

**Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Report – MIFFLIN COUNTY**

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Action #	Description	Performance Target(s)	Responsible Party(ies) and Partnerships	Geographic Location	Expected Timeline	Potential Implementation Challenges or Recommendations	Resources Available		Resources Needed		Progress to Date
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<b>Priority Initiative 1: County Programmatic Initiatives</b>											
<b>1.1A</b>	Implement County Comprehensive Plan policies and actions	Ensure that growth activities address existing water quality impairments through stormwater BMP implementation already required by local ordinance  Revise existing model stormwater ordinance where needed. Look to incentivize additional protections for streams  Preservation of environmentally sensitive Land Use (protect these sensitive areas through ordinances and natural resource protection) – <b>Conserve 2,300 acres of forest.</b>  Preserve existing exception value wetland areas and enhance restorable wetlands in proximity	MCPC, growth boundary municipalities, Act 167  Explore the establishment of a land trust or conservancy to conserve land	Countywide	Ongoing	Educating municipalities, Updating local plans and ordinances, Growth areas not consistent with Census Urbanized Areas	Education, outreach	N/A	1 – FTE Clean Water Coordinator for Planning Commission	\$130,000 per year  \$2,000 per acre of forest easement à \$4.6 M total	2022: No progress at this time. Aiming to begin investigation in 2023.
<b>1.1B</b>	Implement the Source Water Protection Plan	Assist municipalities with wellhead protection regulations, follow safe drinking water regulations  Protecting Mifflin County’s surface water and groundwater as a viable resource is critical to preserving water quality and healthy communities. Develop new source water protection plans where feasible.	Multi-township, DEP Safe Drinking Water Program	Multi-township	2022 – outreach with municipalities to determine implementation needs and desire to draft new plans in key source areas	Reinforcing the municipal role in coordinating with the water authorities to perform education and outreach and connecting landowners with water quality needs with available resources.	Coordination of meetings and continued education.	N/A	1 – FTE Clean Water Coordinator for Planning Commission  Source Water Protection Plan development	\$130,000 per year  \$100,000	2022: No progress at this time.
<b>1.1C*</b>	Evaluate areas to establish riparian buffers to stabilize stream banks and limit encroachment	Identify landowners willing to participate and work with the following partners to identify (5) buffer opportunities  Leverage municipal parks along creeks for education, BMP work, habitat value, etc.  Utilize river access points for public education – events, signage	Municipalities, Conservation District, CBF, Pheasants Forever, National Trout Unlimited	Countywide  Bender Park, Reedville, Kish Park, Derry Twp Park, Lewistown Victory Park	5-10 years	Adopting ordinances, may require a pilot project in a willing municipality to demonstrate success.  Lack of technical assistance to support implementation goals for forest buffers.  Buffer funding programs must include 5-10-year minimum maintenance plan, incentive money for landowners, along with volunteers to establish the buffer.	landowner outreach; on the ground riparian project execution	N/A	1 – FTE Clean Water Coordinator for Planning Commission  1 – Additional Watershed Specialist for Conservation District	\$130,000 per year  \$130,000 per year  Expand Buffer Bonus Program to provide \$10,000 per acre of buffer installed to include 5-year maintenance contract@ \$500,000 total	2022: MCCD used PALTA Riparian Buffer Prioritization data (2019), Chesapeake Conservancy Land Cover data, and DCNR Prime Prospects (2019) to identify local projects for buffer implementation. The MCCD overlaid PALTA and Chesapeake Conservancy data with local GIS datasets to identify public land parcels to prioritize for buffer installation. The MCCD installed several acres of forested riparian buffer from 2019-2020. The MCCD hopes to complete several additional buffers on public lands in the near future through NFWF grant funding.  Completed Projects in 2022: Bender Park, Reedsville Playground, Kish Park Potential Projects: Rec Park, Victory Park

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1.2*	Mifflin County Public Sewer Plan	Update Act 537 plan to be consistent with local planning  Require sewer extensions and or capped sewers  Amend local ordinances to allow for secondary or backup systems  Establish a Countywide sewer authority  Consider developing regional sewer management authority with Mifflin County Municipalities	MCPC, Boroughs, Townships, municipal engineers	Countywide  Riverside camp along Juniata River improvements : Septic connections needed, flood mitigation, trail network	2022-2025	Enforce and compliance with local ordinances and Act 537  Lack of funding to support Act 537 planning  Municipalities have many other challenges to tackle and this may not be a priority			1 – FTE Clean Water Coordinator for Planning Commission  \$150,000 startup funding to complete a countywide/regional sewer authority feasibility study	\$130,000 per year	2022: No progress at this time.
1.3	Implement the Mifflin County Hazard Mitigation Plan (published 2019)	Encourage municipalities to participate in FEMA programs  Adopt and enforce PA DCED Model Floodplain Ordinance  Provide Open Space Preservation in flood plain areas  Implement Drainage system management ordinances	Municipalities, County and local emergency services, PEMA, FEMA, Comprehensive Plan, ACT 167 Plan	Countywide – floodplains	2022 – review highest priority projects in plan for implementation steps and interest of home municipality to pursue projects	Timely adoption by municipalities, funding for large scale projects of meaningful result with small storm water quality benefit	Plan implementation team	TBD	1 – FTE Clean Water Coordinator for Planning Commission	\$130,000 per year	2022: Applied for funding to update the plan. Awaiting award response.  Plan update scheduled for completion in 2024.  Include CAP related projects for implementation moving forward.
1.4	Juniata River Watershed Management Plan  Look to identify a rapid delisting watershed in Mifflin County as part of the plan.	WPC applied for DCNR C2P2 grant to update the Juniata River Watershed Management Plan. CAP can help leverage funding for the Juniata River Watershed Management Plan.  Work with the Chesapeake Conservancy to rapidly delist an agreed upon number of watersheds within the Juniata River Watershed Plan.	Western Pennsylvania Conservancy, Chesapeake Conservancy, watershed groups	Juniata River Watershed (Blair, Fulton, Huntingdon, Juniata, Mifflin, Perry)	2021 – Conservancy Exploring options  2022 – outreach  2023 implementation	Performance Target Continued: Our goal is basically to update the existing plan with work that has been done since the original plan, do some more in-depth GIS analysis, and get public and municipal input into what they see are the issues in the watershed. I think the GIS analysis will be a big part of the process. We’re planning on using the new 1-meter resolution data set, incorporating some of the buffer gap analysis work from Chesapeake Conservancy, etc.	Watershed Specialist	WPC applied for \$37,785 with \$37,286 match	1 – FTE Clean Water Coordinator for Planning Commission  1 – FTE Clean Water Coordinator for Conservation District	\$130,000 per year  Rapid Delisting Approach Project and Program Budget \$1,000,000	2022: Juniata Watershed Management Plan Update is a DCNR grant that will cover the entire Juniata River watershed. The planning process will include partners from the county conservation districts in the watershed, Juniata College, St. Francis University, Chesapeake Conservancy, HRG, Foundation for PA Watersheds, Little Juniata River Association, and county planning commissions. Project will start with a kick-off meeting late summer/early fall.  In the Spring of 2022 the MCCD met with PA DEP to discuss development of an Alternative Restoration Plan (ARP) for Town Run (McVeytown). Town Run is currently impaired due to sediment and nutrients from agricultural sources. The ARP would serve in place of a TMDL and support watershed restoration efforts in this watershed with the ultimate goal of delisting Town Run from the impaired Streams list.  PA DEP plans to conduct a reassessment of Hungry Run in December of 2022. This Watershed is listed in the Kishacoquillas Creek ARP and has an active 319 Watershed Implementation Plan (written in 2008). The MCCD has been actively working in this watershed to install BMPs since 2008.

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1.5	Advance the Implementation Strategy outlined in the Mifflin County Greenway, Open Space and Rural Recreation Plan	<p>Complete Mifflin and Juniata County Peer Studies</p> <p>Undertake projects that boost tourism and fish habitat, wetland restoration/conservation, educational signage (outdoor recreation, trails planning and development) – BMP goal: 25 acres forest buffers, 3000 feet stream restoration (portion of BMP goal cited in Initiative 3.9)</p> <p>Strategize the development of three additional public access points along the Upper Section of the Juniata River Water Trail.</p> <p>Determine if 50 acres of additional parkland per year is a feasible goal compared to level of recommended service by DCNR</p>	Western Pennsylvania Conservancy, PA Fish and Boat, Allegheny Ridge Corporation, Derry Township, all municipalities.	3-5 municipalities to pilot advancing projects or planning, as applicable	<p>2022 – seek DCNR funding for pilot studies</p> <p>2023 – obtain funding and develop plan</p> <p>2024 – identify municipalities and pursue feasibility study/master plans</p> <p>2025 – see funding for design/construction of projects</p> <p>2026-2030 – project execution</p>	Goals will support Stream Restoration and Buffer Goals			<p>1 – FTE Clean Water Coordinator for Planning Commission</p> <p>1 – FTE Clean Water Coordinator for Conservation District</p>	<p>\$130,000 per year</p> <p>\$130,000 per year</p>	<p>2022: MCP&amp;D and M CCD are working on a Multiuse Trail Study that will connect Victory Park and Stone Arch Bridge Park, building off an earlier feasibility study by YSM.</p> <p>Derry Twp has completed a master site plan for Kishacoquillas Park and has applied for implementation funding.</p>
1.6*	Watershed Restoration Bundling Pilot	Bundle stream restoration design, trails, ag BMPs, fish habitat, signage, and construction activities in one design contract and one construction contract to more cost effectively enhance implementation success	Municipalities, watershed organizations, M CCD, MCPC	Countywide	2022-2025	Municipality acceptance of approach, technical capacity of private sector to handle glut of stream restoration projects toward end of MS4 permit cycle, opportunity for more efficient permitting reviews rather than one application package per project			<p>1 – FTE Clean Water Coordinator for Conservation District</p> <p>Engineering/construction</p>	<p>\$130,000 per year</p> <p>Assume</p> <p>\$2,000,000 project budget scale</p>	<p>2022: See 1.5 above. M CCD has been following this methodology with current Ag BMP projects (bundling Ag BMPs, riparian buffers, and fish habitat/bank stabilization) as well as with projects at public parks (bundling riparian buffers, fish habitat/bank stabilization, and public meetings/signage) since the early 2000's.</p> <p>Derry Township is currently working on dredging the duck pond at the park. They have applied for DCNR grants, while this project is more centered on park infrastructure as opposed to water quality.</p>
1.7*	Implement County Farmland Preservation Program with farmland preservation program incentives enhancement	<p>Total farmland preservation (26 farms in program currently – 2,838 acres)</p> <p>Look to fund 1-2 additional farms per year (100-150 acres) in preservation program.</p> <p><b>– 2,600 acres of farmland conservation</b></p> <p>Utilize conservation easements to protect and preserve agriculture land</p> <p>Develop agricultural preservation zoning ordinance</p>	Lancaster Farmland Trust and Agricultural Preservation Coordinator, NRCS, M CCD, Farm Bureau, County Comprehensive Plan, ACT 167	Ag land use area that fits farmland preservation criteria	2022-2025 – explore incentive opportunities	<p>O&amp;M partnership for buffers, ag plans, BMP verification, provide more incentive based on the implementation of BMPs on site (beyond baseline compliance), would be a means of getting farms preserved with all the required BMPs in place simultaneously.</p> <p>Preserved farms are required to have an NRCS Conservation Plan, work with farmers to ensure Conservation Plan is reported in PracticeKeeper.</p> <p>Recommend making this a program requirement statewide.</p> <p>Sharing NRCS data is challenging, must comply with 1619 form.</p>	Priority recommendation, easement revision recommendation, supplemental BMP funding research	<p>Ag Land Preservation Staff Administrator</p> <p>1 – FTE Clean Water Coordinator for Conservation District</p>	<p>\$130,000 per year</p> <p>\$130,000 per year</p> <p>\$250,000 per farm funded, total of 8 farms -&gt; \$2M</p>	2022: One farm has been approved for preservation. Depending on funding levels, there may be the ability to preserve an additional farm this year.	

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1.8*	<p>Establish funding/staff support to assist the Agricultural community (day to day support)</p> <p>711 farms exist in Mifflin County</p>	<p>Approximately 200 farms have their plans in Mifflin County, goal is to complete 600 by 2025. ~100 plans per year completed</p> <p>Work with private consultants to document plans.</p> <p>To communicate effectively with the farming community one on one farmer outreach must be conducted.</p> <p>The most effective way to capture and report BMPs is through one-on-one farm visits. Farmers do not participate in surveys or other methods.</p> <p>Work with agricultural community to implement BMPs consistent with E&amp;S regulations</p>	<p>MCPC, MCCD, Contracted planners, Mifflin County Farm Bureau, ACT 38 farms, Preserved Farms, County Comprehensive Plan</p>	<p>Countywide AG Land</p>	<p>2022-2025</p>	<p>Limited compliance activities by DEP.</p> <p>Lack of Technical assistance to support the farming community.</p> <p>Private sector Ag plans are not required to be shared with District staff.</p> <p>Work with ACT 38, Preserved farms and organic farms to report AG E&amp;S and NRCS Conservation Plans. These operations are required to have them, but no requirement to report the plans. It is recommended state agencies make changes to ACT 38 and Persevered Farm programs to require PracticeKeeper reporting.</p>	<p>63 Inspections performed per year,</p> <p>NRCS 40 plans per year</p> <p>Field verification, troubleshooting</p>	<p>N/A</p>	<p>6 – additional Ag Planners to provide technical assistance and ag planning</p> <p>3 – FTE Design, Engineer, Permit</p> <p>3 – FTE Inspector Construction Services</p> <p>1 – FTE Clean Water Coordinator for Conservation District</p> <p>1 – Administrative Assistant</p>	<p>\$780,000 per year</p> <p>\$420,000 per year</p> <p>\$315,000 per year</p> <p>\$130,000 per year</p> <p>\$75,000 per year</p>	<p>2022: The Foundation for Pennsylvania Watersheds applied for a Growing Greener grant totaling \$1.6 million to support additional ag engineering needs along with increased farm visits. In 2022 the Lancaster Farmland Trust (LFT) will completed 30 farm visits across the county. LFT also completed 20 farm visits in 2021.</p> <p>Agriculture Conservation Assistance Program (ACAP) was announced in the Pennsylvania State Budget in July of 2022. This program will provide all counties in Pennsylvania with funding totaling \$154 million over the next 3-years to support Ag project implementation and technical assistance needs.</p> <p>The Mifflin County Conservation District applied the National Fish and Wildlife Foundation Small Watershed Grant for increased technical assistance to support Ag and Urban projects. If awarded this would create a position similar to a watershed specialist.</p>
1.9	<p>Local University Partnership - Implementation</p>	<p>Develop undergraduate and graduate students so that they can effectively engage in landowner outreach during implementation years.</p>	<p>Juniata College, Penn State, Susquehanna University, Bucknell University</p>	<p>319 Priority Watershed</p> <p>Riparian properties</p> <p>Preserved farms</p> <p>Priority Corridor Watersheds</p>	<p>2022-2025</p>	<p>Continued undergraduate/graduate engagement as students graduate through program, implementation funding</p> <p>Lack of technical assistance professionals to mentor students and develop workforce development.</p> <p>Lack of competitive paying job opportunities that ensure long term sustainable for recently graduated students</p>	<p>Ag staff</p>		<p>5 – Student Internships to Support CAP Implementation</p>	<p>\$50,000 per year</p>	<p>2022: The Foundation for Pennsylvania Watersheds applied for a National Fish and Wildlife Foundation Most Effective Basins grant to continue phase 2 of BMP verification. If awarded Mifflin County would have an intern for the summer of 2023 and 2024 to support with PracticeKeeper. The interns would be provided through a program with Susquehanna University. The grant was not awarded.</p> <p>MCCD hosted an intern from Penn State Mont Alto in Spring of 2022. The intern logged project information into PK from current and recently completed projects. They compiled a list of expiring BMPs for future verification. Organized data into excel for streamlined access. Coordinated with PK to ensure data was entered correctly. Assisted around the office.</p>

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<b>1.10A</b>	Develop a Mifflin County Water quality communication plan, leveraging existing documents and covering topics including Comprehensive Plan, Mifflin County Greenway, Open Space and Rural Recreation Plan, ACT 167 Plan, Hazard Mitigation Plan, Watershed Implementation Plans	Develop messages and audience; execute plan and distribute messaging through staff and partners  Leverage Water 4Ag work, elevate to suburban community  Utilize the DPJM County Countywide Action Plan (arcgis.com) ArcGIS website as a source of consistent communication; tie it to Water and Agriculture in Mifflin County Story Map	CBF, Penn's Creek, Chesapeake Conservancy, NRCS, MCCD, Mifflin County PA Clean ways, Penn's Creek Chapter TU, Water4Ag, MCPC, Municipalities	Countywide	2022 – develop local content, timing, identify responsible staff	Simplifying the resources that are available  Sharing staff resources across the 4-county region	ArcGIS Hub Website  1 – lead county contact		Website development and continued maintenance  1 – FTE Marketing and Outreach Coordinator  1 – FTE Clean Water Coordinator for Planning Commission	\$10,000 per year  \$130,000 per year  \$130,000 per year	2022: The DPJM Countywide Action Plan website listed in the Performance Targets has been updated to include information about implementation of the Countywide Action Plans. Additionally, a GIS tracking data base has been added to capture the location of potential projects.
<b>1.10B</b>	Agricultural Communication Strategy	One on one farm outreach is the best way to communicate with farmers in addition to reporting practices. Develop a plan to complete more one on one farm visits.  Work to develop a communication plan to engage integrators.  Partner with external ag partners to present CAP goals at meeting.  Utilize Farm Bureau Newsletter for announcements	CD, County Farm Bureau, Integrators, Ag Land Preservation, PSU Extension, NRCS  Currently, there are several Farm Bureau meetings that occur each year, a 3rd grade Ag tour, Mifflin County Youth Fair, and annual Union Mills Meeting.  Water4Ag	Countywide	2022-2025  2022 – work with Mifflin County Local Leadership Committee to advance the findings of the Water4Ag project report findings, producers/households survey results	Funding to support the technical assistance required to complete one on one farm outreach  Outreach to integrators is a challenge due to the number of integrators and multiple country boundaries they serve. It is recommended DEP/PDA/SCC communicate with integrators on a frequent basis to reduce mixed messages.			6 – additional Ag Planners to provide technical assistance and ag planning  1 – FTE Marketing and Outreach Coordinator  1 – FTE Clean Water Coordinator for Conservation District	\$780,000 per year  \$130,000 per year  \$130,000 per year  See 1.10A for website costs.  Costs for meeting attendance and administration may be covered through other funding requests.	2022: Farm visits have been utilized to conduct outreach to farmers about the Countywide Action Plan. In 2021 20 farm visits were conducted and in 2022 an additional 30 visits are scoped. The Foundation for Pennsylvania Watersheds submitted a Growing Greener grant titled 12-County Investment to Catalyze Agricultural Project Readiness that would support rapid scaling up of farm visits within Mifflin County. Scaling up of farm visits would allow for additional outreach to occur.  Chesapeake Bay Program: The MCCD participates in the Chesapeake Bay Program completing 63 inspections per year and assisting landowners to obtain the proper Ag E&S and Nutrient Management/Manure Management Plans.  CAP 2022: Lancaster Farmland Trust completed 27 visits in Mifflin County in the spring of 2022 to discuss agricultural plans, resource concerns, and ag BMPs.

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<b>Priority Initiative 2: Reporting and Tracking</b>											
2.1*	Existing BMP cataloguing (quantity and location) for select BMPs, expanding on general recommendations provided in QAPP  BMPs = forest buffers, urban forest buffers, grass buffers, urban grass buffers, wet ponds and wetlands, fencing, cover crop and tillage management	Expand use of existing buffer layer with urban hydrology layer  R&D into distinguishing ag, pasture, and turf covers from grassed buffers  Manual digitizing where leaf-off <1 ft resolution imagery is available  Back check with staff field views where required  Add data to Practice Keeper or another batch upload option  Use Spreadsheets of existing BMPs at MCCD	Lead - Chesapeake Conservancy  Stakeholder peer review – local university, USGS, Farm Bureau, PDA, EPA	Countywide	2022 – cataloguing  2023 – Practice Keeper batch upload processing and field views	EPA acceptance of the approach, further refine guidance in QAPP so that the state can take the burden off of counties, utilize the approach to catalogue existing BMPs and do on the ground verification where required for reporting purposes, this is an accelerated BMP catch up approach while we continue to provide support to farmers on planning and BMP installs, reduce the amount of interruption of government entities to compliant farm operations.	Precision Conservation Tools  General methodology outline  BMP field backcheck	N/A	Further GIS and data processing/method refinement  2 staff people to follow up on BMP verification annually (staffers are a part of the identified 6 – ag planners identified elsewhere)  5 – Student Internships to Support CAP Implementation	\$46,000 (2022 only)  \$260,000 per year	2022: In December of 2021, Mifflin County was awarded \$30,000 to conduct BMP verification. Mifflin County elected to use some of the money on a remote sensing analysis focusing on five priority BMPs including: Barnyard Runoff Controls, Animal Waste Management Systems, Forest Buffers, Grassed Waterways, and Streambank Exclusion Fencing. Remote sensing data analysis performed by the Chesapeake Conservancy is being finalized in August of 2022 and results are provided in an online ARC Gis Portal. Qualified 3rd party staff will begin field verification efforts to verify the remotely identified practices. A BMP Verification Quick Guide is being developed by HRG to assist with field verification efforts. In April of 2022, the Foundation for Pennsylvania Watersheds applied for a NFWF Most Effective Basins grant to support Phase 2 of the BMP verification analysis in the MEB in Mifflin County. Initial results from Phase 1 look excellent in providing opportunities to take credit for practices on the ground that are not currently reported.  MCCD hired an intern in May of 2022 to log BMP data into PracticeKeeper from current, recent, and past projects. The intern also identified practices that were nearing their expiration date and needed to be reverified.
2.2*	Identify future ag/urban project opportunities using automated means	BMP opportunity analysis – ag conservation, land retirement, alternative crop, forest conservation, stream restoration  Back check with staff field views  Batch upload to FieldDoc to calculate credit opportunity	Lead - Chesapeake Conservancy  Stakeholder peer review – USGS, Farm Bureau, PDA, interested municipalities	Countywide	2022 – cataloguing  2023 – batch upload processing and field views  2024 – 2025 - implementation focus	Different data set scales/precision	Precision Conservation Tools  Batch upload processing  BMP Field backcheck	N/A	Further GIS and data processing/method refinement  5 – Student Internships to Support CAP Implementation	\$46,000 (2022 only)  \$50,000 per year	2022: No progress to date.
2.3*	Develop a local system to capture data collection on urban structural and non-structural practices	Add development-related BMPs to CAST/FieldDoc so that as land use data sets are updated, there are accompanying BMPs  Use Chapter 102 Permit Closeout Milestone to report BMPs	Municipal engineers, Chesapeake Conservancy	Urban/suburban landscape	2023	Currently municipalities are not collecting BMP data because it is not required in non-MS4 communities. Must incentivize communities to report, no existing system in place.	Reporting platform	N/A	Training  5 – Student Internships to Support CAP Implementation  1 – Municipal Planner	N/A  \$50,000 per year  \$130,000 per year	2022: The Foundation for Pennsylvania Watersheds applied for a NFWF Most Effective Basins grant in April of 2022 to support Phase 2 of BMP verification remote sensing analysis. Phase 2 will include analyzing wet ponds and detention basins in urban areas across Mifflin County. PA DEP has updated FieldDoc to allow for additional reporting of urban practices.
2.4*	Implement a documentation program for commercial and homeowner nutrient applications in developed lands  Support current legislation for fertilizer bill.	Support fertilizer legislation – where legislation requires reporting, be the data clearinghouse  Legislation will support the implementation of <b>Urban Nutrient Management – 1,600 acres</b>	PSU Extension	Countywide	TBD	Education of responsible parties, receiving timely information, training on reporting system, will need direction from State on what’s expected and any reporting system that’s developed.	TBD based on fertilizer legislation if passed	TBD based on fertilizer legislation if passed	1 – FTE Clean Water Coordinator for Planning Commission	\$130,000 per year  Urban Nutrient Management \$10 per acre -> \$16,000	2022: On July 11, Governor Wolf signed SB 251, a bipartisan bill sponsored by Senator Gene Yaw (R) and Senator Carolyn Comitta (D), into law. Pennsylvania now has a law governing turfgrass fertilizer application dates, practices, rates, and type of fertilizer used. We are uncertain on how documentation and crediting will occur with the new bill.

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2.5*	Improve Agricultural BMP reporting utilizing PracticeKeeper, Capital RC&D Transect Survey, PSU Survey, Manure Transport Reporting and Remote Sensing	Increase reporting of agriculture plans into PracticeKeeper  Work with Capital RC&D to improve current transect survey routes to be more inclusive  Work with PSU to produce better response rate to the PSU survey for Mifflin County  Work with PDA/DEP to improve manure reporting	DEP, MCCD, NRCS, PDA, NRCS, Mifflin County Farm Bureau, Capital RC&D, Chesapeake Conservancy, PSU Survey, Manure Brokers	Countywide	2022-2025	Private sector ag planners do not have access to PracticeKeeper. Ag planners do not have time to report into PK.  Current Capital RC&D routes are not all inclusive and could be improved.  Current response rates are low and miss a large demographic of Mifflin County farmers.  Manure brokers are not required to report data annually. Data is not inclusive.			5 – Summer interns for reporting and verification  See 3.7 for funding needs to improve cover crop reporting for Capital RC&D	\$50,000 – per year	2022: In the Spring of 2022 HRG participated in a beta testing group for the PracticeKeeper 3rd Party Module. PADEP initially released the module in June of 2022 before recalling the system for additional bug fixes. Phase 2 of the BMP verification grant submitted by the Foundation for PA Watersheds includes budget for interns from Susquehanna University to enter BMPs into PracticeKeeper.  See 2.1 above.
2.6*	Standardized Reporting for Dairy Precision Feeding	County would like to utilize the dairy precision feeding BMP. However, current reporting guidelines do not allow for clear reporting standards on feed reduction amounts, how to report, and who is qualified to report.	Chesapeake Bay Program, Penn State Extension, Dairy co-ops	Countywide	2022	It is recommended that milk urea nitrogen (MUN) be an acceptable standard for reporting dairy precision feeding. Guidelines need to be posted on acceptable MUN rates and work with dairy integrators to receive MUN data to report to DEP.	N/A	N/A	Reporting protocol	N/A	2022: No progress to date, reporting standards still remain an issue to utilize the BMP.
<b>Priority Initiative 3: Achieve New Pollutant Reductions</b>											
3.1	Implementation of the Upper Kish 319 Watershed Plan (February 2020 and beyond)	In 2020 grant received to install 2 HUAs, stream bank fencing and 2 livestock crossing, implementation with start 2021  Scope next round of projects and apply for funding following implementation of 2020 grant award.	MCCD, NRCS, DEP	Upper Kish Creek Watershed	Grant received in 2020 and construction set to begin spring of 2021  Scoping - 2022	Funding, landowner interest in BMPs, implementation partner coordination.  Reverification of existing farm BMPs within the 319 watershed.  Technical assistance to support BMP implementation on Farms.	Technical assistance	\$2.9 million received to date for restoration	1 – FTE Clean Water Coordinator for Conservation District  1 – new FTE environmental specialist	\$130,000 per year  \$100,000 per year  \$500,000 to fund new projects beyond 2022	2022: The MCCD continued to install AG BMPs in the Upper Kish watershed through several 319 grants.  Project 1716: In 2021 the District installed 1 Roofed HUA with manure stacking facility and barnyard runoff controls, 2 stabilized stream crossings, fenced 1076' linear feet of stream, and installed other associated BMPs (diversion, inlets, outlets). The MCCD also installed an off stream watering facility, 300' of animal trails and walkways, 235' grassed waterway/diversion and 886 feet of pasture fencing on another farm in 2021. Project 1919: In 2022 the District installed 1 roofed HUA with manure stacking facility and barnyard runoff controls.  In 2022 the District also completed Inventory and Evaluation Reports for two farms in the Upper Kish and applied for another 319 grant to fund future Ag BMP installation in 2023.  NRCS is currently completing two projects in the Upper Kish with waste storage facilities, barnyard runoff controls, pasture management BMPs, livestock exclusion fencing, animal trails and walkways, etc.

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3.2	Implementation of the Hungry Run 319 Watershed Plan	24 farms within Hungry Run Watershed  Many BMPs implemented prior to 2010, reverification will be a necessity for Hungry Run Watershed  Work with churches to implement stream restoration and buffers.  Work with DEP to reassess stream segment	MCCD, landowners	Hungry Run Watershed  Ranked farms based on prioritization ranking	2007 plan development  Ongoing Implementation and verification	Lack of technical assistance and funding to reverify exiting practices and implement new practices.  Need to revisit the plan to see what BMPs are outstanding.	Technical assistance	\$1.4 million received to date for restoration	1 – FTE Clean Water Coordinator for Conservation District  \$130,000 per year  \$25,000 additional water quality monitoring and reassessment  \$500,000 further implementation and reverification	2022: Provided BMP information (2008-2022) and water quality sampling data (2014-2021) to PA DEP for follow-up modeling and a Hungry Run success story. PA DEP is scheduled to revisit this watershed and complete surface water quality sampling in the winter of 2022.  MCCD is also hoping to work with 2 churches in the Hungry Run watershed to install riparian buffers and fish habitat/streambank stabilization structures.	
3.3	Implement the Tea Creek Conservation Plan	Look to identify a few additional Ag projects in the Tea Creek Watershed. Most of the work has already been completed in the early 2000's. A few opportunities may still exist.  Develop a community awareness day for education.	MCCD  Look to realign a local watershed group to focus in the Tea Creek Watershed	Tea Creek Watershed  Brown Township  Rothrock State Forest	Ongoing	Look into PA Adopt a Stream to help support implementation.  Lack of technical assistance and volunteer support to support the implementation of the Tea Creek Conservation Plan.			1 – FTE Clean Water Coordinator for Planning Commission  1 – FTE Clean Water Coordinator for Conservation District  \$130,000 per year  \$500,000 project implementation	2022: The MCCD discussed ag BMP installation at the Mifflin County Youth Park with the Mifflin County Fair Board. The MCCD hopes to complete a future I&E for Ag BMPs and secure designs for stream/floodplain restoration.	
3.4	Implement the Kishacoquillas Alternative Restoration Plan (ARP)	Implement Phase 1 of ARP: All farmers meet regulatory compliance with their Conservation and Nutrient Management Plans  Phase 2: focus on satisfying restoration goals of each sub-watershed of Kish Creek  Look to identify 1-2 projects per year in the sub watersheds	DEP Bureau of Clean Water, MCCD,	Kishacoquillas Creek Watershed  Sub-watersheds include Upper Kish Creek, Hungry run, other unnamed tributaries	Phase 1 complete by 2022  Phase 2 complete by 2027	NRCS is supporting funding to the upper KISH as part of their NWQI Focus Watersheds  Lack of technical assistance and volunteer support to support the implementation of the KISH ARP		319 Funding	1 – FTE Clean Water Coordinator for Planning Commission  1 – FTE Clean Water Coordinator for Conservation District  \$130,000 per year  \$500,000 project implementation	See action 3.1 & 3.2 above and action point 3.11 below	



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<b>3.5*</b>	Help farmers and operators to be in compliance with state and federal Conservation and Nutrient Management Plans	<p><b>Soil and Water Quality Conservation Plans (Ag E&amp;S) 20,000 new acres</b></p> <p><b>Nutrient Management (Manure Management) 29,000 new acres of Core N and 10,000 new acres of Core P</b></p> <p>NRCS 40 plans per year, CD 63 plans per year through inspection program (100 plans per year)</p> <p>Work with Act 38 operators, Preserved Farms, and certified organics to document plans already required</p>	4R Alliance, MCCD, Mifflin County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits, Integrators, ACT 38 farms, Preserved Farms, Organic Farms	Countywide Ag Land	2022-2025	<p>Lack of DEP inspections.</p> <p>Reporting and verification of Ag Plans, NRCS plans expire and do not get reverified, private plans are never entered.</p> <p>Lack of Technical assistance to support agriculture planning and implementation, one on one farm outreach is best way to capture existing plans.</p> <p>Act 38 and Preserved Farms not required to enter plans in PK, Recommendations to require programs to enter plans into PK</p> <p>State agencies must work with integrators to ensure they are requiring compliance by farmers. Some integrators require compliance, but not all, great way to communicate with farmers as well.</p>	63 farms inspected in 2021 – all inspected farms now have plans		<p>6 – additional Ag Planners to work with farmers to develop required plans</p> <p>\$780,000 per year</p> <p>\$15 per acre for a total cost of \$300,000</p> <p>\$15 per acre for a total cost of \$435,000</p>	<p>2022: PACD recently announced their Growing Greener grant for Ag Plan Reimbursement. Farmers in Mifflin County will be able to take advantage of this opportunity to produce Ag E&amp;S and Manure Management Plans. HRG will be attending the rollout of this program to maximize opportunities to get farmers additional plans.</p> <p>From 2020 to 2021 progress scenario in CAST Mifflin County has increased Soil and Water Quality Conservation Plan reporting by over 2,400 acres. Additionally, Nutrient Management Core N and Core P have increased by over 9,500 acres.</p> <p>See Action # 1.10B Chesapeake Bay Program &amp; CAP 2022</p>	
<b>3.6</b>	Advanced Nutrient Management (4R) Practice Education and Implementation	<p>Transition manure management plans to nutrient management plans and incentivize implementation</p> <p><b>Increase existing 4R practice (N Rate by 5,600 acres, P Rate by 6,600 acres, N Timing by 9,300 acres, P Timing by 6,600 acres, N Placement by 8,300 acres and P Placement by 6,600 acres)</b></p> <p>Create a small workgroup working with early innovators</p> <p>Explore the idea of increasing PSNT or Chlorophyll testing to district program participants</p>	4R Alliance, MCCD, Mifflin County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits	Countywide AG Land	2022-2025	<p>Landowner interest, BMP verification (annual)</p> <p>Lack of Technical assistance to support agriculture planning and implementation</p> <p>Additional funding to support soil testing. Soil testing is key to meeting the recommendations of supplemental BMPs.</p> <p>Machine-dependent for most farming operations</p> <p>Cost of fertilizer is self-regulating farmers to use less fertilizer; therefore, lower rates result. The challenge is documenting this each year.</p>	<p>Educational support</p> <p>63 farms inspected in 2021</p>		<p>6 – additional Ag Planners to work with farmers to meet 4R standards</p> <p>\$780,000 per year</p> <p>\$10 per acre of advanced nutrient management planning per type--&gt; total cost for all is \$430,000</p>	2022: No progress to date.	

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3.7*	Implement Practice to improve soil health and sustainability (Tillage Management and Cover Crops)	Determine feasibility of having a county/state cost share program to enhance adoption of the annual practice, pay incentive payment per acre  <b>Implement tillage management and cover crops on an annual rate of 21,000 acres High Residue, 6,300 acres Conservation Tillage, 2,600 acres Low Residue, 6,000 acres of cover crops and 8,400 acres of cover crops with fall nutrients</b>	MCCD, Mifflin County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits	Countywide Ag Land	2022 – investigation  2023 – next steps	Capacity to manage the program, landowner interest  Lack of technical assistance and farm planners to work with farmers to transition to High Residue Tillage  Current verification methods do not accurately capture implemented amounts – Capital RC&D survey needs revised  Farmers are harvesting cover crops for forage, need accurate efficiency crediting for commodity cover crops  Organic farmers are using tillage to manage weeds and vertical tillage is becoming more popular among farmers, younger generation is “trying” tillage for experience	Transect survey  Landowner education	Refer to REAP and NRCS	6 – additional Ag Planners to transition farmers to high residue  County MCCD – staff to administer the program  Capital RC&D Transect Survey	\$780,000 per year  \$90 per acre traditional per year ☐ \$540K for a 5-year total of \$2.7M (incentive payment, administration, Capital RC&D reporting) \$50 per acre fall nutrients per year ☐ \$420K for 5-year total of \$2.1M  \$50,000	2022: MCCD assisted Capital RC&D in their 2021 fall Cover Crop Survey and 2022 Spring Tillage Survey
3.8	Implement more pasture management BMPs	<b>Pasture Alternative Watering – 250 acres</b>  <b>Forest buffers on fenced pasture corridor – 80 acres</b>  <b>Grass buffers on fenced pasture corridor – 80 acres</b>  <b>Land Retirement to Ag Open Space – 250 Acres</b>	MCCD, Mifflin County Farm Bureau, NRCS, Private Sector Agriculture Farm Visits	Countywide ag lands – landowners who raise horses, dairy, beef and other pasture grazing animals  Upper Kish WIP priority BMPs	2025	Landowner education, BMP funding for non-buffer work, plan updates, data gathering  Lack of Technical assistance to support agriculture planning and implementation  Old NRCS plans need to be updated to comply with prescribed grazing definition – difficult to get landowner buy-in – fund alternative watering and fencing; most pastures are streamside  Increasing construction costs are resulting in canceled NRCS contracts	Landowner education  Data gathering through Bay Tech visits		6 – additional Ag Planners to provide technical assistance and ag planning  3 – additional FTE environmental technician	\$780,000 per year  \$390,000 per year  Off stream Watering \$500 per acre ☐ \$125K total  FB Buffer W/ Exclusion \$10,500 per acre ☐ \$840K total  GB Buffer W/ Exclusion \$2,750 per acre ☐ \$220K total  Land Retirement \$500 per acre ☐ \$125K total	2022: Phase 1 of BMP verification identified 331 potential hits for streambank exclusion fencing. This data set will allow for increased reporting of buffered acres with exclusion fencing. This allow for future project identification.  See Action # 3.1 above.

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3.9*	Riparian buffer and re-forestation BMPs	<p><b>314 riparian forest buffer acres, (274) acres lost since 2017 need reverified</b></p> <p><b>44 riparian grass buffer acres – (24) acres lost since 2017 need reverified</b></p> <p><b>26 acres – Agriculture Tree Planting</b></p> <p><b>10 acres – urban forest buffer</b></p> <p><b>2 acres – urban tree canopy</b></p> <p><b>5 acres – urban forest planting</b></p> <p><b>Forest Harvesting Practices – 75 acres</b></p>	<p>CBF, Penn's Creek Chesapeake Conservancy, NRCS, MCCD, Mifflin County PA Cleanways, Penn's Creek Chapter TU, Water4Ag</p>	Countywide	<p>2022 – line up landowners, develop and install educational signage for the urban stream restoration that occurred at buyout site</p> <p>2023-2025 – implementation</p>	<p>Landowner partnerships, landowner education, volunteer acceptance of buffer plantings, buffer maintenance guide for farmers, routine site visits to confirm buffers are thriving, invasive species removal during establishment</p> <p>Flash grazing must be allowed with buffer installation</p> <p>Funding program must include a 5-10-year maintenance program to establish buffers along with incentive program \$4K minimum per acre payment</p> <p>MCCD would like more buffer management equipment to utilize and lend to landowners and watershed groups. Already have trailer with small hand tools. Could use mower but need more storage space and equipment funding!</p>	<p>Materials</p> <p>Mapping</p> <p>DCNR Prime Prospects Data Exists</p>	<p>Budget available to be determined</p>	<p>6 – additional Ag Planners to provide technical assistance and ag planning</p> <p>3 – additional FTE environmental technician</p>	<p>\$780,000 per year</p> <p>\$390,000 per year</p> <p>Forest Buffer \$10,000 per acre ☐ \$500K</p> <p>Grass Buffer \$2,500 per acre ☐ \$50K</p> <p>Tree Canopy \$5,000 per acre ☐ \$11K</p> <p>Tree/Forest Planting \$10,000 per acre ☐ \$310K</p> <p>Forest Harvesting Practices \$60 per acre ☐ \$4,500</p>	<p>2022: Phase 1 of BMP verification will identify potential hits for grassed waterways and forest buffers implemented in the past 10 years. These potential BMPs will need field verified but provide a great opportunity to identify BMPs not currently reported.</p> <p>MCCD hired an intern in May of 2022 to log BMP data into PracticeKeeper from current, recent, and past projects. The intern also identified practices that were nearing their expiration date and need to be reverified...see Action# 2.1</p> <p>Installed streambank fencing in 2021... see Action# 3.1</p> <p>MCCD requested 300 trees through K10 Million Trees to distribute to landowners interested in planting riparian forest buffers in the fall of 2022.</p> <p>The MCCD piloted a Riparian Rangers Training with Alliance for the Chesapeake Bay in the summer of 2022</p> <p>Conservation District Watershed Specialist and other staff completed ongoing buffer maintenance on over 20 acres of recently installed buffer.</p> <p>CAP Implementation funding 2022: District purchasing additional riparian buffer management equipment.</p>
3.10	Wetland restoration implementation on marginal production ag land	<b>27 acres of Wetland Restoration</b>	<p>CBF, NRCS, MCCD, Mifflin County PA Cleanways, Penn's Creek Chapter TU, Water4Ag</p>	Countywide	2022 –2025	<p>Willing landowner; appropriate siting, design, and construction for successful restoration result.</p> <p>Lack of technical assistance for landowner outreach and agriculture planning to identify potential site locations.</p> <p>Lead time it takes to secure projects can take years.</p>	<p>Landowner outreach</p>		<p>3 – additional FTE environmental technician x</p> <p>2 – stream biologist</p>	<p>\$390,000 per year</p> <p>\$280,000 per year</p> <p>Wetland Restoration \$30,000 per acre--&gt; \$810K</p>	2022: No progress to date.

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3.11	Stream Restoration (Urban and Agriculture)	<p><b>8,000 Linear feet (&lt;1 miles) Urban Stream Restoration</b></p> <p><b>10,000 Linear feet (1 mile) Agriculture Stream Restoration</b></p> <p>Identify Mill dam removal opportunities</p> <p>Pair fish habitat with stream restoration</p>	CBF, NRCS, MCCD, Mifflin County PA Cleanways, Penn's Creek Chapter TU, Water4Ag, PFBC Stream Restoration Team	Rapid delisting areas top priority & Countywide	2022 – 2025	Design/permit/construction cycle seems to work in two-year increments, there is an assumption that eroded/degraded streams exist based upon 403(d) listing – should that not be the case in the field, adjust quantitative goal down and ensure buffers are in place. Lack of funding to cover engineering design.			<p>Design, permit, construction services</p> <p>Assume urban \$900/LF - \$7.2M</p> <p>Assume rural \$400/LF -\$4M</p> <p>2 – Municipal Engineers</p> <p>3 – FTE Design, Engineering, Permit</p> <p>2 – stream biologists</p>	<p>\$280,000 per year</p> <p>\$420,000 per year</p> <p>\$280,000 per year</p>	<p>2022: From 2020 to 2021 Mifflin County increased non-urban stream restoration by over 5,300 linear feet according to CAST.</p> <p>CAP Implementation Funding completed Jacks Creek Stream restoration with USFWS - 3,890'</p> <p>Completed Honey Creek Fish Habitat/Bank Stabilization with PFBC - 800'</p> <p>Completed Kishacoquillas Creek (Yoder and Bhalla Property) Fish Habitat/Bank Stabilization with PFBC - 1,350'</p> <p>The Western Pennsylvania Conservancy (WPC) submitted a NFWF Grant and Growing Greener Grant to fund/support a South Central Regional Stream Restoration Partnership between Conservation Districts, WPC, and the PA Fish and Boat Commission.</p> <p>PFBC completed designs for 2 additional projects in the Upper Kish</p> <p>USFWS completed designs and permitting for a project on Strodes Run</p>
3.12	Implement more barnyard runoff control/loafing lot management	<p><b>250 acres of barnyard runoff controls</b></p> <p><b>27 acres of agriculture drainage management</b></p>	MCCD, Chesapeake Conservancy, NRCS, Mifflin County Farm Bureau	Countywide Farms	2022-2025	<p>Mapping challenges, landowner buy-in and project development/funding.</p> <p>Lack of Technical assistance to support agriculture planning and implementation.</p> <p>Lack of funding to cover engineering design.</p> <p>Increasing construction costs are cancelling NRCS contracts.</p> <p>CAST has identified Mifflin County as 100% BMP implementation for barnyard runoff controls. This is not accurate.</p>			<p>6 – additional Ag Planners to provide technical assistance and ag planning</p> <p>3 – FTE Design, Engineer, Permit</p> <p>3 – FTE Inspector Construction Services</p>	<p>\$780,000 per year</p> <p>\$420,000 per year</p> <p>\$315,000 per year</p> <p>Barnyard Runoff Control \$175K per project, assume 1 acre per project \$1.925M in total</p> <p>Agriculture Stormwater Management \$10K per acre @ \$270K</p>	<p>2022: Phase 1 of BMP verification will identify where barnyard clusters are located and determine if they are livestock operations or poultry operations.</p> <p>See Action# 3.1 above.</p>

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3.13	Animal waste management BMP implementation for livestock	<b>3,500 new AUs of animal waste management systems</b>  <b>1,300 new AUs of livestock mortality composting</b>	MCCD, Chesapeake Conservancy, NRCS, Mifflin County Farm Bureau	Livestock & Poultry farms	2022-2025	Current capacity through NRCS and MCCD implements about 5 farms projects per year; Time to get through planning, design, and construction; outreach to smaller farms that likely need the assistance; match cash value for small farms; readiness to plan/implement projects when outreach efforts yield willing landowners  Lack of funding to cover engineering design	Project implementation – 4 – 5 farms a year		District/NRCS/Private Sector Farm Visits  Private Sector/MCCD  Private Sector/MCCD	\$780,000 per year  \$420,000 per year  \$315,000 per year  Animal waste management system \$175,000 per project, assume 100 AUs per project \$6.125M in total  Mortality composters \$3.3M budget	2022: BMP Verification Phase 1, shows the potential to report an additional 144 animal waste storage facilities currently not reported through PracticeKeeper.  See Action# 3.1 above.
3.14*	Manure Transport out of Mifflin County	<b>Transport 4,000 dry tons per year out of Mifflin County</b>	MCCD, Chesapeake Conservancy, NRCS, Mifflin County Farm Bureau, Manure haulers and brokers	Countywide	2022-2025	Current reporting standards do not require manure brokers and haulers to report manure transported. New regulations must be developed to require haulers and brokers to submit information to DEP.		Surface Water Assessment (SWAP)	1 – FTE Clean Water Coordinator for Conservation District	\$130,000 per year	2022: No progress to date. Reporting still remains an issue and is recommended state agencies work with haulers and brokers to accurately document manure transport.
3.15*	Urban Stormwater Management Non-Regulated Communities	Implement existing ordinances at local municipal level  Catalogue existing BMPs that fit into this category and newly built ones  <b>Stormwater Treatment Standard – 5 acres treated (AT)</b>  <b>Wet Ponds and Wetlands – 65 AT</b>  <b>Advanced Grey Infrastructure IDDE – 45 AT</b>  <b>Dry Ponds – 5 AT</b>  <b>Infiltration Practices – 42 AT</b>  <b>Filtering Practices – 10 AT</b>  <b>Bioretention – 5 AT</b>  <b>Bioswale – 5 AT</b>  <b>Vegetated Open Channel – 1 AT</b>  <b>Impervious Surface Disconnection – 2 AT</b>	MCPC, MCCD, developing municipalities	County-wide	Ongoing  2022-2025	Coordination/ training for municipal staff, FieldDoc batch opportunity, non-MS4 engagement (what’s in it for them?), difficulty obtaining past information (MS4s typically have databases from 2003-present)  Performance Target Continued: Pleasant Acres West – HQ stream is now impaired à empties into Lower Kish; stormwater demonstration project; clean up water before it enters karst topography; monitoring needs	Reporting platform		5 Summer interns for reporting and verification  2 – Municipal Engineers  1 – municipal planner	\$50,000 – per year  \$280,000 per year  \$130,000 per year  \$300,000 for all stormwater BMPs	2022: Multi-use trail study includes potential stormwater BMP implementation/upgrades.  The Mifflin County Conservation District applied to the National Fish and Wildlife Foundation Small Watershed Grant to implement Conservation Landscaping. As part of the grant application a new position within the Conservation District would be established to provide technical assistance similar to a watershed specialist. This grant also included funding for Green Stormwater Infrastructure projects. The grant was not awarded.

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3.16	Conservation Landscaping/Turf to Meadow Conversion	Promote new program and enable one large tract landowners' participation  <b>40 new acres of Conservation Landscaping</b>	CBF, NRCS, MCCD, Mifflin County PA Cleanways, Penn's Creek Chapter TU, Water4Ag, Municipalities, Native Creations	Developed areas in County municipalities  Kish Park (3-4 acres)  District Office	2022 - 2025	Landowner education and acceptance  Existing mowing ordinances and weed ordinances can be a challenge to implementation	Planting plan assistance		1 – FTE Municipal Planner  3 – additional FTE environmental technician	\$130,000 per year  \$130,000 per year  \$2,500 per acre meadow--> \$100,000 budget	2022: The Mifflin County Conservation District applied to the National Fish and Wildlife Foundation Small Watershed Grant to implement Conservation Landscaping. As part of the grant application a new position within the Conservation District would be established to provide technical assistance. The grant was not awarded.  Two pilot projects were completed in the fall of 2022 equaling two acres of conversion.
3.17*	Continue dirt and gravel road program	<b>24 miles overall restored through past projects</b>  Continue to implement the program annually	MCCD	Countywide	2025	Continue D&G Road program funding  Expand Dirt and Gravel Road Program to include farm lanes	Education, technical assistance, project oversight	\$1.1 million since 1997	1 – FTE Clean E&S/ DGR Tech	\$130,000 per year  Dirt and Gravel Roads \$40 per foot TBD	2022: Continued to administer DG&LVR program - 8 projects approved for 2022 (4 DGR - 4 LVR)
3.18*	Work with PennDOT and local municipalities to reduce frequency of mowing road ditches and along roadways	Educate local municipal leaders and work with PennDOT to address state owned roads on the importance of keeping higher vegetation along roadways to prevent erosion and increase nutrient uptake.	Local Municipalities, DEP and PennDOT	Countywide	2023	PennDOT's and Municipal willingness to cut back on mowing programs. DEP Chesapeake Bay Program will need to assist in the education of PennDOT.			1 – FTE Clean Water Coordinator for Planning Commission  1 – FTE Clean Water Coordinator for Conservation District	\$130,000 per year  \$130,000 per year	2022: No progress to date.
3.19	Private Funding & Grant Administration	Identify some private funding sources that may be able to supplement public funding sources/existing sources utilized for stakeholders, continue to work with partners to facilitate additional funding	Existing project implementer networks	Countywide	2022-2023	Need to expand network, educational aspect of less common funders, logistics of utilizing unproven funding sources (or lesser known).  Grant administration is a challenge due to limited staff and time-consuming nature of grant reporting and administration.	Financial services		1 – FTE Conservation District Grant Manager  1 – FTE Planning Commission Grant Manager  2 – staff accountants	\$130,000per year  \$130,000 per year  \$140,000 per year	2022: HRG and LFT are exploring potential opportunities to apply to the Foundation for Food & Agriculture Research (FFAR) and the Walton Family Foundation's new program, Achieving Conservation through Targeting Information, Outreach and Networking (ACTION) to support innovative research that increases adoption of conservation practices. A potential grant application would bolster farm visits in Mifflin County to increase the adoption of Conservation Practices.

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							Technical	Financial	Technical	Financial	
<b>Priority Initiative 4: Research, Education, and Training</b>											
4.1*	Continue to implement Mifflin County Surface Water Assessment (SWAP). Explore options to identify additional monitoring sites.	Location identification, financial and volunteer budget analysis, and initial landowner communication by end of 2022.  Continue to implement SWAP program and explore feasibility to retrofit USGS monitoring stations.  Submit data to Chesapeake Monitoring Cooperative.	ALLARM, Keystone Water Resources Center, Juniata College, Penn's Creek Watershed Association PADEP, consultants	To be determined	2022	Land access, expanded volunteer need, equipment/materials budget, Consistent data collection, QAQC continuation	Temp Loggers, YSI Multimeter		Volunteers for Water quality monitoring  New monitoring equipment  Retrofit USGS monitoring  3 – additional FTE environmental technician  2 – stream biologist/environmental scientist	N/A  \$10,000  Locations \$50,000 per monitoring site  \$130,000 per year  \$280,000 per year	2022: "In the fall of 2022, HRG will convene the Watershed Specialist to identify the largest ""gaps"" of water quality monitoring data, develop strategies to comprehensively incorporate new data to support CAP efforts.  ALLARM is in the process of developing citizen scientist monitoring data collection protocols to assist with stream health data collection. Should the protocol be approved, it will be shared with all Counties."  MCCD applied for and received a grant in 2021 from the Pennsylvania Foundation for Watersheds to conduct water quality sampling in 2021 & 2022. Sampling was completed on 24 sites in the Upper Kish and Hungry Run Watersheds for both years.  Fish sampling/electroshocking was completed in Upper Kish and Hungry Run in 2021.  Temperature loggers were deployed in 2021 in the Upper Kish and Hungry Run Watersheds to continuously monitor water temperature and identify priority areas for buffer installation.  Pre-project sampling was also completed in 2022 for the Jack's Creek project and Upper Kish projects...see Action# 3.11  PA DEP returning to Hungry Run to assess for delisting...see Action# 3.2
4.2	Look to create new or enhance the capacity of local watershed associations for short-term success and long-term sustainability,  Explore the feasibility of establishing watershed association in Mifflin County	Develop new or reestablish existing watershed associations to support with CAP implementation. Watershed organizations can support with outreach, engagement, new project identification and implementation	Penn's Creek Watershed Association, Trout Unlimited, National Trout Unlimited,	Countywide	Ongoing	Willing volunteers and leaders to establish and run watershed organizations to be successful and support with implementation  Enhance the capacity of local watershed associations for short-term success and long-term sustainability	Social media shares  Project development support		1 – FTE Clean Water Coordinator for Planning Commission  1 – FTE Clean Watershed Specialist	\$130,000 per year  \$130,000 per year  \$5000 per organization to produce promotional materials (hats, shirts, stickers) for members à \$10,000 per year	2022: Piloted Riparian Rangers Training with Alliance for the Chesapeake Bay  Attended PSU Watershed Stewards Webinar