

Summary of Lebanon County Clean Water Initiatives

| Document Name | Document Date | Prepared For | BMP/Project | Amount of BMP | Watershed(HUC10) | Subwatershed where BMP implemented | Municipality of Proposed BMP | Land use where BMP applied (crop, pasture, pervious Developed land, impervious ag/suburban/urban) | Organization responsible for implementation | General recommendations for action | Priority Ranking | Watershed Threats | Implementation related to:Outreach, Public Education, Policy | Notes |
|---|---------------|---|--|--|---------------------------|---|---|--|---|--|------------------|--|---|---|
| Chiques and East Conewago Creek WRAS | 2003 | | \$75000 to develop restoration plan for the Conewago Creek | 1 Restoration Plan | Chiques/Susquehanna River | Chiques and East Conewago Creek (State Water Plan Subbasin 07G) | Lancaster Dauphin and Lebanon Counties. Majority of focus is within Lancaster County. Municipalities within the watersheds in Lebanon are South Londonderry, West Cornwall and Cornwall | | Tri-County Conewago Creek Association (TCCCA) | Provides a list of restoration protection initiatives and funding when the report was written (2003). | | increased res. And non-res. development/ stormwater, increase water demand affecting stream baseflow | | Headwaters of these streams located within Lebanon Co. They are attaining their designated uses. Provides TMDL info |
| Chiques Creek Watershed Assessment | 2002 | Chiques Creek Watershed Association | stream restoration (identified in report as reach C11) | 1200 | Chiques | Chiques | West Cornwall | forested | | stream restoration - all other reaches identified were in Lancaster County | | | | geomorphic and habitat assessments performed |
| Conewago Creek Restoration Plan | 2006 | Tri County Conewago Creek Association | Most recommendations are for vegetative buffer strip, fencing, stabilization, some nutrient management, terraces, grazing management, ect. | 6 projects in Little Conewago Creek; 6 projects in the headwaters; and 11 projects in subbasin A (some may be out of Lebanon Co.). | Susquehanna River | Conewago Creek Watershed | Lebanon Co. - primarily South Londonderry Twp, Small area of South Annville and West Cornwall | Soil conservation farming practices, Riparian Practices, Pastureland management practices, Nutrient management practices | TCCCA, CBF, Conservation Districts, NRCS | Implement restoration projects identified in order of the priority identified. | | | Outreach, water quality, public education, policy, recreation | models the load reductions resulting from BMP implementation |
| Conewago Creek Watershed Non-Point Source Pollution Assessment | 1988 | | | | Susquehanna River | Conewago Creek Watershed | | | | | | | | |
| Conewago A Baseline Water Quality Assessment of Conewago Watershed Fall 2002-2003 | | | | | Susquehanna River | Conewago Creek Watershed | | | | | | | | |
| A Baseline Water Quality Assessment of the Furnace Run Watershed Fall 2001-2002 | 2001-2002 | Prepared by Honors Biology class, Lebanon High School | Watershed assessment | N/A | Furnace Run, Segloch Run | N/A | Lebanon/Lancaster Counties | Sites assessed were ag/forested | Prepared by Honors Biology class, Lebanon High School | Deny Heidelberg Township's Request to discharge wastewater effluent into Furnace Run. Plant trees to stabilize banks and prevent erosion. Plant buffers and increase aerial coverage. Fence out livestock. | | | Assessment | |
| Furnace Run - CV High School | | | | | | | | | | | | | | |
| Coldwater Conservation Plan - Furnace Run/Segloch Run | 2004 | Furnace Run/Segloch Run Watershed Alliance | Control road pull-offs, maintain horseshoe trail, landowner education, habitat improvements, redirect spring flow directly to stream, | Specific tracts referenced in report | Cocalico Creek | Furnace and Segloch Run | Heidelberg Twp | | | | | | | Segloch Run is EV Furnace Run is HQ |
| Hammer Creek and Speedwell Forge Watershed Assessment | | | 30 sites in Lebanon Co. | Watershed drains 571 mi ² in both Lebanon and Lancaster Counties | Cocalico Creek | Hammer | Heidelberg, South Lebanon, Cornwall Borough | Undeveloped forestland, ag fields and farms, residential/urban (Ag is the dominant land use but urban is rapidly increasing) | Multiple | | | | | |
| Speedwell Forge Lake 319 Watershed Assessment Study | 2003 | PAFBC, PADEP | agricultural BMPs (including waste storage facilities on all active livestock operations) stream fencing and crossings, buffers, nutrient management plans | no specific BMP amounts/locations | Cocalico Creek | Hammer | Heidelberg, South Lebanon, Cornwall Borough | Agricultural/Rural | Lebanon County Conservation District | Reduce nutrient/sediment non-point source pollution that is affecting water quality in Speedwell Forge Lake | | | | |
| Speedwell Forge Lake 319 Watershed Assessment Study | 2003 | PAFBC, PADEP | stream stabilization, | no specific BMP amounts/locations | Cocalico Creek | Hammer | Heidelberg, South Lebanon, Cornwall Borough | urban/suburban/rural | | | | | | |
| Speedwell Forge Lake 319 Watershed Assessment Study | 2003 | PAFBC, PADEP | dirt and gravel road program, | no specific BMP amounts/locations | Cocalico Creek | Hammer | Heidelberg, South Lebanon, Cornwall Borough | rural | Lebanon County Conservation District | | | | | |
| Speedwell Forge Lake 319 Watershed Assessment Study | 2003 | PAFBC, PADEP | constructed wetlands, stormwater management facilities that address WQ, LID techniques, | no specific BMP amounts/locations | Cocalico Creek | Hammer | Heidelberg, South Lebanon, Cornwall Borough | urban/suburban | | | | | | |
| Speedwell Forge Lake 319 Watershed Assessment Study | 2003 | PAFBC, PADEP | Update Act 537 plans | N/A | Cocalico Creek | Hammer | Heidelberg, South Lebanon, Cornwall Borough | urban/suburban/rural | Municipal Governments | | | | | |
| Speedwell Forge Lake 319 Watershed Assessment Study | 2003 | PAFBC, PADEP | Update Township Ordinances (LID, riparian buffer ordinance, open space provisions, ect.) | Unknown number of ordinances that may require updates | Cocalico Creek | Hammer | Heidelberg, South Lebanon, Cornwall Borough | urban/suburban/rural | Municipal Governments | | | | | |

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| Speedwell Forge Lake 319 Watershed Assessment Study | 2003 | PAFBC, PADEP | Additional watershed investigations to identify stream instability and other non-point sources; also develop and inventory of all drainage facilities along state and federal highways and their condition | N/A | Cocalico Creek | Hammer | Heidelberg, South Lebanon, Cornwall Borough | urban/suburban/rural | Various/undetermined | | | | | |
| Speedwell Forge Lake 319 Watershed Assessment Study | 2003 | PAFBC, PADEP | develop a comprehensive watershed education program | develop educational material for diverse stakeholder groups | Cocalico Creek | Hammer | Heidelberg, South Lebanon, Cornwall Borough, coordinate with Lancaster Co. municipalities | urban/suburban/rural | Various/undetermined | | | | | |
| Heidelberg Township Wellhead Protection Program and Management Plan | 2004 | Heidelberg Township and Heidelberg Municipal Authority | Development of wellfield/wellhead area protection zones | 3 protection zones | Hammer Creek, Tulpehocken Creek, Mill Creek, Middle Creek | | Lebanon County | Mixed | Heidelberg Township | Enforce protection zones, encourage farmer participation in development of nutrient management plans | | Nutrient runoff, contamination | Encouragement to landowners to participate in developing nutrient management plans. Public education, policy | |
| Lower Susquehanna-Swatara Rapid Watershed Assessment | | | Ag conservation practices (crop rotation, contour farming, nutrient management, buffers, diversions, waterways, field borders, cons tillage, residue mgmt, stripcropping, terraces, prescribed grazing) | Very high level - amounts not provided. Resource concerns addressed called out in the plan include erosion, cropland organic matter and productivity, sedimentation, degradation of stream quality, conversion of non-urban land to urban, | Lower Swatara, Upper Swatara, Little Swatara, Quittapahilla, | | Cold Spring, Bethel, Swatara, Union, East Hanover, North Annville, South Annville, North Londonderry, South Londonderry, Palmyra, Anneville, Cleona, west Lebanon, Lebanon, North Lebanon, North Cornwall, West Cornwall, Cornwall, Jackson, | Agriculture | | | | | Outreach/Education - report is a foundation for watershed studies or area planning | includes inventory of avg precip, NWI, impaired streams (2006), abandoned mine land, EV streams, trout waters, TMDL, WQ testing points, water withdrawals, discharges, ect., heritage inventory sites, bird atlas, soils, |
| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | Agriculture | evaluated various BMP implementation scenarios using AVGWLF and predict models by subwatershed | Quittapahilla | all - prioritized in report. Upper Killinger Creek top for nutrients and sediment and Gingrich run for sediment | South Anneville, Annville, North Annville, North Londonderry, Londonderry, Palmyra, Cleona, West Lebanon, Lebanon, North Cornwall, Cornwall, South Lebanon, North Lebanon, | ag | suggests conservation district and NRCS work with farmers to implement BMPs | subwatersheds draining to the city of Lebanon ranked the highest priority for urban BMP implementation, prioritized watersheds for Ag BMP implementation based on the results of AVGWLF and Predict modeling | | | outreach and education | |
| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | 9 Urban BMP sites (all wet ponds) identified in and adjacent to Lebanon - detail info provided | various | Quittapahilla | Quittapahilla, Brandywine | Lebanon, North Lebanon, South Lebanon, North Cornwall | urban | | implement projects | | | | regional approach, lots of detailed cost info, concept plans, ect. |
| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | Stream restoration - projects range form fencing, buffers, dam removal, wetland creation and restoration | 16 projects - 23,206 ft | Quittapahilla | Bachman Run | West Cornwall and South Annville | agriculture?, various | | implement restoration projects - report prioritizes watersheds, not projects. MS Quittapahilla at confluence with Beck and Snitz Creek, Lower Snitz Creek, MS Quitt. Confluence with Killinger Creek, Brandywine Creek... | | | | |
| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | stream restoration and stormwater wetland basins | 8 projects - 9945 ft | Quittapahilla | Brandywine Creek | North Lebanon and Lebanon | seems like mostly urban/suburban | | | | | | |
| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | dam removal, stream restoration, livestock fencing, riparian buffer, livestock crossing, wetland creation, | 19 projects - 30550 ft | Quittapahilla | Beck Creek | South Annville, North Cornwall, West Cornwall | agriculture, golf course, lawn/developed? | | | | | | |
| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | restoration, fencing, riparian buffer, bank grading | 5 projects - 10155 ft | Quittapahilla | Buckholder and Gingrich Run | South Annville | mostly ag with some developed | | | | | | |
| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | Stream restoration - projects range form fencing, buffers, bank stabilization, wetland creation and restoration | 10 projects - 16710 ft | Quittapahilla | Killinger Creek | South Annville, South Londonderry, North Londonderry, North Annville | primarily ag, some urban/concrete channels | | | | | | |

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| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | Stream restoration - projects range form fencing, buffers, dam removal, wetland creation and restoration | 24 projects - 37670 ft | Quittapahilla | Snitz Creek | Cornwall, West Cornwall, North Cornwall | minimal ag, mostly developed? | | | | | | |
| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | Stream restoration - projects range form fencing, buffers, dam removal, wetland creation and restoration | 10 projects - 13000 ft | Quittapahilla | Upper Quittapahilla | Lebanon and South Lebanon | minimal ag, mostly urban/suburban | | | | | | |
| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | stormwater wetland creation, restoration, bank stabilization, remove debris jams, address bridge spans, grade control and habitat structures, | 29 projects - 69760 ft | Quittapahilla | Main stem Quittapahilla | North Cornwall, Cleona, Annville, South Annville, North Annville | seems mostly urban/suburban | | | | | | |
| Quittapahilla Creek Watershed Assessment Vol. 2 Restoration and Management Plan | 2006 | Quittapahilla Watershed Association | restoration, fencing, livestock crossings, riparian buffer | 5 projects - 9315 | Quittapahilla | unnamed tribs | North Annville, North Londonderry | mostly ag/rural | | | | | | |
| Quittapahilla Creek TMDL - sediment | 2000 | Quittapahilla Watershed Association | Agricultural BMPs - emphasizes riparian buffer zones, contour strips and cover crops because of their efficiency. Additional streambank stabilization and fencing | Reductions to meet the TMDL are allocated entirely to AG to reduce sediment | Quittapahilla | | South Anneville, Annville, North Anville, North Londonderry, Londonderry, Palmyra, Cleona, West Lebanon, Lebanon, North Cornwall, Cornwall, South Lebanon, North Lebanon, | Ag | | | | | | TMDL |
| Quittapahilla Creek TMDL - Phosphorus | 2000 | | Agricultural BMPs - emphasizes riparian buffer zones, contour strips and cover crops because of their efficiency. Additional streambank stabilization and fencing | Reductions to meet the TMDL are allocated entirely to AG to reduce phosphorus | Quittapahilla | Bachman Run, Beck Creek, Killinger Creek, Snitz Creek | South Anneville, Annville, North Anville, North Londonderry, Londonderry, Palmyra, Cleona, West Lebanon, Lebanon, North Cornwall, Cornwall, South Lebanon, North Lebanon, | Ag | | | | | | TMDL |
| Rausch Creek Assessment Report of Field Results and Remedial Options | 26-Mar-10 | TU Doc Fritchey Chapter | Water quality sampling, "no build" option: no action except continued use of limestone diversion well, limestone sand treatment (limestone sand added to streambed in high gradient headwater drainages to regulate pH from acid mine drainage.) | 11 sites sampled. If limestone sand added, 256 tons | Stony Creek | Rausch Creek | | Forested, ag, abandoned mines | TU Doc Fritchey | URS recommends the limestone sand addition | | Acid mine drainage | Water quality + monitoring | |
| Stoney Creek Effects of Acid Mine Drainage on Upper Stony Creek Watershed | 1999-2000 | Prepared by Honors Biology students at Lebanon High School | Assessment and determination of effectiveness of limestone diversion well | N/A | Stony Creek | - | Dauphin and Lebanon Counties | Forested | Lebanon High Schhol | Watershed should continue to be maintained in its natural condition with limited public access. Limestone well appears to be bennefical. Further studies recommended on tributaries. Investigate treatment wetlands as an option for treating effluent from diversion well. | | Acid mine drainage | Assessment and monitoring | |
| Assessment of Non-Point Source Pollution in the Swatara Creek Watershed | Dec-88 | For PA DEP by Lebanon County Conservation District | Assessment. Proposed plan to 1. reduce soil erosion. 2. reduce nutrient loss through mismanagement of nutrients | 10,203 feet of waterways, 9,640 feet of terraces, 867 feet of diversions, 708 acres of strip cropping, 364 acres of conservation tillage, 227 acres of cover crops, 5 wastewater storagesystems, 7,721 acres of applied nutrient management plans, 3,7499 acres of filter strips, 370 acres of permanent vegetative cover, 10,727 ft. of streambank protection | Swatara Creek | Inwood Gap, Stony Creek, lickdale, Indiantown Creek, Elizabeth Run, Earkill, Raccoon Creek, Waterworks, Little Swatara, Deep Run, Lower Quittapahilla, Lebanon, Killinger Creek, Bachman Run, Annville-Cleona | Lebanon County | 50% ag | | Implement nutrient management and erosion control BMPs. | | Erosion and nutrient mismanagement | Assessment and BMP implementation. Public outreach and education through work with landowners | Proposed plan will take five years to develop at a cost of \$85,501 per year. Approximately 47 farmers will participate in the program |
| Swatara Rivers Conservation Plan | 2000 | Swatara Creek Watershed Association? | project area characteristics, land resource recs, water resouce, biologica, cultural, and greenway recommendations | Approach recommendations only | Lower Swatara, Upper Swatara, Little Swatara, Quittapahilla, | all subwatersheds | Annville, Bethel, City of Lebanon, Cleona Borough, Corwall Borough, East Hanover Twp, Jackson, Jonestown, North Annville, North Cornwall, North Lebanon, North Londonderry, Palmyra, South Annville, South Lebanon, South Londonderry, Swatara, Union, West Cornwall, West Lebanon | majority of watershed in Lebanon is Ag | | general calls to action to address watershed concerns related to policy, education and outreach, invasive species, restoration, ect. No specific restoration projects provide. Specific recommendations for policy, ect. are provided. | | | general calls to action to address watershed concerns related to policy, education and outreach, invasive species, restoration, ect. No specific restoration projects provide. Specific recommendations for policy, ect. are provided. | 43% of watershed in Lebanon Co. Very detailed watershed description/analysis. |

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| Swatara WRAS | 2001 | | Doesn't call for specific action. More of a summary of existing/proposed actions, TMDLs, impacts to water quality, ect. | Summary of actions to date | Lower Swatara, Upper Swatara, Little Swatara, Quittapahilla, | all subwatersheds | Anneville, Bethel, City of Lebanon, Cleona Borough, Corwall Borough, East Hanover Twp, Jackson, Jonestown, North Annville, North Cornwall, North Lebanon, North Londonderry, Palmyra, South Annville, South Lebanon, South Londonderry, Swatara, Union, West Cornwall, West Lebanon | majority of watershed in Lebanon is Ag | | Summary of existing actions and funding | | Ag and Urban Runoff, AMD a threat upstream of Lebanon Co. | Money for educational grants (northern Lebanon co school district), Lebanon Valley Conservancy restoration projects, geomorph assessment of the Quittapahilla, stream restoration and fencing in Quittapahilla, Lebanon cons. District for ag BMP implementation, streambank fencing and planting on the Little Swatara, City of Lebanon - passive treatment systems for drinking water reservoir to remove AMD, | |
| Tulpehocken Creek Watershed Protection Plan and Environmental Assessment | 1997 | Prepared by USDA, NRCS, Berks County Conservation District, Lebanon County Conservation District | Resource Protection Alternative plan. Extensive accelerated land treatment (ag waste management systems, erosion and sediment control, nutrient management, establishment of riparian forested buffers, restoration of wetlands, livestock exclusion, eroding bank stabilization, acquisition of perpetual floodplain and wetland easements), acquisition of land conservation easements, aquatic habitat improvements with emphasis on wild brown trout. | 55 waste management systems, 50 backyard runoff control systems, 23,000 acres cropland erosion systems, 18,000 acres nutrient management, 26 miles riparian forested buffers, 150 acres wetland restoration, 15 miles livestock exclusion from streams, 1 mile streambank stabilization, 45 miles wetland or floodplain easements, 4.7 miles aquatic habitat improvements | Tulpehocken | | Berks and Lebanon Counties | Mostly ag | USDA/NRCS, Berks/Lebanon Conservation Districts | Implementation of land treatment practices | | Water quality impairments, ag runoff/nutrient mismanagement, livestock damage to streams, stormwater runoff, urban/rural conflicts, damage to croplands, odor objections, damage to fishes | BMPs to address significant issues in watershed. | |
| Tulpehocken Creek Watershed WRAS | 2004 | | Doesn't call for specific action. More of a summary of existing/proposed actions, TMDLs, impacts to water quality, ect. | drains a 358-square mile area | Tulpehocken Creek | Tulpehocken Creek, Hay Creek, and the Schuylkill River | Millcreek, Richland, Jackson, Myerstown, South Lebanon, North Lebanon | Primarily ag, some urban with golf courses, industries, forests and open space. | | | | | | Mostly Berks county |
| Tulpehocken Greenway Feasibility Study | 2005 | Lebanon Valley Conservancy and Berks County Conservancy | Greenway | 88.75 mi ² | Tulpehocken Creek Watershed | (upstream of the Tulpehocken's confluence with Northkill Creek) | <ul style="list-style-type: none"> • Heidelberg Township, Berks County • Heidelberg Township, Lebanon County • Jackson Township, Lebanon County • Jefferson Township, Berks County • Marion Township, Berks County • Millcreek Township, Lebanon County • Myerstown Borough, Lebanon County • North Heidelberg Township, Berks County • North Lebanon Township, Lebanon County • Richland Borough, Lebanon County • South Lebanon Township, Lebanon County • Tulpehocken Township, Berks County • Womelsdorf Borough, Berks County | Fertile farmland/pasture land/crop land (Corn/soybean are most common crops, and pasture land is mostly used for cattle grazing) | Lebanon Valley Conservancy and Berks County Conservancy | | | | Outreach, public education, recreation | |
| Tulpehocken Creek Watershed Act 167 Stormwater Management Plan | 2001 | Berks Co Commissioners | | | | | | | | implement non point source pollutant removal technologies, maintain groundwater recharge, reduce channel erosion, manage overbank flood events, manage extreme flood events | | | | |