Action #	Description	Performance Target(s)	Responsible Party(ies) and Partnerships	Geographic Location	Expected Timeline	Potential Implementation Challenges or Recommendations	Resources **Available**		Resources **Needed**		Annual Progress to Date (2020 + 2021) *add new 2021 progress above the existing 2020 progress. Date each entry	Reason for Change to Action Item (2022-2023 milestone period)
			Buffers Action Team				Technical	Financial	Technical	Financial		

Priority Initiative 1: Buffer Implementation

Action #	Description	Performance Target(s)	Responsible Party(ies) and Partnerships	Geographic Location	Expected Timeline	Potential Implementation Challenges or Recommendations	Resources Available (Technical)	Resources Available (Financial)	Resources Needed (Technical)	Resources Needed (Financial)	Annual Progress to Date (2020 + 2021)	Reason for Change to Action Item (2022-2023 milestone period)
1.1		<mark>1 stellar buffer demonstration of 1-2 acres in every township (60 total),</mark> and full buffer goal implementation	Municipalities, Lancaster's buffer action team, Lancaster County Clean Water Consortium	All municipal partners	2018-2025 NEXT STEPS: List of names (both public and private buffers) acquired to identify which municipality owned buffers exist and where gaps need addressed	With stormwater fees on the horizon, prepare to incentivize Ag and buffers with stormwater exemptions. (Financial and technical support from municipalities as we all wade through new MS4 flexibility); Not enough boots on the ground to find willing land-owners, train municipal staff, and organize plantings; Financial and technical support from municipalities as we all wade through new MS4 flexibility; CREP is no longer available for municipalities (example given at public meeting where they used to get support to use CREP dollars and trees for available lands but that has stopped) Explore compromise for implementation of buffers in sewer easement areas along riparian corridors	Public works staff employed to maintain projects Some municipalities already have a buffer that could serve as a demonstration project COG's, source water collaboratives, and Lancaster County Clean Water Consortium can work as coordinating leadership groups to get groups of municipalities done Grant money available for implem., will assist with overall MS4 permit compliance and public education Existing partner support for consistent signage across the county		Signage to explain the value of a buffer at every project More boots on the ground (planning, planting, maintenance) Willing municipalities Consistent professional development for municipal and conservation staff so messaging is the same Mapping point person/group to show progress spatially so the public can see where their dollars are going	Dollars specifically set aside to address extreme weather events for buffer repairs so teams aren't spending general funds Estimates: $4,000 per acre (source: EQIP) plus 20% for pre- and post-project work (willing landowner contact, monitoring, etc.) done by boots on the ground staff	2021: Inventory is nearly complete, outreach has begun for new buffers on public land in each twp. Efforts will continue into 2022 2020: The Collaborative Mapping Tool (CMT) added a strong ability to identify and target opportunity areas. The catchment prioritization efforts currently underway will further target very specific locations to allocate limited resources for buffer implementation. A large number of opportunity areas have been identified, but multiple landowners and stakeholders tied with limited capital and human resources for implementation and long-term maintenance has resulted in a slower implementation rate than originally desired or planned. Several municipalities have incorporated buffer requirements as part of the land development process.	Several land development plans have come forward where developers desire to add open space and trail elements to subdivisions and/or commercial areas. Questions have arisen regarding utilizing existing easements (e.g. sewer easements) for trails. Establishing a general understanding of ideal approaches would remove barriers for future implementation.

Action #	Description	Performance Target(s)	Responsible Party(ies) and Partnerships	Geographic Location	Expected Timeline	Potential Implementation Challenges or Recommendations	Resources Available		Resources Needed		Annual Progress to Date (2020 + 2021) *add new 2021 progress above the existing 2020 progress. Date each entry	Reason for Change to Action Item (2022-2023 milestone period)
Buffers Action Team							Technical	Financial	Technical	Financial		
							Non-municipal partners currently installing buffers (Farmland Trust, ACB, CBF, PSU, Stroud, Conservancy, LCCD)					
1.2	Create and maintain an online map of buffer miles to show progress across the county (Community engagement and public education)		Lancaster's buffer team, Buffer specialist provided by Focus Lancaster NFWF grant, DEP	All areas but priority watersheds first	Map is online	This allows us to adjust our efforts if we realize there is a specific area where buffers are disappearing at a detrimental rate; Consistent and timely reporting of projects; CREP data is private; Lidar frequency is limiting; Data Management Action Team lead online mapping tool development	We can model the reporting after CBF's K10 initiative (online GIS map); use Chesapeake Conservancy buffer gap opportunity maps to determine available next places to work in priority watersheds	Private found. support for Chesapeake Conservancy's ability to work in Lancaster County	Access to Practice Keeper or a shared map with the option for partners to add their own GIS layers so specialists can integrate projects with other efforts to show an accurate spatial image of work happening	Dollars to pay for consistent way of reporting buffer implementation (acres, feet, etc.)	2021: In progress under auspices of Data Management Action Team. Proposed new GIS person from the Chesapeake Conservancy will also be an added benefit. 2020: The platform (CMT) has been developed. Currently wading through and finalizing operational and end user details. Alignment with multiple platforms may prove difficult, but achievable.	Action description updated from yellow to green as the mapping platform (CWMT) is online.
							Alliance for the Chesapeake Bay has an "Adopt a Buffer" program starting if awarded Growing Greener grant		Mapping point person/group to show progress spatially so the public can see where their dollars are going	Growing Greener grant so the Alliance for the Chesapeake Bay can run an "Adopt a Buffer" program as a way to engage local businesses		
							PSU GIS specialist; county GIS team; Lancaster County Conservancy's GIS specialists; tree canopy report at the County		PennDOT support	Estimates: $7,000 per ArcGIS license Staff person at the District or staff time from another partner with GIS staff like the Conservancy		
1.3	Directed and strategic landowner outreach for immediate implementation – Ag projects will get top priority and all projects will be combined with other types of restoration projects as often as possible (streamside, floodplain, wetland, dam removal, etc)	Forest buffer – 8,555 total acres (both urban and ag settings) Forest buffer narrow - 100 total acres 7,132 new acres for regular and narrow buffers combined.	All partners across Lancaster County, Lancaster's buffer team, Lancaster Conservancy	Ag projects get top priority, specifically if a project will limit livestock access to streams; Pequea Watershed, Octoraro Watershed, Chiques watershed, and Cocalico watershed because the data is available, municipal partners are already participating, and/or	Implemented or process started for implementation by 2025 Use the charter document for more specific timeline/a Gannt chart approach (Buffer AT is the lead for annual goals)	Time; Not enough boots on the ground to find willing land owners and organize plantings; CREP acre cap for the state; No Farm Bill means a closed door for CREP; Financial and technical support from municipalities as we all wade through new MS4 flexibility;	Chesapeake Conservancy's buffer gap analysis	NFWF	Plain sect outreach	Non-federal income-replacing incentive	2021: Some partners are engaging in targeted work within prioritized catchments (Delisting strategy). The reality is still that the amount of landowners who volunteer or who are found through other project work exceeds current capacity though. A big outreach push is needed to increase acres, but without increasing professional capacity in the county, this will only result in wait lists. *STORY LINKS >* *Pioneering project targets 8 Lancaster streams for rapid delisting*	The de-listing strategy provides a mechanism to target resources, focus, implementation activities, etc. with limited resources into manageable areas (catchments). Objective is to address a few catchments at a time and move on to a new group. Updated performance target to align known progress with new acres still needed to achieve final targets
							ReLeaf Report	Private foundations	Staff to do landowner outreach, plant, and maintain	Dollars specifically set aside to address extreme weather events for buffer repair so teams aren't spending general funds		
							WSI's list of priority landowners	CREP	PennDOT support	~$29 million for new acres		

Action #	Description	Performance Target(s)	Responsible Party(ies) and Partnerships	Geographic Location	Expected Timeline	Potential Implementation Challenges or Recommendations	Resources **Available**		Resources **Needed**		Annual Progress to Date (2020 + 2021) *add new 2021 progress above the existing 2020 progress. Date each entry	Reason for Change to Action Item (2022-2023 milestone period)
							Technical	Financial	Technical	Financial		
Buffers Action Team												
				the loading is the highest	De-listing strategy to assist with priority locations.	Outreach to the plain sect community can be sensitive; USACE issue permit for development on wetlands so the easement is held by USACE with different language (federal level) **Clarification of appropriate procedure to report verifications per the BMP Verification Plan is needed***	2019 planting schedule from buffer team members (see Appendix) CBF's K10 campaign Plain sect outreach is happening in specific communities REAP credits Municipal leaders				*Gov. Wolf, Chesapeake Conservancy & Partners Announce Initiative to Restore 30 Agriculturally Impaired Streams by 2030* https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/newsroom/releases/?cid=nrcseprd1769025 *Millions in federal funding to cover costs of restoring 350 miles of Lancaster County streams* 2020: The catchment prioritization efforts currently underway will further target very specific locations to allocate limited resources for buffer implementation. Limited human and capital resources provides a bottleneck with strategic landowner outreach activities.	
Priority Initiative 2: Buffer Strategy and Regulation												
2.1	We will examine how high-quality template language from existing ordinances can help make required buffers the norm across the county (look at Warwick Township and East Cocalico as examples) We will hold a meeting of all municipalities who currently have ordinances with buffer requirements with the intention of getting all	All implemented projects as a result of this Priority Initiative will be counted in reductions outlined in 1.1 or 1.3	LCWP and Consortium, Lancaster's buffer team, Kate Gonick and the Lancaster County Conservancy	All of Lancaster County Buffering headwaters is the priority so we can protect source water and preserve pristine areas	2019-2025 Include session at MS4orum about ordinances In conjunction with SWMO update process in 2022-2023	Example recommendation: All headwater streams be required to have a 35-50 foot buffer; all new developments must include buffers, landowner maintenance, and signage; Financial and technical support from municipalities as we all wade through new MS4 flexibility;	Report from PSU coming Willing and experienced municipal staff		A collection of common language that has been well-received by municipal boards Peer-to-peer stories and outreach from municipal officials, developers, and landowners that show how buffers make economic sense for both parties		2021: Not much progress yet, but the main opportunity will be tied to the next MS4 Permit cycle and updates to local SWMOs that may be required by the 2023-2027 permit. 2020: Several municipalities have incorporated buffer requirements as part of the land development process in their ordinances. There is significant pushback from most municipalities to incorporate required buffers language in ordinances. However, efforts and messaging continue to improve understanding and buy-in for establishing buffer requirements.	The model SWMO update tied to the next MS4 permit cycle provides the most opportune timing to address this action.

Actio n #	Description	Performance Target(s)	Responsible Party(ies) and Partnerships	Geographic Location	Expected Timeline	Potential Implementation Challenges or Recommendations	Resources Available		Resources Needed		Annual Progress to Date (2020 + 2021) *add new 2021 progress above the existing 2020 progress. Date each entry	Reason for Change to Action Item (2022-2023 milestone period)
Buffers Action Team							**Technical**	**Financial**	**Technical**	**Financial**		
	municipalities to adopt similar requirements					Outreach to the plain sect community can be sensitive; USACE issue permit for development on wetlands so the easement is held by USACE with different language (federal level)	Consortium can offer workshops or events		Municipal and Partners staff time to collate the ordinances and strategize how to get language options out to municipalities (potential PSU intern can finalize this part of the project as this work has already begun)			
2.2	Create a Lancaster County Buffer Program (BEST)	All implemented projects as a result of this Priority Initiative will be counted in reductions outlined in 1.1 or 1.3	Lancaster buffer team, LCWP, Lancaster County Conservancy, Lancaster County Clean Water Consortium	Across the county, priority watersheds TBD	2019 BEST documentation was completed by end of 2020	Have an organized effort (not an official County project) that complements CREP and coordinates a care establishment program; This group will oversee the buffer work across the county; Financial and technical support from municipalities as we all wade through new MS4 flexibility; Outreach to the plain sect community can be sensitive; USACE issue permit for development on wetlands so the easement is held by USACE with different language (federal level); Boots on the ground now are doing every role in every phase of buffers - we need 3x our current capacity at every organization	Lamonte Garber, Ashley Spotts Program to be modeled after the CREP program but creating alternatives based on the limitations identified in CREP Township solicitors meeting to speak to them all at once		Township outreach to monitor township-held easements and buffer ordinances NGO's currently installing buffers (Farmland Trust, Alliance, CBF, PSU, Stroud, Conservancy, LCCD) with approximately 2-3 staff now, we need 3x that at every organization - add 20% to the cost of a project	Dollars for the incentive part of the program Dollars for 3x the staff currently working on buffers - approx. $1 million because current boots on the ground are doing every angle of buffer strategy, outreach, planning, planting, maintenance, and more - An opportunity exists to have staff be more specialized so we can all be more efficient.	2021: Pilot program has been successful so far! There are acres maintained with BEST to date (accounting of acres still in progress). Private donation of $10k into BEST fund was a huge success. We now need more funds. A subset of the Buffer Action Team is working on planning, strategizing, and getting more funding. Working on getting additional funding from another partner organization in the amount of $40,000 *STORY LINK > Action Teams tree planting at overlook park* 2020: Framework for team and program has been established. Group in early stages of efforts, but successful in facilitating actions necessary to meet objectives. Limited human and capital resources is a factor restricting BMP implementation rates.	Timeline updated to reflect the BEST program is up and running.

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							Technical	Financial	Technical	Financial		
Buffers Action Team												
							LCWP buffer specialist					
2.3	Create a coordinated outreach campaign for public lands and semi-public lands to be required to have forested buffers	60% of churches, schools, libraries, municipalities, parks, will have buffers All implemented projects as a result of this Priority Initiative will be counted in reductions outlined in 1.1 or 1.3	LCWP	Across the county	2025 2022-Buffer Year	Focus on public health and flood control; Feedback loop: getting landowners all the right resources; Coordination of all partners outreach efforts	Alliance for the Chesapeake Bay DCNR Existing success stories to be the examples we need Groundwater and source water collaboratives		Point person to work with at Council of Churches, real estate associations, builders associations, authorities associations, libraries, school districts etc. Marketing materials for each audience Calendar of events so we don't duplicate NGO's currently installing buffers (Farmland Trust, Alliance, CBF, PSU, Stroud, Conservancy, LCCD) with approximately 2-3 staff now, we need 3x that at every organization		2021: Efforts have been more opportunistic and ad-hoc to date, but successful at getting more public land buffers. In 2022, will need to begin concerted/coordinated effort Buffer Year should help with this coordinated effort. 2020: Efforts associated with this activity have been limited thus far. Anticipate measurable progress as Action 2.1. and 2.2 progress further ahead (this action is considered a successor to 2.1 and 2.2)	Action description upgraded from red to yellow based on overall progress and outreach campaigns. Additionally, 2022 has been identified as the year of the buffer for Lancaster County to elevate efforts and opportunities through existing and new outreach campaigns (e.g. Water Week)
2.4	Increase the presence of buffers in marketing and events of Water Week	All implemented projects as a result of this Priority Initiative will be counted in reductions outlined in 1.1 or 1.3	LCWP, Conservancy, Consortium	Across the county	On-going	Limited participation in Water Week events - have to make sure we're not only "preaching to the choir" Use email addresses of event participants for	Amazing staff who organize Water Week	Private foundations, corporate sponsors of Water Week	More marketing materials and a way to get them to each audience	Dollars for more marketing materials and a way to get them to each audience (estimate: $60,000)	2021: Buffer awareness is increasing, and we are reaching beyond Water Week to accomplish this. October 2021 will be "Buffer Month" and we have decided that 2022 should be "The Year of the Buffer", with cross-sector unified messaging and celebrations of riparian forests all year long to increase awareness further. This will help to increase awareness and promote	

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							Technical	Financial	Technical	Financial		
Buffers Action Team												
						invitations to future workshops Continuous and effective engagement plan would be helpful	Hundreds of participants		More public participation	Incentives for landowners to install buffers even after Water Week	buffers amongst all Lancaster County streamside landowners. 2020: Messaging and outreach efforts remain strong and continuous. Expansion of audiences outside normal or industry-related audiences is an on-going effort and will require repetitive messaging.	

Phase 3 Watershed Implementation Plan (WIP) Planning and Progress Template

Each county-based local area will use this template to identify:

1. Inputs – These are both existing and needed resources, public and private, to implement the identified priority initiative. These include both technical and financial resources, such as personnel, supplies, equipment and funding.

2. Process – what is each partner able to do where and by when. These are the action items listed under each priority initiative.

3. Outputs and outcomes – both short and long-term. These are the priority initiatives identified by each county.   The performance targets are the intermediate indicators that will measure progress.

4. Implementation challenges – any potential issues or roadblocks to implementation that could impede outputs and outcomes.

Asterisk: Place an asterisk next to the action number(s) for action items that appear in both the County Planning and Progress Template and the Programmatic Recommendations Template.

For each Priority Initiative or Program Element: Use the fields, as defined below, to identify the inputs and the process that will be followed to achieve each priority initiative. This is the "who, what, where, when and how" of the plan:

Description = What. This may include programs that address prevention, education, or as specific as planned BMP installations that will address the Priority Initiative. A programmatic or policy effort will require some ability to quantify the anticipated benefits which will allow calculation of the associated nutrient reductions.

Performance Target = How. This is an extension of the Description above. The Performance Target details the unique BMPs that will result from implementation of the Priority Initiative and serves as a benchmark to track progress in addressing the Priority Initiative. Performance Targets may be spread across multiple Responsible Parties, Geographies, and Timelines based on the specifics of the Initiative.

Responsible Party(ies) = Who. This is/are the key partner(s) who will implement the action items though outreach, assistance or funding, and who will be responsible for delivering the identified programs or practices.

Geographic Location = Where. This field identifies the geographic range of the planned implementation. This could extend to the entire county or down to a small watershed, based on the scale of the Priority Initiative, range of the Responsible Party, or planned funding/resources. *NOTE: Resource limitations alone should not limit potential implementation as additional funding may become available in the future.*

Expected Timeline = When. Provide the expected completion date for the planned activity. This should be a reasonable expectation, based on knowledge and experience, that will aid in tracking progress toward addressing the Priority Initiative.

Resources Available: Technical & Funding = This field will note technical and financial resources secured/available to implement the program (Description). This is the total of the resources identified in the County Resources Inventory Template below allocated to the priority initiative as a whole; or, if available, to each action.

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							Technical	Financial	Technical	Financial		
Buffers Action Team												

Resources Needed: Technical & Funding = This field will note technical and financial resources needed/outstanding to implement the program (Description). This is the total of the additional resources projected and identified as needed in the County Resources Inventory Template below allocated to the priority initiative as a whole; or, if possible, to each action.

Potential Implementation Challenges/Issues = This field will note challenges and issues that may delay program implementation (Description).