The Safe Drinking Water Act (SDWA) Reauthorization of 1996 includes new requirements of states and public water systems, and provides many new opportunities to assure public health and safety through proactive approaches. The Act requires states to develop a Source Water Assessment and Protection (SWAP) Program to assess all drinking water sources (including ground and surface water sources) that serve public water systems for their susceptibility to pollution and to use this information as a basis for eventually building voluntary, community-based barriers to drinking water contamination. The SWAP assessments are of raw water quality, not of finished water quality and are not intended as a measure of water supplier compliance with the Safe Drinking Water Act.

Pennsylvania DEP is responsible for developing the SWAP for the different sources in the state. For groundwater sources, DEP defined two zones of surface influence. The first area, Zone II, is the capture zone of the source that is a ½ mile radius unless a more rigorous delineation is conducted. The second area, Zone III, is the land area beyond Zone II that contributes recharge to the aquifer within the first two areas via surface water or groundwater. Collectively, Zones II and III constitute the contributing area of a well. However, the delineation conducted by DEP was limited to Zone II apparently to encourage development of voluntary local community Source Water Protection Plans. In Allegheny County, the only groundwater system with a defined Zone III is Springdale Borough. The Borough conducted a separate study of their Wellhead Protection Plan and thought it necessary to include Zone III.

DEP defined the Surface Water Assessment areas by three zones. Zone A is the area defined by ¼ mile either side of the stream, with 5-hr Time of Travel (TOT) from upstream. Zone B is defined by 2 mile of either side of the stream with 25-hr TOT, and Zone C is the remainder of the watershed. In addition, DEP has also identified all potential sources of contamination to both ground and surface water sources. These include: Transportation corridors, chemical plants, petroleum distribution centers, underground tanks, sanitary/combined sewer overflow outfalls, auto repair shops and municipal service areas.

The groundwater and surface water assessment areas in Allegheny County are illustrated in the attached figure. The information illustrated in the attached figure was generated by DEP as described above and provided to the Allegheny Places project team by the DEP in the form of GIS shapefiles. DEP has completed 18 Source Water Assessment Reports for primary public community water suppliers drawing water supplies from the delineated groundwater and surface water assessment areas within Allegheny County (15 Allegheny County suppliers one each located in Butler, Westmoreland, and Beaver counties).

The groundwater and surface water assessment areas represent areas of the county where activities potentially could impact raw water supplies because pollutants generated within those areas may enter raw water supplies used by public water suppliers. Source water assessments completed by DEP for the Allegheny County source water assessment areas have identified the following existing land uses/activities as potential sources of water supply contamination.

Potential Sources of Contamination	Contaminants of Concern	Description
auto repair shops, truck or bus terminals	MTBE, BTEX, metals	disposal of products/byproducts
boating, marina, barge traffic	petroleum products	accidental release/spill
combined sewer outfalls/sanitary sewer overflows	pathogens, bacteria, viruses, nutrients	raw sewage entering water source
former chemical disposal site	coking sludge, industurial/municipal wastes, pesticides	32-acre Ohio River Park
former gas stations	petroleum products, VOCs	leaking underground storage tanks
industrial parks	petroleum products, VOCs, havy metals, pesticides, herbicides	various industries, above ground storage tanks, wide range of chemicals used
junk yards, scrap yards, dumps	petroleum products, heavy metals, metals, VOCs	contaminant runoff during storm events, spills, lack of best management practices
on-lot waste disposal	pathogens, bacteria, viruses, nutrients, turbidity	malfunctioning septic systems
pipelines	oil, petroleum products	ruptures in the pipes
power plants	heavy metals	waste piles
residential developments, golf courses	nitrates/nitirites, pathogens, VOCs, SOCs, nutrients, pesticides, herbicides	stormwater runoff, lawn care, on-lot waste disposal
road maintenance depot, salt storage	sodium chloride	runoff from storage areas, application of salt on roads
stormwater runoff	nitrates/nitirites, pathogens, VOCs, SOCs, nutrients, pesticides, herbicides	runoff from agricultural fields, lawn care, golf courses
strip mines, abandoned mines	turbidity, metals, heavy metals, acidity	stormwater runoff from stripped area
transportation corridors, bridges	metals, turbidity, SOCs	road deicing and potential for spills along roads, bridges
utility substations	heavy metals, SOCc, VOCs	accidents near water source

Decisions regarding future land use recommendations should consider that these types of land uses and activities represent potential risks to existing water supply sources.

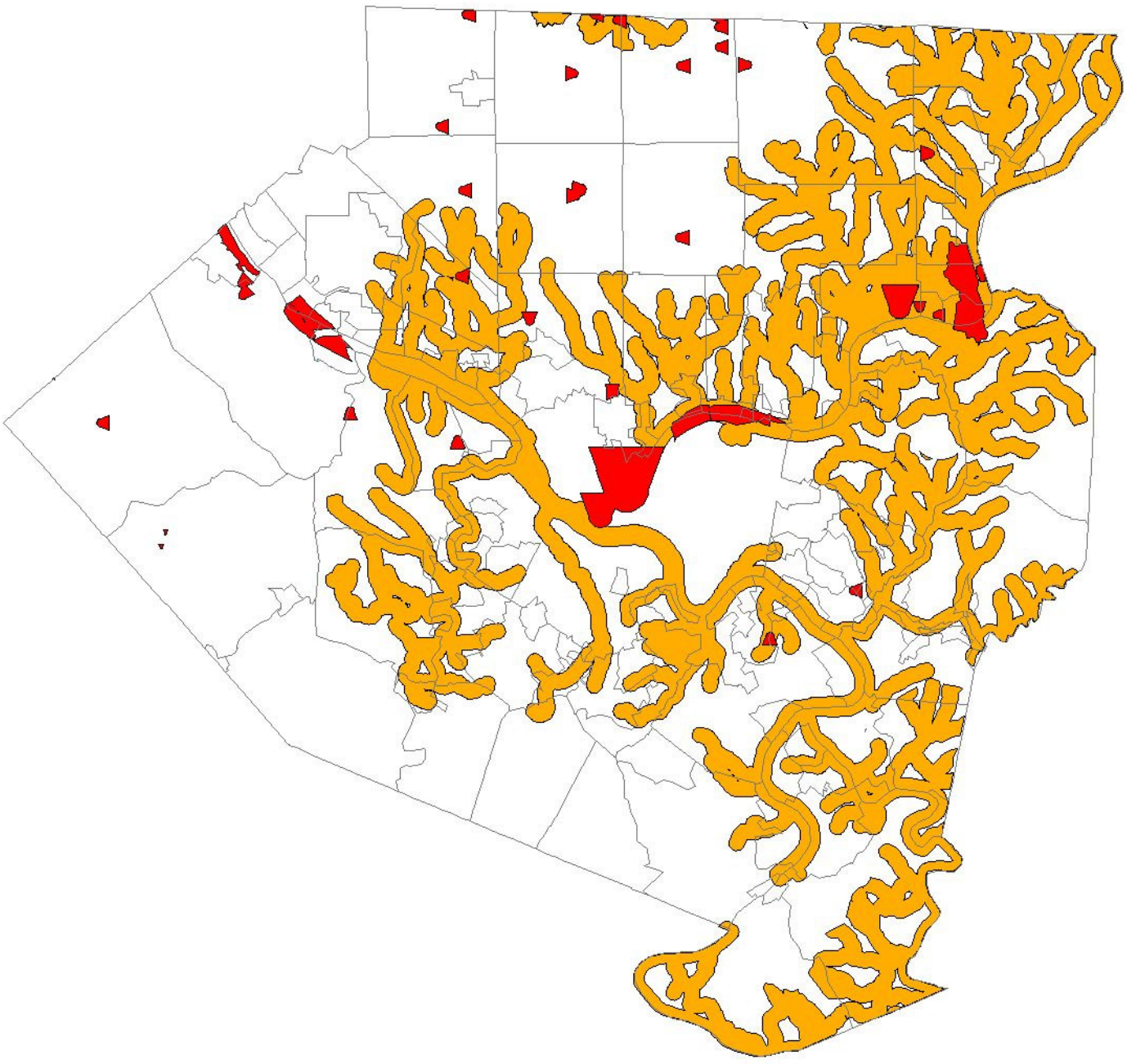
DEP has supported many communities to develop local, voluntary source water protection programs. Approximately 160 communities statewide are currently involved in the Source Water Protection through DEP's Source Water Protection Grant Program. According to DEP only five communities within Allegheny County are currently working on Wellhead Protection Plans (i.e. groundwater sources) as recipients of DEP's Source Water Protection Grants. These communities are: Borough of Springdale, Borough of Sharpsburg, Shaler Township, Borough of Etna, and Borough of Cheswick.

The source water assessment reports completed by DEP generally concluded that existing state and federal regulations should provide adequate protection of the water supplies. However, the reports recommend that an organization be brought into effect to monitor the

rivers to provide early warning of spills and accidental discharges. The DEP reports also recommend that groundwater suppliers that are not already doing so consider the development of wellhead protection plans. The DEP reports also suggest that consideration be given to implementing watershed protection plans that focus on identified potential pollutant sources.

Many of the approaches for improving and maintaining source water quality depend on public education, program promotions, local grants for protection program development and implementation, federal and state agency coordination, and technical assistance. However, much of the authority and responsibility to protect public health and safety through protection of the water supply source is already in place in Pennsylvania. Also, many of the management approaches for a local Surface Water Protection program would require local government action, cooperation, or support, including the passing of zoning ordinances for their jurisdictions.

Delineated Source Water Assessment Areas - Allegheny County



Source: Pennsylvania Department of Environmental Protection