

ANNOTATED BIBLIOGRAPHY OF WATER QUALITY REFERENCES

The Academy of Natural Sciences. 1995. My River Is the Schuylkill: A Vision for the Schuylkill River Watershed Initiative. Unpublished report. The Academy of Natural Sciences, Philadelphia, PA.

Provides information on industries, philanthropic organizations, human population, and water resources in the Schuylkill River watershed.

The Academy of Natural Sciences. 1980. Proceedings of the Schuylkill River Symposium Vol. I. The Academy of Natural Sciences, Philadelphia, PA.

Addresses topics including Schuylkill River waterfowl, macroinvertebrates, fish, desilting projects, and water use.

The Academy of Natural Sciences. 1980. Proceedings of the Schuylkill River Symposium Vol. II. The Academy of Natural Sciences, Philadelphia, PA.

Documents question and answer sessions from the Symposium. Predominantly addresses environmental regulations and policy. Some information on acid mine drainage, toxic substances, and recreational uses in the Schuylkill River.

The Academy of Natural Sciences. 1995. Spotlight on the Schuylkill 2: Reclaiming Our Urban Waterfront. The Academy of Natural Sciences, Philadelphia, PA.

Discusses the potential economic and environmental benefits of riverfront restoration and development along the Schuylkill River in Philadelphia. Describes similar projects in other cities. Includes a list of proposed project sites, most of which are parks along the River.

Berks County Conservancy. 1994. A Strategic Management Plan for the Tulpehocken Creek.

Describes environmental and recreational significance of Tulpehocken Creek. Addresses present water quality issues within the watershed, with a focus on agricultural impacts. Includes a listing of programs to protect and enhance water quality, and to promote public education of the historical and ecological importance of the Creek.

Berks County Planning Commission. 1997. Sacony Creek Watershed Act 167: Watershed Storm Water Management Plan Phase II.

Provides information on Maiden Creek, a tributary of the Schuylkill River in Berks County. Summarizes the effects of stormwater runoff on the Sacony Creek watershed and proposes methods to reduce flood damages by reducing the source and cause of local uncontrolled runoff. Provisions of the Storm Water Management Ordinance are listed as well as watershed models used and on-site stormwater control measures.

Biesecker, J.E., J.B. Lescinsky, and C.R. Wood. 1968. Water Resources of the Schuylkill River Basin. Water Resources Bulletin No. 3. Pennsylvania Department of Forests and Waters, Harrisburg, PA.

Contains the availability, distribution, quality, and use of surface water and groundwater throughout the Schuylkill River watershed with special emphasis on effects of coal mining and urbanization. Also reports the effects of the Schuylkill River restoration completed from 1945-1951 to reduce sediment discharge

and make the river more suitable for water supply and recreational uses. Citations from previous studies specific to the Schuylkill River are included.

Bourquard and Associates. 1968. Report on Water Resources Survey of Main Stem of Schuylkill River Pennsylvania. Water Resources Bulletin No. 4. Pennsylvania Department of Forests and Waters, Harrisburg, PA.

A survey of the 1968 conditions of the main stem Schuylkill River including future demands and how these demands may be met. Recommendations on future water quality of Schuylkill and designation of recreational sites are given. Also discusses the Schuylkill River desilting project, Schuylkill River dams, water supply, and flood control.

The Cadmus Group. 1998. Watershed Assessment: Reading, Pennsylvania. Prepared for US Environmental Protection Agency. Contract No. 68-C5-0061.

Delineates the Ontelaunee watershed, reviews potential and actual pollutant sources, and analyzes the susceptibility of the watershed to the pollutant sources. Potential contaminants were identified by a review of point source pollution databases, interviews with key watershed stakeholder/informants, stressed stream sampling and analysis, windshield surveys of the watershed, and GIS-based modeling of non-point source pollutant loads. Study concludes that the major concerns for the watershed are bacterial contamination, sedimentation of the reservoir, and algae growth due to phosphorus concentrations.

Cahill Associates. 1997. A Model Program to Balance Water Resources and Land Development in the French and Pickering Creeks Watershed.

Includes a discussion of point source pollution and evaluations of nitrogen and phosphorus concentrations (late-1960s to mid-1990s) in the French and Pickering Creek watersheds. Stormwater runoff and sources of non-point source pollution are also presented. A complete discussion of historical and future land use is presented along with surveys of groundwater, surface water, topography, soils, and aquatic biota.

Chester County Planning Commission. 1995. Water Resources Use and Service in Chester County: Phase 2 of the Chester County Water Supply Plan. [Draft]

Chester County Planning Commission. 1996. Landscapes- Managing Change in Chester County 1996-2020. Comprehensive Plan Policy Element.

Characterizes exceptional and high quality watersheds in Chester County (Valley, Pickering, and parts of French Creek) based on topography, soils, woodlands, and major water supply systems. Past and future trends in population growth, housing construction, land use, and water resources in Chester County are presented.

Davis, A.F., J.A. Lundgren, B. Barton, J.R. Belfonti, J.L. Farber, J.R. Kunsman, and A.M. Wilkinson. 1994. A Natural Areas Inventory of Chester County, Pennsylvania.

Shows the locations of rare, threatened, and endangered species and a listing of the highest quality natural areas in Chester County. Lists of native and invasive vegetation found in Chester County, maps with locations of priority sites for protection, and significant geologic features. Outlines watersheds where natural communities or species of special concern occur.

Delaware Estuary Program. September 1996. The Delaware Estuary Plan: Comprehensive Conservation and Management Plan for the Delaware Estuary. Available by calling the Delaware Estuary Program at 1-800-445-4935; or available online at <http://www.delep.org>.

A comprehensive conservation and management plan for the Delaware Estuary focusing on the lower Delaware watershed and including the Schuylkill River watershed. Includes action plans and for land management, water-use, habitat and living resources, toxics, education, and monitoring. Recommendations addressing environmental and economic issues are presented in each action plan. Available by calling the Delaware Estuary Program at 1-800-445-4935; or from <http://www.delep.org>.

Eastern Pennsylvania Water Pollution Control Operators Association. 1996. The 60th Anniversary Directory of the Eastern Pennsylvania Water Pollution Control Operators Association, Inc.

Eastern Pennsylvania listing of wastewater treatment plants containing contact information, plant processing information.

Evans, B.M., R.A. White, G.W. Petersen, J.M. Hamlet, G.M. Baumer, and A.J. McDonnell. 1994. A Land-Use and Non-point Pollution Study of the Delaware River Basin. Report prepared for Pennsylvania State University Environmental Resources Research Institute, Pennsylvania State University, University Park, PA.

Develops an empirical model relating quantities of various non-point source pollutants entering the estuary to the distribution of land use within the Delaware River basin. Flow rates and pollutant concentrations for a site on the Schuylkill River are reported from January, 1988 to September, 1991. Annual loadings for baseflow and total flow for the Schuylkill River site also are given for this period.

Evans, B.M., M.C. Anderson, E. Nizeyimana, J.W. Grimm, G.W. Petersen, G.M. Baumer, and W.S. Brown. 1996. Evaluation of NPS-Related Features within Pennsylvania's Coastal Non-point Pollution Program Management Areas. Final Report ER9606 prepared for PA DEP, Coastal Zone Program, Bureau of Land and Water Conservation. Environmental Resources Research Institute, University Park, PA.

Assesses the magnitude and extent of non-point pollution problems in two coastal areas of Pennsylvania. Water quality data from 1984 to 1995 for the Schuylkill River in Philadelphia and Pottstown are reported (aluminum, chloride, conductivity, dissolved oxygen, petroleum hydrocarbons, pH, sulfates, calcium, temperature, copper, magnesium, iron, nickel, ammonium-N, nitrate-N, lead, phosphorus, and zinc). Data was obtained from EPA's STORET database and all constituent concentrations were adjusted for flow rate.

Green Valleys Association. 1996. Reduction and Prevention of Urban Non-point Source Pollution in the Valley Creek Watershed - Schuylkill River Basin.

Discusses the use of hydrologic models for investigating urban non-point source pollution. The watershed serves as a model for other watersheds in Pennsylvania, and this report is a Project of Statewide Importance (POSI).

Hammell, S.R. 1996. Planning for Water Quality Monitoring and Riparian Restoration in the Schuylkill Watershed. [Working Draft] A Study for the Schuylkill Riverkeeper Program.

A collection of extracts from articles about the Schuylkill River watershed including water quality data for several tributaries of the Schuylkill River. An evaluation of non-point source pollution in the southeast Pennsylvania coastal management area is included. Water quality summaries from January 1990 to December 1992 from Pennsylvania Department of Environmental Protection are included (pH, temperature, dissolved oxygen, biological oxygen demand, zinc, and aluminum).

Heritage Conservancy. 1999. Lower Delaware River Conservation Plan.

Discusses present condition of the Lower Delaware River and its tributaries, including water chemistry, vegetation and visual stream assessments. Includes maps of the watersheds, historical context for preservation strategies, physical landscape features, and management options. Also includes information from surveys of local residents concerning areas needing preservation, possible improvements, and environmental regulations.

Keighton, W.B. 1968. Schuylkill River Water – Then and Now. Philadelphia, PA.

Comparison of the biological and chemical water quality of the Schuylkill River over time, from as far back as 1789 to the present.

Kimball, R.L. & Associates, Inc. 2000. Upper Schuylkill River Tributaries Assessment Report.

This study identifies major non-point source pollution/acid mine drainage (NPS/AMD) sources within the upper Schuylkill River watershed, compiles existing available analytical and physical data associated with the discharges, and evaluates impacts on water quality. It is intended to serve as a framework to guide future remediation and monitoring efforts and assist in setting remediation priorities. The area covered extends from the headwaters of the Schuylkill River near Tuscarora, to the confluence of the West Branch Schuylkill River and the main stem in Schuylkill Haven. Analyses include NPS/AMD site designation, average flow, pH, contaminant concentrations, and acid loading evaluations. Results include a ranking of 35 individual AMD locations and identification of eleven priority sites.

Kull, R.A. 1975. An Ecological Profile of the Schuylkill River. University of Pennsylvania, Philadelphia, PA.

Relates the composition of biological communities in the mainstem Schuylkill River with chemical and physical characteristics of the river and the effects of human activities. The data is limited to the mainstem Schuylkill River from Reading to Philadelphia. Includes flow data, monthly drainage factors for tributaries and mainstem, flood response for 6 stream sites after Hurricane Agnes in June 1972, substrate characteristics, water chemistry characteristics, and taxa of algae, plants, macroinvertebrates, and fish found in tributaries and mainstem.

Montgomery County Planning Commission. 1979. Water Service Plan.

Discusses present and future water supply and distribution needs for Montgomery County. Lists the uses of Schuylkill River water, and identifies water providers supplying Schuylkill River water to consumers in Montgomery County.

Montgomery County Planning Commission. 1992. Water Supply Facilities 1990 Status Report.

Contains descriptions of water service areas, supplier franchise areas, areas supplied by common sources (wells and surface water), and municipal boundaries for Montgomery County. Reports the quantities of water consumed by public water suppliers.

National Institute for Environmental Renewal. 1999. Wissahickon Creek Watershed, Pennsylvania: Physical Characteristics and Water Quality. [Draft]

Presents information on the geology, land use, population, biota, and channel geometry for the Wissahickon watershed. Also discusses nitrogen-loading from non-point and point sources to the Creek, and presents water quality data from 1998 monitoring (hardness, iron, conductivity, copper, lead, ammonia, nitrate, nitrite, BOD, CBOD, dissolved oxygen, phosphorus, pH, total suspended solids, zinc, and turbidity).

National Park Service. 1995. Geographic Information Systems Needs Assessment and Sourcebook. Prepared for the Schuylkill Heritage Corridor.

Addresses the benefits and feasibility of using GIS to map various features of the Schuylkill River including special historic and environmental areas, and natural resource identification.

Nizeyimana, E., G.W. Petersen, M.C. Anderson, B.M. Evans, J.M. Hamlett, and G.M. Baumer. 1996. Statewide GIS/census data assessment of nitrogen loadings from septic systems in Pennsylvania. Journal of Environmental Quality 25:346-354.

Includes a ranking of the Schuylkill River watershed for nitrogen pollution, and the distribution of nitrogen loadings from septic systems.

The Pennsylvania Environmental Council. 1979. Schuylkill River Study. Philadelphia, PA.

Describes the Schuylkill River from Port Clinton in southern Schuylkill County to Philadelphia's Fairmount Dam. Evaluates Schuylkill River for possible inclusion in Pennsylvania's Scenic Rivers System. Descriptions of dams, bridges, existing buildings, and riverside sights are given. Recommendations are made for implementing river management policies.

Pennsylvania Department of Environmental Protection. 2000. Commonwealth of Pennsylvania Water Quality Assessment 305(b) Report. PA DEP, Bureau of Watershed Conservation.

Web page with information on the Pennsylvania 305(b) report located at <http://www.dep.state.pa.us/>. Contains water quality data for many watersheds in the state, including maps for each watershed that show the current condition of areas within the watershed as impaired (point and non-point source), unimpaired, or unassessed waters. Also describes current and future monitoring programs for surface and groundwater. Addresses techniques to protect and enhance water quality in the state, and current initiatives being undertaken.

Pennsylvania Department of Environmental Protection, 2000. Commonwealth of Pennsylvania 303(d) List. PA DEP, Bureau of Watershed Conservation.

Web page with information on the Pennsylvania 303(d) list located at <http://www.dep.state.pa.us/>. Contains list of impaired waters within Pennsylvania, the cause of the impairment, the priority, and whether a TMDL is required.

Peterson, G.W., J.M. Hamlett, G.M. Baumer, D.A. Miller, R.L. Day, and J.M. Russo. 1991. An Evaluation of Agricultural Non-point Pollution Potential in Pennsylvania Using A Geographic Information System. Final Report ME8927. Pennsylvania State University Environmental Resources Research Institute, Pennsylvania State University, University Park, PA.

Discusses the factors that potentially lead to water quality degradation from agricultural non-point pollution. Presents information for the Schuylkill River watershed on runoff, agricultural pollution potential, agricultural land area, percentage agriculture land, animal loading, chemical use, sediment production, and nitrogen and phosphorus loading.

Philadelphia City Planning Commission. 1982. Philadelphia's River Resources, Technical Paper.

A survey of environmental conditions in the Schuylkill River including land resources, fisheries and aquatic habitats, historical riverfront conditions back to the 1700s, water resources, wastewater discharges, riverfront recreation, fecal coliform levels, and metals concentrations.

Schuylkill River Greenway Association. 1995. Management Action Plan for The Schuylkill Heritage Corridor. Wyomissing, PA.

Describes the cultural and historical significance of the Schuylkill River, and the development, management, and marketing the Schuylkill River trail as an educational and tourist destination.

Shake, M., J. Laughlin, B. Clarke, and G. Harwood. 1999. Water World Directory of Municipal Water and Wastewater Systems 1999. PennWell Directories.

National directory of municipal water and wastewater systems listing contact information and plant operations and processes.

Twenty-first (21st) Century Planning Commission. 1998. Final Report. Available online at: <http://www.21stcentury.state.pa.us/2001/final.htm>.

Presents recommendations for protection and conservation of natural resources for sustainable use. Presents summary of sources of impairment to Pennsylvania streams in 1998, and makes recommendations to improve water supply and water quality.

U.S. Army Corps of Engineers. 1981. Feasibility Report of the Schuylkill River Review Study. US ACE, Philadelphia District, Philadelphia, PA.

Presents results of feasibility studies for addressing flood problems in the Schuylkill River watershed. Investigates alternative measures for eliminating or reducing flood damage potential. A listing of related studies on Schuylkill River is given.

U.S. Environmental Protection Agency. 1997. An Ecological Assessment of the United States Mid-Atlantic Region. US EPA, Washington, DC. EPA/600/R-97/130.

An assessment of the U.S. Mid-Atlantic region using GIS maps to display data. Landscape indicators such as road density, proportion of total stream length with adjacent forested land cover, and potential nitrogen loadings to streams were used to assess watershed conditions. Conditions in the Mid-Atlantic region are compared to those in the rest of the country.

U.S. Environmental Protection Agency. [current] Toxic Release Inventory. Office of Pollution Prevention and Toxics, US EPA, Washington, DC.

Web page for listing of toxic releases to air, water, and land, located at <http://www.epa.gov/>.