

Winter 2020 Implementation Workshops



Workshop 1 – Taking Care of What We Have



Water Quality and Stormwater Management

Policy: Improve water quality and work together on stormwater management

Why Focus on This Policy?

During our fall 2019 planning area meeting series, partners in nearly all the planning areas emphasized the importance of this policy.

Purpose of Discussion

Identify areas of greatest priority for water quality and stormwater projects, and recommend how the *places2040* catalytic tools can facilitate these projects, and increase their effectiveness.

Desired Outcomes

Places2040 provides some ways to measure our progress in achieving this policy:

Water Quality

Impaired streams	▽	Reduce % impaired streams
Nitrogen/phosphorus/ suspended sediment	▽	Reduce total levels of nitrogen, phosphorus, and suspended sediment
Riparian buffers	▲	Increase miles of riparian buffers
Tree canopy	▲	Increase % of land covered in tree canopy

Methodology

LCPC staff used the Lancaster Clean Water Partners' Collaborative Watershed Mapping Tool to identify the high priority catchments. To develop this tool, the Chesapeake Conservancy worked with the Clean Water Partners Watershed Action Team. This collaboration included research organizations, local and state governments, nonprofits, and restoration professionals. This mapping tool uses several metrics to identify catchments that should be prioritized for restoration opportunities. To augment the map, staff added BMP projects identified in municipal MS4 pollutant reduction plans.

The Collaborative Watershed Mapping Tool is available at:

<http://chescon.maps.arcgis.com/apps/webappviewer/index.html?id=52cf7142ea8a48e48bce49046fef2298>

Mapping Units: Data in the tool is summarized into small hydrologic units called “catchments” to easily identify areas with the greatest opportunity for restoration. *[Note: These catchments differ from the catchments shown in the Collaborative Watershed Mapping Tool, which is based on the National Hydrography Dataset Plus V2 (2012).]* Catchments are very small watersheds, defined as the drainage area associated with “stream reaches” which have been segmented at confluence points. An average stream reach is 3,000 feet in length and the average catchment is 600 acres.

Prioritization: The tool incorporates several data layers, assigns weights to each attribute, and develops a final weighted score. While all are important, the attributes are prioritized as follows:

- Most important: nitrogen load, sediment load and phosphorous load
- Moderately important: Average stream length per parcel, stream bank volume loss, and buffer restoration opportunity area
- Least important: Impaired streams (for aquatic life uses)

Catchments with the highest priority for restoration opportunities are shown on **Map 3**. Quarries are also shown, because they are an important part of the rural economy.

BMP Projects shown on **Map 3** are taken from the Lancaster County Municipal Pollution Reduction Plans BMP Report produced by the Penn State Ag and Environment Center. These projects represent best management practices (BMPs) proposed by municipalities to meet MS4 permit requirements. Clean Water Partners is currently working to expand this list to include projects in rural areas. These projects include local Watershed Implementation Plans, and projects identified in the Chiques Creek Alternative TMDL process and the Chiques Report Card.

The Lancaster Farmland Trust and other farmland preservation agencies/organizations are showing increased interest in considering water quality impacts as possible criteria in selecting farms for preservation. **Map 3** shows the location of “priority areas of agricultural preservation” from Strategic Discussion 1 in relation to the catchments with the highest priority for restoration opportunities.

Applying the Catalytic Tools in *places2040*

The table on the next page explores how the 7 tools in *places2040* can be used to improve water quality and create opportunities to work together on stormwater management.

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Catalytic Tool	Description	Responsibility
Official Maps	<ul style="list-style-type: none"> • Inventory and prioritize water quality improvement projects • Add high priority projects to regional/municipal official maps 	Municipalities, nonprofits, watershed and research organizations, restoration professionals
Collaborate	<ul style="list-style-type: none"> • Collaborate at a watershed scale and on projects of regional significance through: <ul style="list-style-type: none"> ○ Councils of Government ○ Environmental Advisory Councils ○ Intergovernmental cooperation agreements ○ Memorandums of Understanding (MOUs) ○ Watershed-based plans and permits ○ Joint permits, reports (e.g. MS4 PRP) ○ “Handshake” agreements 	Municipalities, nonprofits, watershed and research organizations, restoration professionals
Align Resources	<ul style="list-style-type: none"> • Encourage cooperation between municipalities and local watershed groups • Prioritize farmland preservation for farms undertaking conservation plans and practices within areas of highest priority for restoration opportunities 	Municipalities, local watershed groups, Ag Preserve Board, Lancaster Farmland Trust