NO. 2008 – 09

A RESOLUTION to amend the *Water Quality Regulations, Water Code* and *Comprehensive Plan* by permanently designating the Lower Delaware River as Special Protection Waters with the classification Significant Resource Waters.

WHEREAS, by Resolution No. 70-3, codified in the Commission's *Water Quality Regulations* at Section 3.10.3 A., the Commission established an antidegradation policy for interstate waters within its jurisdiction, and by Resolutions No. 92-21 and 94-2, it instituted a set of regulations known as the "Special Protection Waters" program to implement this policy in certain portions of the Basin. The program is intended to maintain or improve the quality of interstate waters where existing water quality is better than the established stream quality objectives; and

WHEREAS, in accordance with Section 3.10.3 A.2 of the Commission's *Administrative Manual– Part III, Water Quality Regulations* ("Regulations"), the Delaware Riverkeeper Network submitted to the Commission in April 2001 a nomination petition requesting that the Commission classify the Lower Delaware River – the reach of the main stem Delaware River extending from River Mile 209.5 (the downstream boundary of the Delaware Water Gap National Recreation Area) to River Mile 133.4 (the Head of Tide) – as Special Protection Waters; and

WHEREAS, to be protected as Special Protection Waters, waters must be classified as either "Outstanding Basin Waters" or "Significant Resource Waters," as defined in Section 3.10.3 A.2.a. of the Regulations; and

WHEREAS, "Outstanding Basin Waters" are defined as interstate and contiguous intrastate waters that are contained within the established boundaries of national parks; national wild, scenic and recreational rivers systems; and/or national wildlife refuges that the Commission has classified under Section 3.10.3 A.2.g.1 of the Regulations as having exceptionally high scenic, recreational and ecological values that require special protection; and

WHEREAS, "Significant Resource Waters" are defined as interstate waters that the Commission has classified under Section 3.10.3 A.2.g.2 of the Regulations as having exceptionally high scenic, recreational, ecological, and/or water supply uses that require special protection; and

WHEREAS, as set forth more fully in Resolution No. 2005-2, data and findings documenting the high quality of scenic, recreational, ecological and water supply attributes of the Lower Delaware River are contained in two studies (DRBC, 2004 and National Park Service, 1999, respectively), a management plan for the Lower Delaware that received a formal expression of Commission support in Resolution No. 98-2 (1997) (this plan was recently re-affirmed in the *Lower Delaware River Management Committee Action Plan 2007-2011*); a federal designation of the Lower Delaware as part of the national Wild & Scenic Rivers System (P.L. 106-418, 106th Congress), and the *Water Resources Plan for the Delaware River Basin* (DRBC, 2004); and

WHEREAS, after a duly noticed public comment period and a public hearing on the matter, by Resolution No. 2005-2 on January 19, 2005 the Commission found on the basis of the foregoing studies, findings, plans, and federal designation that "the section of the Delaware River from River Mile 133.4 to River Mile 209.5, known as the "Lower Delaware River", is characterized by exceptionally high scenic, recreational, ecological and/or water supply values/uses within the meaning of Section 3.10.3 A. of the *Water Quality Regulations* and requires special protection in accordance with that section" (Res. No. 2005-2, par. 1); and

WHEREAS, by Resolution No. 2005-2 the Commission temporarily classified the Lower Delaware River (also "Lower Delaware") as Significant Resource Waters, pending the determination of numeric values for existing water quality for this section of the river and a thorough evaluation of these data to determine whether or not to classify certain sections of the Lower Delaware as Outstanding Basin Waters and whether to make the temporary Special Protection Waters designation permanent for some or all of the Lower Delaware; and

WHEREAS, in the course of designating the Lower Delaware as Special Protection Waters the Commission determined that it would clarify certain provisions of the SPW rule to ensure the rule's uniform application in all parts of the basin in which the rule is applied; and

WHEREAS, to allow the Commissioners and staff time to evaluate implementation options and develop language to clarify aspects of the rule, the Commission extended temporary designation of the Lower Delaware by resolutions No. 2005-15 (extension through September 30, 2006), No. 2006-22 (extension through September 30, 2007) and No. 2007-13 (extension through May 15, 2008), before they caused to be published in October of 2007 in the *Federal Register* and in the Delaware, New Jersey, New York and Pennsylvania registers a new Notice of Proposed Rulemaking to Amend the *Water Quality Regulations, Water Code* and *Comprehensive Plan* to classify the Lower Delaware River as Special Protection Waters; and

WHEREAS, the Commission has determined values for existing water quality for the Lower Delaware, enabling the Commission for the first time to require applicants for new wastewater treatment facilities or for substantial alterations or additions to existing facilities to demonstrate that their new or increased discharges will cause no measurable change to existing water quality except toward natural conditions at a set of established water quality control points; and

WHEREAS, the Commission established a public comment period on the proposed amendments to run through December 6, 2007; it held informational meetings in Stockton, New Jersey on October 25, 2007 and in Easton, Pennsylvania on November 1, 2007; it made presentations on the proposed rule at a series of professional conferences as well as at meetings hosted by citizens' groups and elected officials within the affected regions; and it held a public hearing on the proposal on December 4, 2007; and;

WHEREAS, between September of 2004, when the Commission issued its first public notice of proposed rulemaking to classify the Lower Delaware River as Special Protection Waters, and December 6, 2007, when the comment period closed on the amendments noticed formally in October of 2007, the Commission received thousands of comments from residents, elected officials, treatment plant operators, and administrative agencies, of which the majority constituted petitions and letters in support of the action, and of which approximately three dozen expressed objections to it; and

WHEREAS, during the months of February through July of 2008 Commissioners and Commission staff participated in additional meetings and conference calls at the request of interested parties in order to listen first-hand to the concerns that some constituents raised in written comments submitted during the comment period; and

WHEREAS, the Commissioners and staff have painstakingly sorted, categorized reviewed and prepared written responses to these comments, and in a number of instances have revised the proposed amendments to address concerns raised by commenters and to improve the rule's clarity, especially as applied to existing facilities; and

WHEREAS, extending the full Special Protection Waters program to the Lower Delaware River on a permanent basis will afford these interstate waters the same uniform high standard of protection that has preserved water quality in the Upper and Middle Delaware for approximately 15 years – a standard of protection that could not be achieved by the Commission's member states acting independently of one another; and

WHEREAS, the Commission will reevaluate the Best Demonstrable Technology (BDT) requirements of the rule in light of wastewater technologies developed since the BDT requirements were initially promulgated in 1992, and will consider among other things the effects of employing wastewater technologies on other media, greenhouse gas emissions and energy demands; now therefore,

BE IT RESOLVED by the Delaware River Basin Commission:

1. The section of the non-tidal Delaware River known as the "Lower Delaware" between River Miles 209.5 (the downstream boundary of the Delaware Water Gap National Recreation Area) and 134.4 (the Calhoun Street Bridge near the Head of Tide at Trenton, New Jersey), is hereby classified as Significant Resource Waters.

2. The Commission's *Water Quality Regulations* and *Water Code* are amended as set forth in the attached, effective upon filing with each of the signatory parties in accordance with Section 14.2 of the *Delaware River Basin Compact*.

3. As of their effective date, these amendments are hereby incorporated in the Commission's *Comprehensive Plan.* All aspects of the rule shall be in effect for classified reaches, including the Lower Delaware, in accordance with the amended provisions and including without limitation those requirements that depend for implementation upon the determination of numeric values for existing water quality.

4. Temporary classification of the Lower Delaware River as Significant Resource Waters in accordance with Resolution No. 2005-2 and as extended by resolutions No. 2005-15, No. 2006-22, No. 2007-13, and No. 2008-3 is hereby continued and shall remain in effect until these amendments to the Water Quality Regulations and Water Code are filed in accordance with Section 14.2 of the *Compact* and a notice of final rulemaking has appeared in the *Federal Register*.

5. The Commission's Comment and Response Document, containing detailed responses to written and oral comments submitted on the proposed amendments, shall be finalized and made a part of the official rulemaking record for this action and shall be available for public inspection not later than upon the filing of these amendments with each of the signatory parties in accordance with Section 14.2 of the *Compact*.

/s/ Michele Putnam
Michele Putnam, Chairwoman *pro tem*

/s/ Pamela M. Bush
Pamela M. Bush, Esquire, Commission Secretary

ADOPTED: July 16, 2008

THE AMENDMENTS TO SECTION 3.10.3 A. OF THE COMMISSION'S ADMINISTRATIVE MANUAL – PART III, WATER QUALITY REGULATIONS ARE AS SET FORTH BELOW. ADDITIONS APPEAR IN **RED BOLD FACE TYPE**. DELETIONS APPEAR IN **[RED BOLD FACE TYPE WITHIN BRACKETS]**. **UNDERSCORE** INDICATES CHANGES THAT DID NOT ACCOMPANY THE NOTICE OF PROPOSED RULEMAKING [I.E. THAT ARE PROPOSED IN RESPONSE TO COMMENTS RECEIVED].

2. **Special Protection Waters.**

It is the policy of the Commission that there be no measurable change in existing water quality except towards natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological, and/or water supply values. Waters with exceptional values **may [could]** be classified by the Commission as **either** Outstanding Basin Waters or Significant Resource Waters.

In determining waters suitable for classification as Special Protection Waters, the Commission will consider nomination petitions from local, state and federal agencies and governing bodies, and the public for waters potentially meeting the definition of Outstanding Basin Waters and Significant Resource Waters as described in 3.10.3A.2.a.

The following policies shall apply to waters classified by the Commission as Outstanding Basin Waters or Significant Resource Waters and their drainage areas:

a. Definitions

1) "Outstanding Basin Waters" are interstate and contiguous intrastate waters that are contained within the established boundaries of national parks; national wild, scenic and recreational rivers systems; and/or national wildlife refuges that are classified by the Commission under Subsection 2.g.1) hereof as having exceptionally high scenic, recreational, and ecological values that require special protection.

2) "Significant Resource Waters" are interstate waters classified by the Commission under Subsection 2.g.2) hereof as having exceptionally high scenic, recreational, ecological, and/or water supply uses that require special protection.

3) "Existing Water Quality" **for purposes of the Special Protection Waters program is defined for a limited set of parameters, consisting of those listed in Tables 1 and 2. Existing water quality is defined in Table 1 for stream reaches between Hancock, New York and the Delaware Water Gap and in Table 2 for stream reaches between the Delaware Water Gap and Trenton, New Jersey. Where existing water quality is not defined in Tables 1 and 2, existing water quality may be defined by extrapolation from the nearest upstream or downstream Interstate Control Point, from data obtained from sites within the same ecoregion, or on the basis of best scientific judgment. [is defined as the actual**

concentration of a water constituent at an in-stream site or sites, as determined through field measurements and laboratory analysis of data collected over a time period determined by the Commission to adequately reflect the natural range of the hydraulic and climatologic factors which affect water quality. Existing water quality shall be described in terms of (a) an annual or seasonal mean of the available water quality data, (b) two-tailed upper and lower 95 percent confidence limits around the mean, and (c) the 10th and 90th percentiles of the data set from which the mean was calculated. Where available data are insufficient to determine existing water quality, existing water quality may be estimated from data obtained from sites within the same ecoregion or from best scientific judgment.]

4) "Measurable Change **to Existing Water Quality**" is defined as an actual or estimated change in a **seasonal or non-seasonal** mean **(for SPW waters upstream of and including River Mile 209.5[*]) or median (for SPW waters downstream of River Mile 209.5) [(annual or seasonal)]** in-stream pollutant concentration that is outside the range of the two-tailed upper and lower 95 percent confidence **[limits] intervals** that define existing water quality. **[In the absence of adequate available data, background concentrations will be assumed to be zero and "measurable change" will be based on in-stream concentrations greater than the detection limit for each parameter, based on the lowest limit of the most sensitive technique specified in 40 CFR Part 136.]**

5) "Public Interest" is a determination of all the positive and negative social, economic and water resource impacts associated with a project affecting a Significant Resource Water. A project that is in the public interest is one that, at a minimum, provides housing, employment, and/or public facilities needed to accommodate the adopted future population, land use, and other goals of a community and region without causing deleterious impacts on the local and regional environment and economy. In general, such a project would be one that conforms to a locally-adopted growth management plan which is undergoing active implementation by local officials, is supported by the larger community as a whole, and is compatible with national, state and regional objectives as well. For a project not fully meeting the above criteria, the Commission will weigh the positive and negative impacts to determine public interest.

6) "Regional Resources Management Plan" is a management plan developed and adopted by the government agency that is assigned primary responsibilities for the overall management of a National park, scenic and recreational river and/or wildlife refuge which contains waters that have been

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[*] River Mile 209.5 is the downstream boundary of the Delaware Water Gap National Recreation Area. SPW waters upstream of and including this point received SPW designation in 1992 and SPW waters below this point received SPW designation in 2005. The water quality strategy used to support the later designation differed from that employed a decade earlier.

classified by the Commission as Outstanding Basin Waters. A regional resources management plan is one that addresses, among other subjects, the location and general size of allowable wastewater treatment facilities. A regional resources management plan, or applicable portions thereof, may be incorporated into the Commission's Comprehensive Plan.

7) "Natural Condition" is the ecological state of a water body that represents conditions without human influence.

[8) "Detection limit" is the lowest level of a substance that can be measured in natural waters by a specific analytical method. Detection limit as defined herein, corresponds to the most currently-acceptable values for parameter specific detection limits as specified in 40 CFR Part 136.]

8[9]) "Non-discharging/Load Reduction Options" are options whereby the amount of wastewater discharged to a surface stream is reduced by (a) instituting load reduction measures involving reductions in pollutants at the source**,** possibly accompanied by water conservation practices to reduce the amount of flow received at a wastewater treatment plant; and/or (b) using land-based wastewater disposal whereby treated wastewater effluent is further treated by percolation and other soil-based processes instead of in-stream processes.

9[10]) "Natural Wastewater Treatment Systems" are soil-based, vegetative and/or aquatic wastewater treatment systems characterized by the use of low energy treatment processes that use and simulate "natural" environmental processes such as primary and secondary productivity, crop production, wetlands, ponds and others.

10[11]) "Non-Point Sources" are sources of pollutants carried by surface and sub-surface runoff that are derived from human activities and land use.

11[12]) "Cumulative Impact" is the net sum of all individual impacts including all point and non-point source impacts.

12[13]) "Boundary Control Points" are locations where monitoring and other activities occur to determine existing water quality, no measurable change, and related pollution control requirements as applicable. Boundary Control Points for Outstanding Basin Waters will generally correspond to federally-established boundaries for National parks, etc. while those for Significant Resource Waters will generally correspond to the confluence of an intrastate tributary with the classified interstate water. **The locations of Boundary and Interstate Control Points are described in Part C of Table 1 for the reach between Hancock, N.Y. and the Delaware Water Gap and in Tables 2A and 2B for the reach between the Delaware Water Gap and Trenton, N.J.).**

13[14]) "Interstate **[Special Protection Waters]** Control Points" are general locations used to assess water quality for purposes of defining and protecting Existing Water Quality. **The locations of Boundary and Interstate Control Points are described in Part C of Table 1 for the reach between Hancock, N.Y. and the Delaware Water Gap and in Tables 2A and 2B for the reach between the Delaware Water Gap and Trenton, N.J.).**

14[15]) "Growth Management Plans" are locally developed and adopted plans expressing the social, economic, and environmental goals and objectives of the local community. A growth management plan in this context can be one plan, a series of plans, local ordinances, and other official documents of a municipality. Growth management plans outline the community's desired growth patterns and related infrastructure. To be considered in the Commission's determination of public interest, growth management plans must be undergoing active implementation and forming the basis for local governmental decisions.

15[16]) **An** "Expanding Wastewater Treatment Project" **is [refers to] a project involving either (a)** alterations or additions to **an** existing wastewater treatment **facility [facilities]** that result in a reviewable project in accordance with the Commission's *Rules of Practice and Procedure***;** or **(b) a [any]** new **load** or increased **flow or** loading from an existing facility that was not **included in a NPDES permit or docket effective on the date of SPW designation [anticipated at the time of NPDES permit issuance]**.

16) "Substantial Alterations or Additions" are those additions and alterations resulting in: (a) a complete upgrade or modernization of an existing wastewater treatment plant, including substantial replacement or rehabilitation of the existing wastewater treatment process or major physical structures such as headworks, settling tanks, and biological/chemical treatment [or] and filtration tanks, whether conducted as a single phase or a multi-phased project or related projects; or (b) a new load or increased flow or loading from an existing facility that was not included in a NPDES permit or docket effective on the date of SPW designation. Among other projects, modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions."

17) "Load" and "loading" are used interchangeably in these regulations and refer to the amount of a substance or material, expressed as a weight per unit time (pounds per day, for example), that is discharged from a facility.

18) "Incremental load" and "incremental loading" are used interchangeably in these regulations and refer to the load that is greater than the actual load discharged by a facility at the time of SPW designation.

19[17]) "Best Management Practices" are any structural or non-structural measure designed to reduce stormwater runoff and resulting non-point source loads.

20[18]) "Watershed Non-Point Source Management Plan" is a plan prepared for a watershed that describes the basis for, and overall control strategy of, a plan for controlling, limiting, and abating all relevant non-point source loadings within the watershed. The plan will identify and assess important natural and anthropogenic features and influences on water quality; existing local, state and other non-point source control programs; potential non-point source loads on Special Protection Waters; watershed-specific protection requirements; and the institutional needs and arrangements required to implement the plan.

21[19]) "Non-Point Source Pollution Control Plan" is a plan describing the Best Management Practices to be used at the project site and in the project service area to control increases in non-point source pollutant loadings resulting from the project.

22[20]) "Priority Watershed" is a watershed that has been evaluated in conjunction with other watersheds draining to Special Protection Waters and designated by the Commission as having a substantial potential pollution impact on the water quality of Special Protection Waters in comparison with other watersheds.

b. **No Measurable Change to Existing** Water Quality **[Management Policies]**

1) Outstanding Basin Waters shall be maintained at their existing water quality. Point and non-point sources of pollutants originating from outside the boundaries of stream reaches classified as Outstanding Basin Waters shall be treated as required and then dispersed in the receiving water so that no measurable change occurs at Boundary and Interstate **[Special Protection Waters]** Control Points. Point sources of pollutants discharged to Outstanding Basin Waters shall be treated as required and then dispersed in such a manner that complete mixing of effluent with the receiving stream is, for all practical intents and purposes, instantaneous.

2) Significant Resource Waters shall not be degraded below existing water quality as defined **in these regulations,** although localized degradation of water quality may be allowed for initial dilution if the Commission**, after consultation with the state NPDES permitting agency,** finds that the public interest warrants these changes. Point and non-point sources of pollutants originating from outside the boundaries of stream reaches classified as Significant Resource Waters shall be treated as required and then dispersed in the receiving water so that no measurable change occurs at Boundary and Interstate **[Special Protection Waters]** Control Points**, unless a mixing zone is allowed in Significant Resource Waters, and then to the**

extent of the mixing zone designated as set forth in this section. If **[localized]** degradation of water quality is allowed for initial dilution purposes, the Commission**, after consultation with the state NPDES permitting agency,** will designate mixing zones for each point source and require the highest possible point **[and non-point]** source treatment levels necessary to limit the size and extent of the mixing zones. **[Mixing zone size will be based on] The dimensions of the mixing zone will be determined by the Commission after consultation with the state NPDES permitting agency based upon an evaluation of (a)** site-specific **conditions, including** channel characteristics**; (b) the cost and feasibility of treatment technologies; and (c) the design of the discharge structure**. **[In general, mixing zones should not exceed a radial distance equal to 1/4 of the width of the river under low flow design conditions] Mixing zones will be developed using the wastewater treatment facility design conditions and low ambient flow conditions** unless site-specific characteristics indicate otherwise. **Non-point sources shall be subject to the requirements of Section 3.10.3 A.2.e. for the implementation of non-point source control plans.**

c. **[Policy on]** Allowable Discharges

1. Direct discharges of wastewater to Special Protection Waters are discouraged. **[No new or expanded wastewater discharges shall be permitted in waters classified as Special Protection Waters until] The following categories of projects discharging directly to Special Protection Waters may be approved only after the applicant demonstrates that it has fully evaluated** all non-discharge/load reduction alternatives **and is unable to implement these alternatives [have been fully evaluated and rejected]** because of technical and/or financial infeasibility**: new wastewater treatment facilities and substantial alterations or additions to existing wastewater treatment facilities. When evaluating non-discharge/load reduction alternatives, the applicant shall consider alternatives to any and all loadings – both existing and proposed – in excess of actual loadings at the time of SPW designation**.

2) The following categories of projects within the drainage area of Special Protection Waters may be approved only after the applicant demonstrates that it has fully evaluated all natural wastewater treatment system alternatives and is unable to implement these alternatives because of technical and/or financial infeasibility: new wastewater treatment facilities and substantial alterations or additions to existing wastewater treatment facilities. When evaluating natural treatment alternatives, the applicant shall consider alternatives to any and all loadings – both existing and proposed – in excess of actual loadings at the time of SPW designation.

[2) The general number, location and size of future wastewater treatment facilities discharging to Outstanding Basin Waters (if any) shall be

developed taking into consideration any adopted regional resource management plan as defined in Section 3.10.3.A.2.a.6) and, on an individual project basis, based on the feasibility of non-discharging options.]

3) **[Discharges] The following categories of projects discharging directly** to Significant Resource Waters **may be approved only following a determination that the project is [shall only be allowed for circumstances which are demonstrably]** in the public interest as **that term is** defined in Section 3.10.3.A.2.a.5)**: new wastewater treatment facilities and substantial alterations or additions to existing wastewater treatment facilities**.

4) The general number, location and size of future wastewater treatment facilities discharging to Outstanding Basin Waters (if any) shall be developed taking into consideration any adopted regional resource management plan as defined in Section 3.10.3 A.2.a.6) and, on an individual project basis, considering [based on] the feasibility of non-discharge [non-discharging] /load reduction alternatives.

d. **[Policies Related to]** Wastewater Treatment Facilities

1) All wastewater treatment facilities discharging to waters classified as Special Protection Waters shall have available standby power facilities unless it can be shown that a proposed discharge can be interrupted for an extended period with no threat to the water quality of Special Protection Waters. Existing facilities must comply with this requirement upon their next permit renewal under the delegated national pollutant discharge elimination system (NPDES) permit program.

2) All wastewater treatment facilities discharging to Special Protection Waters that are not staffed 24 hours every day shall have a remote alarm that will continuously monitor plant operations whenever the plant is not staffed. The alarm system will be designed to alert someone available with authority and knowledge to take appropriate action. Existing facilities must comply with this requirement upon their next permit renewal under the delegated NPDES program.

3) All new wastewater treatment facilities discharging to Outstanding Basin Waters shall not have visual discharge plumes. Existing facilities must comply with this requirement upon their next permit renewal under the delegated NPDES program.

4) All new wastewater treatment facilities discharging to Special Protection Waters shall prepare and implement an emergency management plan following the guidance provided in the Water Pollution Control Federation's Manual of Practice SM-8, Emergency Planning for Municipal Wastewater Facilities, the U.S. EPA's Design Criteria for Mechanical, Electric and Fluid

System and Component Reliability or other suitable manuals. Emergency management plans shall include an emergency notification procedure covering all affected downstream users. Existing facilities must comply with this requirement upon their next permit renewal under the delegated NPDES program.

[5) All applicants seeking wastewater treatment project approval under Section 3.8 of the Compact shall satisfactorily prove the technical and/or financial infeasibility of using natural wastewater treatment technologies.]

5[6]) The minimum level of wastewater treatment for **the following categories of projects will be "Best Demonstrable Technology" as defined below:** all new **[and expanding]** wastewater treatment **facilities and all** projects **involving substantial alterations or additions to existing wastewater treatment facilities when the new or expanding facility discharges directly to Outstanding Basin Waters or Significant Resource Waters[, including projects approved by the Commission after September 1988, will be "Best Demonstrable Technology"]**. Equivalent effluent criteria for industrial facilities and seasonal limits, if any, will be developed on a case-by-case basis. The following 30-day average effluent criteria define Best Demonstrable Technology*****:

5-day CBOD:	10 mg/l or less
Dissolved oxygen:	6.0 mg/l or greater
Total suspended solids:	10 mg/l or less
Ammonia-nitrogen:	1.5 mg/l or less
Total nitrogen:	10.0 mg/l or less
Total phosphorus:	2.0 mg/l or less
Fecal coliform:	50/100 ml or less

*** The effluent criteria that define Best Demonstrable Technology (BDT) were established by these Regulations in 1992 when DRBC originally promulgated the Special Protection Waters regulations for point source discharges. Although treatment technologies have advanced since that year, these "BDT" criteria have been retained for the limited purposes of the SPW program. BDT as defined herein may be superseded, however, by applicable federal, state or DRBC criteria that are more stringent.**

6[7]) Best demonstrable technology for disinfection shall be ultraviolet light disinfection or an equivalent disinfection process that results in no harm to aquatic life, does not produce toxic chemical residuals, and results in effective bacterial and viral destruction.

7) For wastewater treatment facility discharge projects that satisfy applicable requirements of Sections 3.10.3 A.2.b. through d. above, the Commission may approve effluent trading on a voluntary basis between

point sources within the same watershed or between the same Interstate or Boundary Control Points to achieve no measurable change to existing water quality. Applicants seeking the Commission's approval for a trade must demonstrate equivalent load and pollutant reductions and the ability (through contracts, docket conditions, NPDES effluent limits or other legal instruments) to ensure continuous achievement of the required reductions for a term of not less than five (5) years or the time required for the point source(s) to install the treatment needed to demonstrate no measurable change to Existing Water Quality, whichever term is longer. States will be encouraged to incorporate appropriate conditions in the next NPDES permits issued to the trading dischargers.

8) For wastewater treatment facilities within the drainage area to Special Protection Waters, the actual loads and design flows included in a NPDES permit or docket effective at the time of Special Protection Waters designation ("SPW designation") may continue without triggering the additional treatment requirements and alternatives analyses required by these regulations. However, when Substantial Alterations or Additions as defined herein are proposed, although the actual discharge at the time of SPW designation remains exempt from additional requirements, the proposed expansion cannot be approved until (a) the applicant demonstrates that it has evaluated all non-discharge load reduction alternatives for all or a portion of the incremental load and is unable to implement these alternatives because of technical or financial infeasibility (for discharges directly to Outstanding Basin Waters (OBW) and Significant Resource Waters (SRW)); (b) the applicant demonstrates that it has evaluated all natural wastewater treatment system alternatives for all or a portion of the incremental load and is unable to implement these alternatives because of technical or financial infeasibility (for discharges directly to OBW and SRW and for tributary discharges); (c) the Commission has determined that the project is demonstrably in the public interest as defined herein (for discharges directly to SRW); (d) the minimum level of treatment to be provided for the incremental discharge is Best Demonstrable Technology as defined herein (for discharges directly to OBW and SRW); and (e) the applicant demonstrates that the project will cause no measurable change to Existing Water Quality as defined herein (for discharges directly to OBW and SRW and for tributary discharges).

9) For wastewater treatment facility projects subject to the no measurable change requirement, the demonstration of no measurable change to existing water quality shall be satisfied if the applicant demonstrates that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for the parameters denoted by asterisks in Tables 1 and 2 of this section: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and biological oxygen demand (BOD) (Table 1 only). In making

the demonstration required in the preceding sentence the applicant shall use a DRBC-approved model of the tributary or main stem watershed if available. Where a DRBC-approved model is not available, the applicant shall use other methodologies submitted to and approved in advance by the Commission to estimate cumulative effect at the applicable control point.

e. **[Policies Concerning the]** Control of Non-Point Sources

1) Projects subject to review under Section 3.8 of the Compact that are located in the drainage area of Special Protection Waters must submit for approval a Non-Point Source Pollution Control Plan that controls the new or increased non-point source loads generated within the portion of the project's service area which is also located within the drainage area of Special Protection Waters.

The plan will document which Best Management Practices described in handbooks, manuals and other documents prepared by the applicable state environmental agency that the project sponsor will use to control, to the extent possible, the non-point source loads from the project.

In approving the plan, the Commission may consider, but not require, tradeoffs, that the project sponsor might propose, between the reduction of potential new non-point source loads and (a) equivalent reductions in existing non-point source loads; (b) equivalent point source loads; and c) equivalent non-point source loads from outside the affected service area. Applicants desiring Commission approval of tradeoff strategies must provide information concerning the amount of non-point source loads to be reduced through an equivalent tradeoff process and, where necessary, the enforceable mechanisms and/or agreements required to implement the tradeoffs. Where tradeoffs have been approved, control measures for existing non-point sources must be substantially in-place prior to project operation.

The **[Commission] Executive Director** may, upon agreement with the state, delegate review and approval responsibilities under this section to the appropriate state environmental agency.

Exceptions to this policy are:

(a) Public authorities, other special purpose districts, and private corporations that do not have the legal authority to implement non-point source controls in their new or expanded service areas. **Such entities are subject, however, to the requirement set forth in paragraph 3.10.3 A.2.e.2) below, that no new connection may be approved unless the area(s) served is (are) regulated by a non-point source pollution control plan approved by the Commission.**

(b) The requirement for service area non-point source control plans is automatically satisfied if the project service area is part of a watershed non-point source management plan that has been adopted into the Commission's Comprehensive Plan and is being implemented.

(c) Projects located above major surface water impoundments listed in Section 3.10.3.A.2.g.5) where time of travel and relevant hydraulic and limnological factors preclude a direct impact on Special Protection Waters.

(d) Projects located in municipalities that have adopted and are actively implementing non-point source/stormwater control ordinances that have been reviewed and approved by the Commission.

(e) Projects located in watersheds where the applicable state environmental agency, county government, and local municipalities are participating in the development of a watershed plan being prepared under the auspices of these regulations, the federal Clean Water Act, or state initiatives.

2) Approval of a new or expanded water withdrawal and/or wastewater discharge project will be subject to the condition that any new connection to the project system only serve an area(s) regulated by a non-point source pollution control plan which has been approved by the Commission.

3) Within two years after the adoption of Special Protection Waters non-point source control regulations, the Commission shall, after substantial consultation with local, county, state and federal agencies and the general public, publish a report presenting its methodology for prioritizing watersheds in the Special Protection Waters drainage area including alternatives, if any; a preliminary listing of priority watersheds in the drainage area; and a recommended plan of study for the development of watershed-specific management plans. For waters classified as Special Protection Waters after December 1992, the watershed prioritization process will be completed within two years after the Special Protection Waters are classified.

Watershed priorities will be determined from a comparative analysis of each watershed's location and potential, future impact on existing water quality at designated Boundary and Interstate **[Special Protection Waters]** Control Points. In determining priorities, the Commission will consider:

(a) the physical characteristics of the watershed including slopes, soils, existing land use and land cover, drainage characteristics, and others;

(b) the status of existing water quality and trends, if any, of the watershed as measured at its Boundary Control Point;

(c) the anticipated mass loadings of new non-point sources;

(d) the watershed management and planning priorities of applicable local,

(e) the current status of local land use/non-point source controls in the watershed;

(f) the stormwater permitting activity in the NPDES permitting program; and

(g) other natural and anthropogenic factors.

4) Once the public has been given an opportunity to comment, the Commission will adopt a list of priority watersheds. This listing will be reviewed and modified as necessary on a two year basis after adoption.

5) Within five years after adopting a list of priority watersheds draining to Special Protection Waters, the Commission shall develop, or encourage the development of, watershed non-point source management plans for each priority watershed unless new circumstances result in deferring plan completion. Watershed non-point source management plans will focus on non-point source loadings, but will consider total loads including both point and non-point sources and their interrelationship where necessary.

During plan development, the Commission will seek technical assistance from the applicable state environmental agency and all other applicable federal, state, county, and local governmental units; and will consider direct delegation of plan development (with concurrence of the state environmental agency) to any county or other applicable governmental entity desiring to perform the watershed planning activities on behalf of, or instead of, the Commission. Where more than one political unit shares a watershed, joint plan development arrangements between the Commission and delegated agencies will be developed.

6) Watershed management plans developed by the Commission, or approved by the Commission will be incorporated into the Commission's Comprehensive Plan in accordance with the *Rules of Practice and Procedure*.

7) The Commission shall encourage the voluntary development of watershed management plans for tributary watersheds entering Special Protection Waters and local non-point source regulatory programs that conform to the goals and objectives of the Special Protection Waters regulations as promulgated in Sections 3.10.3A.2. Within the limits of its resources, the Commission will provide technical assistance, a clearinghouse for non-point sources information, regulatory authority, inter-agency coordination, and other services to local and other governmental units desiring to develop and implement stormwater and non-point source watershed plans and local regulatory programs.

8) The Commission shall encourage the submission of watershed management plans prepared voluntarily and independently from these regulations for consideration of inclusion into the Commission's Comprehensive Plan.

f. Policies Regarding Inter-Government Responsibilities

1) Inter-relationship of State and Commission Responsibilities.

The applicable state environmental agency shall assure to the extent possible[,] that existing water quality in Special Protection Waters is not measurably changed by pollution discharged into the intrastate tributary watersheds within its jurisdiction. For water quality management purposes, the state environmental agency and the Commission will jointly establish Boundary Control Points as described in Section 3.10.3.A.2a.12[13]) and g.4).

In performing this responsibility, the state environmental agency shall require that all new or expanding wastewater treatment facilities and existing wastewater treatment plants applying for a discharge permit or permit renewal under the delegated NPDES program to comply with the policies as prescribed in Section 3.10.3.A.2.d. unless it can be demonstrated, after consultation with the Commission, that these requirements are not necessary for the protection of existing water quality in the Special Protection Waters due to distance from Special Protection Waters, time of travel, the existence of water storage impoundments, the waste assimilation characteristics of the receiving stream, and other relevant hydrological and limnological factors.

The Commission shall, to the extent practicable and necessary, coordinate and oversee all Special Protection Waters activities and assist the efforts of each state environmental agency to control pollutants originating from intrastate tributary watersheds. The Commission shall determine pollution control requirements for discharges to Special Protection Waters; for non-point sources draining directly into Special Protection Waters; and total non-point source loads emanating from intrastate tributary watersheds as measured at Boundary Control Points.

g. Classified Special Protection Waters

1) The following stream reaches are classified as Outstanding Basin Waters:

(a) The Upper Delaware Scenic and Recreational River (Delaware River between River Mile 330.7 and 258.4);

(b) Those portions of intrastate tributaries located within the established boundary of the Upper Delaware Scenic and Recreational River Corridor;

(c) The Middle Delaware Scenic and Recreational River (Delaware River between River Miles 250.1 and 209.5);

(d) Those portions of tributaries located within the established boundary of the Delaware Water Gap National Recreation Area.

2) The following stream reaches are classified as Significant Resource Waters:

(a) The Delaware River between River Miles 258.4 (the downstream boundary of the Upper Delaware Scenic and Recreational River) and 250.1 (the upstream boundary of the Delaware Water Gap National Recreation Area);

(b) The Lower Delaware River between River Miles 209.5 (the downstream boundary of the Delaware Water Gap National Recreation Area) and **[133.4] 134.34** (**the Calhoun Street Bridge near** the Head of Tide at Trenton, NJ).

3) **Definitions of Existing Water Quality for waters classified in paragraphs 1) and 2) above are presented in Part A of Table 1 for the Upper Delaware Scenic & Recreational River and Part B of Table 1 for the reach from Millrift, Pa. to the Delaware Water Gap, including the Middle Delaware Scenic and Recreational River; and in Table 2 for the reach between the Delaware Water Gap and Trenton, N.J. [Definitions of existing water quality for waters classified in 1) and 2) above are presented in Table 1.]**

4) The locations of Boundary and Interstate **[Special Protection Waters]** Control Points are described in **[Table 2] Part C of Table 1 for the reach between Hancock, N.Y. and the Delaware Water Gap and in Table 2 for the reach between the Delaware Water Gap and Trenton, N.J**.

5) Major surface water impoundments referenced in Section 3.10.3A.2.e.1)c.) are the following:

(a) Cannonsville Reservoir (New York State)

(b) Pepacton Reservoir (New York State)

(c) Neversink Reservoir (New York State)

(d) Lake Wallenpaupack (Pennsylvania)

(e) Mongaup System (New York State).

[6) For the stream reach listed in Section 3.10.3A2.g.2).(b), all provisions of Section 3.10.3A.2 shall be in effect except those listed below:]

- **[The requirement at Section 3.10.3A.2.b.2). that "[p]oint and non-point sources from outside the boundaries of stream reaches classified as Significant Resource Waters shall be treated as required and then dispersed in the receiving water so that no measurable change occurs at Boundary and Interstate Special Protection Waters Control Points."]**

- **[The requirement of Section 3.10.3A.2.b., read in combination with Section 3.10.3A.2.d.6), that new and expanding wastewater treatment projects discharging to Special Protection Waters may be subject to additional treatment requirements, above and beyond the effluent criteria defining Best Demonstrable Technology, as necessary to ensure no measurable change in existing water quality in Special Protection Waters.]**

- **[The requirement at Section 3.10.3A.2.f. that state environmental agencies "shall assure to the extent possible, that existing water quality in Special Protection Waters is not measurably changed by pollution discharged into the intrastate tributary watersheds within their jurisdiction."]**

[Sections 3.10.3A.2.g.2).(b) and 3.10.3A.2.g.6). shall expire on May 15, 2008 unless extended by amendment to this rule.]

TABLE 1. DEFINITION OF EXISTING WATER QUALITY IN THE DELAWARE RIVER BETWEEN HANCOCK, NEW YORK AND THE DELAWARE WATER GAP[1]

PART A: UPPER DELAWARE SCENIC & RECREATIONAL RIVER[2]

PARAMETER	MEAN	95 PERCENT CONFIDENCE LIMITS OF MEAN	10TH AND 90TH PERCENTILES	ADDITIONAL
Dissolved oxygen* (mg/l)	9.0	8.9 to 9.2	7.5 and 11.0	Never below 6.0 mg/l (night time); May-Sept; reachwide
BOD_5* (mg/l)	0.67	0.6 to 0.8	0.3 and 1.9	May-Sept; reachwide
Conductivity (umhos/cm)	68	66.6 to 69.3	52 and 88	non-seasonal; reachwide
Fecal coliform* (colonies/100 ml)	24	21 to 28	4 and 200	May-Sept; reachwide
Total suspended* solids (mg/l)	4.0	2.9 to 5.6	2.0 and 16	non-seasonal; reachwide
Total phosphorus* (ug/l)	29	27 to 31	18 and 50	non-seasonal; reachwide
Ammonia + ammonium* (ug/l)	15	13 to 18	10 and 50	as nitrogen; May-Sept; reachwide
Ammonia + ammonium* (ug/l)	22	20 to 25	10 and 60	as nitrogen; non-seasonal; reachwide
Total kjeldahl nitrogen* (ug/l)	202	172 to 237	100 and 530	May-Sept; reachwide
Nitrite + nitrate nitrogen* (ug/l)	293	256 to 336	123 and 492	May-Sept; reachwide
Hardness (mg/l as $CaCo_3$)	21	19.9 to 22.2	17.0 and 27.0	non-seasonal; reachwide
Biocriteria: Shannon-Wiener	3.6	3.4 to 3.8	2.7 and 4.3	May-Sept; reachwide
Biocriteria: Equitability	0.8	0.7 to 0.9	0.5 and 1.1	May-Sept; reachwide
Biocriteria: EPT	15.5	13.8 to 17.2	8.0 and 24.0	May-Sept; reachwide

*** Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.**

[1] The numeric values for Existing Water Quality set forth in Parts A, B and C of Table 1 were developed through field measurements and laboratory analysis of data collected over a time period determined by the Commission to adequately reflect the natural range of the hydraulic and climatologic factors that [which] affect water quality. Existing water quality [shall be] is defined in terms of (a) an annual or seasonal mean of the available water quality data, (b) two-tailed upper and lower 95 percent confidence limits around the mean, and (c) the 10th and 90th percentiles of the data set from which the mean was calculated.

PART B: DELAWARE RIVER FROM MILLRIFT THROUGH THE DELAWARE WATER GAP INCLUDING THE MIDDLE DELAWARE SCENIC AND RECREATIONAL RIVER[2]				
PARAMETER	MEAN	95 PERCENT CONFIDENCE LIMITS OF MEAN	10TH AND 90TH PERCENTILES	ADDITIONAL
Dissolved oxygen* (mg/l)	9.2	9.1 to 9.4	7.5 and 12.8	Never below 6.0 mg/l (night time); non-seasonal; reachwide
BOD_5* (mg/l)	0.63	0.6 to 0.7	0.3 and 1.6	May-Sept; reachwide
Conductivity (umhos/cm)	76	75 to 77	60 and 95	non-seasonal; reachwide
Fecal coliform* (colonies/100 ml)	47	42 to 53	9 and 272	May-Sept; reachwide
Total suspended solids* (mg/l)	3.4	3.0 to 3.8	1.0 and 12.0	non-seasonal; reachwide
Total phosphorus* (ug/l)	27	25 to 29	14 and 40	May-Sept; reachwide
Ammonia + ammonium* (ug/l)	23	21 to 26	10 and 50	May-Sept; reachwide
Ammonia + ammonium* (ug/l)	41	37 to 44	10 and 187	non-seasonal; reachwide
Total kjeldahl nitrogen* (ug/l)	293	276 to 312	101 and 860	non-seasonal; reachwide
Total kjeldahl nitrogen* (ug/l)	206	189 to 225	100 and 490	May-Sept; reachwide
Nitrite + nitrate nitrogen* (ug/l)	246	233 to 260	100 and 490	non-seasonal; reachwide
Nitrite + nitrate nitrogen* (ug/l)	206	191 to 223	92 and 392	May-Sept; reachwide
Hardness (mg/l as $CaCo_3$)	24	24 to 25	20 and 30	non-seasonal; reachwide
Biocriteria: Shannon-Wiener	3.6	3.4 to 3.7	3.2 and 4.1	May-Sept; reachwide
Biocriteria: Equitability	0.8	0.7 to 0.9	0.5 and 1.1	May-Sept; reachwide
Biocriteria: EPT	13.9	12.8 to 15.1	8.0 and 20.0	May-Sept; reachwide

*** Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.**

[PART C: NOTES ON STATISTICS USED TO DEFINE EXISTING WATER QUALITY] [2] The definitions of Existing Water Quality presented in Parts A and B of this table were developed by performing parametric statistical analyses using logarithmic transformation of available water quality data to derive normality. The numbers represent the anti-log of the statistical results and, thus, will differ from numbers generated by using non-transformed data. Means derived from log transformations, for example, will be lower than means derived from non-transformed data. The 95 percent confidence limits were derived from a two-tailed distribution. Biocriteria were not developed using log-transformed data. The three indices used to develop the biocriteria

were derived from specialized transformations of the original data, resulting in values that are normally distributed.

[TABLE 2. BOUNDARY AND INTERSTATE SPECIAL PROTECTION WATERS CONTROL POINTS]

PART C: BOUNDARY AND INTERSTATE CONTROL POINTS FOR THE DELAWARE RIVER BETWEEN HANCOCK, N.Y. AND THE DELAWARE WATER GAP		
BOUNDARY	CONTROL POINTS	MAP REFERENCE
Northern Boundary-UDSRR	Delaware River Mile 330.7	DRBC River Mile maps & UDSRR River Management Plan
Eastern Boundary-UDSRR	New York streams in Delaware & Sullivan Counties: Blue Mill; Humphries; Abe Lord; Bouchoux; Pea; Hoolihan; Basket; Hankins; Callicoon; Mitchell Pond; Tenmile; Grassy Swamp; Narrow Falls; York Lake; Beaver Brook; Halfway; Mill; Fish Cabin; Mongaup; Shingle Kill	UDSRR River Management PLAN
Western Boundary-UDSRR	Pennsylvania streams in Wayne & Pike Counties: Shingle Hollow; Stockport; Factory; Equinunk; Weston; Little Equinunk; Cooley; Hollister; Schoolhouse; Beaverdam; Calkins; Peggy Run; Masthope; Westcolang; Lackawaxen; Verga Pond; Panther; Shohola; Twin Lakes; Pond Eddy; Bush Kill	UDSRR River Management PLAN
Northern Boundary-Eight mile reach between UDSRR and MDSRR	Delaware River Mile 258.4 (railroad crossing at Millrift, Pennsylvania)	DRBC River Mile maps; UDSRR River Management Plan
Eastern & Western Boundaries-Eight mile reach between UDSRR & MDSRR	Confluence of New York streams (Orange County); Pennsylvania streams (Pike County); and New Jersey streams (Sussex County) with the Delaware River: Sparrowbush; Neversink; Cummins	U.S.G.S. Port Jervis South & North topographic maps
Northern Boundary-DWGNRA	Delaware River Mile 250.1 near the confluence of Cummins Creek	DRBC River Mile map & DWGNRA Tract Map
Eastern Boundary-DWGNRA	New Jersey streams in Sussex County: Shimers; White; Big Flatbrook; Little Flatbrook	DWGNRA Tract Maps
Western Boundary-DWGNRA	Pennsylvania streams in Pike & Monroe Counties: Crawford Branch; Vandermark; Sawkill; Raymondskill; Conashaugh; Dry; Adams; Dingmans; Hornbeck; Deckers; Alicias; Brodhead-Hellers; Hellers; Toms; Denmark; Little Bushkill; Bushkill; Shawnee; Brodhead; Cherry; Caledonia; Slateford	DWGNRA Tract Maps
~~SPECIAL PROTECTION WATERS~~ **INTERSTATE**	CONTROL POINTS (General Locations)	RIVER MILE
Upper Delaware Scenic & Recreational River	Buckingham Access Area Lordville Bridge Kellams Bridge Callicoon Access Areas Damacus/Cochecton Skinners Falls Narrowsburg area Ten Mile River Access Area Lackawaxen Access Area Barryville/Shohola Bridge Pond Eddy Bridge	325 322 313 303 298 295 290 284 277 273 266
Delaware River between the UDSRR & the DWGNRA	Millrift Matamoras/Port Jervis Northern boundary-DWGNRA	258 254 250

~~SPECIAL PROTECTION WATERS~~ **INTERSTATE**	CONTROL POINTS (General Locations)	RIVER MILE
Delaware Water Gap National Recreation Area	Milford Beach	247
	Dingmans Access Area	239
	Eshback Access Area	232
	Bushkill Access Area	228
	Depew Access Area	221
	Smithfield Beach	218
	Worthington S.F. Access	215
	Kittatinny Visitor Center	211
	Upstream end of Arrow Island	210

[TABLE 2 – PARTS A THROUGH Z BEGINS ON NEXT PAGE]

[TABLE 2 IS AN ENTIRELY NEW TABLE WITHIN SECTION 3.10.3 A.2. NO REDLINE IS PROVIDED.]

TABLE 2A. INDEX to Lower Delaware River CONTROL POINTS, by River Mile Location.

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
Table 2C	**Portland ICP**	40.784722	-75.184722	**207.50**	**Portland ICP**	**4,165**
	Jacoby Creek (PA)			207.48	Belvidere ICP	6.45
Table 2D	**Paulins Kill (NJ)**	40.920833	-75.088333	**207.16-0.07**	**Paulins Kill BCP**	**177.0**
	Delawanna Creek (NJ)			205.20	Belvidere ICP	4.49
	Allegheny Creek (PA)			199.76	Belvidere ICP	9.06
Table 2E	**Belvidere ICP**	40.828889	-75.085000	**197.84**	**Belvidere ICP**	**4,378**
Table 2F	**Pequest River (NJ)**	40.834167	-75.061111	**197.80-1.48**	**Pequest River BCP**	**157.0**
	Pophandusing Brook (NJ)			197.66	Easton ICP	5.62
	Oughoughton Creek (PA)			194.32	Easton ICP	11.9
	Buckhorn Creek (NJ)			192.90	Easton ICP	11.8
Table 2G	**Martins Creek (PA)**	40.784722	-75.184722	**190.65-0.96**	**Martins Creek BCP**	**44.5**
	Mud Run (PA)			189.10	Easton BCP	6.00
Table 2H	**Bushkill Creek (PA)**	40.695278	-75.206111	**184.10-0.05**	**Bushkill Creek BCP**	**80.0**
Table 2I	**Easton ICP**	40.691111	-75.204167	**183.82**	**Easton ICP**	**4,717**
Table 2J	**Lehigh River (PA)**	40.691111	-75.204722	**183.66-0.27**	**Lehigh River BCP**	**1,368**
	Lopatcong Creek (NJ)			182.00	Riegelsville ICP	14.7
Table 2K	**Pohatcong Creek (NJ)**	40.624722	-75.186111	**177.36-0.35**	**Pohatcong Creek BCP**	**57.1**
	Fry's Run (PA)			176.60	Riegelsville ICP	6.14
Table 2L	**Riegelsville ICP**	40.593889	-75.191111	**174.80**	**Riegelsville ICP**	**6,172**
Table 2M	**Musconetcong River (NJ)**	40.592500	-75.186667	**174.60-0.15**	**Musconetcong BCP**	**156.0**
Table 2N	**Cooks Creek (PA)**	40.586667	-75.211944	**173.70-1.06**	**Cooks Creek BCP**	**29.5**
	Gallows Run (PA)			171.80	Milford ICP	8.72
Table 2O	**Milford ICP**	40.566389	-75.098889	**167.70**	**Milford ICP**	**6,381**
	Hakihokake Creek (NJ)			167.20	Bulls Island ICP	17.5
	Harihokake Creek (NJ)			165.70	Bulls Island ICP	9.85
Table 2P	**Nishisakawick Creek (NJ)**	40.526389	-75.060278	**164.10-0.35**	**Nishisakawick BCP**	**11.1**
	Little Nishisakawick Creek (NJ)			164.00	Bulls Island ICP	3.51

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
	Copper Creek (NJ)			162.90	Bulls Island ICP	3.27
Table 2Q	**Tinicum Creek (PA)**	40.485278	-75.072500	**161.60-0.24**	**Tinicum Creek BCP**	**24.0**
	Warford Creek (NJ)			160.50	Bulls Island ICP	1.43
	Smithtown Creek (PA)			159.90	Bulls Island ICP	1.38
	Warsaw Creek (NJ)			159.50	Bulls Island ICP	1.60
Table 2R	**Tohickon Creek (PA)**	40.423056	-75.066667	**157.00-0.19**	**Tohickon Creek BCP**	**112.0**
	Hickory Creek (PA)			156.98	Bulls Island ICP	1.50
Table 2S	**Paunacussing Creek (PA)**	40.407500	-75.041667	**155.90-0.12**	**Paunacussing BCP**	**7.87**
Table 2T	**Bulls Island ICP**	40.407500	-75.037778	**155.40**	**Bulls Island ICP**	**6,598**
	Cuttalossa Creek (PA)			154.50	Lambertville ICP	3.00
Table 2U	**Lockatong Creek (NJ)**	40.415833	-75.018056	**154.00-0.75**	**Lockatong Creek BCP**	**23.2**
Table 2V	**Wickecheoke Creek (NJ)**	40.411667	-74.986944	**152.51-0.21**	**Wickecheoke BCP**	**26.6**
	Primrose Creek (PA)			150.50	Lambertville ICP	3.00
	Alexauken Creek (NJ)			149.50	Lambertville ICP	15.0
	Rabbit Run (PA)			149.45	Lambertville ICP	0.42
Table 2W	**Lambertville ICP**	40.365833	-74.949167	**148.70**	**Lambertville ICP**	**6,680**
	Swan Creek (NJ)			148.60	Wash. Crossing ICP	3.28
	Aquetong Creek (PA)			148.50	Wash. Crossing ICP	8.01
	Dark Hollow Run (PA)			148.20	Wash. Crossing ICP	0.71
Table 2X	**Pidcock Creek (PA)**	40.32907	-74.94566	**146.30-0.90**	**Pidcock Creek BCP**	**12.7**
	Moore Creek (NJ)			145.20	Wash. Crossing ICP	10.2
	Jericho Creek (PA)			144.20	Wash. Crossing ICP	9.63
	Fiddlers Creek (NJ)			143.20	Wash. Crossing ICP	2.02
Table 2Y	**Washington Crossing ICP**	40.295278	-74.868889	**141.80**	**Wash. Crossing ICP**	**6,735**
	Houghs Creek (PA)			140.60	Trenton ICP	5.19
	Jacobs Creek (NJ)			140.46	Trenton ICP	13.3
	Dyers Creek (PA)			139.80	Trenton ICP	1.20
	Reeds Run (NJ)			138.50	Trenton ICP	1.50
	Buck Creek (PA)			138.00	Trenton ICP	6.99
	Gold Run (NJ)			137.25	Trenton ICP	1.66

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
Table 2Z	**Trenton ICP**	40.219722	-74.778333	**134.34**	**Trenton ICP**	**6,780**

TABLE 2B. Alphabetical INDEX to Lower Delaware River CONTROL POINTS.

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
	Alexauken Creek (NJ)			149.50	Lambertville ICP	15.0
	Allegheny Creek (PA)			199.76	Belvidere ICP	9.06
	Aquetong Creek (PA)			148.50	Wash. Crossing ICP	8.01
Table 2E	**Belvidere ICP**	40.828889	-75.085000	**197.84**	**Belvidere ICP**	**4,378**
	Buck Creek (PA)			138.00	Trenton ICP	6.99
	Buckhorn Creek (NJ)			192.90	Easton ICP	11.8
Table 2T	**Bulls Island ICP**	40.407500	-75.037778	**155.40**	**Bulls Island ICP**	**6,598**
Table 2H	**Bushkill Creek (PA)**	40.695278	-75.206111	**184.10-0.05**	**Bushkill Creek BCP**	**80.0**
Table 2N	**Cooks Creek (PA)**	40.586667	-75.211944	**173.70-1.06**	**Cooks Creek BCP**	**29.5**
	Copper Creek (NJ)			162.90	Bulls Island ICP	3.27
	Cuttalossa Creek (PA)			154.50	Lambertville ICP	3.00
	Dark Hollow Run (PA)			148.20	Wash. Crossing ICP	0.71
	Delawanna Creek (NJ)			205.20	Belvidere ICP	4.49
	Dyers Creek (PA)			139.80	Trenton ICP	1.20
Table 2I	**Easton ICP**	40.691111	-75.204167	**183.82**	**Easton ICP**	**4,717**
	Fiddlers Creek (NJ)			143.20	Wash. Crossing ICP	2.02
	Fry's Run (PA)			176.60	Riegelsville ICP	6.14
	Gallows Run (PA)			171.80	Milford ICP	8.72

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
	Gold Run (NJ)			137.25	Trenton ICP	1.66
	Hakihokake Creek (NJ)			167.20	Bulls Island ICP	17.5
	Harihokake Creek (NJ)			165.70	Bulls Island ICP	9.85
	Hickory Creek (PA)			156.98	Bulls Island ICP	1.50
	Houghs Creek (PA)			140.60	Trenton ICP	5.19
	Jacobs Creek (NJ)			140.46	Trenton ICP	13.3
	Jacoby Creek (PA)			207.48	Belvidere ICP	6.45
	Jericho Creek (PA)			144.20	Wash. Crossing ICP	9.63
Table 2W	**Lambertville ICP**	40.365833	-74.949167	**148.70**	**Lambertville ICP**	**6,680**
Table 2J	**Lehigh River (PA)**	40.691111	-75.204722	**183.66-0.27**	**Lehigh River BCP**	**1,368**
	Little Nishisakawick Creek (NJ)			164.00	Bulls Island ICP	3.51
Table 2U	**Lockatong Creek (NJ)**	40.415833	-75.018056	**154.00-0.75**	**Lockatong Creek BCP**	**23.2**
	Lopatcong Creek (NJ)			182.00	Riegelsville ICP	14.7
Table 2G	**Martins Creek (PA)**	40.784722	-75.184722	**190.65-0.96**	**Martins Creek BCP**	**44.5**
Table 2O	**Milford ICP**	40.566389	-75.098889	**167.70**	**Milford ICP**	**6,381**
	Moore Creek (NJ)			145.20	Wash. Crossing ICP	10.2
	Mud Run (PA)			189.10	Easton BCP	6.00
Table 2M	**Musconetcong River (NJ)**	40.592500	-75.186667	**174.60-0.15**	**Musconetcong BCP**	**156.0**
Table 2P	**Nishisakawick Creek (NJ)**	40.526389	-75.060278	**164.10-0.35**	**Nishisakawick BCP**	**11.1**
	Oughoughton Creek (PA)			194.32	Easton ICP	11.9
Table 2D	**Paulins Kill (NJ)**	40.920833	-75.088333	**207.16-0.07**	**Paulins Kill BCP**	**177.0**
Table 2S	**Paunacussing Creek (PA)**	40.407500	-75.041667	**155.90-0.12**	**Paunacussing BCP**	**7.87**
Table 2F	**Pequest River (NJ)**	40.834167	-75.061111	**197.80-1.48**	**Pequest River BCP**	**157.0**
Table 2X	**Pidcock Creek (PA)**	40.32907	-74.94566	**146.30-0.90**	**Pidcock Creek BCP**	**12.7**
Table 2K	**Pohatcong Creek (NJ)**	40.624722	-75.186111	**177.36-0.35**	**Pohatcong Creek BCP**	**57.1**
	Pophandusing Brook (NJ)			197.66	Easton ICP	5.62
Table 2C	**Portland ICP**	40.784722	-75.184722	**207.50**	**Portland ICP**	**4,165**
	Primrose Creek (PA)			150.50	Lambertville ICP	3.00
	Rabbit Run (PA)			149.45	Lambertville ICP	0.42
	Reeds Run (NJ)			138.50	Trenton ICP	1.50

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
Table 2L	**Riegelsville ICP**	40.593889	-75.191111	**174.80**	**Riegelsville ICP**	**6,172**
	Smithtown Creek (PA)			159.90	Bulls Island ICP	1.38
	Swan Creek (NJ)			148.60	Wash. Crossing ICP	3.28
Table 2Q	**Tinicum Creek (PA)**	40.485278	-75.072500	**161.60-0.24**	**Tinicum Creek BCP**	**24.0**
Table 2R	**Tohickon Creek (PA)**	40.423056	-75.066667	**157.00-0.19**	**Tohickon Creek BCP**	**112.0**
Table 2Z	**Trenton ICP**	40.219722	-74.778333	**134.34**	**Trenton ICP**	**6,780**
	Warford Creek (NJ)			160.50	Bulls Island ICP	1.43
	Warsaw Creek (NJ)			159.50	Bulls Island ICP	1.60
Table 2Y	**Washington Crossing ICP**	40.295278	-74.868889	**141.80**	**Wash. Crossing ICP**	**6,735**
Table 2V	**Wickecheoke Creek (NJ)**	40.411667	-74.986944	**152.51-0.21**	**Wickecheoke BCP**	**26.6**

Table 2C. Definition of Existing Water Quality: Portland ICP

Delaware River at Portland-Columbia Pedestrian Bridge, Pennsylvania/New Jersey, River Mile 207.50

Parameter (Y)	Definition of Existing Water Quality			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	12	11	13	Y = -0.00019515 Q + 13.325
Chlorophyll a (mg/m^3)	2.13	1.30	2.70	
Dissolved Oxygen (mg/l) mid-day*	8.70	8.38	9.06	
Dissolved Oxygen Saturation (%)	97%	95%	99%	
E. coli (colonies/100 ml)	16	8	25	Y = antilog (0.00007074 Q + 0.6659)
Enterococcus (colonies/100 ml)	20	12	60	
Fecal coliform (colonies/100 ml) *	20	12	36	Y = antilog (0.00006854 Q + 0.955)
Nitrate NO3-N (mg/l) *	0.68	0.48	0.74	
Orthophosphate (mg/l)	0.01	0.005	0.01	
pH	7.40	7.29	7.58	
Specific Conductance (umhos/cm)	97	88	104	Y = -0.00151181 Q + 106.6
Total Dissolved Solids (mg/l)	83	74	91	
Total Kjeldahl Nitrogen (mg/l)	0.29	0.19	0.40	
Total Nitrogen (mg/l) *	0.86	0.74	1.05	
Total Phosphorus (mg/l) *	0.04	0.03	0.05	
Total Suspended Solids (mg/l) *	3.0	2.0	4.0	Y = 0.00122363 Q - 2.8618
Turbidity (NTU)	1.6	1.1	2.8	Y = antilog (0.00005157 Q – 0.1356)
Alkalinity (mg/l)	20	16	22	Y = -0.00046984 Q + 23.547
Hardness (mg/l)	30	28	31	

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ value does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2D. Definition of Existing Water Quality: Paulins Kill BCP

Paulins Kill, New Jersey, River Mile 207.16 – 0.07
Boundary Control Point is located at Route 46 bridge.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.06	0.04	0.08	
Chloride (mg/l)	41.9	36	48	Y = -17.4858 (log Q) + 79.5946
Chlorophyll a (mg/m^3)	3.3	2.7	5.3	
Dissolved Oxygen (mg/l) mid-day *	7.95	7.31	8.39	
Dissolved Oxygen Saturation (%)	88%	83%	91%	
E. coli (colonies/100 ml)	75	40	140	Y = antilog (0.7993 (log Q) + 0.157)
Enterococcus (colonies/100 ml)	120 **	84 **	180 **	
Fecal coliform (colonies/100 ml) *	110	84	190	Y = antilog (0.967 (log Q) – 0.0255)
Nitrate NO3-N (mg/l) *	0.75	0.70	0.86	
Orthophosphate (mg/l)	0.02	0.01	0.02	
pH	7.79	7.70	7.87	
Specific Conductance (umhos/cm)	416	380	453	Y = -141.2449 (log Q) + 715.5098
Total Dissolved Solids (mg/l)	280	250	300	Y = -75.186 (log Q) + 426.1389
Total Kjeldahl Nitrogen (mg/l)	0.39	0.29	0.53	
Total Nitrogen (mg/l) *	1.13	0.99	1.28	
Total Phosphorus (mg/l) *	0.05	0.05	0.06	
Total Suspended Solids (mg/l) *	7.0	5.0	8.0	
Turbidity (NTU)	4.0	3.0	4.8	Y = antilog (0.4057 (log Q) – 0.269)
Alkalinity (mg/l)	125	110	140	Y = -49.5 (log Q) + 229.2
Hardness (mg/l)	158	140	176	Y = -56.8657 (log Q) + 280.7477

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ value does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2E. Definition of Existing Water Quality: Belvidere ICP

Delaware River at Belvidere-Riverton Bridge, NJ/PA, River Mile 197.84

Parameter (Y)	Definition of Existing Water Quality			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	14	12	15	Y = -0.00020113 Q + 14.872
Chlorophyll a (mg/m^3)	1.9	1.3	2.7	
Dissolved Oxygen (mg/l) mid-day*	8.52	8.00	8.95	
Dissolved Oxygen Saturation (%)	94%	92%	96%	
E. coli (colonies/100 ml)	20	5	30	Y = antilog (0.00005716 Q + 0.8244)
Enterococcus (colonies/100 ml)	50	35	68	
Fecal coliform (colonies/100 ml) *	30	20	50	Y = antilog (0.00006282 Q + 1.0055)
Nitrate NO3-N (mg/l) *	0.53	0.47	0.71	
Orthophosphate (mg/l)	0.01	0.01	0.02	
pH	7.49	7.25	7.60	
Specific Conductance (umhos/cm)	111.5	105.0	125.0	Y = -0.00185194 Q + 125.8
Total Dissolved Solids (mg/l)	98	86	100	
Total Kjeldahl Nitrogen (mg/l)	0.33	0.24	0.40	
Total Nitrogen (mg/l) *	0.89	0.82	1.11	
Total Phosphorus (mg/l) *	0.04	0.04	0.05	
Total Suspended Solids (mg/l) *	3.0	2.0	4.0	Y = 0.00120841 Q – 3.003
Turbidity (NTU)	1.7	1.2	2.5	Y = antilog (0.00003844 Q + 0.0483)
Alkalinity (mg/l)	26	24	28	Y = -0.00046346 Q + 29.199
Hardness (mg/l)	35	33	36	

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2F. Definition of Existing Water Quality: Pequest River BCP

Pequest River, New Jersey, River Mile 197.80 – 1.48
Boundary Control Point is located at Orchard Street Bridge, Belvidere

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	0.05	
Chloride (mg/l)	35.9	34.0	38.0	Y = -12.7769 (log Q) + 62.875
Chlorophyll a (mg/m^3)	2.14	2.00	2.70	
Dissolved Oxygen (mg/l) mid-day *	9.89	9.37	10.37	
Dissolved Oxygen Saturation (%)	103%	99%	107%	
E. coli (colonies/100 ml)	130	110	160	
Enterococcus (colonies/100 ml)	250 **	140 **	460 **	
Fecal coliform (colonies/100 ml) *	180	150	230 **	
Nitrate NO3-N (mg/l) *	1.29	1.13	1.45	
Orthophosphate (mg/l)	0.05	0.05	0.07	
pH	8.20	8.10	8.30	
Specific Conductance (umhos/cm)	491	472	511	Y = -0.18929204 Q + 517.8326
Total Dissolved Solids (mg/l)	330	310	340	Y = -75.8279 (log Q) + 479.4783
Total Kjeldahl Nitrogen (mg/l)	0.47	0.32	0.55	
Total Nitrogen (mg/l) *	1.69	1.54	2.00	
Total Phosphorus (mg/l) *	0.10	0.08	0.11 **	
Total Suspended Solids (mg/l) *	6.5	4.0	11.0	
Turbidity (NTU)	3.4	2.1	5.8	Y = antilog (1.0964 (log Q) - 1.87)
Alkalinity (mg/l)	189	180	200	Y = -64.33 (log Q) + 319.85
Hardness (mg/l)	228	220	230	Y = -50.0952 (log Q) + 329.8323

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2G. Definition of Existing Water Quality: Martins Creek BCP

Martins Creek, Pennsylvania, River Mile 190.65 – 0.96
Boundary Control Point is located at Little Creek Road bridge in Martins Creek Village.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	0.02***	0.05	
Chloride (mg/l)	21	19	24.3	Y = -11.0817 (log Q) + 39.9172
Chlorophyll a (mg/m^3)	1.80	0.50	2.70	
Dissolved Oxygen (mg/l) mid-day *	9.55	9.23	9.62	
Dissolved Oxygen Saturation (%)	98%	96%	99%	
E. coli (colonies/100 ml)	150	48	350	
Enterococcus (colonies/100 ml)	380	260	620	
Fecal coliform (colonies/100 ml) *	355 **	190	640 **	
Nitrate NO3-N (mg/l) *	2.38	2.04	2.80	
Orthophosphate (mg/l)	0.11	0.07	0.13	
pH	7.73	7.6	7.78	
Specific Conductance (umhos/cm)	322	283	338	Y = -114.3186 (log Q) + 506.634
Total Dissolved Solids (mg/l)	229	210	250	Y = -89.8812 (log Q) + 373.2748
Total Kjeldahl Nitrogen (mg/l)	0.34	0.28	0.50	
Total Nitrogen (mg/l) *	2.95	2.65	3.32	
Total Phosphorus (mg/l) *	0.13	0.10	0.20	
Total Suspended Solids (mg/l) *	4.0	2.0	5.0	
Turbidity (NTU)	2.4	1.6	4.0	Y = antilog (0.642 (log Q) - 0.684)
Alkalinity (mg/l)	50	43	52	Y = -19.48 (log Q) + 81.48
Hardness (mg/l)	120	112	130	Y = -46.9931 (log Q) + 201.407

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

*** Based on laboratory 'J' values reported below the 0.05 lower reporting limit.

Table 2H. Definition of Existing Water Quality: Bushkill Creek BCP

Bushkill Creek, Northampton County, Pennsylvania, River Mile 184.10 – 0.05
Boundary Control Point is located at Route 611 bridge, Easton.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.10	0.07	0.13	
Chloride (mg/l)	27	25	28.4	Y = -13.4942 (log Q) + 54.7837
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	10.10	9.69	10.30	
Dissolved Oxygen Saturation (%)	102%	100%	104%	
E. coli (colonies/100 ml)	330	220	620	
Enterococcus (colonies/100 ml)	350	280	540	
Fecal coliform (colonies/100 ml) *	540 **	370 **	880 **	
Nitrate NO3-N (mg/l) *	3.90	3.63	4.26	
Orthophosphate (mg/l)	0.02	0.02	0.03	
pH	8.00	7.99	8.08	
Specific Conductance (umhos/cm)	578	542	615	Y = -1.32108663 Q + 751.3559
Total Dissolved Solids (mg/l)	410	360	440	Y = -394.9208 (log Q) + 1231.0249
Total Kjeldahl Nitrogen (mg/l)	0.40	0.29	0.50	
Total Nitrogen (mg/l) *	4.41	4.11	4.73	
Total Phosphorus (mg/l) *	0.05	0.04	0.06	
Total Suspended Solids (mg/l) *	5.0	3.0	8.0	
Turbidity (NTU)	3.0	2.5	5.1	
Alkalinity (mg/l)	140	130	155	Y = -152.34 (log Q) + 459
Hardness (mg/l)	218	210	225	Y = -159.4372 (log Q) + 549.8009

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2I. Definition of Existing Water Quality: Easton ICP

Delaware River at Northampton Street Bridge, Easton-Phillipsburg, PA/NJ, River Mile 183.82

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<.05	<.05	<0.05	
Chloride (mg/l)	16	14	17	Y = -0.00022184 Q + 16.751
Chlorophyll a (mg/m^3)	1.45	1.07	2.14	
Dissolved Oxygen (mg/l) mid-day*	8.10	7.90	8.58	
Dissolved Oxygen Saturation (%)	95%	92%	96%	
E. coli (colonies/100 ml)	31	24	64	Y = antilog (0.00004425 Q + 1.273)
Enterococcus (colonies/100 ml)	145	80	250	
Fecal coliform (colonies/100 ml) *	100	64	130	
Nitrate NO3-N (mg/l) *	0.85	0.70	0.90	
Orthophosphate (mg/l)	0.02	0.01	0.02	
pH	7.55	7.41	7.70	
Specific Conductance (umhos/cm)	142	127	155	Y = -0.0024666 Q + 158.76
Total Dissolved Solids (mg/l)	110	103	120	
Total Kjeldahl Nitrogen (mg/l)	0.35	0.26	0.46	
Total Nitrogen (mg/l) *	1.19	1.01	1.35	
Total Phosphorus (mg/l) *	0.05	0.04	0.06	
Total Suspended Solids (mg/l) *	4.0	3.0	5.0	Y = 0.00177536 Q – 4.8027
Turbidity (NTU)	2.6	1.8	4.0	Y = antilog (0.00003836 Q + 0.1845)
Alkalinity (mg/l)	34	30	39	Y = -0.00073929 Q + 39.867
Hardness (mg/l)	48	45	52	

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2J. Definition of Existing Water Quality: Lehigh River BCP

Lehigh River, Pennsylvania, River Mile 183.66 – 0.27
Boundary Control Point is located at Route 611 bridge, Easton.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.08	0.06	0.09	
Chloride (mg/l)	21	19	24	Y = -16.5077 (log Q) + 76.7534
Chlorophyll a (mg/m^3)	2.70	1.80	3.60	
Dissolved Oxygen (mg/l) mid-day *	8.85	8.39	9.20	
Dissolved Oxygen Saturation (%)	97%	94%	98%	
E. coli (colonies/100 ml)	49	36	120	Y = antilog (1.5045 (log Q) – 3.0132)
Enterococcus (colonies/100 ml)	110	56	210	
Fecal coliform (colonies/100 ml) *	120	70	200	Y = antilog (1.4387 (log Q) – 2.5712)
Nitrate NO3-N (mg/l) *	1.80	1.70	2.00	
Orthophosphate (mg/l)	0.11	0.09	0.15	
pH	7.61	7.50	7.70	
Specific Conductance (umhos/cm)	264	218	292	Y = -186.4602 (log Q) + 870.6296
Total Dissolved Solids (mg/l)	180	158	195	Y = -93.4568 (log Q) + 482.4929
Total Kjeldahl Nitrogen (mg/l)	0.50	0.41	0.58	
Total Nitrogen (mg/l) *	2.43	2.13	2.74	
Total Phosphorus (mg/l) *	0.17	0.15	0.24	
Total Suspended Solids (mg/l) *	4.0	3.0	6.0	
Turbidity (NTU)	3.1	2.2	6.0	Y = antilog (0.901 (log Q) – 2.335)
Alkalinity (mg/l)	55	49	69	Y = -51.44 (log Q) + 227.86
Hardness (mg/l)	94	77	105	Y = -58.1224 (log Q) + 285.2788

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2K. Definition of Existing Water Quality: Pohatcong Creek BCP

Pohatcong Creek, New Jersey, River Mile 177.36 – 0.35
Boundary Control Point is located at River Road bridge.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<.05	<.05	<0.05	
Chloride (mg/l)	20	19	21	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.50	9.20	9.90	
Dissolved Oxygen Saturation (%)	97%	96%	100%	
E. coli (colonies/100 ml)	305	190	550	Y = antilog (1.0503 (log Q) + 0.976)
Enterococcus (colonies/100 ml)	610 **	380 **	820 **	
Fecal coliform (colonies/100 ml) *	580 **	420 **	810 **	
Nitrate NO3-N (mg/l) *	2.61	2.30	2.88	
Orthophosphate (mg/l)	0.05	0.05	0.07	
pH	7.90	7.88	7.95	
Specific Conductance (umhos/cm)	340	316	352	Y = -0.84542072 Q + 365.5539
Total Dissolved Solids (mg/l)	220	211	260	Y = -99.9173 (log Q) + 381.5349
Total Kjeldahl Nitrogen (mg/l)	0.33	0.19	0.36	
Total Nitrogen (mg/l) *	3.14	2.87	3.26	
Total Phosphorus (mg/l) *	0.10	0.08	0.11 **	
Total Suspended Solids (mg/l) *	6.5	5.0	8.0	
Turbidity (NTU)	4.6	2.1	5.1	Y = antilog (0.867 (log Q) – 0.69)
Alkalinity (mg/l)	116	104	120	Y = -81.8 (log Q) + 238.83
Hardness (mg/l)	140	135	160	Y = -76.5277 (log Q) + 261.5315

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2L. Definition of Existing Water Quality: Riegelsville ICP

Delaware River at Riegelsville Bridge, PA/NJ, River Mile 174.80

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	0.05	
Chloride (mg/l)	17	15	19	Y = -0.00026948 Q + 19.644
Chlorophyll a (mg/m^3)	2.42	1.80	3.60	
Dissolved Oxygen (mg/l) mid-day *	8.80	8.20	9.05	
Dissolved Oxygen Saturation (%)	97%	95%	98%	
E. coli (colonies/100 ml)	40	20	80	Y = antilog (0.0000513 Q + 0.9973)
Enterococcus (colonies/100 ml)	80	52	110	
Fecal coliform (colonies/100 ml) *	84	54	160	Y = antilog (0.00003636 Q + 1.5438)
Nitrate NO3-N (mg/l) *	1.17	1.02	1.23	
Orthophosphate (mg/l)	0.04	0.04	0.07	
pH	7.60	7.48	7.80	
Specific Conductance (umhos/cm)	183	155	197	Y = -0.00298102 Q + 207.26
Total Dissolved Solids (mg/l)	140	130	150	Y = -0.00168753 Q + 152.78
Total Kjeldahl Nitrogen (mg/l)	0.31	0.22	0.46	
Total Nitrogen (mg/l) *	1.44	1.31	1.62	
Total Phosphorus (mg/l) *	0.09	0.07	0.12	
Total Suspended Solids (mg/l) *	4.5	3.5	6.5	Y = 0.00061523 Q + 0.2725
Turbidity (NTU)	2.7	2.1	3.5	Y = antilog (0.00002645 Q + 0.2252)
Alkalinity (mg/l)	42	36	48	Y = -0.0008322 Q + 50.44
Hardness (mg/l)	65	54	70	Y = -0.00121951 Q + 73.708

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2M. Definition of Existing Water Quality: Musconetcong River BCP

Musconetcong River, New Jersey, River Mile 174.60 – 0.15
Boundary Control Point is located at River Road (Rt. 627) bridge

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.06	0.05	0.08	
Chloride (mg/l)	43	42	45	
Chlorophyll a (mg/m^3)	3.20	2.56	3.71	
Dissolved Oxygen (mg/l) mid-day *	9.10	8.90	9.60	
Dissolved Oxygen Saturation (%)	99%	97%	100%	
E. coli (colonies/100 ml)	125	70	240	
Enterococcus (colonies/100 ml)	210 **	150 **	360 **	
Fecal coliform (colonies/100 ml) *	270 **	190	400 **	
Nitrate NO3-N (mg/l) *	2.09	1.85	2.30	
Orthophosphate (mg/l)	0.02	0.02	0.03	
pH	7.90	7.90	8.00	
Specific Conductance (umhos/cm)	396	375	426	Y = -0.23045946 Q + 440.1906
Total Dissolved Solids (mg/l)	255	240	270	Y = -0.0954 Q + 272.5773
Total Kjeldahl Nitrogen (mg/l)	0.49	0.37	0.87	
Total Nitrogen (mg/l) *	2.56	2.36	2.91	
Total Phosphorus (mg/l) *	0.07	0.05	0.09	
Total Suspended Solids (mg/l) *	7.0	5.5	11.0	
Turbidity (NTU)	3.5	2.3	5.4	Y = antilog (0.86 (log Q) – 1.294)
Alkalinity (mg/l)	103	97	118	Y = -79.84 (log Q) + 298.41
Hardness (mg/l)	149	130	160	Y = -67.6003 (log Q) + 297.8314

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2N. Definition of Existing Water Quality: Cooks Creek BCP

Cooks Creek, Pennsylvania, River Mile 173.70 – 1.06
Boundary Control Point is located at Red Bridge Road bridge.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	9.7	8.9	10.9	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.93	9.70	10.30	
Dissolved Oxygen Saturation (%)	102%	98%	108%	
E. coli (colonies/100 ml)	110	80	200	Y = antilog (1.1307 (log Q) + 0.6483)
Enterococcus (colonies/100 ml)	380	250	520	
Fecal coliform (colonies/100 ml) *	210 **	140	360 **	
Nitrate NO3-N (mg/l) *	1.80	1.70	1.90	
Orthophosphate (mg/l)	0.01	0.01	0.02	
pH	8.04	7.94	8.19	
Specific Conductance (umhos/cm)	258	244	278	Y = -0.94618228 Q + 290.6508
Total Dissolved Solids (mg/l)	180	161	194	Y = -0.7015 Q + 197.6165
Total Kjeldahl Nitrogen (mg/l)	0.21	0.13	0.34	
Total Nitrogen (mg/l) *	2.01	1.95	2.32	
Total Phosphorus (mg/l) *	0.04	0.03	0.06	
Total Suspended Solids (mg/l) *	2.5	2.0	4.0	
Turbidity (NTU)	1.5	1.1	2.3	Y = antilog (0.888 (log Q) – 0.981)
Alkalinity (mg/l)	98	89	104	Y = -50.25 (log Q) + 168.52
Hardness (mg/l)	120	110	125	Y = -40.8625 (log Q) + 175.8628

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2O. Definition of Existing Water Quality: Milford ICP

Delaware River at Milford-U. Black Eddy Bridge, NJ/PA, River Mile 167.70

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	0.05	
Chloride (mg/l)	17	15	20	Y = -0.00027835 Q + 20.221
Chlorophyll a (mg/m^3)	1.80	0.90	2.70	
Dissolved Oxygen (mg/l) mid-day *	8.74	8.20	8.96	
Dissolved Oxygen Saturation (%)	96%	95%	97%	
E. coli (colonies/100 ml)	28	15	60	Y = antilog (0.00004814 Q + 0.905)
Enterococcus (colonies/100 ml)	45	28	98	
Fecal coliform (colonies/100 ml) *	60	40	120	Y = antilog (0.00004177 Q + 1.2688)
Nitrate NO3-N (mg/l) *	1.09	0.96	1.25	
Orthophosphate (mg/l)	0.04	0.04	0.07	
pH	7.58	7.44	7.80	
Specific Conductance (umhos/cm)	189	159	203	Y = -0.00313416 Q + 212.42
Total Dissolved Solids (mg/l)	149	130	160	Y = -0.00270722 Q + 173.806
Total Kjeldahl Nitrogen (mg/l)	0.34	0.26	0.46	
Total Nitrogen (mg/l) *	1.48	1.23	1.68	
Total Phosphorus (mg/l) *	0.09	0.07	0.12	
Total Suspended Solids (mg/l) *	6.0	4.5	7.0	Y = 0.0006379 Q + 0.3729
Turbidity (NTU)	2.9	2.2	3.8	Y = antilog (0.00002693 Q + 0.1674)
Alkalinity (mg/l)	44	37	49	Y = -0.00087657 Q + 51.613
Hardness (mg/l)	67	55	73	Y = -0.0011369 Q + 74.63

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2P. Definition of Existing Water Quality: Nishisakawick Creek BCP

Nishisakawick Creek, New Jersey, River Mile 164.10 – 0.35
Boundary Control Point is located at Route 12 bridge, Frenchtown.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	0.06	
Chloride (mg/l)	15	14	16	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.65	9.11	10.10	
Dissolved Oxygen Saturation (%)	101%	99%	105%	
E. coli (colonies/100 ml)	48	20	96	Y = antilog (0.5217 (log Q) + 1.5665)
Enterococcus (colonies/100 ml)	240 **	170 **	790 **	
Fecal coliform (colonies/100 ml) *	85	50	120	
Nitrate NO3-N (mg/l) *	1.62	1.52	1.83	
Orthophosphate (mg/l)	0.04	0.03	0.05	
pH	7.89	7.56	8.00	
Specific Conductance (umhos/cm)	181	176	190	Y = -24.8604 (log Q) + 189.4554
Total Dissolved Solids (mg/l)	130	120	144	Y = -0.9989 Q + 139.9081
Total Kjeldahl Nitrogen (mg/l)	0.35	0.21	0.59	
Total Nitrogen (mg/l) *	2.09	1.70	2.39	
Total Phosphorus (mg/l) *	0.06	0.05	0.07	
Total Suspended Solids (mg/l) *	1.5	1.0	2.0	
Turbidity (NTU)	1.3	0.9	2.0	Y = antilog (0.0315 Q – 0.1328)
Alkalinity (mg/l)	45	40	51	Y = -16.39 (log Q) + 55.14
Hardness (mg/l)	60	59	65	Y = -12.5184 (log Q) + 66.8341

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2Q. Definition of Existing Water Quality: Tinicum Creek BCP

Tinicum Creek, Pennsylvania, River Mile 161.60 – 0.24
Boundary Control Point is located on private property by Tinicum Creek Road, just below confluence of first unnamed tributary.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	14	12	16	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.80	8.90	10.10	
Dissolved Oxygen Saturation (%)	104%	101%	107%	
E. coli (colonies/100 ml)	80	55	180	
Enterococcus (colonies/100 ml)	200	96	340	
Fecal coliform (colonies/100 ml) *	155	124	280 **	
Nitrate NO3-N (mg/l) *	0.79	0.64	1.00	
Orthophosphate (mg/l)	0.01	0.01	0.02	
pH	8.00	7.70	8.30	
Specific Conductance (umhos/cm)	247	219	262	Y = -69.3482 (log Q) + 285.899
Total Dissolved Solids (mg/l)	180	170	190	Y = -39.2799 (log Q) + 204.5375
Total Kjeldahl Nitrogen (mg/l)	0.30	0.13	0.41	
Total Nitrogen (mg/l) *	1.14	0.79	1.23	
Total Phosphorus (mg/l) *	0.04	0.03	0.04	
Total Suspended Solids (mg/l) *	2.0	1.0	3.0	
Turbidity (NTU)	1.1	0.9	1.8	Y = antilog (0.4453 (log Q) – 0.2226)
Alkalinity (mg/l)	61	52	72	Y = -19.56 (log Q) + 75.97
Hardness (mg/l)	91	75	101	Y = -29.6089 (log Q) + 113.3701

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2R. Definition of Existing Water Quality: Tohickon Creek BCP

Tohickon Creek, Pennsylvania, River Mile 157.00 – 0.19
Boundary Control Point is located at the Delaware Canal Aqueduct crossing in Point Pleasant.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	27	25	29	Y = -4.6046 (log Q) + 34.3562
Chlorophyll a (mg/m^3)	2.14	1.07	3.20	
Dissolved Oxygen (mg/l) mid-day *	9.06	8.60	9.20	
Dissolved Oxygen Saturation (%)	100%	98%	103%	
E. coli (colonies/100 ml)	38	20	60	Y = antilog (0.8609 (log Q) + 0.2319)
Enterococcus (colonies/100 ml)	540	250	980	
Fecal coliform (colonies/100 ml) *	90	60	170	Y = antilog (0.6939 (log Q) + 0.9399)
Nitrate NO3-N (mg/l) *	0.63	0.52	0.72	
Orthophosphate (mg/l)	0.015	0.01	0.02	
pH	8.00	7.80	8.20	
Specific Conductance (umhos/cm)	218	212	226	Y = -27.1873 (log Q) + 261.345
Total Dissolved Solids (mg/l)	162	150	170	Y = -27.494 (log Q) + 204.9618
Total Kjeldahl Nitrogen (mg/l)	0.37	0.34	0.49	
Total Nitrogen (mg/l) *	1.03	0.87	1.16	
Total Phosphorus (mg/l) *	0.04	0.04	0.05	
Total Suspended Solids (mg/l) *	2.0	1.0	2.5	
Turbidity (NTU)	1.3	0.9	2.0	Y = antilog (0.5292 (log Q) – 0.6216)
Alkalinity (mg/l)	46	40	49	Y = -8.96 (log Q) + 60
Hardness (mg/l)	64	62	68	Y = -10.6687 (log Q) + 81.5734

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2S. Definition of Existing Water Quality: Paunacussing Creek BCP

Paunacussing Creek, Pennsylvania, River Mile 155.90 – 0.12
Boundary Control Point is located at Route 32 bridge, Lumberville.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	24	23	25	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.42	8.90	9.81	
Dissolved Oxygen Saturation (%)	98%	96%	101%	
E. coli (colonies/100 ml)	28	15	84	Y = antilog (0.742 (log Q) + 1.3102)
Enterococcus (colonies/100 ml)	320	160	520	
Fecal coliform (colonies/100 ml) *	80	60	130	Y = antilog (0.5676 (log Q) + 1.7382)
Nitrate NO3-N (mg/l) *	2.58	2.15	2.75	
Orthophosphate (mg/l)	0.05	0.04	0.05	
pH	7.60	7.47	7.72	
Specific Conductance (umhos/cm)	229	218	242	Y = -18.8373 (log Q) + 238.7433
Total Dissolved Solids (mg/l)	130	120	144	Y = -24.3907 (log Q) + 154.9198
Total Kjeldahl Nitrogen (mg/l)	0.30	0.17	0.36	
Total Nitrogen (mg/l) *	2.96	2.83	3.15	
Total Phosphorus (mg/l) *	0.07	0.06	0.08	
Total Suspended Solids (mg/l) *	1.0	1.0	2.0	
Turbidity (NTU)	0.8	0.5	1.6	
Alkalinity (mg/l)	47	42	55	Y = -13.64 (log Q) + 52.88
Hardness (mg/l)	80	75	85	Y = -12.1905 (log Q) + 84.3707

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2T. Definition of Existing Water Quality: Bulls Island ICP

Delaware River at Bulls Island (Lumberville-Raven Rock) Foot Bridge, PA/NJ, River Mile 155.40

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	17	15	20	Y = -0.00044266 Q + 21.906
Chlorophyll a (mg/m^3)	2.70	1.07	3.20	
Dissolved Oxygen (mg/l) mid-day *	8.80	8.40	9.30	
Dissolved Oxygen Saturation (%)	98%	95%	100%	
E. coli (colonies/100 ml)	40	23	80	
Enterococcus (colonies/100 ml)	49	32	100	
Fecal coliform (colonies/100 ml) *	71	36	90	Y = antilog (0.00003537 Q + 1.3646)
Nitrate NO3-N (mg/l) *	1.00	0.88	1.23	
Orthophosphate (mg/l)	0.04	0.04	0.06	
pH	7.60	7.50	7.74	
Specific Conductance (umhos/cm)	186	170	202	Y = -0.00482529 Q + 229.19
Total Dissolved Solids (mg/l)	140	130	160	Y = -0.00277475 Q + 169.368
Total Kjeldahl Nitrogen (mg/l)	0.32	0.27	0.55	
Total Nitrogen (mg/l) *	1.48	1.26	1.59	
Total Phosphorus (mg/l) *	0.10	0.07	0.12	
Total Suspended Solids (mg/l) *	5.0	4.0	7.0	Y = 0.0007482 Q - 0.48
Turbidity (NTU)	3.8	2.2	6.0	
Alkalinity (mg/l)	45	38	51	Y = -0.00129755 Q + 56.978
Hardness (mg/l)	68	60	72	Y = -0.00134498 Q + 78.78

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted..

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2U. Definition of Existing Water Quality: Lockatong Creek BCP

Lockatong Creek, New Jersey, River Mile 154.00 – 0.75
Boundary Control Point is located at Rosemont-Raven Rock Road bridge.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	13	11	14	Y = -3.0659 (log Q) + 14.6262
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	8.70	8.30	9.10	
Dissolved Oxygen Saturation (%)	94%	90%	96%	
E. coli (colonies/100 ml)	33	20	50	Y = antilog (0.6703 (log Q) + 1.1906)
Enterococcus (colonies/100 ml)	260 **	98 **	480 **	
Fecal coliform (colonies/100 ml) *	32	20	76	Y = antilog (1.0321 (log Q) + 1.1157)
Nitrate NO3-N (mg/l) *	1.13	0.92	1.40	
Orthophosphate (mg/l)	0.03	0.02	0.04	
pH	7.30	7.20	7.50	
Specific Conductance (umhos/cm)	180	165	191	Y = -35.3137 (log Q) + 193.0827
Total Dissolved Solids (mg/l)	140	130	142	Y = -24.7785 (log Q) + 150.0884
Total Kjeldahl Nitrogen (mg/l)	0.39	0.23	0.58	
Total Nitrogen (mg/l) *	1.56	1.26	1.81	
Total Phosphorus (mg/l) *	0.05	0.05	0.06	
Total Suspended Solids (mg/l) *	1.0	0.5	2.0	
Turbidity (NTU)	1.2	0.8	3.0	Y = antilog(0.6517 (log Q) - 0.2066)
Alkalinity (mg/l)	43	35	46	Y = -11.425 (log Q) + 48.85
Hardness (mg/l)	60	56	63	

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2V. Definition of Existing Water Quality: Wickecheoke Creek BCP

Wickecheoke Creek, New Jersey, River Mile 152.51 – 0.21
Boundary Control Point is located at Route 29 bridge, Stockton.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	17	15	18	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.45	8.95	9.90	
Dissolved Oxygen Saturation (%)	101%	96%	104%	
E. coli (colonies/100 ml)	52	40	76	
Enterococcus (colonies/100 ml)	170 **	84 **	300 **	
Fecal coliform (colonies/100 ml) *	92	65	190	
Nitrate NO3-N (mg/l) *	1.83	1.69	2.20	
Orthophosphate (mg/l)	0.03	0.03	0.04	
pH	7.53	7.40	7.70	
Specific Conductance (umhos/cm)	183	175	200	Y = -28.7787 (log Q) + 199.7338
Total Dissolved Solids (mg/l)	130	120	134	Y = -30.5576 (log Q) + 148.5061
Total Kjeldahl Nitrogen (mg/l)	0.44	0.30	0.70	
Total Nitrogen (mg/l) *	2.12	1.99	2.65	
Total Phosphorus (mg/l) *	0.06	0.05	0.07	
Total Suspended Solids (mg/l) *	1.0	0.5	1.5	
Turbidity (NTU)	1.2	0.7	2.0	Y = antilog(0.5729 (log Q) - 0.2123)
Alkalinity (mg/l)	40	33	43	Y = -9.35 (log Q) + 45.46
Hardness (mg/l)	58	51	62	

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted..

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2W. Definition of Existing Water Quality: Lambertville ICP

Delaware River at Lambertville-New Hope Bridge, NJ/PA, River Mile 148.70

Parameter (Y) Note: only the parameters marked (*) are currently used in NMC analysis for new and expanding discharges	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	0.05	
Chloride (mg/l)	18	16	20	Y = -0.00046965 Q + 22.449
Chlorophyll a (mg/m^3)	2.95	2.00	4.70	
Dissolved Oxygen (mg/l) mid-day *	8.50	7.90	8.63	
Dissolved Oxygen Saturation (%)	94%	93%	95%	
E. coli (colonies/100 ml)	40	16	62	Y = antilog (0.00004662 Q + 1.0027)
Enterococcus (colonies/100 ml)	60	38	80	
Fecal coliform (colonies/100 ml) *	55	32	120	Y = antilog (0.00003689 Q + 1.3656)
Nitrate NO3-N (mg/l) *	1.11	0.90	1.28	
Orthophosphate (mg/l)	0.04	0.04	0.07	
pH	7.55	7.40	7.60	
Specific Conductance (umhos/cm)	191	156	207	Y = -0.00448812 Q + 229.4
Total Dissolved Solids (mg/l)	140	127	160	Y = -0.0020763 (log Q) + 159.338
Total Kjeldahl Nitrogen (mg/l)	0.46	0.34	0.66	
Total Nitrogen (mg/l) *	1.56	1.36	1.84	
Total Phosphorus (mg/l) *	0.10	0.08	0.12	
Total Suspended Solids (mg/l) *	6.5	3.5	9.0	Y = 0.00075399 Q – 0.3458
Turbidity (NTU)	2.5	1.8	6.0	Y = antilog (0.00003256 Q + 0.0989)
Alkalinity (mg/l)	46	36	52	Y = -0.00162641 Q + 60.322
Hardness (mg/l)	68	56	77	Y = -0.00146091 Q + 80.092

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2X. Definition of Existing Water Quality: Pidcock Creek BCP

Pidcock Creek, Pennsylvania, River Mile 146.30 – 0.90
Boundary Control Point is located at stone foot bridge within Bowman's Hill Wildflower Preserve.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.05	<0.05	0.06	
Chloride (mg/l)	19	17	21	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	7.45	7.20	8.50	
Dissolved Oxygen Saturation (%)	81%	78%	86%	
E. coli (colonies/100 ml)	91	64	170	Y = antilog (0.6675 (log Q) + 1.5652)
Enterococcus (colonies/100 ml)	485	170	720	
Fecal coliform (colonies/100 ml) *	195	130	310 **	Y = antilog (0.6669 (log Q) + 1.8192)
Nitrate NO3-N (mg/l) *	0.99	0.90	1.28	
Orthophosphate (mg/l)	0.07	0.05	0.08	
pH	7.39	7.20	7.44	
Specific Conductance (umhos/cm)	255	243	276	Y = -45.1671 (log Q) + 281.0884
Total Dissolved Solids (mg/l)	185	170	190	
Total Kjeldahl Nitrogen (mg/l)	0.50	0.28	0.72	
Total Nitrogen (mg/l) *	1.63	1.46	2.09	
Total Phosphorus (mg/l) *	0.10	0.08	0.12	
Total Suspended Solids (mg/l) *	3.0	2.0	4.0	
Turbidity (NTU)	3.7	2.5	5.3	Y = antilog (0.6463 (log Q) + 0.163)
Alkalinity (mg/l)	77	64	87	Y = -27.32 (log Q) + 92.67
Hardness (mg/l)	108	97	110	Y = -15.6248 (log Q) + 112.7103

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2Y. Definition of Existing Water Quality: Washington Crossing ICP

Delaware River at Washington Crossing Bridge, PA/NJ, River Mile 141.80

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.05	<0.05	0.09	
Chloride (mg/l)	18	16	20	Y = -0.00032977 Q + 21.336
Chlorophyll a (mg/m^3)	2.30	1.30	4.27	
Dissolved Oxygen (mg/l) mid-day *	8.69	8.46	9.00	
Dissolved Oxygen Saturation (%)	96%	95%	99%	
E. coli (colonies/100 ml)	33	20	60	
Enterococcus (colonies/100 ml)	55	23	90	
Fecal coliform (colonies/100 ml) *	70	48	110	
Nitrate NO3-N (mg/l) *	0.99	0.86	1.20	
Orthophosphate (mg/l)	0.04	0.03	0.06	
pH	7.69	7.52	7.90	
Specific Conductance (umhos/cm)	187	158	206	Y = -0.00579709 Q + 239.8
Total Dissolved Solids (mg/l)	138	130	160	Y = -0.00317926 Q + 175.218
Total Kjeldahl Nitrogen (mg/l)	0.37	0.30	0.64	
Total Nitrogen (mg/l) *	1.47	1.24	1.69	
Total Phosphorus (mg/l) *	0.10	0.07	0.12	
Total Suspended Solids (mg/l) *	6.0	5.0	8.0	Y = 0.0007895 Q + 0.7126
Turbidity (NTU)	4.0	2.4	5.3	
Alkalinity (mg/l)	45	36	50	Y = -0.00128607 Q + 56.134
Hardness (mg/l)	67	53	75	Y = -0.0019019 Q + 82.144

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2Z. Definition of Existing Water Quality: Trenton ICP

Delaware River at Calhoun Street Bridge, Trenton-Morrisville, NJ/PA, River Mile 134.34

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	17	16	21	Y = -0.00046454 Q + 22.687
Chlorophyll a (mg/m^3)	2.70	1.60	4.81	
Dissolved Oxygen (mg/l) mid-day *	8.74	8.40	9.20	
Dissolved Oxygen Saturation (%)	97%	94%	101%	
E. coli (colonies/100 ml)	40	24	65	
Enterococcus (colonies/100 ml)	45	20	80	
Fecal coliform (colonies/100 ml) *	88	60	140	
Nitrate NO3-N (mg/l) *	1.05	0.85	1.21	
Orthophosphate (mg/l)	0.04	0.03	0.06	
pH	7.78	7.56	8.00	
Specific Conductance (umhos/cm)	185	163	202	Y = -0.00563728 Q + 240.35
Total Dissolved Solids (mg/l)	140	130	156	Y = -0.00300322 Q + 169.514
Total Kjeldahl Nitrogen (mg/l)	0.48	0.36	0.58	
Total Nitrogen (mg/l) *	1.45	1.22	1.71	
Total Phosphorus (mg/l) *	0.10	0.07	0.12	
Total Suspended Solids (mg/l) *	6.3	5.0	8.5	Y = 0.00085809 Q – 0.2021
Turbidity (NTU)	2.9	2.2	5.8	
Alkalinity (mg/l)	45	36	50	Y = -0.00160669 Q + 58.973
Hardness (mg/l)	69	60	73	Y = -0.00141561 Q + 79.891

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.