National Office that will provide guidance for states to begin HFRP programs.
- PA NRCS is establishing a Subcommittee of the State Technical Committee members to provide input on the development of the revised HFRP.

Healthy Forest Reserve Program (HFRP)

- **The Subcommittee members will assist PA NRCS by providing input on:**
  - **Species and geographic areas to target through the new PA HFRP program;**
  - **Ranking;**
  - **Outreach for new HFRP applicants; and**
  - **Restoration of T&E Species habitat on new HFRP easements.**

Healthy Forest Reserve Program (HFRP)

If you are interested in participating in the HFRP Subcommittee please contact Hathaway Jones at

717-237-2210 or

Hathaway.Jones@usda.gov

by 08/21/2020.

Questions on the easement programs?

United States Department of Agriculture

Regional Conservation Partnership Program (RCPP)

PA State Technical Committee
July 22, 2020

Natural Resources Conservation Service

nrcs.usda.gov/

2019 RCPP Classic Awards

Pennsylvania was awarded three projects:

1. **Kittatinny Ridge Conservation Landscape**
2. **Ag BMP Implementation in the Chesapeake Bay**
3. **Buffalo Creek Watershed Conservation Alliance**

2019 RCPP Classic

1. Kittatinny Ridge Conservation Landscape

Lead Partner: Pennsylvania Department of Agriculture

Lead Partner Contact: Stephanie Zimmerman

Lead State: PA **Other States**: N/A

Funding Amount: $ 9,928,571

Partner Contributions: $ 38,982,500

Funding Pool: Critical Conservation Areas (CCAs)

Critical Conservation Area (if applicable): Chesapeake Bay Watershed

Focus: Entity-held Easements

2019 RCPP Classic

2. Ag BMP Implementation in the Chesapeake Bay

Lead Partner: Berks County Conservation District

Lead Partner: Contact: Kent Himelright

Lead State: PA **Other States:** N/A

Funding Amount: $ 2,232,143

Partner Contributions: $ 2,294,875

Funding Pool: Critical Conservation Areas (CCAs)

Critical Conservation Area (if applicable): Chesapeake Bay Watershed

Focus: Land Management

2019 RCPP Classic

3. Buffalo Creek Watershed Conservation Alliance

Lead Partner: Audubon Society of Western Pennsylvania

Lead Partner Contact: Sara Koenig

Lead State: PA **Other States**: N/A

Funding Amount: $ 1,169,618

Partner Contributions: $ 1,163,815

Funding Pool: State/Multi State

Critical Conservation Area (if applicable): N/A

Focus: Entity Held Easements and Land Management

RCPP

What's happening with RCPP?

- NRCS is currently developing agreements with the Lead Partners for the new RCPP Classic projects.
- NRCS National Office is reviewing the 2020 AFA applications.
- Next round for RCPP Classic applications is expected to be announced soon.

PA NRCS RCPP Coordinator

Susan Marquart
Assistant State Conservationist for Partnerships

Susan.Marquart@USDA.gov
717-237-2237

Pennsylvania Funded FY 2019 RCPP Classic Projects

1. Kittatinny Ridge Conservation Landscape

Lead Partner: Pennsylvania Department of Agriculture

Lead Partner Contact: Stephanie Zimmerman

Lead State: PA

Other States: N/A

Funding Amount: $ 9,928,571

Partner Contributions: $ 38,982,500

Funding Pool: Critical Conservation Areas (CCAs)

Critical Conservation Area (if applicable): Chesapeake Bay Watershed

Summary: The Pennsylvainia Department of Agriculture will target the long term protection of farmland and deciduous forests in the Kittatinny Ridge corridor of the Chesapeake Bay Watershed. Farm and forest land preservation investments in this region ensure food security for a growing population, support Pennsylvania's robust agricultural economy, and protect wildlife habitat in a region home to threatened and endangered species.

2. Ag BMP Implementation in the Chesapeake Bay

Lead Partner: Berks County Conservation District

Lead Partner Contact: Kent Himelright

Lead State: PA

Other States: N/A

Funding Amount: $ 2,232,143

Partner Contributions: $ 2,294,875

Funding Pool: Critical Conservation Areas (CCAs)

Critical Conservation Area (if applicable): Chesapeake Bay Watershed

Summary: The Berks County Conservation District will implement Comprehensive Nutrient Management Plans (CNMP) and establish near stream conservation practices such as riparian buffers, filter strips, and animal exclusion fencing on operations in the Chesapeake Bay

watershed. The partners intend to model the project's water quality improvements and report on nutrient and sediment load reductions generated by conservation implementation by producers.

3. Buffalo Creek Watershed Conservation Alliance

Lead Partner: Audubon Society of Western Pennsylvania

Lead Partner Contact: Sara Koenig

Lead State: PA

Other States: N/A

Funding Amount: $ 1,169,618

Partner Contributions: $ 1,163,815

Funding Pool: State/Multi State

Critical Conservation Area (if applicable): N/A

Summary: The Audubon Society of Western Pennsylvania, supported by several local partners, plans to carry out conservation planning, implement conservation practices, and purchase easements to support the long-term goal of delisting Buffalo Creek, currently designated as an impaired water body. The watershed is designated as an Important Bird Area and is home to several threatened wildlife species including Eastern hellbender and Indiana bat.

Denise Coleman, State Conservationist stated that Barry Frantz had mentioned during his segment, about the Subcommittee for adjusted gross income. She indicated that she would like to have it ready for operation by the beginning of the new Fiscal Year 2021. If you are interested in participating, please let she or Barry know. She reminded all that the next State Technical Committee will be held on October 22, 2020. The Meeting was then closed.

Pennsylvania State Technical Committee Meeting

July 22, 2020

The Pennsylvania State Technical Committee Meeting was held by WebEx Internet Conferencing on Wednesday, the 22nd of July 2020. It was noted that copies of the presentations being made can be found on the PA NRCS public website.

Denise Coleman (NRCS) (Natural Resources Conservation Service) opened the meeting at 1 PM. and thanked all who were joining by WebEx and those joining by the Toll-Free Number.

00/01/36 - Pete Vanderstappen (NRCS) State Engineer was introduced and proceeded to provide an Engineering update. (See attached hand-out). He started his presentation with an update on the NRCS Dam Rehabilitation Program, in particular, the Hibernia Dam Rehab project. He shared some pictures of related activities and explained the progress. He explained that we are digging a trench to establish a concrete wall so that the emergency spillway will not wash out. The Hibernia project is in Chester County in Southeast Pennsylvania. He stated that the Brandywine PA-433 project design has been submitted to DEP for review and the plan is to bid it out this fall; Neshaminy PA-620, the design is in process; Thatcher Run PA-112 – the design is completed and ready for bidding once the sponsor gets funding. Plan was to bid it out early spring of 2020; the Green-Dreher PA-439 design is 90% done; the Mill Creek PA-454 design is in its initial stages; March Creek PA-602 design is underway; and Lackawaxen Tributaries, multiple sites, the planning is underway. He indicated that we are in the process of contracting ten (10) more assessments for this year. We are working on PL 566 Land Treatment Watershed projects and we have four of those approved for 2020. We have Chiques Creek land treatment in Lancaster County. The district is in process of getting business plan for that particular project. The next one is a Spend Mushroom Composting Land Treatment in Chester County.

They have a contractor selected, now they're negotiating the final price to do actual work. We have a Jacobs Creek Flood Control project in Westmoreland County where we are finalizing price proposal and going to award stage for the planning phase. The contractor is picked we are negotiating the final price and getting ready to award that one. Martins Creek Flood Control in Wyoming County, we are negotiating and finalizing the proposal for bid. We have a contractor selected and getting ready to release it to the planning phase. Conservation Practice Implementation, although the Field Offices have been operating on a limited basis, the Field Office Staff have been going out to the field, observing social distancing, etc. to ensure that implementation of conservation practices were continuing. Under Emergency Watershed Protection (EWP), the 2018 EWP status, 93 sites have been awarded cost-share, we have 28 sponsors, all the work has been completed and now we are doing the final paperwork and closeout activity. NRCS has obligated 75% and DEP is covering the remaining 25% or $1.3 Million. Boot Camp I and II updates: NRCS WebEx Boot Camp is now a model for a NE Regional Boot Camp. Boot Camp I and II field portions are currently being rescheduled for this fall. It should be noted that several other trainings such as Cultural Resources and ACA training are also in the works. FOTG (Field Office Technical Guide) Update: Section IV of the Pennsylvania FOTG has transitioned to a cloud based system. NRCS National Level is finalizing the comments and will be releasing updated Practice Standards within the next few months. Also a complete review of Practice Standards nationwide has been mandated by the 2018 Farm Bill. They have been actively pursuing that process for the last year and a half, and I think we're in the final stages of public comments and supposedly within the next month or two they are going to start updating some of our Practice Standards, and once that happens Pennsylvania will have to readapt and move forward with the new standards.

00/14/04 – <u>Jared Shippey, NRCS</u> Acting State Resource Conservationist was introduced and presented updates on Ecological Sciences. Jared said that he had reached out to Mark Goodson (NRCS State Agronomist) and Susan Parry

(NRCS Grassland Conservationist) to get their input on updates. There have been two Technical Guide documents that have been updated since our last Technical Committee Meeting in April 2020. One being the Pasture Planning Tool and the Nutrient Calculator Spreadsheet. The Nutrient Calculator Spreadsheet was updated to correct an error related to the Nitrogen availability when planning multiple pasture alternatives. Also we updated the NRCS CPA-52, which is the Environmental Evaluation Worksheet with some current NIPA documentation. We added the programmatic references for our Regional Conservation Partnership Program (RCPP). There have been some revisions for a resource concern Fact Sheets and also updated the CPPPE values (Conservation Practical Practice Physical Effect) on that worksheet. As far as Practice Standards being updated, there two draft new standards that will be distributed to the State Technical Committee for review and comment later this month. Once those are distributed, there will be a three week turnaround for comments. I know one of them is our 590 Standard and that Mark Goodson sent that out to the partners asking for comments on it, and there is only one minor change to that one. Basically we are looking for soil test that are going to be two years back verses three years of what it was. It is compatible with PA's Act 38, also with DPA's requirements and it was reviewed. As I said, Mark sent it out and it was reviewed by DPA, Penn State's PDA, and State Conservation Commission for technical content. For the 595, our Integrated Pest Management Standard, we discussed that one and we're not going to deviate much from the National Standard right now. Pennsylvania's state standard is pretty much right on with what National is doing and we're looking to try to get this more into conservation plans in the future. Pennsylvania is trying to implement it more throughout some of our programs. So we're not going to add much more to that from what the National one is now. He was asked to clarify what the 595 Standard is. He replied that basically through 595 Integrated Pest Management, we're looking for either some type of Pest Management Plan that is developed by one of the partners to be. We have some vineyards up in the Northwestern part of the state that we've utilized Extension. There are some partners on the TSP

list that can write the IPM Plan. Also we're looking for some type of documentation. I believe there is another exam that somebody can take as far as being certified to write 595 Plans, basically documenting what the current status is, what folks are using as far as their herbicide applications.

00/18/015 - Yuri Plowden (NRCS), PA State Soil Scientist was introduced and provided a PA Soil Survey Update. (See attached hand-out) She started off her presentation stating that PA Soils date is managed by seven (7) different soil Support offices, only one of which is located at Mill Hall, Pennsylvania. We have offices in Marietta, OH; Belmont, NY; Frederick, MD; Hammonton, NJ; and Tolland, CT, and they are responsible for full of data. They look at the world through major land resources areas as indicated by colored shapes on the map in my handout. Those major land resource areas correspond to basically physiographic provinces areas if similar geology climate ecology. Pennsylvania has eleven (11) Major Land Resource Areas (MLRAs). There are several locations in Pennsylvania where soil survey is currently actively taking place or has been recently completed. These areas include: Southeast Delaware County; Northern Potter County; and Central Western Allegheny plateau. She proceeded to note the active worksites in Pennsylvania and the various stages of their progress. She discussed Urban Land Units, indicating that NRCS Standards consider urban land as anything greater than 85% impervious cover, so that's where we are going to have to change mapping it to encompass housing developments. This will allow the full survey to more accurately reflect current land use, include data on it and it will be a better product for users. Continuing, she provided an update of areas mined since the last publication. Approximately 27,000 acres have been mined since the most recent mapping updates. Outdated maps showing "natural" soils will be updated to show these mined areas. The updating will improve usefulness of soil survey for NRCS programs, Farmland Protection Policy Act, land use planning, taxation, etc. She then discussed Alluvial Fan Landforms Glaciated Allegheny Plateau – MLRA 140. This involves investigation of alluvial fan landforms in the glaciated section of Potter County, Pa. The 1958 soil survey

did not identify these landforms. She noted that alluvial landforms can be subject to flooding and have higher watertables than adjacent glacial outwash terraces. Delineating alluvial fans will improve consistency with adjacent New York counties and improve interpretations. She discussed the changes being made to the Potter County soils legend. She stated that a continuous evaluation of existing date for MLRA 147 is ongoing in areas of Buchanan, Hazleton, Berks and Weikert.

00/31/35 - Barry Frantz (NRCS), Assistant State Conservationist for Programs was introduced and provided updates. (See attached hand-out) Barry indicated that he was going to have Ashley Lenig (NRCS), PA State CSP (Conservation Stewardship Program) Manager and Zenik Crespo (NRCS), acting PA EQIP Program Analyst provide updates for their respective areas.

00/32/14 - Zenik Crespo was introduced and presented an update on AMA (Agricultural Management Assistance program), EQIP (Environmental Quality Incentives Program) and RCPP (Regional Conservational Partnership Program) funding. Zenik indicated that she would speak briefly on AMA, EQIP and RCPP funding. She indicated that we are using a new conservation Assessment Blanking Tool. This tool is used to assess each farm track and field by identifying the current conditions based on National and State resource concerns. Also that we are adding conservation practices to address those research concerns as we did before with ProTracts. Once the assessment is done in this tool, then we move forward to ranking. Even though we are using a different tool, this ranking this year will follow similar to prior year questions and points as well. Also as in prior years, the selection process is based on available funding priority and ranking points. This year the allocation is for the Southeast. Every year we rotate this funding to the three areas (West, Northeast, and Southeast). So for the Southeast we have about $360 thousand allocated between Cropland Irrigation and the High Tunnel system. That means that the application has been selected for funding. About 90% of that funding in cropland irrigation and also we have allocated

100% for the High Tunnels as well for RCPP we have two projects that we have allocated about 37% of the funding for the Chesapeake Bay Water Quality and about 86% for the PA Preserved Farms. In EQIP, which is our major program, we have an allocation for about $22.6 million. We have approved or selected for funding of about 86% of those. As in prior years in EQIP, we have divided that money between all the time codes the same as we did in prior years and the ranking pools. Due to the changes in the system tools, we are running a bit behind, but Field Offices are working very diligently to deliver the program to our customers in a very timely manner.

00/34/57 - Barry Frantz (NRCS) commented on one item in the PA 220 EQIP Fund Pools, that of COVID-19 Mortality Assistance. With some of the processing plants being closed due to COVID-19, some producers were not able to send poultry or livestock to them. This has been a national issue, so we set this up as a contingency. Some producers had to send their animals off to a renderer or a landfill early before they could apply for EQIP funding. We were not able to go and ask if they had done this, and assist in helping pay for those emergency costs. We still have this money available. It is ment for producers who essentially lost their market and had to do something different with their livestock than what they usually do such as they have to send them to a renderer or landfill, and there are composting procedures also available for use. We are hoping that we don't have to use this money as is everyone else, but at least for the time being we have that contingency. He went on to discus the various PA 2020 EQIP Fund Pools, indicating that we have been using for the last several years. These Fund Pools seem to meet the needs out there, but that we are still looking at some new ones for next year. Some of which are from the Farm Bill and some are state initiatives. Some of them are coming from the National level, one of which is a variation of the contract option that's in the Farm Bill is the rule for equipped conservation incentive contracts that have not been rolled out yet nationally. Essentially that would be similar to practices to what we already have, but some that might have a significant maintenance expenditure

and we might be able to have extra funding to help producers with some of the routine operation and maintenance costs of those. We are expecting additional information concerning Soil Health testing. He indicated that we are looking at soil health testing and some of the biological activity and that National has brought up a Conservation Activity Plan for soil health. That it is being discussed with some partners to determine the technical detail problems and how to get them ironed out. In order to do so, consultants would have to gear up and be trained on how to do just that. There are several current activities that we have to be working on with training consultants and outreach to farmers working with testing labs that would be doing the soil health testing so we can bring this all together at the same time. He stated that we have a good number of wildlife habitat options right now between ACEP (Agricultural Conservation Easement Program) with Bog Turtle Habitat, Golden Winged Warbler, some of the forestry activities will support wildlife habitat. We don't have a species neutral fund option in EQIP right now. We have been having some internal discussion on is there a need for some way to support things like pollinator habitats of critical pollinator species, some of the declining bee species is an example. So we don't have that out there yet, but are just looking into it. We would appreciate input that the partners have concerning habitat or target species. What we don't want is just to have a general place where people want to do just a half acre of. Barry spoke briefly about Source Water Protection (SWP). He indicated that there had been some internal discussion. He indicated that the following points are being considered as priority areas to encourage the protection of drinking water sources: Identify local priority areas for drinking water protection in each state in collaboration with State Technical Committees and community water systems; Provide increased incentives for practices that relate to water quality and quantity and protect drinking water sources while also benefitting producers; Dedicate at least 10 percent of funds available for conservation programs (with the exception of CRP), each year beginning in FY 2019 through FY 2023, to be used for source water protection. He noted that two approved SWP projects are Swatara Creek, which is mainly in

Lebanon County that continues into Dauphin County as well. The other is the Maiden Creek Watershed project which is in Berks County. He discussed the dedication of 10% Funds. EPA (Environmental Protection Agency) has identified where some of these funded areas are. Information regarding some of these areas is very confidential in regards to National Security, and some of these source water areas are not for public dissemination, so we don't have maps of where these are ourselves, but we have a general idea from some of our maps showing in general where the source border areas are. So we're going to be working with DEP to try to target where we will put those high priority practices and hopefully we will get a good overlap of where these are that EPA has identified that will count for the 10%. He said that if there are any questions, to give Ashley Lenig (NRCS) or he a call to discuss them. A question was presented concerning where Nitrifying Bioreactors may be used. Barry answered by saying that he would do so at a Micro level and a Macro level. S at a Micro level, on a farm these are generally at the end of a drainage area or a drainage tile. So on a farm you generally are not going to put those in a grass waterway as it would overflow, but it's something that would take of generally a pipe outlet flow or underground outlet tile, that you can actually contain, run it through one of these surface flows that are overwhelming. So if you have got a soil test and it shows that there is really not an overload of nutrients and they're following a good nutrient plan, you may not have a need for this type of operation. So there could be multiple tools that you could use on a small watershed basis where those might be beneficial. Again, areas where this high nutrient level where they're going through maybe groundwater flow that's being collected. A second question concerning what if the EPA database is in error. Barry answered by saying that in his opinion that all these databases are the best available technology. Because we're looking for 10% of the funds in a large area, we assume it's not going to be perfect and we're using rough number like rough dollars spent for conservation practices in generally defined areas. So He doesn't think we expect to be that perfect and that he doesn't think it matters that it's perfect for this level. We have different targeting

methods to put money where there is a need and then the other part is that we actually do have some controls, outreach to farmers and areas where we think there are problems. So that's something we'd like to work with partners to get farmers interested in doing some of these projects if we think there are places we should prioritize for that. He went on to note that concerning Conservation Innovation Grants (CIG), there are currently four applications for FY 2020. One Forestry related and three soil health related that are in final negotiation, for a total request of $222,000. The FY 2020 National On-Farm Trials and the FY2020 National CIG options are to be determined.

00-47-53 - <u>Ashley Lenig</u> (NRCS), Conservation Program Manager was introduced and presented an update on CSP Funding, Applications and Contracts. She started off noting that the slogan for CSP (Conservation Stewardship Program) is "I reward the best and motivate the rest". That being said, she stated that we are looking for good stewards of the land that are willing to make additional enhancements on the landscape. The program also wants to highlight soil health and systems approach on agriculture landscapes. She indicated that there are 22 CSP renewal contracts with obligations of $1.6 million dollars on 10,450 acres this year. These were renewals of existing contracts that were actually the first program contracting that we did through our new systems of Conservation Desktop (CD) and Conservation Assessment and Ranking Tool (CART). The use of these new tools changed the way we had been doing things. We are currently working on our CSP Classic and have 469 applications. We have a lot of duplicates and not all of them are eligible and some have been deferred and/or cancelled. As of right now, we have 110 of those pre-approved so far and will be adding more with additional monies that are being received. We are working on building these plans and contracts, making agreement items and creating the maps. We expect to fund at least $3.9 million dollars for applications. People have decided not to proceed on some things, so we have been juggling money around to put it to good use. She proceeded to explain Pennsylvania Fund Pools for FY2020 CSP Geographic Areas for Ag Land and

NIPF (Non-Industrial Private Forestland). Pennsylvania fund pools for Ag Land is divided up into 8 geographical areas which helps to spread our funds and resources around the state. We have statewide Organic which includes anyone in the state that is doing Organic. We also have historically underserved groups of beginning farmers within these geographic areas. NIPF is divided into 4 geographic areas, similar to the Ag Land fund pools. These areas are for Forestry Funds and also for socially disadvantaged and beginning farmer categories.

00/51/37 – Barry Frantz continued and discussed an overview of Adjusted Gross Income (AGI). He indicated that since 2002, there's been a requirement that participants, in most of the conservation programs that NRCS administers, must meet an adjusted gross income. This means that they make more that a set limit, and they are not eligible for participation. The 2014 Farm Bill sets this limit as $900,000 which is a three-year rolling average. There is a waiver option for people in the RCP programs and the 2018 Farm Bill has expanded this waiver so that it could be considered for other programs such as EQIP, CSP and ACEP. There are two AGI waiver types, the AGI Limitation Waiver for ACEP, AMA, CIG, CSP, EQIP and RCPP contracts without an RCPP AGI Applicability Waiver; the AGI Applicability Waiver for RCPP Partnership Agreements and EQIP projects with Water Management Entities. The AGI Limitation Waiver may be waived on a case-by-case basis if NRCS determines that environmentally sensitive land of special significance will be protected as a result of the AGI Waiver. It allows NRCS to pay an AGI-Ineligible person/legal entity associated with a particular enrollment contract or agreement and is not transferrable to other applications that the same person/legal entity may be part of. He went on to explain the two step process of the AGI Limitation Waiver Worksheet.

00/56/52 – Speaking for Hathaway Jones, NRCS, Management Analyst for Easements, Susan Marquart, PA NRCS Assistant State Conservationist for Partnerships, was introduced and provided an update on the Agricultural Conservation Easements Program (ACEP). (See attached hand-out)She started off by reminding all about the Easement Deadlines. The deadline for ACEP-

ALE (Agricultural Conservation Easement Program – Agricultural Land Easements) and ACEP-WRE (Agricultural Conservation Easement Program – Wetland Reserve Program) applications for FY 2020 was June 1, 2020. She noted that ACEP-ALE and ACEP WRE applications are accepted year-round and applications for next year's enrollment cycle will be accepted at any time. She discussed GARC (Geographic Area Rate Caps) and how GARC values are used to determine the land value for WRE easement acres by region and land use. She drew attention to a map of Pennsylvania that explained GARC for WRE by region, also the tables posted on that map. She then discussed the WRCG (Wetland Restoration Criteria and Guidelines. She noted that the WRCG documents the technical criteria specific to Pennsylvania that are used to manage the WRE program. It includes information on alternative wetland communities, eligibility criteria specific to Pennsylvania, wetland restoration practice types, compatible uses easement management and violations. The WRCG is a "living" document that will be updated over time as the WRE program evolves in Pennsylvania. She indicated that we are seeking comments from the public and that if you have and such comments to forward them to Hathaway Jones (Hathaway.jones@usda.gov) (NRCS), Management Analyst for Easements. She then discussed the HFRP (Healthy Forest Reserve Program), indicating that it is currently being re-vamped. She said that the new HFRP will not be limited to the Indiana Bat in Pennsylvania, but would include other species listed in the State Wildlife Action Plan. Information is forthcoming from the National Office that will provide guidance for states to begin the HFRP programs, and that a subcommittee is being established to provide input on the development of the revised HFRP. The subcommittee will provide input on: species and geographic areas to target; ranking; outreach for new HFRP applicants; and restoration of threatened and endangered species habitat on new HFRP easements.

01/04/34 - Susan Marquart, NRCS Assistant State Conservationist for Partnerships, continued and provided an update on RCPP (Regional Conservation Partnership Program). She announced the 2019 RCPP Classic Awards: the Kittatinny Ridge Conservation Landscape. The Lead Partner is the PA Dept of

Agriculture. The funding amount is $9,928,571 with partnership contributions amounting to $38,982,500 from the Critical Conservation Areas (CCAs) Funding Pool for the Chesapeake Watershed. The Ag BMP Implementation in the Chesapeake Bay. The Lead Partner is the Berks County Conservation District. The funding amount is $2,232,143 with partnership contributions amounting to $2,294,875 from the Critical Conservation Areas funding pool. The Buffalo Creek Watershed Conservation Alliance. The lead partner is the Audubon Society of Western Pennsylvania. The funding amount is $1,169,618 with partnership contributions amount to $1,163,815 from the State/Multi State funding Pool. She went on to describe the new events happening with RCPP. She indicated that: NRCS is currently developing agreements with the Lead Partners for the new RCPP Classic Projects; NRCS National Office is reviewing the 2020 AFA (Alternative Funding Arrangement) applications; and that the next round for RCPP Classic applications is expected to be announced soon.

01/10/55 – Denise Coleman, State Conservationist stated that Barry Frantz had mentioned during his segment, about the Subcommittee for adjusted gross income. She indicated that she would like to have it ready for operation by the beginning of the new Fiscal Year 2021. If you are interested in participating, please let she or Barry know. She reminded all that the next State Technical Committee will be held on October 22, 2020. The Meeting was then closed.

STC Meeting - July 22, 2020 - Participant List		
Last Name	**First Name**	**Email Address**
Audie	Michelle	audie.michelle@epa.gov
Bell	John	jjbell@pfb.com
Blood	Laura	lblood@mawc.org
Bowling	Patrick	gbowling@pa.gov
Bresaw	Kate	kbresaw@pa.gov
Burgess	Jonathan	jburgess@accdpa.org
Carnegie	Zach	c-zcarnegi@pa.gov
Coleman	Denise	denise.coleman@usda.gov
Dalton	Dan	dan@pasafarming.org
Dean	Carly	cdean@chespeakeconservancy.org
DeCosta	Grant	gdecosta@brandywine.org
Dibruno	Antony	Adibruno@temple.edu
Druckenmiller	Deab	dean.druckenmiller@berkscd.com
Dubin	Mark	mdubin@chesapeakebay.net
Egan	Franklin	franklin@pasafarming.org
Eiswerth	Coleten	coleten.eiswerth@usda.gov
Evans	Ted	ted.evans@usda.gov
Farabaugh	Jennifer	jfarabaugh@paconserve.org
Feinberg	Liz	liz.feinberg63@gmail.com
Gallagher	Brian	bgallagher@paconserve.org
Garber	Lamonte	lgarber@stroudcenter.org
Gemberling	Adrienne	agemberling@chesapeakeconservancy.org
Gority	Shannon	sgority@cbf.org
Hakundy-Jones	Rhonda	rhakundyjo@pa.gov
Hebelka	Joe	jhebelka@pa.gov
Hoagland	Peter	peter.hoagland@usda.gov
Holomuzki	Nick	holomuzki.nicholas@epa.gov
Jahrsdoerfer	Sonja	sonja_jahrsdoerfer@fws.gov
Kellner	Elliott	Elliott.Kellner@mail.wvu.edu
King	Marel	mking@chesbay.us
Kinney	Timothy	timothy.kinney@pa.usda.gov
Lenig	Ashley	ashley.lenig@usda.gov
Mays	Audrey	audrey.mays@usda.gov
Menchyk	Jane	jmenchyk@paconserve.org
Morris	Virginia	virginia@sustainablechesapeake.org
O'Neill	Kelly	koneill@cbf.org
Peters	Timothy	Tim.Peters@usda.gov
Plowden	Yuri	yuri.plowden@usda.gov
Ramsey	Ron	rramsey@tnc.org
Richards	Susan	srichards@capitalrcd.org
Roberts	Mark	Mark_Roberts@fws.gov
Sayles	Masoud	masoud@groundedpgh.org
Schneider	Frank	fschneider@pa.gov
Schreffler	Curtis	clschref@usgs.gov
Seitz	John	jseitz@ycpc.org
Shaffer		lashaffer@pfb.com
Shambaugh	Brenda	bshambaugh@pacd.org
Shenk	Kelly	shenk.kelly@epa.gov
Shippey	Jared	jared.shippey@usda.gov
Shockey	Rich	c-rshockey@pa.gov
Sigmund	Chris	chriss@teamaginc.com
Stabler	Pat	ppstabler@gmail.com

Stahl	Tom	thstahl@pa.gov
Szuch	Ryan	rszuch@pa.gov
Taucher	John	jotaucher@pa.gov
Thorsen	Russell	Russ@growpittsburgh.org
Turner	Jack	jack@greenvestus.com
Vanderstappen	Pete	peter.vanderstappen@usda.gov
Vassalotti	Virginia	vvassalotti@delawareestuary.org
Werner	Jeff	jeffrey.werner@usda.gov
Whitcomb	Jill	jiwhitcomb@pa.gov
Wood	Scott	sarwood@pa.gov
Zenik	Crespo	zenik.crespo@usda.gov