

Chester Creek Watershed

Resources to be Protected

- Subbasin Ch1—first order stream corridors >35% wooded and/or wetlands
- West Chester Reservoir
- 2 public water supply intakes
- HQ streams (subbasin Ch1)
- 1 historic bridge
- 53% of total stream miles are first order streams
- 5 large instream wastewater discharges

Growth and Land Use

- Substantial projected population growth by 2020 (subbasins Ch1 and Ch2)
- Subbasin Ch2 >60% of land area in drainage areas to first order streams
- Increasing numbers of new and aging septic systems and cumulative septic loadings

Water Availability and Use

- Relatively high volume of surface water discharges from wastewater systems
- Wastewater stream discharges may affect water quality and introduce pathogens and taste and odor compounds at water supply intake (subbasin Ch1)
- Phosphorus NPS loadings causes eutrophication in West Chester Reservoir (subbasin Ch2)
- Low flows during drought conditions threaten suspension of public water supply withdrawals, possibly exacerbated by golf course withdrawals (subbasin Ch1)
- Subbasin Ch2 >60% of total stream miles are first order streams
- Need for source water protection for public water supply reservoir and intakes
- Headwaters of watershed within DRBC GWPA

Runoff

- >20% estimated impervious cover 2020 for watershed
- >20% estimated impervious cover—subbasins Ch1 and Ch2
- Excessive estimated average annual rainfall runoff (subbasin Ch2)
- Development located within floodplains prior to floodplain regulations (subbasin Ch1)
- Flooding at several locations in/near West Chester Borough
- Erosion of stream banks along almost all tributaries in East Goshen Twp.
- Extensive developed areas with no stormwater management facilities
- PA Act 167 stormwater management plan to be adopted and implemented
- All municipalities required to comply with NPDES Phase II stormwater management regulations

Water Quality

- 13% of total stream miles listed as impaired on 303(d) list
- 303(d) listed—some segments and tributaries (flow variability from stormwater runoff and industrial point sources)
- USGS/Chester Co. biological monitoring indicates slightly impacted conditions in Chester Co.
- USGS/Chester Co. biological monitoring indicates Goose Cr. moderately impacted conditions
- Widespread areas of high levels of naturally occurring radon in ground water
- Exploding populations of resident and migrating geese contributing to nutrients in reservoirs and streams
- Concerns of water quality impacts of public, small package and individual wastewater treatment systems and discharges
- Locations of leaking underground storage tanks
- Relatively high mean COD and TP concentrations for watershed for available surface water quality data
- Highest estimated TKN, TP, and TSP annual loading rates 1998 of all watersheds (due to combined point and nonpoint sources)

Regional Prioritizations

- Chester Creek watershed ranked among highest overall priority watersheds for water quality restoration and stormwater management
- Subbasin Ch2 ranked as overall priority for water quality restoration, stormwater management and stream/resources preservation in Chester Creek watershed

