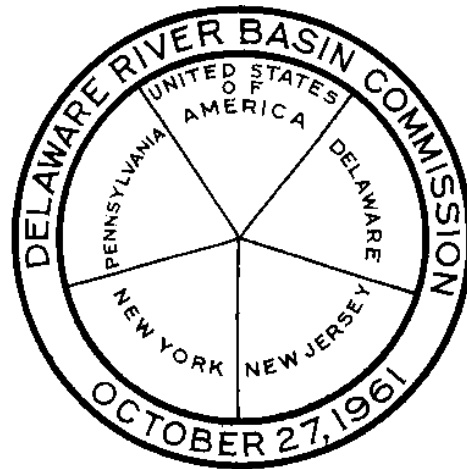


DELAWARE RIVER BASIN COMMISSION

GROUND WATER PROTECTED AREA REGULATIONS

SOUTHEASTERN PENNSYLVANIA



Revised to Include Amendments Through June 23, 1999

## RESOLUTION NO. 80-18\*

A RESOLUTION to delineate and declare a ground water protected area in southeastern Pennsylvania and establish regulations relating thereto.

WHEREAS, use of ground water resources in the Triassic lowland and adjacent areas in southeastern Pennsylvania has increased substantially in recent decades; and

WHEREAS, interference and conflicts among users of the same ground water resource in the area has become more frequent, giving rise to administrative and legal proceedings before regulatory bodies and in courts; and

WHEREAS, in June 1979, the Commission held a series of hearings to receive public comment and suggestion as to the extent of ground water related problems in the area, and whether and to what extent the Commission should establish special regulations to provide improved regional management of the limited water resources; and

WHEREAS, as a result of additional hearings in June 1980, public representatives, water purveyors and private citizens urged the Commission to utilize its authority under Article 10 of the Compact to prevent depletion of ground water, protect the just and equitable interests and rights of lawful users of the same water source, and balance and reconcile alternative and conflicting uses of limited water resources in the area; now therefore,

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\* This resolution was amended on December 16, 1980 by Commission adoption of Resolution No. 80-27; on April 27, 1982 by adoption of Resolution No. 82-5; on January 30, 1985 by adoption of Resolution No. 85-1; on June 25, 1986 by adoption of Resolution No. 86-13; on January 28, 1998 by adoption of Resolution No. 98-1, and on June 23, 1999 by adoption of Resolution No. 99-11, the full texts of which appear at the back of this booklet. The substance of these resolutions has been integrated with Resolution No. 80-18 so as to read as one unified document.

BE IT RESOLVED by the Delaware River Basin Commission:

1. **Findings of Fact.** The Commission hereby finds and determines:

- A. Approximately one million residents of southeastern Pennsylvania are presently reliant, entirely or substantially, on the ground water resources underlying Berks, Bucks, Chester and Montgomery Counties for supplies of domestic, municipal, commercial, industrial and agricultural water.
- B. Assessment of available water resources in relation to current and projected uses establish that ground water withdrawals in portions of Berks, Bucks, Chester and Montgomery Counties exceed or threaten soon to exceed the sustainable yields of local ground water basins.
- C. Rock formations underlying much of the area experience low recharge rates during dry years which can lead to declines in water table levels, diminished flow in adjacent streams and cessation of flow from springs.
- D. Significant portions of the area have experienced total ground water withdrawals which approached or exceeded the dry period annual recharge rates for the respective formations. Since 1975, major ground water withdrawals in the region (those withdrawals exceeding 100,000 gallons per day) have increased by over 13 million gallons per day, and additional quantities have been taken by the cumulative effect of small withdrawals. Ground water use information compiled by the Pennsylvania State Water Plan, the Comprehensive Water Quality Management Plan/208 Study for Southeastern Pennsylvania, the DRBC Level B Study, and similar reports prepared by county and regional agencies, indicate that in large portions of the affected area, pumping rates exceed 100,000 gallons per day per square mile; in substantial parts of the area, pumping rates exceed 500,000 gallons per day per square mile.
- E. Many public water supply systems in the area which rely on ground water sources have peak and/or average demands which closely approach or exceed the dry period capacity of their existing wells. Dry periods with reduced recharge rates and declining water tables have in the past resulted in reductions of public water well yields by 30 to 40 percent. As a result of past reliance on wells producing peak rates during high and normal recharge conditions, such systems become seriously overtaxed when recharge falls below normal levels.
- F. Lowered water tables, and fluctuations in ground water levels during dry periods, periodically interfere with and in some cases cut off normal access to ground water resources by users in the area, particularly residential users reliant on individual domestic wells. Communities and individual users in the region have periodically experienced sharp reductions or total loss of available supplies or loss of system pressure.

G. Lowered water tables resulting from withdrawals in excess of recharge rates have resulted in reduction of flows in some perennial streams in the region, and have dried up some stream reaches which previously flowed all year. Such reductions in base flow interfere with instream and downstream water uses, adversely affect fisheries and aquatic life, and threaten to reduce the capacity of streams in the region to assimilate natural and man-made point and non-point discharges of potential pollutants.

2. **Purpose.** The purpose of this regulation is to protect the ground water resources in the triassic lowland and adjacent area of southeastern Pennsylvania and the public interest in those resources. In particular this regulation is to:

- A. Assure the effective management of water withdrawals to avoid depletion of natural stream flows and ground waters and to protect the quality of such water.
- B. Assure that ground water withdrawals are undertaken consistent with the policies stated in the Comprehensive Plan.
- C. Protect the just and equitable interests and rights of present and future lawful users of water resources, giving due regard to the need to balance and reconcile alternative and conflicting uses in view of present and threatened shortages of water of the quality required to serve such areas.
- D. Provide a mechanism for the acquisition of additional information necessary to more accurately plan and manage water resources.
- E. Encourage all water users to adopt and implement reasonable water conservation measures and practices, to assure efficient use of limited water supplies.

3. **Determination of Protected Areas and Restriction on Water Use.** In consideration of the foregoing facts and for the purposes cited above:

A. The Commission hereby determines and delineates the following area to be a protected area with the meaning and for the purpose of Article 10 of the Delaware River Basin Compact:

**Southeastern Pennsylvania Ground Water Protected Area:**

The "Southeastern Pennsylvania Ground Water Protected Area" shall consist of those portions of the following listed counties and political subdivision located within the Delaware Basin:

- Berks County:**                    **Townships**  
   Douglass, Hereford, Union

**Bucks County:**

**Townships**

Bedminster, Buckingham, Doylestown, East Rockhill, Hilltown, Lower Southampton, Middletown, Milford, New Britain, Newtown, Northampton, Plumstead, Richland, Upper Southampton, Warminster, Warrington, Warwick, West Rockhill, Wrightstown.

**Boroughs**

Chalfont, Doylestown, Dublin, Hulmeville, Ivyland, Langhorne, Langhorne Manor, New Britain, Newtown, Penndel, Perkasie, Quakertown, Richlandtown, Sellersville, Silverdale, Telford, Trumbauersville.

**Chester County:**

**Townships**

Birmingham, Charlestown, East Bradford, East Coventry, East Goshen, East Pikeland, Easttown, East Vincent, East Whiteland, North Coventry, Schuylkill, South Coventry, Thornbury, Tredyffrin, Warwick, West Bradford, West Goshen, Westtown, Willistown, West Whiteland.

**Boroughs**

Elverson, Malvern, Phoenixville, Spring City, West Chester.

**Lehigh County:**

**Townships**

Lower Milford

**Montgomery County:** All of the area within the county boundary.

- B. The Commission hereby determines that within the Southeastern Pennsylvania Ground Water Protected Area demands upon available ground water supplies have developed or threaten to develop to such a degree as to create a water shortage or to impair or conflict with the requirements or effectuations of the Comprehensive Plan. Accordingly, no person, firm, corporation or other entity within the area shall withdraw ground water for any purpose at a rate exceeding 10,000 gallons per day, except as prescribed by this regulation.

4. **Comprehensive Plan Policies.** The water resources within the Southeastern Pennsylvania Ground Water Protected Area shall be managed consistent with the Comprehensive Plan policies. For purposes of this ground water protected area, Section 2.20.4 of the Water Code of the Delaware River Basin shall be applied using the following definition of the term "withdrawal limits":

- A. **Withdrawal Limits.** Except as may be otherwise determined by the Commission to be in the public interest, withdrawals from the underground waters of the basin shall be limited to the maximum draft of all withdrawals from a ground water basin, aquifer, or aquifer system that can be sustained without rendering supplies unreliable, causing long-term progressive lowering of ground water levels, water quality degradation, permanent loss of storage capacity, or substantial impact on low flows of perennial streams.

5. **Advance Notice of Exploratory Drilling.** The Commission encourages consultation with any project sponsor who is considering development of a new or expanded ground water withdrawal that is being planned for any purpose when the daily average withdrawal during any calendar month exceeds 10,000 gallons to insure proper implementation of this regulation and to reduce the possibility of investment in new ground water development facilities which may not be approved hereunder. Such consultation should occur early in the planning stage of a new project and prior to initiation of exploratory drilling.

A. Any person, firm, corporation or other entity planning a new or expanded ground water withdrawal that may be operated at a daily average withdrawal during any calendar month in excess of 10,000 gallons shall notify the Executive Director not less than 30 days prior to initiation of exploratory drilling. Such notice shall be in writing and shall specify the location of proposed new facility, the anticipated rate of withdrawal, and the general purpose of the proposed water use. The notice shall also state the location of existing wells within the radius set forth in Section 11A.

B. Whenever the Executive Director shall deem necessary, or upon request of a party proposing a new or expanded withdrawal of ground water, an informal conference may be scheduled to review the nature of the proposed withdrawal, the applicability of the Commission's standards relating to ground water, and the requirements of a protected area permit under this regulation.

6. **Protected Area Permits for New Withdrawals.** Any person, firm, corporation or other entity who proposes to develop a new ground water withdrawal or expand an existing ground water withdrawal for any purpose within the Southeastern Pennsylvania Ground Water Protected Area shall be required to obtain a protected area permit under this regulation if the proposed new or increased rate of withdrawal from a well or group of wells operated as a system average more than 10,000 gallons per day over a 30-day period. Whenever the Executive Director, upon investigation or upon a reference from a state or federal agency, determines that a new or increased withdrawal from a group of wells within the protected area, whether or not such wells are operated as a system, may have a substantial effect on the water resources of the basin or is likely to have a significant adverse effect on other water uses within the protected area, the Commission may direct a notice to the owners or sponsors of such wells, and require such owners or sponsors to apply for and obtain a protected area permit under this regulation.

A. Application for a protected area permit shall be submitted to the Commission on forms approved by the Executive Director. Each application shall be accompanied by the following information:

1. A map indicating the location of existing wells and perennial streams.

2. A written report prepared by a hydrogeologist describing the expected effects of the proposed withdrawal on existing wells, flows of perennial streams and the long-term lowering of ground water levels.



3. A log showing the nature of subsurface material encountered during the construction and installation of the exploratory or production well(s).
  4. A detailed results of extended pump tests, of not less than 48 hours duration, and records of observations during such pump tests from representative monitoring wells.
- B. Applications for a protected area permit whose daily average withdrawal during any calendar month is in excess of 10,000 gallons shall be accompanied by an application fee of \$100. Government agencies shall be exempt from such application fee.
- C. If the application for a protected area permit is for a daily average withdrawal during any calendar month in excess of 100,000 gallons, it shall be accompanied by such other information or exhibits required by Article 3 of the Commission's Rules of Practice and Procedure. In such cases, only the application fee required by the Rules will be assessed.
- D. To qualify for approval of a protected area permit, the owner or sponsor of the proposed withdrawal shall demonstrate that:
1. The proposed withdrawal is consistent with the Commission's Comprehensive Plan and the policies and purposes of these regulations.
  2. Opportunities to satisfy water requirements on a timely basis from existing available supplies and facilities have been explored and found infeasible.
  3. The proposed withdrawal, in conjunction with other withdrawals in the applicable ground water basin, will not exceed withdrawal limits of a ground water basin, aquifer or aquifer system.
  4. The proposed withdrawal will not significantly impair or reduce the flow of perennial streams in the area.
  5. Existing ground and surface water withdrawals will not be adversely impacted, or will be otherwise assured of adequate supplies in accordance with the requirements of Section 10 of this regulation.
  6. The proposed withdrawal will not cause substantial, permanent adverse impact to the overlying environment.
  7. The owner or sponsor has adopted and will implement conservation and management programs as required by Section 7 of this regulation.
- E. Ground water withdrawals for space heating or cooling purposes that are less than 100,000 gallons per day shall be exempt from obtaining a protected area permit provided that the water withdrawn is returned locally, and to the same ground water basin and aquifer system from which it is withdrawn, undiminished in quantity and quality (except temperature).



Ground water withdrawals for space heating or cooling that are subsequently used for commercial or industrial water supply purposes are subject to Commission withdrawal and wastewater discharge regulations. Ground water withdrawals exempted pursuant to this subsection shall be subject to the registration requirements of Section 8.

F. All ground water withdrawal projects exempted by subsection E. above shall be constructed in conformance with accepted industry practice and as a minimum shall comply with the following standards:

1. All wells shall be drilled by a Pennsylvania licensed well driller and a Water Well Inventory Report shall be completed and filed with the Pennsylvania Department of Environmental Protection (PADEP);
2. No wells shall be located within a 100-year floodway;
3. All wells shall have top of casing extended a minimum of one foot above the 100-year flood elevation;
4. All wells shall have the casing protruding a minimum of six inches above the immediate surrounding grade;
5. The area around all wells or well pits shall be constructed and/or graded to prevent the entrance of surface waters;
6. All wells shall be accessible for inspection and shall have an access hole for water level measurements;
7. In order to protect against significant leaks of refrigerant, all ground water heat pump systems shall be equipped with an automatic shutdown device that senses abnormally low or abnormally high refrigerant pressures;
8. Any drilled well holes that are abandoned shall be sealed with a minimum of ten feet of cement grout. Additional seals may be required to separate different water-bearing zones.

G. Protected area permits shall be approved or disapproved by the Executive Director with the concurrence of the Pennsylvania member of the Commission or his alternate.

H. Dockets and protected area permits may be issued for a duration of up to ten years and shall specify the maximum total withdrawals that must not be exceeded during any consecutive 30-day period. Such maximum total withdrawals shall be based on demands projected to occur during the duration of the docket or protected area permit.

- I. Ground water withdrawal limits shall be defined for subbasins in accordance with the provisions of I.1. or I.2. The limits for specific subbasins are set forth in I.3.
  1. Baseflow frequency analyses shall be conducted for all subbasins in the Southeastern Pennsylvania Ground Water Protected Area. The analyses shall determine the 1-year-in-25 average annual baseflow rate. The 1-year-in-25 average annual baseflow rate shall serve as the maximum withdrawal limit for net annual ground water withdrawals for subbasins. If net annual ground water withdrawals exceed 75 percent of this rate for a subbasin, such a subbasin shall be deemed "potentially stressed." The Commission shall maintain a current list of net annual ground water withdrawals for all subbasins. "Net" annual ground water withdrawals includes total ground water withdrawals less total water returned to the ground water system of the same subbasin.
  2. Upon application by the appropriate governmental body or bodies, the withdrawal limits criteria set forth in 1. may be revised by the Commission to provide additional protection for any subbasin identified in 3. with streams or stream segments designated by the Commonwealth of Pennsylvania as either "high quality" or "exceptional value," or "wild," or "scenic," or "pastoral," or to correspond with more stringent requirements in integrated resource plans adopted and implemented by all municipalities within a subbasin identified in 3. Integrated resource plans shall be developed according to sound principles of hydrology. Such plans shall at a minimum assess water resources and existing uses of water; estimate future water demands and resource requirements; evaluate supply-side and demand-side alternatives to meet water withdrawal needs; assess options for wastewater discharge to subsurface formations and streams; consider stormwater and floodplain management; assess the capacity of the subbasin to meet present and future demands for withdrawal and nonwithdrawal uses such as instream flows; identify potential conflicts and problems; incorporate public participation; and outline plans and programs including land use ordinances to resolve conflicts and meet needs. Integrated resource plans shall be adopted and implemented by all municipalities within a subbasin and incorporated into each municipality's Comprehensive Plan.
  3. The potentially stressed levels and withdrawal limits for all delineated basins and subbasins are set forth below:

### Neshaminy Creek Basin

<u>Subbasin</u>	<u>Potentially Stressed (mgy)*</u>	<u>Withdrawal Limit (mgy)</u>
West Branch Neshaminy Basin	1054	1405
Pine Run Basin	596	795
North Branch Neshaminy Creek	853	1131
Doylestown Subbasin Neshaminy Creek	710	946
Warwick Subbasin Neshaminy Creek	889	1185
Warrington Subbasin Little Neshaminy Creek	505	673
Park Creek Basin	582	776
Warminster Subbasin Little Neshaminy Creek	1016	1355
Mill Creek Basin	1174	1565
Northampton Subbasin Neshaminy Creek	596	794
Newtown Creek	298	397
Core Creek Basin	494	658
Ironworks Creek Basin	326	434
Lower Section Subbasin Neshaminy Creek	3026	4034

### Schuylkill River Basin

<u>Subbasin</u>	<u>Potentially Stressed (mgy)</u>	<u>Withdrawal Limit (mgy)</u>
Hay Creek	974	1299
Lower Reach Manatawny-Ironstone Creek	1811	2414
Pigeon Creek	611	815
Schuylkill - Crow Creek	1157	1543
Schuylkill - Mingo Creek	671	895
Schuylkill - Plymouth - Mill Creeks	4446	5929
Schuylkill - Sixpenny Creek	1490	1987
Schuylkill - Sprogels Run	1091	1455
Schuylkill - Stony Creek	687	916
Schuylkill - Trout Creek	1082	1443
Stony Creek	1242	1655
Valley Creek	1865	2486

\*mgy means million gallons per year

French and Pickering Creek Subbasins

<u>Subbasin</u>	<u>Potentially Stressed (mg/y)</u>	<u>Withdrawal Limit (mg/y)</u>
Lower Reach French Creek	634	845
Lower Reach Pickering Creek	1716	2288
Middle Reach French Creek	1608	2145
South Branch French Creek	1044	1393
Upper Reach French Creek	1295	1726
Upper Reach Pickering Creek	1358	1811

Perkiomen and Skippack Creek Subbasins

<u>Subbasin</u>	<u>Potentially Stressed (mg/y)</u>	<u>Withdrawal Limit (mg/y)</u>
East Branch Perkiomen - Indian Creeks	633	844
East Branch Perkiomen - Mill Creeks	720	961
East Branch Perkiomen - Morris Run	1214	1619
Hosensack - Indian Creeks	1257	1676
Lower Reach Skippack Creek	1069	1426
Perkiomen - Deep Creeks	1047	1396
Perkiomen - Lodal Creeks	1200	1600
Perkiomen - Macoby Creeks	1252	1669
Swamp - Middle Creeks	1423	1898
Swamp - Minister Creeks	547	730
Swamp - Scioto Creeks	746	994
Towamencin Creek	466	622
Unami - Licking Creeks	992	1322
Unami - Ridge Valley Creeks	1068	1424
Upper Reach Perkiomen Creek	1223	1631
Upper Reach Skippack Creek	813	1084
West Branch Perkiomen Creek	1566	2088

Delaware River Basin

<u>Subbasin</u>	<u>Potentially Stressed (mgy)</u>	<u>Withdrawal Limit (mgy)</u>
Jericho Creek	421	562
Mill Creek	1600	2134
Paunacussing Creek	513	684
Pidcock Creek	563	751
Upper Reach Cobbs Creek	871	1161
Upper Reach Crum Creek	1290	1721
Upper Reach Darby Creek	1625	2167
Upper Reach East Branch Chester Creek	1865	2487
Upper Reach Frankford Creek	1414	1886
Upper Reach Poquessing Creek	1008	1344
Upper Reach Ridley Creek	1707	2275

Tohickon Subbasin

<u>Subbasin</u>	<u>Potentially Stressed (mgy)</u>	<u>Withdrawal Limit (mgy)</u>
Tohickon - Beaver - Morgan Creeks	1156	1541
Tohickon - Deep Run	956	1274
Tohickon - Geddes - Cabin Runs	602	803
Tohickon - Lake Nockamixon	556	741
Tohickon - Three Mile Run	726	968

Pennypack and Wissahickon Subbasins

<u>Subbasin</u>	<u>Potentially Stressed (mgy)</u>	<u>Withdrawal Limit (mgy)</u>
Lower Reach Wissahickon Creek	2750	3666
Upper Reach Wissahickon Creek	1302	1736
Middle Reach Pennypack Creek	1295	1727
Upper Reach Pennypack Creek	1358	1811

Brandywine Creek Subbasin

<u>Subbasin</u>	<u>Potentially Stressed (mgd)</u>	<u>Withdrawal Limit (mgd)</u>
East Branch Brandywine - Taylor Run	1054	1405
Middle Reach Brandywine Creek	823	1098
Upper Reach Brandywine Creek	1614	2153
West Branch Brandywine - Beaver Run	2110	2813
West Branch Brandywine - Broad Run	2380	3173
West Valley Creek	1673	2231

Lehigh Subbasin

<u>Subbasin</u>	<u>Potentially Stressed (mgd)</u>	<u>Withdrawal Limit (mgd)</u>
Upper Reach Saucon Creek	946	1262

Subject to public notice and hearing, this section may be updated or revised based upon new and evolving information on hydrology and streamflow and ground water monitoring or in accordance with 2.

- J. Upon its determination that a subbasin is potentially stressed, the Commission shall notify all ground water users in the subbasin withdrawing 10,000 gallons per day or more during any 30-day period of its determination. If any such users have not obtained a docket or protected area permit from the Commission, they shall be required to apply to the Commission within 60 days of notification.
- K. In potentially stressed subbasins, dockets and protected area permit applications for new or expanded ground water withdrawals must include one or more programs to mitigate the adverse impacts of the new or expanded ground water withdrawal. The eligible programs are noted below. If the remainder of the application and the program(s) submitted are acceptable, the withdrawal may be approved by the Commission for an initial three-year period. The applicant shall implement the program(s) immediately upon Commission approval. If after the three-year period the program(s) is deemed successful by the Commission, the docket or permit duration may be extended for up to 10 years. The project sponsor shall be required to continue the program(s) for the duration of the docket or permit.
  - 1. A conjunctive use program that demonstrates the applicant's capability to obtain at least 15

percent of its average annual system usage from a reliable surface water supply. An acceptable program shall include either reservoir storage or an interconnection with a surface water supplier and an agreement or contract to purchase water from the supplier for the duration of the docket or permit.

2. A water conservation program that exceeds the requirements of Section 7. For existing water utilities, the program shall reduce average annual per capita water usage by at least five percent. All conservation programs shall include water conservation pricing, either inclining block rates, seasonal rates, or excess-use surcharges, and plumbing fixture rebate or retrofit components. For self-supplied users, the program shall include water efficient technologies such as recycling, reuse, xeriscaping, drip or micro irrigation, or other innovative technology approved by the Commission.
  3. A program to monitor and control ground water infiltration to the receiving sewer system. The program must quantify ground water infiltration to the system and document reductions in infiltration. The program should include such measures as leakage surveys of sewer mains, metering of sewer flows in mains and interceptors, analysis of sewer system flows to quantify infiltration, and remedial measures such as repair of leaks and joints, main lining, and main replacement.
  4. An artificial recharge or spray irrigation program that demonstrates a return of at least 60 percent of the total new or expanded annual withdrawal to the same ground water basin and aquifer system from which it is withdrawn. The program shall not impair ground water quality.
  5. An alternative program approved by the Commission to mitigate the adverse impacts of the new or expanded ground water withdrawal.
- L. The durations of all existing dockets and protected area permits may be extended by the Commission for an additional five years if the docket or permit holder successfully implements either option K.1. or K.2. If the docket or permit holder successfully implements both options, the docket or permit may be extended for an additional ten years. The Executive Director shall notify all docket and permit holders potentially affected by this resolution of their right to file an application to determine their eligibility for extension.
- M. It is the policy of the Commission to prevent, to the extent reasonably possible, net annual ground water withdrawals from exceeding the maximum withdrawal limit. An application for a proposed new or expanded ground water withdrawal that would result in net annual ground water withdrawals exceeding the maximum withdrawal limit established in paragraph I.3. shall set forth the applicant's proposal for complying with the Commission's policy, with such supporting documentation as may be required by the Executive Director. Notification of the application shall be given to all affected existing water users who may also submit comments or recommendations for consideration by the Commission on the pending application. In taking action upon the application, the Commission shall give consideration to the submissions from the applicant and affected water users. If the Commission determines that it is in the public interest to do so, it may reduce the total of proposed and existing ground water withdrawals within a subbasin to a level at or below the withdrawal limit. Unless otherwise determined by the Commission, docket and permit holders shall share equitably in such reductions.





7. **Conservation Requirements.** The following conservation requirements shall apply to all existing, new or expanded ground water withdrawals for municipal, public, industrial or commercial water supply whose cumulative daily average withdrawal from one or more wells during any calendar month exceeds 10,000 gallons.

A. Each person, firm, corporation or other entity withdrawing ground water within the Southeastern Pennsylvania Ground Water Protected Area for purposes of municipal or public water supply shall comply with the following conservation requirements:

1. Water connections shall be metered, and water charges collected shall be based on meter usage.
2. A water conservation program shall be initiated and diligently pursued within the service area of the municipal or public water supply. Such program shall include a program for leakage control providing for the monitoring, prevention and repair of significant leakage, and the provision of customer information relating to water-saving devices.
3. Interconnections with adjacent water systems shall be considered to assure more reliable supplies of water during emergencies.
4. A drought emergency plan specifying actions which would be taken to reduce demand and assure supplies to priority uses in the event of drought conditions shall be prepared in cooperation with the municipalities in the service area. The plan shall be filed with the Commission.

B. Each person, firm, corporation or other entity withdrawing ground water within the Southeastern Pennsylvania Ground Water Protected Area for purposes of industrial or commercial water supply shall comply with the following conservation requirements:

1. Opportunities for water conservation shall be investigated and all feasible conservation measures shall be implemented at the earliest practicable time.
2. Water uses shall be monitored, and a systematic process shall be adopted and implemented to provide for the detection and expeditious correction of leakage.
3. A drought emergency plan specifying the actions to be taken to reduce demand in the event of drought conditions shall be prepared and filed with the Commission.

C. Permits issued pursuant to these regulations shall be conditioned upon compliance with the requirements of this section.

**8. Registration of Existing Withdrawals.** Existing users of ground water within the Southeastern Pennsylvania Ground Water Protected Area whose lawful use commenced prior to the effective date of this regulation, whose cumulative monthly average daily withdrawal from one or more wells exceeds 10,000 gallons and whose withdrawal has not previously been approved by DRBC, pursuant to Section 3.8 of the Compact, shall, prior to July 1, 1981, register their use with the Pennsylvania Department of Environmental Protection acting as agent for the Commission. Registration is required as a condition for such existing users being eligible for the protection afforded by this regulation. Such registration shall include withdrawals from quarries that are not fed by surface streams.

A. Registrations shall be filed on forms approved by the Executive Director of the Commission. Each registrant shall provide, without limitation thereto, the following:

1. A description of the location, size and depth of each well and the pump facilities installed therein.
2. The estimated quantity of water withdrawn from each well, or related group of wells, during each month of 1980.
3. The purposes for which the water is withdrawn, its place of use, and the approximate quantity of water used for each purpose.
4. The location and method of waste water disposal and discharge.
5. A registration fee of \$5 for each well.

**9. Ground Water Withdrawal Metering, Recording, and Reporting.**

A. Each person, firm, corporation, or other entity whose cumulative daily average withdrawal of ground water from a well or group of wells operated as a system exceeds 10,000 gallons per day during any 30-day period shall meter or measure and record their withdrawals and report such withdrawals to the Pennsylvania Department of Environmental Protection. Withdrawals shall be measured by means of an automatic continuous recording device, flow meter, or other method, and shall be measured to within five percent of actual flow. Meters or other methods of measurement shall be subject to approval and inspection by the Pennsylvania Department of Environmental Protection as to type, method, installation, maintenance, calibration, reading, and accuracy. Withdrawals shall at a minimum be recorded on a daily basis for public water supply use and on a biweekly basis for all other water uses, and reported as monthly totals annually. More frequent recording or reporting may be required by the Pennsylvania Department of Environmental Protection or the Commission.

B. The following water uses and operations are exempt from the metering or measurement requirements of subsection A: agricultural irrigation; snowmaking; dewatering incidental to mining and quarrying; dewatering incidental to construction; and space heating or cooling uses that are exempt from permit requirements in Section 6. Except for space heating and cooling uses described herein, persons engaged in such exempt withdrawals in excess of 10,000 gallons per

day during any 30-day period shall record the pumping rates and the dates and elapsed hours of operation of any well or pump used to withdraw ground water, and report such information as required in subsection a. Space heating and cooling uses that are exempt from permit requirements in Section 6 shall also be exempt from the requirement for recording and reporting.

- C. Pursuant to Section 11.5 of the Compact, the Pennsylvania Department of Environmental Protection shall administer and enforce a program for metering, recording, and reporting ground water withdrawals in accordance with this regulation.

**10. Protection of Existing Users.**

- A. Protected area permits issued under this regulation for new or expanded withdrawals of ground water shall include conditions to protect the owners of existing wells in accordance with the provisions of this section.
- B. Any person, firm, corporation or other entity who commences a new or expanded withdrawal of ground water that is subject to the requirement of a protected area permit under this regulation shall provide mitigating measures if the withdrawal significantly affects or interferes with any existing well. Mitigation measures may consist of:
  - 1. Providing an alternative water supply, of adequate quantity and quality, to the affected well owner(s);
  - 2. Providing financial compensation to the affected well owner(s) sufficient to cover the costs of acquiring an alternative water supply of adequate quantity and quality; or
  - 3. Such other measures as the Commission shall determine to be just and equitable under the circumstances present in the case of any individual application.

**11. Technical Determinations and Procedures.**

- A. The radius to be considered in assessing the potential impact of a proposed new or expanded ground water withdrawal, as required by Sections 5 and 6 of this regulation shall be as follows:

<u>Quantity of Cumulative Proposed Withdrawal</u>	<u>Radius from the Proposed Withdrawal to be Considered</u>
10,000 to 50,000 gpd	0.5 miles
50,000 to 100,000 gpd	0.75 miles
In Excess of 100,000 gpd	1.0 miles

- B. Ground water withdrawal limits, as defined in Section 2.20.4 of the Water Code of the Delaware River Basin and Sections 4 and 6 of this regulation, shall be calculated on the basis of the average recharge rate to the basin, aquifer, or aquifer system during repetition of a period which includes the worst recorded drought.

- C. The requirement of A. or B. of this section may be modified or waived by the Executive Director or the Commission if an applicant adopts and implements a program for coordinated use of ground and surface water, and the applicant demonstrates that operation of the coordinated program will be consistent with the policies contained in the Comprehensive Plan and the purposes of these regulations.

12. **Definitions.** For purposes of this regulation, except as otherwise required by the context:

**"Aquifer"** means waterbearing formation that contains sufficient ground water to be important as a source of supply.

**"Comprehensive Plan"** means the plans, policies and programs adopted as part of the Comprehensive Plan of the Delaware River Basin in accordance with Sections 3.2 and Article 13 of the Delaware River Basin Compact.

**"Ground water"** means all water beneath the surface of the ground.

**"Ground water basin"** means a subsurface structure having the character of a basin with respect to the collection, retention and outflow of water.

**"Ground water protected area"** means the areas declared and delineated by the Commission to be a ground water protected area pursuant to Article 10 of the Delaware River Basin Compact and these regulations.

**"Ground water recharge"** means the addition of water to an aquifer by infiltration of precipitation through the soil, infiltration from surface streams, lakes or reservoirs, flow of ground water from another aquifer, or pumpage of water into the aquifer through wells.

**"Project"** means the same word as defined by Section 1.2(g) of the Delaware River Basin Compact.

**"Protected area permit"** means a permit to divert or withdraw ground water within the ground water protected area for domestic, municipal, agricultural or industrial uses, granted pursuant to Section 10.3 of the Delaware River Basin Compact and these regulations.

13. **Other Permit Requirements.**

- A. Except to the extent provided in these regulations, registration of existing ground and surface water withdrawals and the issuance of withdrawal permits hereunder shall not create any private or proprietary rights in the water of the Basin and the Commission reserves the right to amend, alter, or repeal these regulations and to amend, alter or rescind any actions taken hereunder in order to insure the proper control, use and management of the water resources of the Basin.
- B. Neither the obligations to obtain a protected area permit under this regulation, nor the receipt thereof, shall relieve the sponsor of a new or expanded ground water withdrawal project of the obligation to obtain any other applicable permits required by federal, state or local government agencies.

- C. A new or expanded ground water withdrawal subject to the requirement of a protected area permit under this regulation shall not require any further approval by the Commission if the daily average withdrawal during any calendar month is less than 100,000 gallons. If the new or expanded withdrawal exceeds a daily average of 100,000 gallons during any calendar month, the project shall be subject to review and approval by the Commission pursuant to Section 3.8 of the Delaware River Basin Compact, and the requirement of a protected area permit for such a project shall be in addition to other requirements of the Commission and its Rules of Practice and Procedure.
14. **Emergencies.** In the event of an emergency requiring immediate action to protect the public health and safety or to avoid substantial and irreparable injury to any private person or property, the circumstances do not permit full review and determination in accordance with these regulations, the Executive Director with the concurrence of the Pennsylvania member of the Commission or his alternate, may issue an emergency permit authorizing an applicant to take such action relating to these regulations as the Executive Director may deem necessary and proper. In such cases, the applicant shall be fully responsible for protecting existing ground water users, as prescribed in Section 10 of these regulations. The Executive Director shall report at the next meeting of the Commission on the nature of the emergency and any action taken under this section.
15. **Appeals.** Any person aggrieved by any action or decision of the Executive Director taken under these regulations shall be entitled upon timely filing of a request therefor, to a hearing in accordance with Article 6 of the Commission's Rules of Practice and Procedure.
16. **Sanctions; Civil and Criminal.**
- A. Any person, association, corporation, public or private entity who or which violates or attempts or conspires to violate any provision of this resolution, or any order, regulation or permit issued in furtherance thereof, shall be punishable as provided in Section 14.17 of the Compact.
- B. General Counsel of the Commission may, in his discretion, request the appropriate law enforcement officers of the Commonwealth of Pennsylvania to prosecute any or all violations of this resolution in accordance with the Compact and the laws of the Commonwealth, and for recovery of the fines fixed by Section 14.17 of the Compact, in the name and on behalf of the Commission. The Commonwealth of Pennsylvania and its law enforcement officers are hereby requested pursuant to Sections 10.1 and 11.5 of the Compact, to provide such technical, professional and administrative services as may be required for such enforcement.
- C. In addition to such penal sanctions as may be imposed pursuant to this section, any violation of this resolution shall be subject to such civil remedies by injunction and otherwise as provided by law.
17. **Duration.** The delineation and declaration of the Southeastern Pennsylvania Ground Water Protected Area made pursuant to this regulation, and the requirements established hereby, shall continue until terminated by specific action of the Commission.
18. **Effective Date.** This regulation shall take effect on January 1, 1981.
19. **Amendments.** Upon request by any interested party, or on its own motion, the Commission may consider amendment of this resolution, and modify the geographic boundaries of the protected area, in accordance with Article 10 of the Compact.

**RESOLUTION NO. 80-27**

A RESOLUTION to amend Resolution No. 80-18 delineating a ground water protected area in southeastern Pennsylvania.

WHEREAS, the Commission on October 8, 1980, adopted Resolution No. 80-18 delineating and declaring a ground water protected area in southeastern Pennsylvania, pursuant to Article 10 of the Compact; and

WHEREAS, on the basis of further information about ground water conditions, the Commission has determined that the boundaries of the protected area should include certain governmental jurisdictions in Chester and Lehigh Counties; and

WHEREAS, certain provisions of Resolution No. 80-18 need clarification, and reconciliation with the Commission's Rules of Practice and Procedure; now therefore,

BE IT RESOLVED by the Delaware River Basin Commission:

1. Resolution No. 80-18 is hereby amended as follows:

A. Section 3 is amended to include:

**Chester County:**                    **Townships**  
East Bradford, West Bradford

**Lehigh County:**                    **Townships**  
Lower Milford

C. Section 6 is amended to read:

**Protected Area Permits for New Withdrawals.** Any person, firm, corporation or other entity who proposes to develop a new ground water withdrawal or expand an existing ground water withdrawal for any purpose within the Southeastern Pennsylvania Ground Water Protected Area shall be required to obtain a protected area permit under this regulation if the proposed new or increased rate of withdrawal from a well of group of wells operated as a system average more than 10,000 gallons per day over a 30-day period. Whenever the Executive Director, upon investigation or upon a reference from a state or federal agency, determines that a new or increased withdrawal from a group of wells within the protected area, whether or not such wells are operated as a system, may have a substantial effect on the water resources of the Basin or is likely to have a significant adverse effect on other water uses within the protected area, the Commission may direct a notice to the owners or sponsors of such wells, and require such owners or sponsors to apply for and obtain a protected area permit under this regulation.

C. Section 6b is amended to read:

Applications for a protected area permit whose daily average withdrawal during any calendar monthly is in excess of 10,000 gallons shall be accompanied by an application fee of \$100. Government agencies shall be exempt from such application fee.

2. This resolution shall take effect immediately.

s/Steven J. Picco  
Steven J. Picco, Chairman pro tem

s/W. Brinton Whittall  
W. Brinton Whittall, Secretary

ADOPTED: December 16, 1980

## RESOLUTION NO. 82-5

A RESOLUTION amending the ground water protected area regulations to allow for immediate action under emergency conditions.

WHEREAS, the Commission adopted ground water protected area regulations for southeastern Pennsylvania in October 1980; and

WHEREAS, the Commission wishes to amend its ground water protected area regulations so as to provide for immediate action under emergency conditions when circumstances do not permit full review and determination in the regular course of the regulations; now therefore,

BE IT RESOLVED by The Delaware River Basin Commission:

1. The ground water protected area regulations for southeastern Pennsylvania are hereby amended by the addition of a new section 13 titled, **Emergencies**, to read as follows:

**13. Emergencies.**

In the event of an emergency requiring immediate action to protect the public health and safety or to avoid substantial and irreparable injury to any private person or property, and the circumstances do not permit full review and determination in accordance with these regulations, the Executive Director with the concurrence of the Pennsylvania member of the Commission or his alternate, may issue an emergency permit authorizing an applicant to take such action relating to these regulations as the Executive Director may deem necessary and proper. In such cases, the applicant shall be fully responsible for protecting existing ground water users, as prescribed in Section 9 of these regulations. The Executive Director shall report at the next meeting of the Commission on the nature of the emergency and any action taken under this section.

2. Existing Sections 13, 14, 15, 16, and 17 of the ground water protected area regulations are hereby renumbered as required to reflect the addition of the foregoing new Section 13.
3. This resolution shall take effect immediately.

s/Thomas P. Eichler  
Thomas P. Eichler, Chairman pro tem

s/W. Brinton Whitall  
W. Brinton Whitall, Secretary

ADOPTED: April 27, 1982





## RESOLUTION NO. 85-1

A RESOLUTION amending the Ground Water Protected Area Regulations to exempt from regulations certain ground water withdrawals for space heating and cooling purposes -- ground water heat pumps -- and to establish minimum well construction standards for all wells exempted by this amendment.

WHEREAS, the Commission adopted Ground Water Protected Area Regulations for Southeastern Pennsylvania in October 1980; and

WHEREAS, use of ground water heat pump systems can offer energy and water conservation benefits by reducing fossil fuel-derived energy requirements and consumptive water losses; and

WHEREAS, properly installed ground water heat pump systems that employ injection wells or other means to return withdrawn ground water locally, and to the same ground water basin and aquifer system, do not adversely impact water resources availability; now therefore,

BE IT RESOLVED by the Delaware River Basin Commission:

1. The Ground Water Protected Area Regulations for Southeastern Pennsylvania are hereby amended by the addition of new subsections 6.E. and 6.F., to read as follows:

6.E. Ground water withdrawals for space heating or cooling purposes that are less than 100,000 gallons per day shall be exempt from obtaining a protected area permit provided that the water withdrawn is returned locally, and to the same ground water basin and aquifer system from which it is withdrawn, undiminished in quantity and quality (except temperature). Ground water withdrawals for space heating or cooling that are subsequently used for commercial or industrial water supply purposes are subject to Commission withdrawal and wastewater discharge regulations. Ground water withdrawals exempted pursuant to this subsection shall be subject to the registration requirements of subsection 8.

6.F. All ground water withdrawal projects exempted by subsection "E." above shall be constructed in conformance with accepted industry practice and as a minimum shall comply with the following standards:

1. All wells shall be drilled by a Pennsylvania licensed well driller and a Water Well Inventory Report shall be completed and filed with the Pennsylvania Department of Environmental Protection (PADEP);
2. No wells shall be located within a 100-year floodway;
3. All wells shall have top of casing extended a minimum of one foot above the 100-year flood elevation;
4. All wells shall have the casing protruding a minimum of six inches above the immediate surrounding grade;

5. The area around all wells or well pits shall be constructed and/or graded to prevent the entrance of surface waters;
  6. All wells shall be accessible for inspection and shall have an access hole for water level measurements;
  7. In order to protect against significant leaks of refrigerant, all ground water heat pump systems shall be equipped with an automatic shutdown device that senses abnormally low or abnormally high refrigerant pressures;
  8. Any drilled well holes that are abandoned shall be sealed with a minimum of ten feet of cement grout. Additional seals may be required to separate different water-bearing zones.
2. Existing subsection 6.E. of the Ground Water Protected Area Regulations is hereby renumbered as subsection 6.G. to reflect the addition of the foregoing new subsections.
  3. This resolution shall take effect immediately.

/s/ Irwin H. King  
Irwin H. King, Chairman pro tem

/s/ Susan M. Weisman  
Susan M. Weisman, Secretary

ADOPTED: January 30, 1985

## RESOLUTION NO. 86-13

A RESOLUTION to amend the Commission's Ground Water Protected Area Regulations for Southeastern Pennsylvania in relation to ground water withdrawal metering, recording and reporting.

WHEREAS, the Special Ground Water Study Basinwide Report and Executive Summary was accepted by the Delaware River Basin Commission on December 15, 1982; and

WHEREAS, the study outlines a recommended program for integrated management of ground water quantity and quality in the Basin; and

WHEREAS, the study concluded that data regarding ground water withdrawals and use in the Basin is often inaccurate or incomplete, and that this information is critical for effective management of the Basin's water resources; and

WHEREAS, the Commission's Ground Water Advisory Committee unanimously approved on July 19, 1984 a proposal to require metering of large ground water withdrawals for the purpose of obtaining an improved water use database for the Basin; and

WHEREAS, following a November 26, 1985 public hearing on a Commission proposal to require metering of large ground water withdrawals, recommendations were made to propose a similar amendment to the Ground Water Protected Area Regulations for Southeastern Pennsylvania requiring metering, recording and reporting of ground water withdrawals in excess of 10,000 gpd; and

WHEREAS, the Commission held a public hearing on March 26, 1986 regarding this proposed amendment and has received and considered testimony from water users and other interested parties; now therefore

BE IT RESOLVED by the Delaware River Basin Commission:

1. The Ground Water Protected Area Regulations of Southeastern Pennsylvania are hereby amended by the addition of a new Section 9, to read as follows:

### **9. Ground Water Withdrawal Metering, Recording, and Reporting.**

- A. Each person, firm, corporation, or other entity whose cumulative daily average withdrawal of ground water from a well or group of wells operated as a system exceeds 10,000 gallons per day during any 30-day period shall meter or measure and record their withdrawals and report such withdrawals to the Pennsylvania Department of Environmental Protection. Withdrawals shall be measured by means of an automatic continuous recording device, flow meter, or other method, and shall be measured to within five percent of actual flow. Meters or other methods of measurement shall be subject to approval and inspection by the Pennsylvania Department of Environmental Protection as to type, method, installation, maintenance, calibration, reading, and accuracy. Withdrawals shall at a minimum be recorded on a daily basis for public water supply use and a biweekly basis for all other water uses, and reported as monthly totals annually. More frequent recording or reporting may be required by the Pennsylvania Department of Environmental Protection or the Commission.
- B. The following water uses and operations are exempt from the metering or measurement

requirements of subsection a.: agricultural irrigation; snowmaking; dewatering incidental to mining and quarrying; dewatering incidental to construction; and space heating or cooling uses that are exempt from permit requirements in Section 6. Except for space heating and cooling uses described herein, persons engaged in such exempt withdrawals in excess of 10,000 gallons per day during any 30-day period shall record the pumping rates and the dates and elapsed hours of operation of any well or pump used to withdraw ground water, and report such information as required in subsection a. Space heating and cooling uses that are exempt from permit requirements in Section 6 shall also be exempt from the requirement for recording and reporting.

C. Pursuant to Section 11.5 of the Compact, the Pennsylvania Department of Environmental Protection shall administer and enforce a program for metering, recording, and reporting ground water withdrawals in accordance with this regulation.

D. This regulation shall be effective January 1, 1987.

2. Renumber existing Sections 9 through 18 of the Ground Water Protected Area Regulations as required to reflect the addition of the foregoing new Section 9.

/s/ Dirk C. Hofman  
Dirk C. Hofman, Chairman pro tem

/s/ Susan M. Weisman  
Susan M. Weisman, Secretary

ADOPTED: June 25, 1986

## **RESOLUTION NO. 98-1**

A RESOLUTION to amend the Ground Water Protected Area Regulations for Southeastern Pennsylvania by the establishment of numerical withdrawal limits for subbasins in the Protected Area.

WHEREAS, the Ground Water Protected Area (GWPA) Regulations for Southeastern Pennsylvania were adopted in 1980 to prevent the depletion of ground water, protect the interests and rights of existing water users, and balance and reconcile alternative and conflicting uses of the limited water resources in the area; and

WHEREAS, while the GWPA Regulations have successfully addressed most ground water problems, certain provisions, particularly those pertaining to the protection of low streamflows have been difficult to administer on a project-by-project basis; and

WHEREAS, the U. S. Geological Survey (U.S.G.S.) conducted a water-use analysis for the Neshaminy Creek Basin to assist the Commission in managing ground water resources; and

WHEREAS, the Commission's Ground Water Advisory Committee developed proposed amendments to the GWPA Regulations that would establish numerical ground water withdrawal limits on a subbasin level based upon baseflow frequency analyses prepared as part of the U.S.G.S. study; and

WHEREAS, the Commission has entered into a cooperative agreement with the U.S.G.S. to complete additional baseflow frequency analyses for the remaining subbasins in the GWPA; and

WHEREAS, the Commission held public briefings on the U.S.G.S. study results and the proposed amendments to the GWPA Regulations on April 8, 1997 in Doylestown, Pennsylvania, and on April 10, 1997 in West Chester, Pennsylvania; and

WHEREAS, the Commission held a public hearing on June 24, 1997, in West Trenton, New Jersey, to receive testimony and comments on the proposed amendments; and

WHEREAS, a total of 112 comments were received on the proposed amendments; and

WHEREAS, the Commission has considered the testimony and comments from interested parties and has revised the proposed amendments in response to those comments; now therefore

BE IT RESOLVED by the Delaware River Basin Commission:

1. The Ground Water Protected Area Regulations for Southeastern Pennsylvania are hereby amended by the addition of new subsections H., I., J., K., L. and m. to Section 6. to read as follows:

- H. Dockets and protected area permits may be issued for a duration of up to ten years and shall specify the maximum total withdrawals that must not be exceeded during any consecutive 30-day period. Such maximum total withdrawals shall be based on demands projected to occur during the duration of the docket or protected area permit.
- I. Ground water withdrawal limits shall be defined for subbasins in accordance with the provisions of (1.) or (2.). The limits for specific subbasins are set forth in (3.).
  - 1. Baseflow frequency analyses shall be conducted for all subbasins in the Southeastern Pennsylvania Ground Water Protected Area. The analyses shall determine the 1-year-in-25 average annual baseflow rate. The 1-year-in-25 average annual baseflow rate shall serve as the maximum withdrawal limit for net annual ground water withdrawals for subbasins. If net annual ground water withdrawals exceed 75 percent of this rate for a subbasin, such a subbasin shall be deemed "potentially stressed." The Commission shall maintain a current list of net annual ground water withdrawals for all subbasins. "Net" annual ground water withdrawals includes total ground water withdrawals less total water returned to the ground water system of the same subbasin.
  - 2. Upon application by the appropriate governmental body or bodies, the withdrawal limits criteria set forth in (1.) may be revised by the Commission to provide additional protection for any subbasin identified in (3.) with streams or stream segments designated by the Commonwealth of Pennsylvania as either "high quality" or "exceptional value," or "wild," or "scenic," or "pastoral," or to correspond with more stringent requirements in integrated resource plans adopted and implemented by all municipalities within a subbasin identified in (3.). Integrated resource plans shall be developed according to sound principles of hydrology. Such plans shall at a minimum assess water resources and existing uses of water; estimate future water demands and resource requirements; evaluate supply-side and demand-side alternatives to meet water withdrawal needs; assess options for wastewater discharge to subsurface formations and streams; consider stormwater and floodplain management; assess the capacity of the subbasin to meet present and future demands for withdrawal and nonwithdrawal uses such as instream flows; identify potential conflicts and problems; incorporate public participation; and outline plans and programs including land use ordinances to resolve conflicts and meet needs. Integrated resource plans shall be adopted and implemented by all municipalities within a subbasin and incorporated into each municipality's Comprehensive Plan.
  - 3. The potentially stressed levels and withdrawal limits for all delineated basins and subbasins are set forth below:

Neshaminy Creek Basin

<u>Subbasin</u>	<u>Potentially Stressed (mg/y)</u>	<u>Withdrawal Limit (mg/y)</u>
West Branch Neshaminy	1054	1405
Pine Run	596	795
North Branch Neshaminy	853	1131
Main Stem Doylestown	710	946
Main Stem Warwick	889	1185
Little Neshaminy Warrington	505	673
Park Creek	582	776
Little Neshaminy Warminster	1016	1355
Mill Creek	1174	1565
Main Stem Northampton	596	794
Newtown Creek	298	397
Core Creek	494	658
Ironworks Creek	326	434
Main Stem Lower Neshaminy	3026	4034

Subject to public notice and hearing, this section may be updated or revised based upon the following: the completion of baseflow frequency analyses for the remaining subbasins within the Protected area; new and evolving information on hydrology and streamflow and ground water monitoring; or in accordance with (2.).

- J. Upon its determination that a subbasin is potentially stressed, the Commission shall notify all ground water users in the subbasin withdrawing 10,000 gallons per day or more during any 30-day period of its determination. If any such users have not obtained a docket or protected area permit from the Commission, they shall be required to apply to the Commission within 60 days of notification.
- K. In potentially stressed subbasins, dockets and protected area permit applications for new or expanded ground water withdrawals must include one or more programs to mitigate the adverse impacts of the new or expanded ground water withdrawal. The eligible programs are noted below. If the remainder of the application and the program(s) submitted are acceptable, the withdrawal may be approved by the Commission for an initial three-year period. The applicant shall implement the program(s) immediately upon Commission approval. If after the three-year period the program(s) is deemed successful by the Commission, the docket or permit duration may be extended for up to 10 years. The project sponsor shall be required to continue the program(s) for the duration of the docket or permit.
1. A conjunctive use program that demonstrates the applicant's capability to obtain at least 15 percent of its average annual system usage from a reliable surface water supply. An acceptable program shall include either reservoir storage or an interconnection with a surface water supplier and an agreement or contract to purchase water from the supplier for the duration of the docket or permit.



2. A water conservation program that exceeds the requirements of Section 7. For existing water utilities, the program shall reduce average annual per capita water usage by at least five percent. All conservation programs shall include water conservation pricing, either inclining block rates, seasonal rates, or excess-use surcharges, and plumbing fixture rebate or retrofit components. For self-supplied users, the program shall include water efficient technologies such as recycling, reuse, xeriscaping, drip or micro irrigation, or other innovative technology approved by the Commission.
  3. A program to monitor and control ground water infiltration to the receiving sewer system. The program must quantify ground water infiltration to the system and document reductions in infiltration. The program should include such measures as leakage surveys of sewer mains, metering of sewer flows in mains and interceptors, analysis of sewer system flows to quantify infiltration, and remedial measures such as repair of leaks and joints, main lining, and main replacement.
  4. An artificial recharge or spray irrigation program that demonstrates a return of at least 60 percent of the total new or expanded annual withdrawal to the same ground water basin and aquifer system from which it is withdrawn. The program shall not impair ground water quality.
  5. An alternative program approved by the Commission to mitigate the adverse impacts of the new or expanded ground water withdrawal.
- L. The durations of all existing docket and protected area permits may be extended by the Commission for an additional five years if the docket or permit holder successfully implements either option K(1.) or K(2.). If the docket or permit holder successfully implements both options, the docket or permit may be extended for an additional ten years. The Executive Director shall notify all docket and permit holders potentially affected by this resolution of their right to file an application to determine their eligibility for extension.
- M. It is the policy of the Commission to prevent, to the extent reasonably possible, net annual ground water withdrawals from exceeding the maximum withdrawal limit. An application for a proposed new or expanded ground water withdrawal that would result in net annual ground water withdrawals exceeding the maximum withdrawal limit established in paragraph I (3.) shall set forth the applicant's proposal for complying with the Commission's policy, with such supporting documentation as may be required by the Executive Director. Notification of the application shall be given to all affected existing water users who may also submit comments or recommendations for consideration by the Commission on the pending application. In taking action upon the application, the Commission shall give consideration to the submissions from the applicant and affected water users. If the Commission determines that it is in the public interest to do so, it may reduce the total of proposed and existing ground water withdrawals within a subbasin to a level at or below the withdrawal limit. Unless otherwise determined by the Commission, docket and permit holders shall share equitably in such reductions.

2. This resolution shall become effective immediately.

/s/ Irene B. Brooks

Irene B. Brooks, Chairman pro tem

/s/ Susan M. Weisman

Susan M. Weisman, Secretary

ADOPTED: January 28, 1998



## RESOLUTION NO. 99-11

A RESOLUTION to amend the Ground Water Protected Area Regulations for Southeastern Pennsylvania by the establishment of numerical withdrawal limits for 62 subbasins which are entirely or partially within the Protected Area.

WHEREAS, the Ground Water Protected Area (GWPA) Regulations for Southeastern Pennsylvania were adopted in 1980 to prevent the depletion of ground water, protect the interests and rights of existing water users, and balance and reconcile alternative and conflicting uses of the limited water resources in the area; and

WHEREAS, while the GWPA Regulations have successfully addressed most ground water problems, certain provisions, particularly those pertaining to the protection of low streamflows, have been difficult to administer on a project-by-project basis; and

WHEREAS, the U.S. Geological Survey (U.S.G.S.) conducted a water-use analysis for the Neshaminy Creek Basin and the Commission's Ground Water Advisory Committee developed proposed amendments to the GWPA Regulations to establish numerical ground water withdrawal limits on a subbasin level based upon baseflow frequency analyses prepared as part of the U.S.G.S. study; and

WHEREAS, on January 28, 1998 the Commission adopted amendments to its GWPA Regulations which established a two-tiered system of withdrawal limits for the 14 subbasins in the Neshaminy Creek Basin in the Protected Area; and

WHEREAS, the U.S.G.S. prepared a similar study which investigated the withdrawal limits for the remaining subbasins in the Protected Area and formed the basis of proposed amendments to the GWPA Regulations; and

WHEREAS, the Commission held public hearings on March 9, 1999 in Conshohocken, Pennsylvania, to receive testimony and comments on the proposal amendments; and

WHEREAS, a total of 33 comments were received on the proposed amendments; and

WHEREAS, the Commission has considered the testimony and comments from interested parties; now therefore

BE IT RESOLVED by the Delaware River Basin Commission:

1. The Ground Water Protected Area Regulations for Southeastern Pennsylvania are hereby amended as follows:

Subsection 6.I.3. is hereby revised to read as follows:

3. The potentially stressed levels and withdrawal limits for all delineated basins and subbasins are set forth below:

Neshaminy Creek Basin

<u>Subbasin</u>	<u>Potentially Stressed</u> <u>(mgy)*</u>	<u>Withdrawal Limit</u> <u>(mgy)</u>
West Branch Neshaminy Creek Basin	1054	1405
Pine Run Basin	596	795
North Branch Neshaminy Creek	853	1131
Doylestown Subbasin Neshaminy Creek	710	946
Warwick Subbasin Neshaminy Creek	889	1185
Warrington Subbasin Little Neshaminy Creek	505	673
Park Creek Basin	582	776
Warminster Subbasin Little Neshaminy Creek	1016	1355
Mill Creek Basin	1174	1565
Northampton Subbasin Neshaminy Creek	596	794
Newtown Creek	298	397
Core Creek Basin	494	658
Ironworks Creek Basin	326	434
Lower Section Subbasin Neshaminy Creek	3026	4034

Schuylkill River Basin

<u>Subbasin</u>	<u>Potentially Stressed</u> <u>(mgy)</u>	<u>Withdrawal Limit</u> <u>(mgy)</u>
Hay Creek	974	1299
Lower Reach Manatawny-Ironstone Creek	1811	2414
Pigeon Creek	611	815
Schuylkill-Crow Creek	1157	1543
Schuylkill-Mingo Creek	671	895
Schuylkill-Plymouth-Mill Creeks	4446	5929
Schuylkill-Sixpenny Creek	1490	1987
Schuylkill-Sprogels Run	1091	1455
Schuylkill-Stony Creek	687	916
Schuylkill-Trout Creek	1082	1443
Stony Creek	1242	1655
Valley Creek	1865	2486

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\* mgy means million gallons per year

French and Pickering Creek Subbasins

<u>Subbasin</u>	<u>Potentially Stressed</u> <u>(mg/y)</u>	<u>Withdrawal Limit</u> <u>(mg/y)</u>
Lower Reach French Creek	634	845
Lower Reach Pickering Creek	1716	2288
Middle Reach French Creek	1608	2145
South Branch French Creek	1044	1393
Upper Reach French Creek	1295	1726
Upper Reach Pickering Creek	1358	1811

Perkiomen and Skippack Creek Subbasins

<u>Subbasin</u>	<u>Potentially Stressed</u> <u>(mg/y)</u>	<u>Withdrawal Limit</u> <u>(mg/y)</u>
East Branch Perkiomen-Indian Creeks	633	844
East Branch Perkiomen-Mill Creeks	720	961
East Branch Perkiomen-Morris Run	1214	1619
Hosensack-Indian Creeks	1257	1676
Lower Reach Skippack Creek	1069	1426
Perkiomen-Deep Creeks	1047	1396
Perkiomen-Lodal Creeks	1200	1600
Perkiomen-Macoby Creek	1252	1669
Swamp-Middle Creeks	1423	1898
Swamp-Minister Creeks	547	730
Swamp-Scioto Creeks	746	994
Towamencin Creek	466	622
Unami-Licking Creeks	992	1322
Unami-Ridge Valley Creeks	1068	1424
Upper Reach Perkiomen Creek	1223	1631
Upper Reach Skippack Creek	813	1084
West Branch Perkiomen Creek	1566	2088

Delaware River Basin

<u>Subbasin</u>	<u>Potentially Stressed</u> <u>(mg/y)</u>	<u>Withdrawal Limit</u> <u>(mg/y)</u>
Jericho Creek	421	562
Mill Creek	1600	2134
Paunacussing Creek	513	684
Pidcock Creek	563	751
Upper Reach Cobbs Creek	871	1161
Upper Reach Crum Creek	1290	1721
Upper Reach Darby Creek	1625	2167
Upper Reach East Branch Chester Creek	1865	2487
Upper Reach Frankford Creek	1414	1886
Upper Reach Poquessing Creek	1008	1344
Upper Reach Ridley Creek	1707	2275

Tohickon Subbasin

<u>Subbasin</u>	<u>Potentially Stressed</u> <u>(mg/y)</u>	<u>Withdrawal Limit</u> <u>(mg/y)</u>
Tohickon-Beaver-Morgan Creeks	1156	1541
Tohickon-Deep Run	956	1274
Tohickon-Geddes-Cabin Runs	602	803
Tohickon-Lake Nockamixon	556	741
Tohickon-Three Mile Run	726	968

Pennypack and Wissahickon Subbasins

<u>Subbasin</u>	<u>Potentially Stressed</u> <u>(mg/y)</u>	<u>Withdrawal Limit</u> <u>(mg/y)</u>
Lower Reach Wissahickon Creek	2750	3666
Upper Reach Wissahickon Creek	1302	1736
Middle Reach Pennypack Creek	1295	1727
Upper Reach Pennypack Creek	1358	1811

Brandywine Creek Subbasin

<u>Subbasin</u>	<u>Potentially Stressed</u> <u>(mg/y)</u>	<u>Withdrawal Limit</u> <u>(mg/y)</u>
East Branch Brandywine-Taylor Run	1054	1405
Middle Reach Brandywine Creek	823	1098
Upper Reach Brandywine Creek	1614	2153
West Branch Brandywine-Beaver Run	2110	2813
West Branch Brandywine-Broad Run	2380	3173
West Valley Creek	1673	2231

Lehigh Subbasin

<u>Subbasin</u>	<u>Potentially Stressed</u> <u>(mg/y)</u>	<u>Withdrawal Limit</u> <u>(mg/y)</u>
Upper Reach Saucon Creek	946	1262

Subject to public notice and hearing, this section may be updated or revised based upon new and evolving information on hydrology and streamflow and ground water monitoring or in accordance with 2.

2. This resolution shall become effective immediately.

/s/ Robert Tudor  
Robert Tudor, Chairman pro tem

/s/ Susan M. Weisman  
Susan M. Weisman, Secretary

ADOPTED: June 23, 1999



*Municipalities within the  
Southeastern Pennsylvania  
Groundwater Protected Area*

