te Water Control Board

# Water Quality Standards

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# WATER QUALITY STANDARDS

**ADOPTED PURSUANT TO**
**SECTION 62.1-44.15(3)**
**OF THE CODE OF VIRGINIA (1950),**
**AS AMENDED**

## COMMONWEALTH OF VIRGINIA

## STATE WATER CONTROL BOARD
## RICHMOND, VIRGINIA

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## INTRODUCTION

### Basis and Purpose

The State Water Control Law mandates the protection of existing high quality State waters and provides for the restoration of all other State waters to such condition of quality that any such waters will permit all reasonable public uses and will support the propagation and growth of all aquatic life that might reasonably be expected to inhabit them (Section 62.1-44.2). The adoption of water quality standards under Section 62.1-44.15(3) of the Law is one of the Board's methods of accomplishing the Law's purpose.

Water quality standards consist of narrative statements that describe water quality requirements in general terms, and of numeric limits for specific physical, chemical or biological characteristics of water. These narrative statements and numeric limits describe water quality necessary to meet and maintain reasonable and beneficial uses such as swimming, public water supply and the propagation and growth of aquatic life. Standards include general, as well as specific, descriptions since not all requirements for water quality protection can be numerically defined. In those cases where numeric standards have not been formulated for scientific or practical reasons, the general standards establish broad requirements to protect and maintain beneficial uses of State waters. Standards are not static. They will change and be constantly adjusted to reflect changes in law, technology and information available to the Board and its staff.

Standards are used in the administration of several Board programs. One is the issuance of permits for the discharge of treated wastewater under requirements of both Federal and State law. Federal law (the Clean Water Act) mandates that certain minimum treatment levels be achieved by all dischargers. Before the Board issues a discharge permit, it must first determine if those minimum levels are sufficient to maintain water quality standards in the receiving stream. If not, the Agency formulates and enforces more-stringent permit requirements which will allow water quality standards to be met. The Board's 401 Certificate program also uses water quality standards. Under Section 401 of the Clean Water Act, if a Federal permit is needed by any project which will or may result in a discharge to State waters, the project must first receive certification from the appropriate State that the project will not violate water quality standards. The State Water Control Board is the 401 certifying agency in Virginia, and it judges whether or not water quality standards will be contravened by proposed projects in administering this certificate program.

Water quality standards are intended to protect the beneficial uses of State waters. Virginia's standards do not assign specific uses to all streams, although they do specifically designate and protect trout streams and public water supplies. The standards are intended to protect all State waters for recreational use and for the propagation and growth of a balanced population of fish and wildlife. By protecting these two uses, which usually require the most stringent standards and the highest degree of protection, other usually less restrictive uses like industrial water supply, irrigation and navigation are usually also protected. Should additional standards be needed to protect other uses as dictated by changing circumstances or improved knowledge, they can be formulated and adopted.

### Background

From its beginning in 1946 until the mid 1960's, the State Water Control Board generally approached control of water quality problems on a case-by-case basis, frequently through the adoption of wastewater treatment requirements for individual watersheds. By the mid 1960's, however, the Board was beginning to recognize the need for a program of water quality control with a broader, more extensive base — one that would deal with actual in-stream water quality throughout the entire state.

The Federal "Water Quality Act of 1965" (PL-89-234), provided the incentive and framework for such a program by requiring the establishment of certain water quality standards on a local, state and national scale. States which did not, or could not, adopt standards would have such standards of water quality established by the Federal government. As a result of the Federal Act amendments, and under State law, the Board first developed and adopted water quality standards in 1966 through 1968. They were substantially amended in 1970.

The 1972 amendments to the Federal Water Pollution Control Act (PL-92-500), restated the concept of water quality standards, and set certain water quality goals such as the attainment, by July 1, 1983, of water quality which provides for protection of fish, shellfish, and wildlife and for recreation in and on the water. In 1973 Virginia's water quality standards were slightly amended to ensure compliance with these aims.

This Act further required that a state's water quality standards be reviewed at least once every three years and, as appropriate, modified or amended. Virginia has completed one review period through public hearings in 1976 and formal adoption of amendments in 1977. The present standards have received Federal (Environmental Protection Agency) approvals required by the Act.

**Development and Adoption**

In order for water quality standards to be realistic while at the same time serving the stated purpose of maintaining or improving water quality, there first must be established a relationship between the standard itself and the benefit to be derived from adoption and enforcement of the standard. This relationship is generally determined by making certain studies, or evaluating already completed studies that define or attempt to define which standards and limits are required to provide needed levels of protection for certain water uses. A decision is then made regarding what levels of protection are desired. Finally, the appropriate standards and limits are chosen in order to provide the desired level of protection.

There are many sources of information or studies useful in the development of standards, and from time to time studies are conducted as needed by the Board or by consultants under contract to the Board. A major source of information is the publication *Quality Criteria for Water* published by the United States Environmental Protection Agency in 1976, pursuant to the requirements of the 1972 amendments to the Federal Water Pollution Control Act.

Since standards are designed to protect specific uses, the need for new or amended standards often comes about as a result of an identified new use of a body of water. For example, the Commission of Game and Inland Fisheries may identify a stream which was previously not known to support trout, as a natural trout stream. In this case the standards may be modified to protect this particular use. Also, a locality might want to use a stream as a water supply, and if the stream was not already classified as a public water supply, new standards would have to be applied to protect this use.

Information from every segment of the population is helpful in the development of standards, and their adoption can have wide-ranging effects. Public participation at all levels of standards development is therefore important to the adoption and implementation of standards which reflect the desire of the general public. The Law requires opportunity for public participation in the adoption of standards. Accordingly a public hearing with adequate public notice is mandatory before any standard can be adopted, amended, or cancelled. Following public notice of the hearing, the public has an opportunity to study the proposed standard and determine its effects. At the public hearing any person who is either for or against the proposed Board action on the standard may state his interest in the matter and enter relevant evidence into the hearing record.

Recent amendments to State Law added another mandatory consideration relative to standards – that the Board must give ample consideration to social and economic costs and benefits which will result from any action on the standard, whether by adoption, modification or cancellation.

Following the public hearing the Board's staff examines the hearing record, makes recommendations, and submits both the record and the recommendations to the Board for its consideration and action. Board action on a standard becomes effective thirty (30) days after filing with the Registrar of Regulations who keeps all standards and regulations of State agencies on file.

Both Federal and State legislators recognized the need for periodic review of all standards, and now both Federal and State law require that standards be reviewed at least every three years for possible changes and that the Board hold sufficient public hearings for public input. The Board is required to modify or cancel these standards, or to adopt new ones, as needed.

**Summary and Explanation of Contents**

This booklet contains the following seven sections:

1. Standards with General State-wide Application (Pages 5-11)

   These standards apply to waters on a State-wide basis and include such things as the General Standard, dissolved oxygen and temperature standards for surface waters, and groundwater standards.

2. Standards with More Specific Application (Pages 12-14)

   These standards have a specific application; they include, for example standards for public water supplies.

3. Procedural Requirements (Pages 14-15)

   This section includes rules that are a part of the standards such as a rule specifying acceptable analytical procedures for water testing.

4. River Basin Section Tables (Pages 15-65)

   This section divides the State's nine river basins into sections and indicates what specific standards apply to these specific sections.

5. Key to Special Standards (Pages 67-75)

   This section contains the entire printing of special standards that were too long to include in the tables of Section 4.

6. Water Quality Criteria (Pages 76-78)

   This section includes information about levels of pollutants to protect surface water and groundwater quality; they are not standards.

7. River Basin Maps (Plates 1-13)

   Maps in this part of the booklet delineate the river basin sections described in Section 4.

Additional more specific information can be found in the individual parts of the booklet.

In order to find applicable standards for a surface stream, first one must determine what River Basin Section the stream is in. This may be determined directly from the River Basin Section Tables or it may be necessary to determine the section by using the maps in Section 7.

The River Basin Section Tables indicate each section's Classification (Roman numeral I through VI). Paragraph 1.04 contains the standards that apply to the particular class and paragraphs 1.05 - 1.07 indicate other standards. The River Basin Section Tables also indicate whether any Special Standards apply to the stream. The entire special standard is printed in the special standards column if short; otherwise, a letter in the Special Standards Column refers the reader to the Special Standard which can be found in the Key to Special Standards Section, Section 5, beginning on page 67.

To determine applicable groundwater standards for an area, one can determine which physiographic province the area is in by checking Figure 1 on page 11, then by referring to the standards in Paragraph 1.09 on pages 9-10 that apply to that physiographic province.

In the sections that follow, all standards are shown in boldface type both in text and in tables. The text in lightface type preceding such standards is generally specific explanatory information relating to the standards that follow.

## 1. STANDARDS WITH GENERAL, STATEWIDE APPLICATION

### General Standard

Because numeric limits cannot reasonably be developed for every possible chemical, physical or biological parameter, the standards include the following General Standard to protect water quality. This narrative statement, although written in general terms, is nonetheless a water quality requirement. For example, the Board may use the General Standard as a basis in establishing effluent limits for waste discharges that are necessary to insure protection of aquatic life even though there may be no specific numeric standard applicable in the receiving stream.

Part A of the General Standard sets the tone and requirement for all standards which follow. The language of Part A of the General Standard, although adopted by the Board as a State standard, finds its authority in the State Water Control Law, Section 62.1-44.2.

### 1.01 General Standard

**A. All State waters shall be maintained at such quality as will permit all reasonable, beneficial uses and will support the propagation and growth of all aquatic life, including game fish, which might reasonably be expected to inhabit them.**

**B. All State waters shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with reasonable, beneficial uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life. Specific substances to be controlled include, but are not limited to: floating debris, oil, scum, and other floating materials; toxic substances, substances that produce color, tastes, turbidity, odors, or settle to form sludge deposits, and substances which nourish undesirable or nuisance aquatic plant life. Effluents which tend to raise the temperature of the receiving water will also be controlled.**

**C. Zones for mixing wastes with receiving waters shall be determined on a case-by-case basis; shall be kept as small as practical; shall not be used for, or considered as, a substitute for minimum treatment technology required by the Federal Water Pollution Control Act and other applicable State and Federal laws; and shall be implemented, to the greatest extent practicable, in accordance with the provisions of subsections A and B hereof. Mixing within these zones shall be as quick as practical and may require the installation and use of devices which insure that waste is mixed with the allocated receiving waters in the smallest practical area. The need for such devices will be determined on a case-by-case basis. The boundaries of these zones of admixture shall also be such as to provide a suitable passageway for fish and other aquatic organisms. In an area where more than one discharge occurs and several mixing zones are close together, these mixing zones shall be so situated that this passageway is continuous.**

### Anti-degradation

Setting numeric limits for pollutants by establishing water quality standards provides a minimum quality to which all high quality waters can theoretically be lowered unless additional controls are provided. The antidegradation policy prevents such wholesale lowering of all State waters to this "least common denominator of quality" by providing that waters with existing quality higher than the standards will be maintained at that high quality. The policy, however, does give the Board some flexibility in its administration of the standards. The policy is a direct quote from the State Water Control Law, Section 62.1-44.4, and, as such, is not subject to change by the State Water Control Board.

State law provides that any discharger must be required to utilize the necessary degree of waste treatment to maintain high water quality where physically and economically feasible. Present and anticipated use of such waters will be preserved and protected.

### 1.02 Anti-degradation Policy as contained in Section 62.1-44.4 of the State Water Control Law:

**Waters whose existing quality is better than the established standards as of the date on which such standards become effective will be maintained at high quality; provided that the Board has the power to authorize any project or development, which would constitute a new or an increased discharge of effluent to**

**high quality water, when it has been affirmatively demonstrated that a change is justifiable to provide necessary economic or social development; and provided, further, that the necessary degree of waste treatment to maintain high water quality will be required where physically and economically feasible. Present and anticipated use of such waters will be preserved and protected.**

**Guidelines for Use in Implementing the Anti-degradation Policy**

**Existing instream beneficial water uses will be maintained and protected, and actions that would interfere with or become injurious to existing uses should not be undertaken.**

**In considering if a possible change is justifiable to provide necessary economic or social development, the Board will convene a public hearing so that interested persons will have an opportunity to present information.**

**Upon a finding that such change is justifiable, the change, nevertheless, must not result in violation of those water quality characteristics necessary to attain the national water quality goal of protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water. Further, if a change is considered justifiable, it must not result in any significant loss of marketability of fish, shellfish or other marine resources.**

**Any determinations concerning thermal discharge limitations under Section 316(a) of PL 92-500 will be considered to be in compliance with the anti-degradation policy.**

**Standards Application; Stream Flow**

Ideally stream standards should be maintained at all times. It is, however, generally accepted that to require standards maintenance at all times is unreasonable, and a specific low flow level has been chosen below which standards do not have to be met. This flow, as stated below, is the 7-day, 10-year low flow — or the lowest flow which, on a statistical basis, would occur for a seven consecutive day period once every 10 years.

**1.03 Stream Standards will apply whenever flows are equal to, or greater than, the minimum mean 7-consecutive day drought flow with a 10-year return frequency.**

**Dissolved Oxygen, pH and Temperature Standards**

Paragraphs 1.04 through 1.08 contain standards for dissolved oxygen, pH, and temperature.

The presence of dissolved oxygen (DO) in water is essential for aquatic life, and the type of aquatic community is dependent to a large extent on the concentration of dissolved oxygen present. Dissolved oxygen standards are established to insure the growth and propagation of aquatic ecosystems.

Stream pH is also an important factor in aquatic systems. Biological productivity, stream diversity, metal solubility, and toxicity of certain chemicals, as well as important chemical and biological activity, are strongly related to pH. The pH range of 6-8.5 generally provides adequate protection for aquatic life and for recreational use of streams. Some stream pH's however, fall outside this range due to natural conditions. When identified, these streams are assigned a pH standard that more properly reflects natural conditions. (The special standards for pH are contained in the Special Standards Column in the River Basin Section).

The existence and composition of an aquatic community also depends greatly on the temperature characteristics of a body of water. Thus temperature limits are included in water quality standards to protect and maintain a balanced, healthy aquatic community.

An excessive increase in temperature can be harmful by interfering with fish spawning cycles, causing changes in growth and respiration, and causing shifts in the population of an ecosystem as more heat-tolerant species replace heat sensitive ones. Heat-stressed organisms can exhibit decreased resistance to toxic pollutants, and excessive heat can even be lethal. Heat-related winter fish kills can occur when a heated discharge is suddenly stopped. Fish that

have been attracted to the thermal plume are suddenly exposed to the cold ambient temperature and, if the drop is great enough, it can be fatal.

Virginia's standards contain two approaches to temperature. In the first approach, maximum temperatures limits are established for the first six classes of water, specified in Paragraph 1.04 below, which are based on certain geographical areas and specified uses. (For example in Class IV waters – mountain streams – the maximum temperature is 31°C (88°F). The next two paragraphs (1.05 and 1.06) contain temperature standards, applicable to these six classes, for the maximum rise above the natural temperatures and for the maximum hourly temperature change. Although certainly simple to set and enforce, having a set of temperature standards that applies to a broad class of waters (For example to an entire system as complex as any estuary) is not ideal. Such an approach, by itself, cannot guarantee that the aquatic community at any given location is sufficiently protected. On the other hand, because one set of numbers applies to such broad areas and so must be conservative, the requirements can be unnecessarily restrictive in some areas. A second approach, establishing limits on a case-by-case basis, lessens these difficulties.

In this site-specific approach, temperature limits are tailored to a specific location; they are designed to protect the aquatic community actually present by taking into account the hydrologic, geologic and climatic conditions peculiar to the site. Thus they should provide sufficient protection without being unnecessarily restrictive.

To formulate temperature limits for an area, a set of guidelines – or criteria – is needed, and in 1977 the Board, recognizing the value of site-specific temperature standards, adopted the criteria found in paragraph 1.08 to use in setting future temperature limits. The specific limits are developed for one or more important and sensitive species at the site, thus assuring that the entire aquatic community can be protected.

Since developing site-specific temperature standards is complicated and time consuming, the Board has indicated that they should be developed primarily for waters receiving new thermal discharges of one million gallons per day or more. (Unless specifically indicated later in this booklet within the River Basin Section's Special Standards Column [Section 4], site specific standards have not been adopted for a site and the appropriate temperature standards of Paragraphs 1.04, 1.05, 1.06 and 1.07, apply.)

**Classification of Waters Within the State: Dissolved Oxygen, pH, Maximum Temperature Standards**

All State surface waters are assigned one of the following seven Classes based on geographic location, or type of trout water. The limits set forth in Paragraph 1.04 for the appropriate class are the enforceable water quality standards for the waters unless an exception is made by a special standard. (A listing of the Classes assigned to particular areas can be found in Section 4 – River Basin Section Tables. That Section also indicates in the Special Standards Column if there are any special standards in addition to – or differing from – limits listed below.)

**1.04 Standards for DO, pH, and Maximum Temperature**

| CLASS | DESCRIPTION OF WATERS | DISSOLVED OXYGEN mg/l | | pH | MAX. TEMP. °C |
|---|---|---|---|---|---|
| | | Minimum | Daily average | | |
| I | Open Ocean | 5.0 | –– | 6.0-8.5 | –– |
| II | Estuarine (Tidal Water-Coastal Zone to Fall Line) | 4.0 | 5.0 | 6.0-8.5 | –– |
| III | Free Flowing Streams (Coastal Zone and Piedmont Zone) | 4.0 | 5.0 | 6.0-8.5 | 32 |
| IV | Mountainous Zone | 4.0 | 5.0 | 6.0-8.5 | 31 |
| V | Put and Take Lake Trout Waters | 5.0 | 6.0 | 6.0-8.5 | 21 |
| VI | Natural Trout Waters | 6.0 | 7.0 | 6.0-8.5 | 20 |
| VII | Swamp Water | * | * | * | ** |

*This classification recognizes that the natural quality of swamp water may fall outside of the ranges for D.O. and pH set forth above as water quality standards; therefore, on a case-by-case basis, standards for specific swamp waters can be developed that reflect what natural quality is.

**Maximum temperature will be the same as that for Classes I through VI waters as appropriate.

See Section 3.04, page 15 for requirements for analytical procedures.

**1.05 Rise above natural temperature**

**Any rise above natural temperature allowed by the Board shall be determined on a case-by-case basis and should not exceed 3°C except in the case of Class VI waters (natural trout waters) where it shall not exceed 1°C. Natural temperature is defined as that temperature of a body of water (measured as the arithmetic average over one hour) due solely to natural conditions without the influence of any point-source discharge.**

**1.06 Maximum hourly temperature change**

**The maximum hourly temperature change shall not exceed 2°C, except in the case of Class VI waters (Natural trout waters) where it shall not exceed 0.5°C. This standard (limit) is to apply beyond the boundaries of mixing zones and does not apply to temperature changes caused by natural conditions.**

**1.07 Thermal discharges into lakes and impoundments**

**In lakes and impoundments receiving thermal discharges, the average temperature of the epilimnion, [surface water layer], in those areas where important organisms are most likely to be affected, shall not be raised more than 3°C above that which existed before the addition of heat of artificial origin. (The permissible increase shall be determined on a case-by-case basis, and in some instances may be less than 3°C). The increase is to be based on the monthly average of the maximum daily temperature. The temperature of releases from these lakes and impoundments shall be consistent with standards established for the receiving waters. Unless a special study shows that a discharge of heated effluent into the hypolimnion (or pumping water from the hypolimnion for discharging back into the same water body) will not produce adverse effects, such practice shall not be approved. Maximum temperatures consistent with the standards established for water immediately above and below the lake or impoundment will be established for these waters.**

**Site specific temperature standards**

The temperature limits set forth in Paragraph 1.04 may be superseded in certain locations by temperature standards developed specifically for that area. (The existence of site specific standards is indicated in the Special Standards Column, otherwise the appropriate temperature limits in paragraphs 1.04, 1.05, 1.06 and 1.07 will apply.) In developing specific temperature standards, the following criteria will be used:

**1.08 Criteria for Developing Site Specific Temperature Standards**

**The temperature standards shall be based on:**

1. **One limit which consists of a maximum weekly average temperature that:**

   a. **In the warmer months is determined by adding to the physiological optimum temperature (usually for growth) a factor calculated as one-third of the difference between the ultimate upper incipient lethal temperature and the optimum temperature for the most sensitive important species (and appropriate life stage) that normally is found at that location and time.**

   b. **In the cooler months is an elevated temperature that would still ensure that important species would survive if the temperature suddenly dropped to the normal ambient temperature, or**

   c. **during reproduction seasons meets specific site requirements for successful migration, spawning, egg incubation, fry rearing, and other reproductive functions of important species; or**

   d. **at a specific site is found necessary to preserve normal species diversity or prevent undesirable growths of nuisance organisms.**

2. **A second limit which is the time-dependent maximum temperature for short exposures.**

**Baseline thermal conditions should be measured at a site where there is no unnatural thermal addition from any source, which is in reasonable proximity to the thermal discharge (5 miles), and which has similar hydrography to that of the receiving waters at the discharge.**

**Standards development should be in accordance with** *Water Quality Criteria 1972: A Report of the Committee on Water Quality Criteria* **and** *Quality Criteria for Water*, **U. S. Environmental Protection Agency.**

**Groundwater Standards**

With the 1977 amendments to Water Quality Standards, Virginia became one of the first states to adopt standards and criteria to protect and preserve the quality of its groundwater resources.

About one out of every four Virginians depends on groundwaters for drinking water. Also in times of dry weather and low stream flow, many streams are supplied totally by groundwater. Therefore, the Board considers it important to insure that groundwater quality is protected. The standards and criteria adopted by the Board in 1977 consist of limits designed to protect and conserve the natural quality of groundwater and to provide guidance for preventing groundwater pollution (See Paragraph 6.02 for groundwater criteria).

Although differing hydrogeologic conditions can cause state-wide variations in natural groundwater quality, it was found that within certain physiographic provinces of the State relatively uniform and consistent groundwater conditions exist. For each of these areas, chemical and physical analyses of groundwater samples on file at the State Water Control Board were evaluated, and concentrations that were representative of about 90% - 95% of the samples were selected as the standard for each constituent. The numbers selected are therefore representative of the prevalent natural condition of that constituent in any particular province.

The groundwater standards also include an antidegradation policy which is intended to ensure that naturally occurring groundwater quality is not degraded. This policy does provide that in limited cases some changes in natural quality could be allowed. The groundwater standards represent groundwater quality that should be preserved or attained. Natural variations in quality occur because of local hydrogeologic conditions and thus exceptions to statewide standards do occur occasionally throughout the State. Therefore refinement to or variance from groundwater standards can be made where specific data confirm a natural variation.

**1.09 Groundwater Standards**

**Groundwater quality standards will apply statewide and will apply to all groundwater occurring at and below the uppermost seasonal limits of the water table. In order to prevent the entry of pollutants into groundwater occurring in any aquifer, a soil zone or alternate protective measure or device sufficient to preserve and protect present and anticipated uses of groundwater shall be maintained at all times. Zones for mixing wastes with groundwater may be allowed, upon request, but shall be determined on a case-by-case basis and shall be kept as small as possible.**

**It is recognized that natural groundwater quality varies statewide. Four Physiographic provinces have been determined for application of standards, namely the Coastal Plain, Piedmont and Blue Ridge, Valley and Ridge, and Cumberland Plateau. (See Figure 1, page 11.)**

**Antidegradation policy for groundwater**

**If the concentration of any constituent in groundwater is less than the limit set forth by groundwater standards, the natural quality for the constituent shall be maintained; natural quality shall also be maintained for all constituents, including temperature, not set forth in groundwater standards. If the concentration of any constituent in groundwater exceeds the standard for that constituent, no addition of that constituent to the naturally occurring concentration shall be made. Variance to this policy will not be made unless it has been affirmatively demonstrated that a change is justifiable to provide necessary economic or social development, that the necessary degree of waste treatment cannot be economically or socially justified, and that the present and anticipated uses of such water will be preserved and protected.**

| GROUNDWATER STANDARDS BY PHYSIOGRAPHIC PROVINCE | | | | |
|---|---|---|---|---|
| CONSTITUENT | CONCENTRATION | | | |
| | Coastal Plain | Piedmont & Blue Ridge | Valley & Ridge | Cumberland Plateau |
| pH | 6.5-9 | 5.5-8.5 | 6-9 | 5-8.5 |
| Ammonia Nitrogen | 0.025 mg/l | 0.025 mg/l | 0.025 mg/l | 0.025 mg/l |
| Nitrite Nitrogen | 0.025 mg/l | 0.025 mg/l | 0.025 mg/l | 0.025 mg/l |
| Nitrate Nitrogen | 5 mg/l | 5 mg/l | 5 mg/l | 0.5 mg/l |

| GROUNDWATER STANDARDS—STATEWIDE | | |
|---|---|---|
| CONSTITUENT | CONCENTRATION | |
| Sodium | 270 | mg/l |
| Foaming Agents as Methylene blue Active Substances | 0.05 | mg/l |
| Petroleum hydrocarbons | 1 | mg/l |
| Arsenic | 0.05 | mg/l |
| Barium | 1.0 | mg/l |
| Cadmium | 0.0004 | mg/l |
| Chromium | 0.05 | mg/l |
| Copper | 1.0 | mg/l |
| Cyanide | 0.005 | mg/l |
| Lead | 0.05 | mg/l |
| Mercury | 0.00005 | mg/l |
| Phenols | 0.001 | mg/l |
| Selenium | 0.01 | mg/l |
| Silver | None | |
| Zinc | 0.05 | mg/l |
| Chlorinated Hydrocarbon Insecticides | | |
| Aldrin/Dieldrin | 0.003 | ug/l |
| Chlordane | 0.01 | ug/l |
| DDT | 0.001 | ug/l |
| Endrin | 0.004 | ug/l |
| Heptachlor | 0.001 | ug/l |
| Heptachlor Epoxide | 0.001 | ug/l |
| Kepone | None | |
| Lindane | 0.01 | ug/l |
| Methoxychlor | 0.03 | ug/l |
| Mirex | None | |
| Toxaphene | None | |
| Chlorophenoxy Herbicides | | |
| 2, 4-D | 0.1 | mg/l |
| 2, 4, 5-TP | 0.01 | mg/l |
| Radioactivity | | |
| Gross Beta | 1000 | pc/l |
| Radium 226 | 3 | pc/l |
| Strontium 90 | 10 | pc/l |

Figure 1

# GROUNDWATER QUALITY STANDARDS

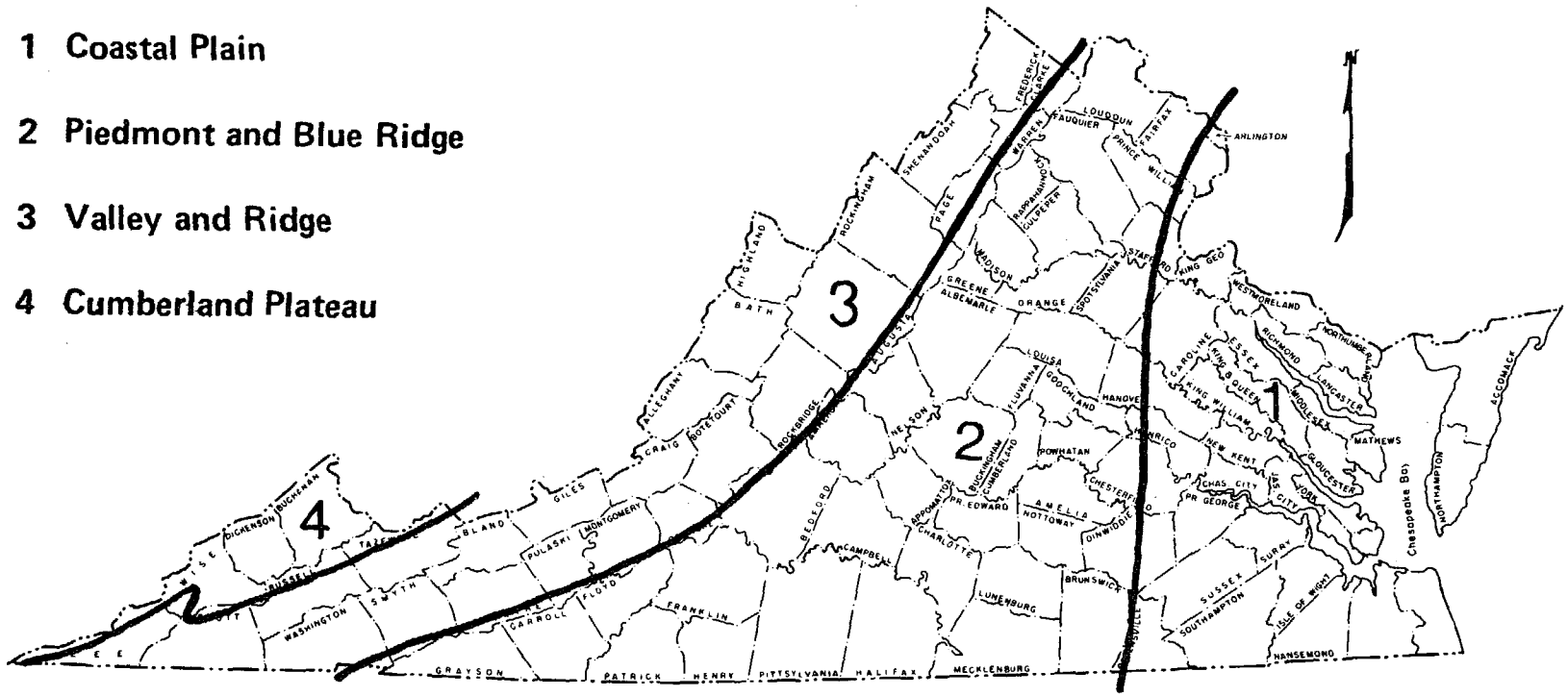
## PHYSIOGRAPHIC PROVINCES

1 Coastal Plain

2 Piedmont and Blue Ridge

3 Valley and Ridge

4 Cumberland Plateau



## 2. STANDARDS WITH MORE SPECIFIC APPLICATION

**Bacterial Standards**

Virginia's water quality standards include two fecal coliform bacteria standards – one for shellfish waters and one for all other waters. These "indicator organisms," while not necessarily harmful in themselves, are found in the intestinal tracts of warmblooded animals, including humans, and therefore can be indicative of fecal contamination and the possible presence of pathogenic organisms.

SHELLFISH WATERS

For waters containing leased private or public shellfish beds and waters capable of propagating shellfish, the following standard is established for fecal coliform bacteria. The limit is consistent with requirements of the State Health Department's Bureau of Shellfish Sanitation and the U. S. Food and Drug Administration – the State and Federal agencies, respectively, charged with administering shellfish sanitation programs.

**2.01 Fecal Coliform Bacteria – Shellfish Waters**

**In all open ocean or estuarine waters capable of propagating shellfish or in specific areas where public or leased private shellfish beds are present, and including those waters on which condemnation or restriction classifications are established by the State Department of Health, the following standard for fecal coliform bacteria will apply:**

**The median fecal coliform value for a sampling station shall not exceed an MPN of 14 per 100 ml of sample and not more than 10% of samples shall exceed 43 for a 5 tube, 3 dilution test or 49 for a 3 tube, 3 dilution test.**

OTHER WATERS

Waters other than shellfish waters are assigned the following coliform bacteria standard which is designed to protect waters for all types of recreation. Before 1977, Virginia's standards contained two such bacteria standards – one of which was intended to protect waters known or thought to be used for "primary contact recreation," e.g. swimming; and a less stringent standard which was intended to protect waters for "secondary contact recreation," e.g. – boating or fishing. In its 1977 amendments to Virginia's Water Quality Standards, the Board adopted the more stringent bacteria standard for primary contact recreation to apply to all surface waters of the State. This action was taken as part of Virginia's commitment to attain by 1983, the national goal of water quality suitable for all types of recreation.

**2.02 Fecal Coliform Bacteria – Other Waters**

**In all surface waters, except those where leased private or public shellfish beds are present, the fecal coliform bacteria shall not exceed a log mean* of 200 fecal coliform bacteria per 100 ml of water with not more than 10 percent of the total samples during any 30-day period exceeding 400 per 100 ml. Evaluation should be determined by either the multiple-tube fermentation for marine water or the membrane filter method for fresh water and should be based upon not less than ten samples taken over not more than a 30-day period.**

**Water Quality Standards for Surface Public Water Supplies**

Although protection of public health and regulation of public drinking water supplies fall primarily within the purview of the State Health Department, the State Water Control Board does have the responsibility to protect the quality of water in streams used as a raw source for drinking water supplies. To this end the Board has adopted

*geometric mean

standards for application to specific drinking water sources. Because some pollutants are not significantly removed by conventional water treatment systems, and to insure protection of the water supply, the stream standards for those pollutants are the same as the limits required for protection of public health in the finished drinking water.

In order to emphasize the need to protect a specific body of water for use as a source for a public water supply, each such area has been designated as a separate section in the River Basin Section Tables of Section 4. The section usually begins at the intake point and usually extends 5 miles upstream. (If a watershed is not significantly larger than 5 miles above the intake the water supply section may include the entire upstream watershed to its headwaters.) This designation as a separate section is primarily an administrative method of pointing out a water supply source and emphasizing the need to protect the stream.

The public water supply standards usually apply only at the raw water intake point. Of course, the upstream water quality must be such that specific limits will be met at the intake point. In cases where the specific numeric limits are adopted to apply for some additional upstream distance to provide further protection for the water source, the section description in the River Basin Section Tables will indicate this fact and point out the additional distance. Lacking such special notation, the public water supply standards apply only at the intake point.

**Public Water Supply Standards and Protection of Aquatic Life**

The Public Water Supply Standards are designed to protect water quality for human consumption. These limits, however, in some cases may not be sufficient to protect aquatic life. Many aquatic organisms are more sensitive to certain pollutants than humans and would, of course, be under constant exposure to any such pollutant in their environment. Therefore, when the Board considers classifying a body of water as a public water supply, an evaluation of the aquatic community in that area is made to determine if water quality concentration limits must be more stringent for any particular parameter to protect the aquatic community. (The concentrations for those pollutants that are marked with an asterisk (*) are the ones most likely to be too high to protect aquatic life, although adequate to provide protection for human consumption.) This procedure will ensure that any specific numeric limits adopted as enforceable standards for a public water supply will be stringent enough to protect aquatic life.

### 2.03 Surface Water Standards for Surface Public Water Supplies

**In addition to other standards established for the protection of public or municipal water supplies, the following standards will apply at the water intake and, if determined to be appropriate, for a distance upstream, and in the case of the streams influenced by tidal action, downstream also. This distance from the intake is to be determined on a case-by-case basis by the Board considering upstream wastewater volume, receiving stream volume and other appropriate physical, chemical and biological factors. The standards will apply to both the water supply stream and its tributaries within the designated distance. (In case of existing water supplies, the standards will apply at the intake point until further change is made.)**

| CONSTITUENT | CONCENTRATION (MG/L) |
|---|---|
| Arsenic | 0.05 |
| Barium | 1.0 |
| Cadmium* | 0.01 |
| Chloride | 250 |
| Chromium (Total) | 0.05 |
| Copper* | 1.0 |
| Foaming agents (measured as methylene blue active substances) | 0.5 |
| Iron (soluble) | 0.3 |
| Lead | 0.05 |
| Manganese (soluble) | 0.05 |
| Mercury* | 0.002 |
| Nitrate (as N) | 10 |
| Phenols | 0.001 |
| Selenium* | 0.01 |
| Silver* | 0.05 |
| Sulfate | 250 |
| Total dissolved solids | 500 |
| Zinc* | 5.0 |

| CONSTITUENT | CONCENTRATION (MG/L) |
|---|---|
| **Chlorinated Hydrocarbon Insecticides:** | |
| Endrin* | 0.0002 |
| Lindane* | 0.004 |
| Methoxychlor* | 0.1 |
| Toxaphene* | 0.005 |
| **Chlorophenoxy Herbicides:** | |
| 2, 4-D | 0.1 |
| 2, 4, 5-TP (Silvex) | 0.01 |
| **Radioactivity:** | **picocurie/liter** |
| Combined radium - 226 and radium - 228 - | 5 |
| Gross alpha particle activity (including radium - 226 but excluding radon and uranium) | 15 |

*The numeric standards for the chemicals listed in Paragraph 2.03 above are designed to protect public water supplies for human consumption. The limits established for those chemicals marked with an asterisk (*) may not protect aquatic life. Therefore when a request to classify a stream as a public water supply is received, it will be determined if more stringent limits are needed for those chemicals in order to insure protection of aquatic life.

## 3. PROCEDURAL REQUIREMENTS

This section contains statements and requirements that are a part of the standards adopted by the Board; these requirements are enforceable.

### 3.01 Variance in Standards

**The above standards notwithstanding, as a result of natural conditions, water quality may from time to time vary from established limits.**

### 3.02 Modification, Amendment and Cancellation of Standards

**In accordance with the authority granted under Section 62.1-44.15(3)(b) of the State Water Control Law, Chapter 3.1, Title 62.1, Code of Virginia (1950), as amended, the Board reserves the right at any time to modify, amend, or cancel any of the rules, policies, or standards set forth herein; such modification, amendment, or cancellation shall be consistent with requirements of Section 303 of the Federal Water Pollution Control Act, as amended and regulations promulgated thereunder.**

### 3.03 Shellfish Buffer Zones — Public Hearing

**Discharges of treated wastes or proposals to otherwise alter the biological, chemical or physical properties of State waters, submitted to the Board for approval, while not contravening established standards for shellfish waters may prevent the direct marketing of shellfish as a result of judgment factors employed by the State Department of Health. When the possibility of such condemnation arises as the result of such proposals, the Board will convene a public hearing to determine the socio-economic effect of the proposal before reaching a decision, unless the appropriate State agencies, (the Bureau of Shellfish Sanitation and/or the Marine Resources Commission) certify that the project would have no effect on the shellfish industry now and in the foreseeable future.**

### 3.04 Analytical Procedures

**Analytical testing should be done in accordance with accepted procedures in the appropriate edition of *Standard Methods for the Examination of Water and Wastewater* or other Board/EPA recognized and approved methods.**

### 3.05 Tidal Water Sampling

**Samples for determining compliance with standards established for estuarine or open ocean waters will be collected at slack before flood tide or slack before ebb tide.**

## 4. RIVER BASIN SECTION TABLES

### A. Section Number and Description Columns

The tables that follow divide the State's surface waters into nine river basins, some with subbasins: Potomac River Basin (Potomac and Shenandoah Subbasins), James River Basin, Rappahannock River Basin, Roanoke River Basin (Roanoke and Yadkin Subbasins), Chowan and Dismal Swamp Basin (Chowan and Albemarle Sound Subbasins), Tennessee and Big Sandy Basins (Big Sandy, Clinch and Holston Subbasins), Chesapeake Bay, Atlantic Ocean and Small Coastal Basins, York River Basin and New River Basin. (See Figure 2. page 17.)

Each basin is further divided into sections. Each section is assigned a Class, represented by Roman numerals I through VII, based on its geographic location or, in the case of trout waters, on its use. Descriptions of these Classes are found in paragraph 1.04, page 7.

### B. Classification Column: DO, pH, Temperature Standards

Paragraph 1.04. on page 7 lists Classes I through VII and the water quality standards for dissolved oxygen (DO), pH, and maximum temperature, that apply to each class. (For example, as shown on page 27, Section 1 of the James River Basin is indicated as being Class II waters (estuarine). By referring to paragraph 1.04 the DO, pH, and maximum temperature for this Section can be found along the line following Class II.

### C. Special Standards Column

1. Bacteria Standards

   All surface waters have a standard for fecal coliform bacteria. The bacteria standard for shellfish waters is set forth in Paragraph 2.01; the standard applying to all other surface waters is found in Paragraph 2.02. The letter *a* in the Special Standards Column next to a River Basin Section indicates that there are shellfish waters somewhere within that section and the bacteria standard for shellfish waters applies to those shellfish waters. (It should be noted that even though the column contains the letter *a* the entire section may not be shellfish waters.)

   The bacteria standard in paragraph 2.02 applies to all other surface waters.

2. Natural Variation

   In some cases natural water quality does not fall within the limits set by the standards. (For example streams in some areas of the State can naturally exceed the usual pH range of 6 to 8.5.) In these instances the Board may have set a more appropriate standard that reflects natural quality, and this "special limit" is shown in the Special Standards Column.

3. Additional Requirements

In other cases the "basic" water quality parameters of DO, pH, temperature, and bacteria have not been sufficient to protect water quality in certain areas, and effluent limits or treatment requirements have been established for these areas. This fact is also indicated in the Special Standards Column. If the standard was too long to print in its entirety, the column contains only a lower case letter and the standard itself will be found in the Key to Special Standards Section Paragraph 5.01, under this letter.

4. Other Special Standards or Designations

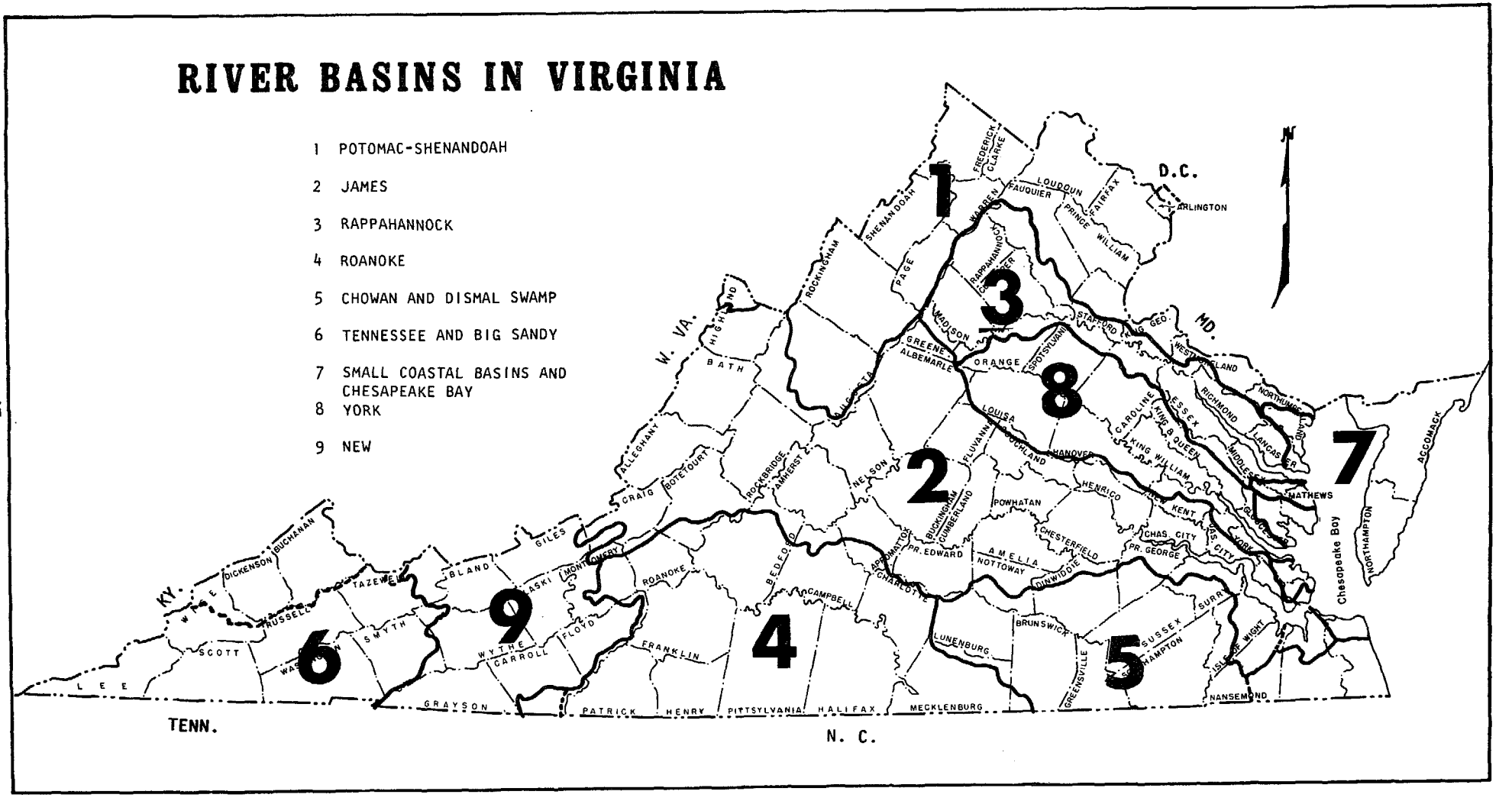
a. Public Water Supplies

The Special Standards Column also indicates sections that are public water supplies with a "PWS" (This designation indicates that additional standards are applicable. (See Section 2.03, page 13.)

b. "Scenic Rivers"

The Special Standards Column also indicates if a section contains a stream that has been designated a scenic river by the General Assembly with an SR- followed by a number. The appropriate waterway can be found listed in the Key to Special Standards Section under Scenic Rivers, Paragraph 5.02, page 74.

Figure 2


RIVER BASINS IN VIRGINIA
1 POTOMAC-SHENANDOAH
2 JAMES
3 RAPPAHANNOCK
4 ROANOKE
5 CHOWAN AND DISMAL SWAMP
6 TENNESSEE AND BIG SANDY
7 SMALL COASTAL BASINS AND CHESAPEAKE BAY
8 YORK
9 NEW
N
D.C.
MD.
W. VA.
KY.
TENN.
N. C.
Chesapeake Bay

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | POTOMAC RIVER BASIN | | |
| | Potomac River Subbasin | | |
| 1 | Tidal tributaries of the Potomac River from Smith Point to Upper Machodoc Creek (Baber Point). | II | a |
| 1a | All free flowing portions of tributaries to the Potomac River from Smith Point to, and including, Potomac Creek, unless otherwise designated. | III | b |
| 1b | Potomac Creek and its tributaries from the proposed Stafford County water supply dam to its headwaters. | III | PWS,b |
| 2 | Upper Machodoc Creek and the tidal portions of its tributaries. | II | a,c |
| 2a | Free flowing portions of those streams in Section 2. | III | c |
| 3 | Tidal portions of the tributaries to the Potomac River from Upper Machodoc Creek to Marlboro Point. | II | b |
| 4 | Tidal portions of tributaries to the Potomac River from Marlboro Point to Brent Point (to include Aquia Creek and its tidal tributaries). | II | b,d |
| 4a | Free flowing portions of tributaries to the Potomac River in Section 4 up to the Aquia Sanitary District water impoundment. | III | b,d |
| 4b | Aquia Creek from the Aquia Sanitary District water impoundment, and other tributaries into the impoundment, upstream to their headwaters. | III | PWS,b,d |
| 5 | Tidal portions of tributaries to the Potomac River from Brent Point to Shipping Point, including tidal portions of Chopawamsic Creek and its tidal tributaries. | II | b |
| 5a | Free flowing portions of Chopawamsic Creek and its tributaries to Quantico Marine Base water supply dam. | III | b |
| 5b | Chopawamsic Creek and its tributaries above the Quantico Marine Base water supply dam to their headwaters. | III | PWS,b,e |
| 6 | Tidal portions of tributaries to the Potomac River from Shipping Point to Chain Bridge. | II | b,f |
| 7 | Free flowing portions of tributaries to the Potomac River from Shipping Point to Chain Bridge, unless otherwise designated. | III | b |
| 7a | Occoquan Creek and its tributaries above Fairfax County Water Authority's water supply impoundment, unless otherwise designated. | III | b,g |
| 7b | The impounded waters of Occoquan River above the water supply dam of the Fairfax County Water Authority to backwater of the impoundment on Bull Run and Occoquan River, and the tributaries of Occoquan River above the dam to a point 5 miles above the dam. | III | PWS,b,e,g |
| 7c | Broad Run and its tributaries above the water supply dam of the City of Manassas upstream to a point 5 miles above the dam. | III | PWS,b,e,g |
| 7d | The impounded waters of Lake Jackson, Broad Run and Cedar Run. | III | PWS,b,e,g |
| 7e | Cedar Run from the Town of Warrenton's raw water intake to its headwaters. | III | PWS,b,g |
| 8 | Tributaries to the Potomac River in Virginia between Chain Bridge and the Monacacy River from their confluence with the Potomac upstream 5 miles, to include Goose Creek to the City of Fairfax's raw water intake, unless otherwise designated. | III | PWS,SR-1 |
| 8a | Big Spring Creek and its tributaries in Loudoun County, from its confluence with the Potomac River upstream to their headwaters. (The temperature standard for natural trout water may be exceeded in the area above Big Spring and Little Spring at Routes 15 and 740 due to natural conditions). | VI | |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Potomac River Subbasin (cont.) | | |
| 9 | Broad Run, Sugarland Run, Difficult Run, Tuscarora Creek, Sycoline Creek and other streams tributary to streams in Section 8 from a point 5 miles above their confluence with the Potomac River to their headwaters, unless otherwise designated. | III | SR-1 |
| 9a | All the impounded water of Goose Creek from the City of Fairfax's water supply dam upstream to backwater, and its tributaries above the dam to a point 5 miles above the dam. | III | PWS,e,SR-1 |
| 10 | Tributaries of the Potomac River from the Monacacy River to the West Virginia-Virginia State line in Loudoun County, from their confluence with the Potomac River upstream to their headwaters, unless otherwise designated. | III | |
| 10a | North Fork Catoctin Creek from Purcellville's raw water intake to its headwaters. | III | PWS |
| 10b | South Fork Catoctin Creek and its tributaries from its confluence with the North Fork Catoctin Creek to its headwaters. | III | SR-2 |
| 11 | Tributaries of the Potomac River in Frederick and Clarke Counties, Virginia, unless otherwise designated. | IV | pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 11<br>Back Creek (upper) from Rock Enon 4 miles upstream.<br>Back Creek (lower) from Route 600 to the mouth of Hogue Creek - 2 miles.<br>Clearbrook Run from its confluence with Hot Run 2.1 miles upstream.<br>Hogue Creek from Route 679 upstream 6 miles to the Forks below Route 612.<br>Opequon Creek (in Frederick County) from 24.2 miles above its confluence with the Potomac River 10 miles upstream.<br>Turkey Run (Frederick County) from its confluence with Opequon Creek 3.6 miles upstream. | V | pH-6.5-9.5 |
| | Natural Trout Waters in Section 11<br>Bear Garden Run from its confluence with Sleepy Creek 3.1 miles upstream.<br>Redbud Run from its confluence with Opequon Creek 4.4 miles upstream. | VI | pH-6.5-9.5 |
| 11a | Clearbrook Run and its tributaries from its confluence with Hot Run to their headwaters. | IV | pH-6.5-9.5 h |
| 12 | South Branch of the Potomac River and its tributaries, such as Strait Creek, and the North Fork River and its tributaries from the Virginia-West Virginia State line to their headwaters. | IV | pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 12<br>Frank Run from its confluence with the South Branch Potomac River 0.8 mile upstream.<br>South Branch Potomac River (in Highland County) from 69.2 miles above its confluence with the Potomac River 4.9 miles upstream.<br>Strait Creek (Highland County) from its confluence with the South Branch Potomac River 3.9 miles upstream. | V | pH-6.5-9.5 |
| | Natural Trout Waters in Section 12<br>Blights Run from its confluence with Laurel Fork (Highland County) 0.6 mile upstream.<br>Buck Run (Highland County) from its confluence with Laurel Fork 1.3 miles upstream.<br>Collins Run from its confluence with Laurel Fork 0.9 mile upstream.<br>Laurel Fork (Highland County) from 1.9 miles above its confluence with the North Fork South Branch Potomac River 15.7 miles upstream.<br>Locust Spring Run from its confluence with Laurel Fork 3.5 miles upstream.<br>Lost Run from its confluence with Laurel Fork 1.5 miles upstream.<br>Mullenax Run from its confluence with Laurel Fork 1 mile upstream.<br>Newman Run from its confluence with Laurel Fork 1 mile upstream.<br>Slabcamp Run from its confluence with Laurel Fork 2.2 miles upstream. | VI | pH-6.5-9.5 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | POTOMAC RIVER BASIN<br><br>Shenandoah River Subbasin | | |
| 1 | Shenandoah River and its tributaries in Clarke County, Virginia, from the Virginia-West Virginia State line to Route 7 bridge. | IV | pH-6.5-9.5 |
| 1a | Shenandoah River and its tributaries from Route 7 bridge to a point 7 miles upstream -- U. S. Army Corps of Engineers. | IV | PWS<br>pH-6.5-9.5<br>SR-3 |
| | Natural Trout Waters in Section 1a<br>Spout Run (Clarke County) from its confluence with the Shenandoah River (in the vicinity of the Ebenezer Church at Route 604), 2.3 miles upstream. | VI | pH-6.5-9.5 |
| 1b | Unnamed tributary to the Shenandoah River (east side) which serves as Berryville's water supply, from the raw water intake upstream to its headwaters. | IV | PWS<br>pH-6.5-9.5 |
| 1c | Shenandoah River and its tributaries from 7 miles above the Route 7 bridge to Northern Virginia Power Company dam. | IV | pH-6.5-9.5<br>SR-3 |
| | Put and Take Trout Waters in Section 1c<br>Chapel Run (Clarke County) from its confluence with the Shenandoah River 5.7 miles upstream.<br>Page Brook from its confluence with Spout Run 1 mile upstream.<br>Spout Run (Clarke County) from its confluence with the Shenandoah River (in the vicinity of Calmes Neck at Rts - 651 and 621), 3.9 miles upstream. | V | pH-6.5-9.5 |
| 1d | Shenandoah River and its tributaries from the Northern Virginia Power Company dam to the confluence of the North and South Forks of the Shenandoah River. | IV | PWS,r,e,<br>pH-6.5-9.5 |
| 2 | South Fork Shenandoah River and its tributaries from its confluence with the North Fork Shenandoah River, upstream to a point 5 miles above the Town of Shenandoah's raw water intake, unless otherwise designated. | IV | pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 2<br>Brown Run from its confluence with Big Run upstream 1 mile.<br>Cub Run (Page County) from Pitt Spring upstream 6.5 miles.<br>Flint Run from its confluence with the South Fork Shenandoah River 4 miles upstream.<br>Gooney Run from the mouth to its confluence with Broad Run above Browntown (in the vicinity of Route 632).<br>Hawksbill Creek from Route 675 in Luray to 1 mile above Route 631. | V | pH-6.5-9.5 |
| | Natural Trout Waters in Section 2<br>Cub Run from its mouth to Pitt Spring Run.<br>Fultz Run from the Park boundary (river mile 1.8) to its headwaters.<br>Gooney Run (in Warren County) from 6.6 miles above its confluence with the South Fork Shenandoah River 3.9 miles upstream.<br>Hawksbill Creek in the vicinity of Pine Grove at Route 624 (river mile 17.7) 1.5 miles upstream.<br>Jeremys Run from the National Park boundary to its headwaters.<br>Lands Run from its confluence with Gooney Run 3.1 miles upstream.<br>Little Hawksbill Creek from Route 626 to its headwaters.<br>Morgan Run (Page County) from its confluence with Cub Run 1.5 miles upstream.<br>Overall Run from its confluence with the South Fork Shenandoah River 4.8 miles upstream.<br>Pass Run (Page County) from its confluence with Hawksbill Creek to its headwaters.<br>Pitt Spring Run from its confluence with Cub Run 2.4 miles upstream.<br>Roaring Run from its confluence with Cub Run 2.4 miles upstream. | VI | pH-6.5-9.5 |
| 2a | Happy Creek from Front Royal's raw water intake to its headwaters. | IV | PWS<br>pH-6.5-9.5 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Shenandoah River Subbasin (cont.) | | |
| 2b | Dry Run and its tributaries from Luray's raw water intake to its headwaters. | IV | PWS pH-6.5-9.5 |
| 2c | East Hawksbill Creek and its tributaries from Ida's raw water intake to its headwaters. | IV | PWS pH-6.5-9.5 |
| 2d | South Fork Shenandoah River from the Town of Shenandoah's raw water intake to a point 5 miles upstream. | IV | PWS pH-6.5-9.5 |
| | Natural Trout Waters in Section 2d<br>Big Creek (Page County) from its confluence with the East Branch Naked Creek 1.7 miles upstream.<br>Big Ugly Run from its confluence with the South Branch Naked Creek 0.7 mile upstream.<br>Boone Run from 4.6 miles above its confluence with the South Fork Shenandoah River (in the vicinity of Route 637) 5.3 miles upstream.<br>East Branch Naked Creek from its confluence with Naked Creek at Route 759 to its headwaters.<br>Little Creek (Page County) from its confluence with Big Creek 0.7 miles upstream.<br>South Branch Naked Creek from 1.7 miles above its confluence with Naked Creek (in the vicinity of Route 607) 6 miles upstream.<br>Stony Run (Page County) from 1.6 miles above its confluence with Naked Creek 2.8 miles upstream.<br>Stony Run (Rockingham County) from 4.1 miles above its confluence with with the South Fork Shenandoah River 1.9 miles upstream.<br>West Branch Naked Creek from 2.1 miles above its confluence with Naked Creek 4.1 miles upstream. | VI | pH-6.5-9.5 |
| 3 | South Fork Shenandoah River and its tributaries from 5 miles above the Town of Shenandoah's raw water intake to its confluence with the North and South Rivers, and the South River and its tributaries from its confluence with the South Fork Shenandoah River to their headwaters, unless otherwise designated. | IV | pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 3<br>Bear Lithia Spring from its confluence with the South Fork Shenandoah River 0.8 mile upstream.<br>Hawksbill Creek (Rockingham County) from 0.8 mile above its confluence with the South Fork Shenandoah River 6.6 miles upstream.<br>Mills Creek (Augusta County) from 1.8 miles above its confluence with Back Creek 2 miles upstream.<br>North Fork Back Creek (Augusta County) from its confluence with Back Creek 2.6 miles upstream unless otherwise designated. | V | pH-6.5-9.5 |
| | Natural Trout Waters in Section 3<br>Bearwallow Run from its confluence with Onemile Run 1.9 miles upstream.<br>Big Run (Rockingham County) from 3.3 miles above its confluence with the South Fork Shenandoah River 4 miles upstream.<br>Deep Run (Rockingham County) from 1.8 miles above its confluence with the South Fork Shenandoah River 2.8 miles upstream.<br>East Fork Back Creek from its confluence with the South Fork Back Creek 1.3 miles upstream.<br>Gap Run from 1.7 miles above its confluence with the South Fork Shenandoah River 3.6 miles upstream.<br>Johns Run (Augusta County) from its confluence with the South River to its headwaters.<br>Jones Hollow (Augusta County) from 1.1 miles above its confluence with the South River 1.8 miles upstream.<br>Kennedy Creek from its confluence with the South River to its headwaters.<br>Lee Run from 0.6 mile above its confluence with Elk Run 3.3 miles upstream.<br>Loves Run (Augusta County) from 2.7 miles above its confluence with the South River 1.9 miles upstream.<br>Lower Lewis Run (Rockingham County) from 1.7 miles above its confluence with the South Fork Shenandoah River 2.1 miles upstream. | VI | pH-6.5-9.5 |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Shenandoah River Subbasin (cont.) | | |
| | Natural Trout Waters in Section 3 (cont.)<br>Madison Run (Rockingham County) from 2.9 miles above its confluence with the South Fork Shenandoah River 3.7 miles upstream.<br>Meadow Run (Augusta County) from its confluence with the South River 5.8 miles upstream.<br>North Fork Back Creek (Augusta County) from river mile 2.6 (in the vicinity of its confluence with Williams Creek) 1.9 miles upstream.<br>Onemile Run (Rockingham County) from 1.5 miles above its confluence with the South Fork Shenandoah River 3.1 miles upstream.<br>Paine Run (Augusta County) from 1.7 miles above its confluence with the South River 4.8 miles upstream.<br>Rocky Mountain Run from its confluence with Big Run 2.9 miles upstream.<br>Sawmill Run from 2.5 miles above its confluence with the South River 5 miles upstream.<br>South Fork Back Creek from its confluence with Back Creek at Route 814 (river mile 2.1) 1.4 miles upstream.<br>Stony Run (Augusta County) from 3.5 miles above its confluence with the South River 1.6 miles upstream to its headwaters.<br>Toms Branch (Augusta County) from 1.1 miles above its confluence with Back Creek 1.7 miles upstream.<br>Twomile Run from 1.4 miles above its confluence with the South Fork Shenandoah River 3.5 miles upstream.<br>Upper Lewis Run from 0.5 mile above its confluence with Lower Lewis Run 2.9 miles upstream.<br>White Oak Run from its confluence with Madison Run 1.9 miles upstream. | VI | pH-6.5-9.5 |
| 3a | South River from the dam above Waynesboro (all waters of the impoundment). | IV | pH-6.5-9.5<br>e |
| 3b | Coles Run and Mills Creek from South River Sanitary District's raw water intake to their headwaters. | IV | PWS<br>pH-6.5-9.5 |
| | Natural Trout Waters in Section 3b<br>Coles Run (Augusta County) from 3.9 miles above its confluence with the South River Sanitary District's raw water intake 2.1 miles upstream.<br>Mills Creek (Augusta County) from the South River Sanitary District's raw water intake (river mile 3.8) 4 miles upstream. | VI | PWS<br>pH-6.5-9.5 |
| 3c | A tributary to Coles Run from Stuarts Draft Water Company's (R.A. Blacka) raw water intake approximately 1/2 mile south of Stuarts Draft and just off Route 610, to its headwaters. | IV | PWS<br>pH-6.5-9.5 |
| 4 | Middle River and its tributaries from the confluence with the North River upstream to its headwaters, unless otherwise designated. | IV | pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 4<br>Barterbrook Branch from its confluence with Christians Creek 2.8 miles upstream.<br>Folly Mills Creek from 2.4 miles above its confluence with Christians Creek (in the vicinity of Route 81) 4.5 miles upstream. | V | pH-6.5-9.5 |
| 4a | Middle River and its tributaries from Staunton's raw water intake at Gardner Spring to a point 5 miles upstream. | IV | PWS<br>pH-6.5-9.5 |
| 5 | North River from its confluence with the South River upstream to its headwaters, unless otherwise designated. | IV | pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 5<br>Beaver Creek (Rockingham County) from its confluence with the North River 5 miles upstream.<br>Briery Branch (Rockingham County) from Route 613 to its headwaters, unless otherwise designated. | V | pH-6.5-9.5 |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Shenandoah River Subbasin (cont.) | | |
| | Put and Take Trout Waters in Section 5 (cont.)<br>Dry River (Rockingham County) from its junction with Route 257 to Rawley Springs.<br>Naked Creek (Augusta County) from 3.7 miles above its confluence with the North River at Route 696, two miles upstream. | VI | pH-6.5-9.5 |
| | Natural Trout Waters in Section 5<br>Big Run (Augusta County) from 0.9 mile above its confluence with Little River 1.6 miles upstream.<br>Black Run (Rockingham County) from its confluence with Dry River to its headwaters.<br>Briery Branch (Rockingham County) from river mile 6.9 to 12.9.<br>Gum Run from its confluence with Black Run 3.2 miles upstream.<br>Hone Quarry Run from its confluence with Briery Branch to its headwaters.<br>Little River from its confluence with the North River at Route 718 to its headwaters.<br>Maple Spring Run from its confluence with Gum Run 2 miles upstream.<br>Mines Run from its confluence with Briery Branch 2.9 miles upstream.<br>Rocky Run (which is tributary to Briery Branch in Rockingham County) from its confluence with Briery Branch 1.5 miles upstream.<br>Rocky Run (which is tributary to Dry River in Rockingham County) from its confluence with Dry River 3.4 miles upstream.<br>Skidmore Fork from Route 718 to its headwaters.<br>Union Springs Run from 3 miles above its confluence with Beaver Creek 1.9 miles upstream.<br>Wolf Branch (Augusta County) from its confluence with Briery Branch 3.2 miles upstream. | VI | pH-6.5-9.5 |
| 5a | Silver Lake. | IV | PWS,e<br>pH-6.5-9.5 |
| 5b | North River and its tributaries from Harrisonburg's raw water intake at Bridgewater to a point 5 miles above Bridgewater's raw water intake to include Dry River and Muddy Creek to a point 5 miles above Bridgewater's raw water intake. | IV | PWS<br>pH-6.5-9.5 |
| | Put and Take Trout Waters in 5b<br>Beaver Creek (Rockingham County) from its confluence with the North River 5 miles upstream.<br>Dry River from Route 257 to a point 5 miles above Bridgewater's raw water intake on the North River.<br>Mossy Creek from its confluence with the North River 7.1 miles upstream.<br>Spring Creek (Rockingham County) from its confluence with the North River 2 miles upstream. | V | PWS<br>pH-6.5-9.5 |
| 5c | Dry River and it tributaries from Harrisonburg's raw water intake to point 5 miles upstream and Dry Run to its headwaters. | IV | PWS<br>pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 5c<br>Raccoon Run (Rockingham County) from its confluence with Dry River 1.7 miles upstream. | V | PWS<br>pH-6.5-9.5 |
| | Natural Trout Waters in Section 5c<br>Dry River (Rockingham County) from 9 miles above Harrisonburg's raw water intake (approximately 9 miles above its confluence with the North River) to a point 5 miles upstream.<br>Dry Run (Rockingham County) from its confluence with Dry River 2 miles upstream.<br>Hopkins Hollow from its confluence with Peach Run 0.8 mile upstream.<br>Kephart Run from its confluence with Dry River 3.3 miles upstream. | VI | pH-6.5-9.5 |
| 5d | Dry River and its tributaries from 5 miles above Harrisonburg's raw water intake to its headwaters. | IV | pH-6.5-9.5 |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Shenandoah River Subbasin (cont.) | | |
| | Natural Trout Waters in Section 5d<br>Dry River (Rockingham County) from 5 miles above Harrisonburg's raw water intake to its headwaters.<br>Laurel Run (Rockingham County) from its confluence with Dry River to its headwaters.<br>Little Laurel Run from its confluence with Dry River 3.2 miles upstream.<br>Low Place Run from its confluence with Dry River 2.5 miles upstream.<br>Miller Spring Run from its confluence with Dry River 2.7 miles upstream.<br>Sand Run from its confluence with Dry River 1.8 mile upstream.<br>Skidmore Fork from its confluence with Dry River to its headwaters. | VI | pH-6.5-9.5 |
| 5e | North River from Staunton Dam to its headwaters. | IV | PWS<br>pH-6.5-9.5 |
| | Natural Trout Waters in Section 5e<br>North River above City of Staunton's water drain to its headwaters. | VI | pH-6.5-9.5 |
| 6 | North Fork Shenandoah River from its confluence with the Shenandoah River to its headwaters, unless otherwise designated. | IV | pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 6<br>Bear Run from its confluence with Foltz Creek 1.9 miles upstream.<br>Big Stony Creek from Route 685 above Edinburg upstream to Bayse.<br>Bull Run (Shenandoah County) from its confluence with Foltz Creek 1 mile upstream.<br>Falls Run from its confluence with Stony Creek 2.6 miles upstream.<br>Foltz Creek from its confluence with Stony Creek 3 miles upstream.<br>Mill Creek from Mount Jackson to Route 720 - 3.5 miles.<br>Mountain Run from its mouth at Passage Creek to its headwaters.<br>Passage Creek from the U.S. Forest Service line (in the vicinity of Blue Hole and Buzzard Rock) 4 miles upstream.<br>Passage Creek from 29.6 miles above its confluence with the North Fork Shenandoah River 7.8 miles upstream. | V | pH-6.5-9.5 |
| | Natural Trout Waters in Section 6<br>Anderson Run (Shenandoah County) from 1.1 miles above its confluence with Stony Creek 3.1 miles upstream.<br>Beech Lick Run from its confluence with the German River 1.1 miles upstream.<br>Camp Rader Run from its confluence with the German River 1.3 miles upstream.<br>Carr Run from its confluence with Little Dry River 2.5 miles upstream.<br>Clay Lick Hollow from its confluence with Carr Run to its headwaters.<br>German River (Rockinghan County) from its confluence with the North Fork Shenandoah River (at Route 820) to its headwaters.<br>Laurel Run (Shenandoah County) from its confluence with Stony Creek to river mile 2.4.<br>Little Passage Creek from its confluence with Passage Creek to the Strasburg Reservoir Dam.<br>Little Stony Creek from its confluence with Stony Creek to Woodstock's raw water intake.<br>Marshall Run (Rockingham County) from 1.2 miles above its confluence with the North Fork Shenandoah River 3.4 miles upstream.<br>Mine Run (Shenandoah County) from its confluence with Passage Creek 3 miles upstream.<br>Peters Mill Run from the mouth to its headwaters.<br>Poplar Run (Shenandoah County) from its confluence with Little Stony Creek 1 mile upstream.<br>Rattlesnake Run (Rockingham County) from its confluence with Spruce Run 1.4 miles upstream.<br>Root Run from its confluence with Marshall Run 1.6 miles upstream.<br>Seventy Buck Lick Run from its confluence with Carr Run 1.5 miles upstream.<br>Shoemaker River from Route 612 at Hebron Church to its junction with Route 817 at the Shoemaker's confluence with State Lick Branch. | VI | pH-6.5-9.5 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Shenandoah River Subbasin (cont.) | | |
| | Natural Trout Waters in Section 6(cont.)<br>Sirks Run (Spring Run) from 1.3 miles above its confluence with Crab Run 3 miles upstream.<br>Spruce Run (Rockingham County) from its confluence with Capon Run 1.9 miles upstream.<br>Sumac Run from its confluence with the German River 1.2 miles upstream. | VI | pH-6.5-9.5 |
| 6a | Little Passage Creek from the Strasburg Reservoir Dam upstream to its headwaters. | IV | PWS<br>pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 6a<br>Little Passage Creek from the Strasburg Reservoir Dam upstream to its headwaters. | V | PWS<br>pH-6.5-9.5 |
| 6b | North Fork Shenandoah River and its tributaries from the Winchester raw water intake to a point 5 miles upstream (to include Cedar Creek and its tributaries to their headwaters). | IV | PWS<br>pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 6b<br>Cedar Creek (Shenandoah County) from Route 55 (river mile 23.56) to the U.S. Forest Service boundary (river mile 32.5) - approximately 7 miles.<br>Meadow Brook (Frederick County) from its confluence with Cedar Creek 5 miles upstream. | V | PWS<br>pH-6.5-9.5 |
| | Natural Trout Waters in Section 6b<br>Cedar Creek (Shenandoah County) from the U.S. Forest Service boundary (river mile 32.5) to its headwaters.<br>Duck Run from its confluence with Cedar Creek 5.7 miles upstream.<br>Paddy Run (Frederick County) from the mouth to its headwaters.<br>Sulphur Springs Gap (Shenandoah County) from its confluence with Cedar Creek 1.9 miles upstream. | VI | PWS<br>pH-6.5-9.5 |
| 6c | North Fork Shenandoah River and its tributaries from Strasburg's raw water intake to its confluence with Posey Hollow (Deep Hollow Run). | IV | PWS<br>pH-6.5-9.5 |
| 6d | Little Stony Creek and its tributaries from Woodstock's raw water intake to its headwaters. | IV | PWS<br>pH-6.5-9.5 |
| | Natural Trout Waters in Section 6d<br>Little Stony Creek from Woodstock's raw water intake to its headwaters. | VI | PWS<br>pH-6.5-9.5 |
| 6e | Smith Creek from New Market's raw water intake to its headwaters. | IV | PWS<br>pH-6.5-9.5 |
| 6f | North Fork Shenandoah River and its tributaries from the Timberville Food Process dam to the confluence with the Shoemaker River. | IV | PWS<br>pH-6.5-9.5 |
| 6g | The Shoemaker River and its tributaries from Slate Lick Run, and including Slate Lick Run, to its headwaters. | IV | pH-6.5-9.5 |
| | Put and Take Trout Waters in Section 6g<br>Slate Lick Run from its confluence with the Shoemaker River upstream to the 1500 feet elevation. | V | pH-6.5-9.5 |
| | Natural Trout Waters in Secton 6g<br>Long Run (Rockingham County) from its confluence with the Shoemaker River to its headwaters.<br>Slate Lick Run from the 1500 feet elevation upstream to its headwaters. | VI | pH-6.5-9.5 |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Shenandoah River Subbasin (cont.) | | |
| 6h | Unnamed tributary of North Fork Shenandoah River (on the western slope of Short Mountain opposite Mt. Jackson) from the Town of Mt. Jackson's raw water intake (north and east dams) to its headwaters. | IV | PWS pH-6.5-9.5 |
| 6i | Little Sulfur Creek, Dan's Hollow and Horns Gully (tributaries of the North Fork Shenandoah River on the western slope of Short Mountain opposite Mt. Jackson) which serve as a water supply for the Town of Edinburg, from the Edinburg intakes upstream to their headwaters. | IV | PWS pH-6.5-9.5 |
| 6j | North Fork Shenandoah River and its tributaries from the Town of Broadway's raw water intake (just upstream of Linville Creek's confluence with the North Fork Shenandoah River) to a point 5 miles upstream. | IV | PWS pH-6.5-9.5 |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (LOWER) | | |
| 1 | James River and its tidal tributaries from Old Point Comfort - Fort Wool to Barrets Point (Buoy 64), except prohibited or spoil areas, unless otherwise designated. | II | a,i |
| 1a | Free flowing or non-tidal portions of streams in Section 1, unless otherwise designated. | III | i |
| 1b | Eastern Branch of the Elizabeth River and tidal portions of its tributaries from its confluence with the Elizabeth River to the end of tidal waters. | II | a,j,k |
| 1c | Free flowing portions of the Eastern Branch of the Elizabeth River and its tributaries. | III | j,k |
| 1d | Southern Branch of the Elizabeth River from its confluence with the Elizabeth River to the lock at Great Bridge. | II | a |
| 1e | Free flowing portions of the Western Branch of the Elizabeth River and of the Southern Branch of the Elizabeth River from their confluence with the Elizabeth River to the lock at Great Bridge. | III | |
| 1f | Nansemond River and its tributaries from its confluence with the James River to Suffolk (dam at Lake Meade), unless otherwise designated. | II | a,l |
| 1g | Shingle Creek from its confluence with the Nansemond River to its headwaters in the Dismal Swamp. | III | l |
| 1h | Lake Prince, Lake Burnt Mills and Western Branch impoundments for Norfolk raw water supply and Lake Kilby - Cahoon Pond, Lake Meade and Lake Speight impoundments for Portsmouth raw water supply. | III | PWS,e |
| 1i | Free flowing portions of the Pagan River and its free flowing tributaries. | III | |
| 1j | Chisel Run and its tributaries, expect that tributary into which Eastern State Hospital discharges, to their headwaters. | III | i |
| 1k | Skiffes Creek Reservoir (Newport News water impoundment). | III | PWS |
| | JAMES RIVER BASIN (MIDDLE) | | |
| 2 | James River and its tidal tributaries from Buoy 64 near Barrets Point upstream to the fall line at Richmond, to include the Chickahominy River and its tidal tributaries from the mouth upstream to Walkers Dam and the Appomattox River and its tidal tributaries from the mouth upstream to the head of tidal waters (approximately at the Route 1/301 Bridge across the Appomattox), unless otherwise designated. | II | |
| 2a | James River from City Point to a point 5 miles above American Tobacco Company's raw water intake and the Appomattox River from its mouth to 5 miles upstream of Virginia-American Water Company's raw water intake. | II | PWS |
| 2b | Free flowing tributaries to Section 2a. | III | PWS |
| 3 | Free flowing tributaries of the James River from Buoy 64 to Brandon and free flowing tributaries of the Chickahominy River to Walkers Dam, unless otherwise designated. | III | |
| 3a | Diascund Creek from Newport News' raw water intake dam to its headwaters. | III | PWS |
| 4 | Chickahominy River and its tributaries from Walkers Dam to Bottoms Bridge (Route 60 bridge). | III | m |
| 4a | Chickahominy River from Walkers Dam to a point 5 miles upstream. | III | PWS,m |

| SEC TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (MIDDLE) (CONT.) | | |
| 5 | Chickahominy River and its tributaries, unless otherwise designated, from Bottoms Bridge (Route 60 bridge) to its headwaters. | III | m |
| 5a | Brandy Branch (a tributary to Beaverdam Creek). | III | m |
| 5b | Unnamed tributary to Lickinghole Creek which has its confluence 1.38 miles above the mouth of Lickinghole Creek. | III | m |
| 6 | Appomattox River from the head of tidal waters, and free flowing tributaries to the Appomattox River, to their headwaters, unless otherwise designated. | III | SR-6 |
| 6a | Swift Creek and its tributaries from Colonial Heights' raw water intake to a point 5 miles upstream. | III | PWS |
| 6b | Swift Creek and its tributaries from the dam at Pocahontas State Park upstream to Chesterfield County's raw water impoundment dam. | III | |
| 6c | Swift Creek and its tributaries from Chesterfield County's raw water impoundment dam to a point 5 miles upsteam. | III | PWS |
| 6d | That portion of Oldtown Creek within the corporate limits of Colonial Heights. | III | |
| 6e | Appomattox River and its tributaries from Appomattox River Water Authority's raw water intake located at the dam at Lake Chesdin to the headwaters of the lake. | III | PWS |
| 6f | Buffalo Creek from Farmville's raw water intake to a point 5 miles upstream. | III | PWS |
| 6g | The Appomattox River and its tributaries from Farmville's raw water intake (approximately 2.5 miles above the Route 15/45 bridge) to a point 5 miles upstream. | III | PWS |
| 6h | Sandy River Reservoir and its tributaries to their headwaters. | III | PWS |
| 7 | Free flowing tributaries to the James River from Brandon to the fall line at Richmond, unless otherwise designated. | III | |
| 7a | Falling Creek and its tributaries from Bellwood Defense General Supply Center's raw water intake to a point 5 miles above Chesterfield County's raw water intake. | III | PWS |
| 8 | James River and its tributaries from the low water dam above 14th Street Bridge to Richmond's raw water intake at Williams Island Dam. | III | |
| 9 | James River and its tributaries, unless otherwise designated, from Richmond's raw water intake at Williams Island Dam to a point 5 miles above Richmond's raw water intake at Bosher Dam. | III | PWS,n |
| 9a | Tuckahoe Creek from its confluence with the James River to its headwaters. | III | PWS,o |
| 10 | James River and its tributaries from a point 5 miles above Richmond's raw water intake at Bosher Dam to, and including the Rockfish River, unless otherwise designated. | III | SR-5 |
| | Put and Take Trout Waters in Section 10 | | |
| | Ivy Branch 1.5 miles upstream from the church above the junction of Routes 628 and 614. | V | |
| | Rockfish Creek from its confluence with the South Fork Rockfish River to its headwaters. | | |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (MIDDLE) (CONT.) | | |
| | Put and Take Trout Waters in Section 10 (cont.)<br>South Fork Rockfish River from its confluence with the Rockfish River to its headwaters (except from river mile 8.0 - 9.6, which is classified as natural trout waters).<br>Stony Creek from its confluence with the South Fork Rockfish River to its headwaters.<br>Swift Run from Route 604 upstream 2.5 miles to Route 810. | V | |
| | Natural Trout Waters in Section 10<br>Doyles River (6.4 miles above its confluence with Moormans River above Browns Cove at Route 629) 2.4 miles upstream.<br>Fork Hollow from its confluence with Ivy Creek 1.9 miles upstream.<br>Ivy Branch from Route 810 to its headwaters.<br>Ivy Creek (Greene County) from its confluence with the Lynch River 3.5 miles upstream.<br>Jones Run from its confluence with Doyles River 1.1 miles upstream.<br>Little Stony Creek (Nelson County) from its confluence with Stony Creek 1.3 miles upstream.<br>Mill Creek (Nelson County) from its confluence with Goodwin Creek 2 miles upstream.<br>Mutton Hollow from its confluence with Swift Run 1.8 miles upstream.<br>Pauls Creek (Nelson County) 1.3 miles above its confluence with the North Fork Rockfish River 2.3 miles upstream.<br>Rodes Creek from its confluence with Goodwin Creek 1.9 miles upstream.<br>South Fork Rockfish River from its confluence with the Rockfish River to its headwaters.<br>Spruce Creek (Nelson County) 1.5 miles above its confluence with the South Fork Rockfish River 2.7 miles upstream.<br>Stony Creek (Nelson County) 1 mile above its confluence with the South Fork Rockfish River 7.5 miles upstream.<br>Swift Run from the Albemarle County line to its headwaters. | VI | |
| 10a | James River and its tributaries from, and including, Little River to 5 miles above State Farm's raw water intake, including Beaverdam and Courthouse Creeks, to their headwaters. | III | PWS |
| 10b | Deep Creek and its tributaries from St. Emma's Military Academy's raw water intake to a point 5 miles upstream. | III | PWS |
| 10c | Willis River and its tributaries within Cumberland State Forest. | III | |
| 10d | Johnson Creek above the Town of Schuyler's raw water intake to its headwaters. | III | PWS |
| 10e | Totier Creek and its tributaries from Scottsville's raw water intake to their headwaters. | III | PWS |
| 10f | Powell Creek and its tributaries from its confluence with the Rivanna River upstream to their headwaters. | III | |
| 10g | Beaver Creek and its tributaries above Albemarle County Service Authority's raw water intake upstream to their headwaters. | III | PWS |
| 10h | Mechums River and its tributaries from Charlottesville's raw water intake to a point 5 miles upstream. | III | PWS |
| 10i | Moormans River and its tributaries from Charlottesville's raw water intake to a point 5 miles upstream (including the reservoir). | III | PWS |
| | Natural Trout Waters in Section 10i<br>North Fork Moormans River from its confluence with Moormans River to its headwaters.<br>Pond Ridge Branch from its confluence with the North Fork Moormans River 0.9 mile upstream.<br>South Fork Moormans River from its confluence with Moormans River to its headwaters. | VI | |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (MIDDLE) (CONT.) | | |
| 10j | South Fork Rivanna River and its tributaries; except Ivy Creek, from Charlottesville's South Fork Rivanna River Dam to the confluence of the South Fork Rivanna River and Moormans River, and Ivy Creek to a point 5 miles above the dam. | III | PWS |
| 10k | James River and its tributaries from Fork Union Sanitary District's raw water intake (just below the Route 15 bridge) to a point 5 miles upstream, including the Slate River to a point 5 miles above the intake. | III | PWS |
| 10l | Lake Monticello in Fluvanna County. | III | |
| 10m | Rivanna River and its tributaries from the raw water intake for Lake Monticello (about 2.69 miles above the Route 600 bridge in Fluvanna County) to a point 5 miles upstream. | III | PWS |
| 10n | Ragged Mountain Reservoir (intake for the City of Charlottesville's Observatory Hill Water Treatment Plant) including its tributaries to their headwaters. | III | PWS |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (UPPER) | | |
| 11 | James River and its tributaries from, but not including, the Rockfish River to, but not including, the Maury River, unless otherwise designated. | III | |
| | Put and Take Trout Waters in Section 11<br>Dancing Creek from the junction of Routes 610 and 641 to its headwaters.<br>Otter Creek from its confluence with the James River to a point 4.9 miles upstream.<br>Pedlar River from the confluence of Enchanted Creek to Lynchburg's raw water intake.<br>Terrapin Creek from its confluence with Otter Creek to its headwaters. | V | |
| | Natural Trout Waters in Section 11<br>Big Branch from its confluence with the Pedlar River to its headwaters.<br>Bluff Creek from its confluence with Enchanted Creek to its headwaters.<br>Browns Creek from its confluence with the Pedlar River to its headwaters.<br>Campbell Creek (Nelson County) from its confluence with the Tye River 3.4 miles upstream.<br>Cove Creek from its confluence with the North Fork Buffalo River River to its headwaters.<br>Coxs Creek from its confluence with the Tye River 2.8 miles upstream.<br>Crabtree Creek (Nelson County) from its confluence with the South Fork Tye River 2 miles upstream.<br>Cub Creek (Nelson County) 1.4 miles above its confluence with the Tye River (in the vicinity of Route 699), 4.6 miles upstream.<br>Davis Mill Creek from its confluence with the Pedlar River to its headwaters.<br>Durham Run from its confluence with the North Fork Tye River 1.6 miles upstream.<br>Enchanted Creek from its confluence with the Pedlar River upstream to its headwaters.<br>Harpers Creek from its confluence with the Tye River 1.9 miles upstream.<br>Irish Creek from its confluence with the Pedlar River upstream to its headwaters.<br>Lady Slipper Run from its confluence with the Pedlar River to its headwaters.<br>Little Cove Creek from its confluence with the North Fork Buffalo River to its headwaters.<br>Little Irish Creek from its confluence with the Pedlar River to its headwaters. | VI | |

| SEC TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (UPPER) (CONT.) | | |
| | Natural Trout Waters in Section 11 (cont.)<br>Maidenhead Branch from its confluence with the South Fork Tye River 1.4 miles upstream.<br>Meadow Creek (Nelson County) from its confluence with the South Fork Tye River 1.8 miles upstream.<br>Mill Creek (Nelson County) from its confluence with the North Fork Tye River 1.1 miles upstream.<br>Mill Creek from its confluence with the Pedlar River upstream to its headwaters.<br>Mill Creek (Nelson County) from its confluence with the South Fork Tye River 3.8 miles upstream.<br>Nicholson Run from its confluence with Lady Slipper Run to its headwaters.<br>North Fork Buffalo River from its confluence with the Buffalo River upstream to its headwaters.<br>North Fork Thrashers Creek from its confluence with Thrashers Creek to its headwaters.<br>North Fork Tye River from its confluence with the Tye River upstream to its headwaters.<br>Otter Creek 4.9 miles from its confluence with the James River to its headwaters.<br>Pedlar River from 5 miles above Lynchburg's raw water intake upstream to its headwaters.<br>Piney River from a point 5 miles above American Cyanamid's raw water intake upstream to its headwaters.<br>Reed Creek from the junction of Routes 764 and 638 to its headwaters.<br>Rocky Branch from its confluence with the North Fork Buffalo River to its headwaters.<br>Rocky Run (Nelson County) 1.6 miles above its confluence with the Tye River 4.8 miles upstream.<br>Silver Creek from its confluence with the Tye River 1.9 miles upstream.<br>South Fork Tye River from its confluence with the Tye River 10.7 miles upstream.<br>Staton Creek from its confluence with the Pedlar River upstream to its headwaters.<br>Tye River from Tyro upstream to its headwaters.<br>Wheelers Run from its confluence with the Pedlar River to its headwaters.<br>White Rock Creek (Nelson County) from its confluence with the North Fork Tye River 1.7 miles upstream.<br>Wiggins Branch from its confluence with Staton Creek to its headwaters. | VI | |
| 11a | Unnamed tributary to Williams Creek from Sweet Briar College's raw water intake to its headwaters. | III | PWS |
| 11b | Buffalo River and its tributaries from Amherst's raw water intake to a point 5 miles upstream. | III | PWS |
| 11c | Piney River and its tributaries from American Cyanamid Company's auxiliary raw water intake to a point 5 miles upstream. | III | PWS |
| | Natural Trout Waters in Section 11c<br>Crawleys Creek from its confluence with the Piney River to its headwaters.<br>Elk Pond Branch from its confluence with the North Fork Piney River 1.7 miles upstream.<br>Georges Creek from its confluence with the Little Piney River to its headwaters.<br>Greasy Spring Branch from its confluence with the South Fork Piney River to its headwaters.<br>King Creek from its confluence with the Little Piney River to its headwaters.<br>Little Piney River from its confluence with the Piney River to its headwaters. | VI | |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (UPPER) (CONT.) | | |
| | Natural Trout Waters in Section 11c (cont.)<br>Louisa Spring Branch from its confluence with the North Fork Piney River 1.6 miles upstream.<br>North Fork Piney River from its confluence with Piney River 4.2 miles upstream.<br>Piney River from American Cyanamid's raw water intake to a point 5 miles upstream.<br>Pompey Creek from its confluence with the Little Piney River to its headwaters.<br>Shoe Creek (Nelson County) from its confluence with Piney River 4.9 miles upstream.<br>South Fork Piney River from its confluence with the Piney River to its headwaters. | VI | |
| 11d | James River and its tributaries from a point 1/4 mile above the confluence of the Tye River to Six Mile Bridge. | III | p |
| 11e | James River and its tributaries, excluding Blackwater Creek, from Six Mile Bridge to the Business Route 29 Bridge in Lynchburg. | III | |
| 11f | Ivy Creek from Blue Ridge Farm's (Campbell County) raw water intake to a point 5 miles upstream. | III | PWS |
| 11g | James River and its tributaries from the Business Route 29 bridge in Lynchburg to Reusens Dam to include the City of Lynchburg's alternate raw water intake at the Route 29 bridge and the Madison Heights' intake on Harris and Graham Creeks. | III | PWS |
| 11h | James River and its tributaries, excluding the Pedlar River, from Reusens Dam to Coleman Dam. | III | PWS |
| 11i | Pedlar River and its tributaries from Lynchburg's raw water intake to a point 5 miles upstream. | III | PWS |
| | Natural Trout Waters in Section 11i<br>Brown Mountain Creek from its confluence with the Pedlar River to its headwaters.<br>Pedlar River from Lynchburg's raw water intake to a point 5 miles upstream.<br>Roberts Creek from its confluence with the Pedlar River to its headwaters. | VI | |
| 11j | James River and its tributaries from the Owens-Illinois raw water intake near Big Island to, but not including, the Maury River. | III | |
| | Put and Take Trout Waters in Section 11j<br>Battery Creek from its confluence with the James River to its headwaters.<br>Cashaw Creek from its confluence with the James River to its headwaters.<br>Hunting Creek from its headwaters to a point 2 miles downstream, unless otherwise designated. | V | |
| | Natural Trout Waters in Section 11j<br>Falling Rock Creek from its confluence with Peters Creek to its headwaters.<br>Hunting Creek from a point 3.7 miles from its confluence with the James River to its headwaters.<br>Peters Creek from a point 2.0 miles from its confluence with the James River to its headwaters.<br>Rocky Row Run from its confluence with the James River to the telegraph line above Snowden. | VI | |
| 11k | Opossum Creek and its tributaries from the James River KOA raw water intake 0.3 mile from the confluence with the James River in Campbell County upstream to their headwaters. | III | PWS |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (UPPER) (CONT.) | | |
| 12 | James River and its tributaries from, and including, the Maury River to their headwaters, unless otherwise designated. | IV | |
| | Put and Take Trout Waters in Section 12<br>Alum Creek from its confluence with Brattons Creek 1.7 miles upstream.<br>Back Creek (Highland County) from 37.1 miles above its confluence with the Jackson River 3.2 miles upstream.<br>Back Run from its confluence with the James River 2.1 miles upstream.<br>Barbours Creek from its confluence with Craig Creek to the junction of Routes 611 and 617.<br>Borden Creek from its confluence with Catawba Creek to a point 1.7 miles upstream.<br>Buffalo Creek (Rockbridge County) from the junction with Route 11, north 4.5 miles.<br>Bullpasture River from the junction of the Cowpasture River and Route 678 to its headwaters.<br>Cowpasture River (Highland County) from 75.4 miles above its confluence with with the James River 2.7 miles upstream.<br>Craig Creek from the confluence of Muddy Branch to its headwaters.<br>Crush Run from its confluence with Catawba Creek to a point 2.8 miles upstream.<br>East Dry Branch from its confluence with the Calfpasture River to its headwaters.<br>Elk Creek from its mouth to 0.6 mile upstream.<br>Ellis Run from its confluence with Back Creek in Botetourt County to a point 1.6 miles upstream.<br>Falling Spring Creek from its confluence with the Jackson River to its headwaters.<br>Jackson River from its junction with Route 603 to its headwaters, except from river mile 85.4-89.2 which is classified as natural trout waters.<br>Jennings Creek from the Norfolk and Western Railroad to the confluence of Yellowstone Branch.<br>Jerrys Run from its confluence with Dunlap Creek to its junction with Routes 60 and 782.<br>Johns Creek (Rockbridge County) from the junction of Routes 632 and 658 to its headwaters.<br>Lees Creek from its confluence with Catawba Creek to a point 2.0 miles upstream.<br>McFalls Creek from its confluence with Jennings Creek to a point 2.8 miles upstream.<br>Mill Creek (Bath County) from 6.8 miles above its confluence with the Calfpasture River 12.2 miles upstream.<br>Mill Creek (Bath County) from its confluence with the Jackson River 6 miles upstream.<br>Mill Creek from Rebecca Furnace to the confluence of Smith Branch (Botetourt County).<br>Mill Creek from its confluence with Craig Creek to a point 2.1 miles upstream (Craig County).<br>Mill Creek from the junction of Routes 622 and 612 to its headwaters (Botetourt County).<br>Miller Branch from its confluence with Tygers Creek to its headwaters.<br>North Buffalo Creek from its confluence with Buffalo Creek 2.8 miles upstream.<br>Pads Creek from river mile 2.2 - 8.2 (6 miles), unless otherwise designated.<br>Pheasanty Run (Spring Run) from its confluence with the Cowpasture River 0.7 mile upstream.<br>Potts Creek from the junction of Routes 18 and 615 to the Craig County line.<br>Potts Creek from the junction of Routes 311 and 18 to its headwaters.<br>Roaring Run from Route 615 to its headwaters.<br>Smith Creek (Alleghany County - Clifton Forge City) from Interstate 64 2.2 miles upstream (in the vicinity of the filtration plant).<br>South Fork Pads Creek from its confluence with Pads Creek approximately 4.4 miles upstream. | V | |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (UPPER) (CONT.) | | |
| | Put and Take Trout Waters in Section 12 (Cont.) | V | |
| | Spreading Spring Branch from its confluence with the James River to the intersection of Routes 635 and 630. | | |
| | Sweet Springs Creek from its confluence with Dunlap Creek to the West Virginia State line. | | |
| | Tygers Creek from its confluence with Dunlap Creek to a point 2.7 miles upstream. | | |
| | Natural Trout Waters in Section 12 | VI | |
| | Als Run from its confluence with Jerrys Run 0.8 mile upstream. | | |
| | Back Creek from its confluence with the James River near Buchanan to its headwaters. | | |
| | Barbours Creek and all of its tributaries from the junction of Routes 611 and 617 to their headwaters. | | |
| | Barney Run from its confluence with Mare Run 1 mile upstream. | | |
| | Bear Hole Run from its confluence with Dry Run 1.7 miles upstream. | | |
| | Bear Loop Branch from its confluence with Wilson Creek 0.6 mile upstream. | | |
| | Beaver Run (Bath County) from its confluence with Back Creek 1.2 miles upstream. | | |
| | Bennetts Run (Rockbridge County) from its confluence with the Maury River 4.9 miles upstream. | | |
| | Benson Run from its confluence with the Cowpasture River 6.3 miles upstream. | | |
| | Biggs Run from its confluence with Craig Creek to its headwaters. | | |
| | Big Laurel Branch from its confluence with Johns Creek to its headwaters. | | |
| | Big Lick Run from its confluence with Little Back Creek 1.8 miles upstream. | | |
| | Big Run from its confluence with Little Back Creek 1.8 miles upstream. | | |
| | Black Run (Augusta County) from its confluence with Smith Creek 1.4 miles upstream. | | |
| | Blue Springs Run from its confluence with Potts Creek to its headwaters. | | |
| | Blue Suck Branch from its confluence with Sinking Creek to its headwaters. | | |
| | Brattons Run from its confluence with the Calfpasture River to its headwaters. | | |
| | Broad Run from its junction with Routes 311 and 618 to its headwaters. | | |
| | Calfpasture River from its junction with Routes 250 and 715 to its headwaters. | | |
| | Cascades Creek from its confluence with Cedar Creek (Bath County) 4.6 miles upstream. | | |
| | Castle Run from its confluence with the Jackson River 1.8 miles upstream. | | |
| | Cast Steel Run from its confluence with Potts Creek to its headwaters. | | |
| | Cedar Creek from its confluence with the Jackson River to its headwaters. | | |
| | Cedar Creek (Rockbridge County) from 6.4 miles above its confluence with the James River 5.2 miles upstream. | | |
| | Chestnut Run from its confluence with Jennings Creek to its headwaters. | | |
| | Christleys Run from its confluence with Potts Creek to its headwaters. | | |
| | Clayton Mill Creek from its confluence with the Calfpasture River upstream to its headwaters. | | |
| | Cornelius Creek from its confluence with North Creek to its headwaters. | | |
| | Cove Creek from its confluence with Craig Creek to its headwaters. | | |
| | Crab Run from its confluence with the Bullpasture River to its headwaters. | | |
| | Crow Run from its confluence with Dunlap Creek to its headwaters. | | |
| | Cub Run (Bath County) from its confluence with Dry Run 1.3 miles upstream. | | |
| | Davis Run from Route 678 to its headwaters. | | |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (UPPER) (CONT.) | | |
| | Natural Trout Waters in Section 12 (Cont.)<br>Downey Branch from its confluence with Blue Suck Branch to its headwaters.<br>Dry Run (Bath County) from 1.5 miles above its confluence with the Cowpasture River 10.3 miles upstream.<br>Dunlap Creek from the Town of Crows to its headwaters.<br>East Fork Elk Creek from 0.8 mile above its confluence with Elk Creek 4.6 miles upstream.<br>Eliber Springs Branch from its confluence with Johns Creek to its headwaters.<br>Elk Creek from Route 759 (approximate river mile 1.37) to its headwaters.<br>Ewin Run from its confluence with Potts Creek to the West Virginia State line.<br>Fallingwater Creek from its confluence with Jennings Creek to its headwaters.<br>Ferrol Creek from its confluence with the James River 1.7 miles upstream.<br>Ford Run (Bath County) from its confluence with Back Creek 1.2 miles upstream.<br>Fridleys Branch from its confluence with the Calfpasture River to its headwaters.<br>Furnace Branch from its confluence with Craig Creek to its headwaters.<br>Gochenour Branch from its confluence with Brattons Run 3.6 miles upstream.<br>Grannys Creek and all of its tributaries from its confluence with Johns Creek to their headwaters.<br>Guys Run (Bath County) from its confluence with the Cowpasture River upstream to its headwaters.<br>Guys Run (Rockbridge County) from its confluence with the Calfpasture River (at Camp Virginia, Route 39) 4.8 miles upstream.<br>Hays Creek from its confluence with Potts Creek to its headwaters.<br>Hidden Valley Spring from its confluence with the Jackson River 1.1 miles upstream.<br>Hipes Branch from its confluence with Craig Creek to its headwaters.<br>Hypes Creek from Route 696 to its headwaters.<br>Jackson River from river mile 85.4 to river mile 89.2.<br>Jennings Creek from the confluence of Yellowstone Branch to its headwaters.<br>Jerkemtight Branch from its confluence with the Calfpasture River to its headwaters.<br>Jerrys Run from its junction with Routes 60 and 782 to its headwaters.<br>Jerrys Run (Augusta County) from its confluence with Ramseys Draft to its headwaters.<br>Johns Creek and all of its tributaries from the confluence of Eliber Springs Branch to their headwaters.<br>Jordan Run (Bath County) from its confluence with Thompson Creek 4.8 miles upstream.<br>Karnes Creek from a point 1.4 miles upstream of its confluence with the Jackson River to its headwaters.<br>Kelly Run (Bath County) from its confluence with the Jackson River 1.2 miles upstream.<br>Kelso Spring Branch from its confluence with the Little Calfpasture River 1.3 miles upstream.<br>Laurel Run (Bath County) from its confluence with Dry Run 1.5 miles upstream.<br>Left Prong Ramseys Draft from its confluence with Ramseys Draft 1.9 miles upstream.<br>Left Prong Wilson Creek from its confluence with Wilson Creek 2.8 miles upstream.<br>Lick Block Run from its confluence with the Left Prong Wilson Creek 1.2 miles upstream.<br>Lick Branch from its confluence with Craig Creek to its headwaters.<br>Lick Run (Bath County) from 3.3 miles above its confluence with Stuart Run 3.3 miles upstream. | VI | |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (UPPER) (CONT.) | | |
| | Natural Trout Waters in Section 12 (cont.)<br>Little Back Creek (Bath County) from Route 600 to its headwaters.<br>Little Calfpasture River from 17.2 miles above its confluence with the Maury River 2.4 miles upstream.<br>Little Crow Run from its confluence with Crow Run to its headwaters.<br>Little Mill Creek (Bath County) from its confluence with Mill Creek 4.9 miles upstream.<br>Little Wilson Creek (from 1 mile above its confluence with Mill Creek) 3.9 miles upstream.<br>Long Spring Run from its confluence with Little Back Creek 1 mile upstream.<br>Lowry Run from 0.2 mile above its confluence with the Maury River 2.4 miles upstream.<br>Madison Creek from Route 682 to its headwaters.<br>Mare Run from its junction with Route 39 at Bath Alum to its headwaters.<br>Meadow Creek from its confluence with Craig Creek to its headwaters.<br>Middle Creek from its confluence with Jennings Creek to its headwaters.<br>Mill Branch from its confluence with Potts Creek to its headwaters.<br>Mill Creek (Bath County) from its confluence with the Calfpasture River to Route 39.<br>Mill Creek (Bath County) from its confluence with the Cowpasture River 3.2 miles upstream.<br>Mill Creek from its confluence with Craig Creek near Webbs Mill in Craig County to its headwaters.<br>Mill Run (Highland County) from its confluence with the Bullpasture River 0.5 mile upstream.<br>Muddy Run (Bath County) from its confluence with the Jackson River to its headwaters.<br>Nelse Branch from its confluence with Mill Branch to its headwaters.<br>North Branch Simpson Creek from its confluence with Simpson Creek to its headwaters.<br>North Creek from its confluence with Jennings Creek to its headwaters.<br>Pads Creek from its junction with Routes 42 and 630 to its headwaters.<br>Paint Bank Branch from its confluence with Potts Creek to its headwaters.<br>Panther Run from its confluence with Mare Run 1.3 miles upstream.<br>Paxton Branch from its confluence with Johns Creek to its headwaters.<br>Pedlar Gap Run from 1 mile above its confluence with the Maury River 1.5 miles upstream.<br>Piney Branch (Rockbridge County) from its confluence with Guys Run 1.5 miles upstream.<br>Poplar Cove Run from its confluence with Lowry Run approximately 2 miles upstream.<br>Porters Mill Creek from its confluence with Mill Creek 2.3 miles upstream.<br>Pounding Mill Creek from its confluence with the Jackson River to its headwaters.<br>Purgatory Creek from its confluence with the James River to its headwaters.<br>Ramseys Draft from its confluence with the Calfpasture River to its headwaters.<br>Reservoir Hollow from 0.7 mile above its confluence with Indian Gap Run 1.7 miles upstream.<br>Right Prong Ramseys Draft from its confluence with Ramseys Draft 1.9 miles upstream.<br>Rocky Creek from its confluence with Sinking Creek to its headwaters.<br>Rocky Run (Bath County) from its confluence with the Jackson River 2.1 miles upstream.<br>Rowan Run from its confluence with the Jackson River 4.6 miles upstream.<br>Sawmill Run (Bath County) from its confluence with Back Creek 1.5 miles upstream.<br>Shawvers Run from its confluence with Potts Creek to its headwaters.<br>Simpson Creek from the junction of Route 776 and U. S. Route 60 to its headwaters.<br>Sinking Creek from Route 697 to its headwaters.<br>Smith Branch from its confluence with Mill Creek to its headwaters. | VI | |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (UPPER) (CONT.) | | |
| | Natural Trout Waters in Section 12 (cont.)<br>Smith Creek (Alleghany County) from the stream gage upstream of the filtration plant to its headwaters.<br>Snake Run from its confluence with Dunlap Creek to its headwaters.<br>South Buffalo Creek from its confluence with Buffalo Creek 12.6 miles upstream.<br>Spring Branch (Bath County) from its confluence with Mill Creek 0.8 mile upstream.<br>Spring Run (Bath County) from its confluence with Back Creek 1.8 miles upstream.<br>Still Run from its confluence with the Calfpasture River 2.7 miles upstream.<br>Stony Run from its confluence with Craig Creek to its headwaters.<br>Trout Creek and all of its tributaries from its confluence with Craig Creek to their headwaters.<br>Trout Run from its confluence with Sinking Creek to its headwaters.<br>Valley Branch from its confluence with Potts Creek to its headwaters.<br>Wildcat Hollow from its confluence with Little Back Creek 1.1 miles upstream.<br>Wilson Creek (Bath County) within Douthat State Park (river mile 8.4) to its headwaters. | VI | |
| 12a | Maury River and its tributaries, unless otherwise designated, from U.S. Route 60 bridge to its confluence with the Little Calfpasture River. | IV | SR-4 |
| | Put and Take Trout Waters in Section 12a<br>Hays Creek from its confluence with the Maury River to Brownsburg (9.5 miles).<br>Irish Creek from its confluence with the South River to its headwaters, except from river mile 8.9-15.9 which is classified as natural trout waters.<br>Marlbrook Creek from its confluence with the South River 2.2 miles upstream. | V | |
| | Natural Trout Waters in Section 12a<br>Big Bend Creek from its confluence with Irish Creek 1.6 miles upstream.<br>Big Marys Creek from its confluence with the South River to its headwaters.<br>Chimney Branch from its confluence with Saint Marys River 1.5 miles upstream.<br>Hogback Creek from its confluence with Saint Marys River 0.9 mile upstream.<br>Irish Creek from river mile 8.9 to river mile 15.9.<br>Laurel Run from its confluence with the Maury River to its headwaters (2 miles).<br>Little Marys Creek from its confluence with the South River 2.6 miles upstream.<br>Mill Creek from its confluence with the Maury River at Lexington to its headwaters.<br>Mine Bank Creek from its confluence with Saint Marys River 0.9 mile upstream.<br>Nettle Creek from its confluence with Irish Creek 3.2 miles upstream.<br>Nettle Spring Branch from its confluence with Nettle Creek 1.9 miles upstream.<br>North Fork Spy Run from its confluence with Spy Run 1.2 miles upstream.<br>Rock Branch from its confluence with Irish Creek 1.2 miles upstream.<br>Saint Marys River from its confluence with the South River to its headwaters.<br>Spy Run from its confluence with the South River 3.2 miles upstream.<br>Sugartree Branch from its confluence with Saint Marys River 1.4 miles upstream.<br>Wigwam Creek from its confluence with Nettle Creek 1.9 miles upstream. | VI | SR-4 |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | JAMES RIVER BASIN (UPPER) (CONT.) | | |
| 12b | Maury River and its tributaries from Lexington's raw water intake to a point 5 miles upstream. | IV | PWS |
| 12c | Black Run from Craigville's raw water intake to its headwaters. | IV | PWS |
| 12d | Moores Creek located on Brushy Mountain. | IV | PWS |
| 12e | Cowpasture River from the Alleghany-Botetourt County line upstream to U.S. Route 60 bridge. | IV | |
| 12f | Smith Creek and Clifton Forge Reservoir from Clifton Forge's raw water intake to their headwaters. | IV | PWS |
| | Natural Trout Waters in Section 12f<br>Piney Branch from its confluence with Smith Creek to its headwaters.<br>Smith Creek (Alleghany County) from 4 miles north of Clifton Forge, Route 606, to its headwaters. | VI | PWS |
| 12g | Mill Branch and its tributaries located on Horse Mountain. | IV | PWS |
| 12h | Potts Creek and its tributaries from Hercules, Inc.'s raw water intake to a point 5 miles upstream. | IV | PWS |
| 12i | Dunlap Creek and its tributaries from the Covington Boys Home raw water intake to a point 5 miles upstream. | IV | PWS |
| 12j | Jackson River and its tributaries from Covington's raw water intake to a point 5 miles upstream. | IV | PWS |
| 12k | Roaring Run above Clearwater Park's raw water intake to its headwaters. | IV | PWS |
| 12l | Catawba Creek and its tributaries from the City of Roanoke's raw water intake 0.1 mile upstream from its confluence with Buchanan Branch to a point 5 miles upstream. | IV | PWS |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | RAPPAHANNOCK RIVER BASIN | | |
| 1 | Rappahannock River and the tidal portions of its tributaries from Stingray and Windmill Points to Route 1 Alternate Bridge at Fredericksburg. | II | a |
| 1a | Hoskins Creek from the confluence with the Rappahannock River to its tidal headwaters. | II | |
| 2 | Free flowing tributaries of the Rappahannock from Stingray and Windmill Points upstream to Blandfield Point, unless otherwise designated. | III | |
| 3 | The Rappahannock River from the Route 1 Alternate Bridge at Fredericksburg upstream to its headwaters, unless otherwise designated. | III | q |
| 4 | Free flowing tributaries of the Rappahannock from Blandfield Point to its headwaters, unless otherwise designated. | III | q |
| | Put and Take Trout Waters in Section 4<br>Robinson River from its confluence with the Rapidan River to its headwaters. | V | q |
| | Natural Trout Waters in Section 4<br>Berry Hollow from its confluence with the Hughes River to its headwaters.<br>Bolton Branch from 1.7 miles above its confluence with Hittles Mill Stream 2.1 miles upstream.<br>Broad Hollow Run from its confluence with Hazel Run 1.9 miles upstream.<br>Brokenback Hollow from its confluence with the Hughes River to its headwaters.<br>Bush Mountain Stream from its confluence with the Conway River 0.9 mile upstream.<br>Cedar Run (Madison County) from its confluence with the Robinson River to its headwaters.<br>Conway River (Greene County) from the Town of Fletcher to its headwaters.<br>Dark Hollow from its confluence with the Rose River 1 mile upstream.<br>Devils Ditch from its confluence with the Conway River to its headwaters.<br>Entry Run from its confluence with the South River 4 miles upstream.<br>Garth Run from its confluence with the Rapidan River to its headwaters.<br>Hannah Run from its confluence with the Hughes River 2 miles upstream.<br>Hazel River (Rappahannock County) from 38.6 miles above its confluence with the Rappahannock River 6 miles upstream.<br>Hogcamp Branch from its confluence with the Rose River 2.5 miles upstream.<br>Hughes River(Madison County) from Route 231 to its headwaters.<br>Indian Run (Rappahannock County) from 3.4 miles above its confluence with the Jordan River 3.9 miles upstream.<br>Jordan River (Rappahannock County) from 10.9 miles above its confluence with the Rappahannock River 1.8 miles upstream.<br>Kinsey Run from its confluence with the Rapidan River 2.1 miles upstream.<br>Laurel Prong from its confluence with the Rapidan River 1.1 miles upstream.<br>Mill Prong from its confluence with the Rapidan River 1 mile upstream.<br>Negro Run from its confluence with the Robinson River 1.1 miles upstream.<br>North Fork Thornton River from its confluence with the Thornton River to its headwaters.<br>Piney Branch from its confluence with the Thornton River to its headwaters. | VI | q |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | RAPPAHANNOCK RIVER BASIN (CONT.) | | |
| | Natural Trout Waters in Section 4 (cont.)<br>Piney River (Rappahannock County) from 0.8 mile above its confluence with the North Fork Thornton River 6.4 miles upstream.<br>Pocosin Hollow from its confluence with the Conway River to its headwaters.<br>Ragged Run from 0.6 mile above its confluence with Popham Run 1.9 miles upstream.<br>Rapidan River from Graves Mill (Route 615) to its headwaters.<br>Robinson River (Madison County) from its confluence with the Rose River to its headwaters.<br>Rose River from its confluence with the Robinson River to its headwaters.<br>Rush River (Rappahannock County) from Route 628 (river mile 5.24) to its headwaters.<br>Sams Run from its confluence with the Hazel River 0.8 mile upstream.<br>South River from its confluence with the Rapidan River to its headwaters.<br>Sprucepine Branch from its confluence with Bearwallow Creek 1.7 miles upstream.<br>Staunton River (Madison County) from its confluence with the Rapidan River 3.5 miles upstream.<br>Strother Run from its confluence with the Rose River 2.3 miles upstream.<br>Thornton River (Rappahannock County) from 25.7 miles above its confluence with the Hazel River 2.5 miles upstream.<br>Wilson Run from its confluence with the Staunton River to its headwaters. | VI | q |
| 4a | (deleted) | | |
| 4b | The Rappahannock River and its tributaries, to include the VEPCO Canal, from Fredericksburg's raw water intake to a point 5 miles upstream. | III | PWS,q |
| 4c | Motts Run and its tributaries. | III | PWS,q |
| 4d | Horsepen Run and its tributaries. | III | q |
| 4e | Hunting Run and its tributaries. | III | PWS,q |
| 4f | Wilderness Run and its tributaries. | III | q |
| 4g | Deep Run and its tributaries. | III | q |
| 4h | (deleted) | | |
| 4i | Mountain Run from Culpeper's raw water intake to its headwaters. | III | PWS,q |
| 4j | White Oak Run from the Town of Madison's raw water intake upstream to its headwaters (Natural Trout water). | VI | PWS,q |
| 4k | Rapidan River from Orange's raw water intake upstream 5 miles. | III | PWS,q |
| 4l | Rapidan River and its tributaries from the Rapidan Service Authority's raw water intake (just upstream of the Route 29 bridge) upstream to a point 5 miles above the intake. | III | PWS,q |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | ROANOKE RIVER BASIN | | |
| | Roanoke River Subbasin | | |
| 1 | Lake Gaston and the John Kerr Reservoir in Virginia and their tributaries in Virginia, unless otherwise designated (not including the Roanoke or the Dan Rivers). | III | PWS,e |
| 1a | Dockery Creek and its tributaries to their headwaters. | III | s |
| 2 | Dan River and its tributaries from the John Kerr Reservoir to the Virginia-North Carolina State line just east of the Pittsylvania-Halifax County line, unless otherwise designated. | III | |
| 2a | Dan River from South Boston's raw water intake upstream to Paces (below Route 658 bridge). | III | PWS |
| 2b | Banister River and its tributaries from Burlington Industries' raw water intake (about 2000 feet downstream of Route 360) to a point 5 miles upstream above Halifax's raw water impoundment dam. | III | PWS |
| 2c | Banister River and its tributaries from 5 miles above Halifax's raw water impoundment dam upstream to their headwaters, unless designated. | III | |
| 2d | Cherrystone Creek from Chatham's raw water intake upstream to its headwaters. | III | PWS |
| 2e | Georges Creek from Gretna's raw water intake upstream to its headwaters. | III | PWS |
| 3 | Dan River and its tributaries from the Virginia-North Carolina State line just east of the Pittsylvania-Halifax County line upstream to the State line just east of Draper, N.C., unless otherwise designated. | III | |
| | Natural Trout Waters in Section 3<br>Fall Creek from its confluence with the Dan River upstream to its headwaters. | VI | |
| 3a | Dan River from the Schoolfield Dam upstream to the Virginia-North Carolina State line. | III | PWS |
| 3b | Cascade Creek and its tributaries. | IV | PWS |
| 3c | Smith River and its tributaries from the Virginia-North Carolina State line to, but not including, Home Creek. | IV | PWS |
| 3d | Smith River from DuPont's raw water intake upstream to a point 5 miles above Fieldale's raw water intake. | IV | PWS |
| 3e | Philpott Reservoir, Fairystone Lake and their tributaries. | IV | e |
| | Put and Take Trout Waters in Section 3e<br>Rennet Bag Creek from its confluence with the Smith River to to the confluence of Long Branch Creek. | V | |
| | Natural Trout Waters in Section 3e<br>Brogan Branch from its confluence with Rennet Bag Creek to its headwaters.<br>Rennet Bag Creek from the confluence of Long Branch Creek to its headwaters.<br>Roaring Run from its confluence with Rennet Bag Creek to its headwaters. | VI | |
| 3f | North Mayo River and South Mayo River and their tributaries from the Virginia-North Carolina State line to a point 5 miles upstream. | IV | PWS |
| 3g | Interstate streams in the Dan River watershed above the point where the Dan crosses the Virginia-North Carolina State line just east of Draper, N.C., (including the Mayo and the Smith watersheds) unless otherwise designated. | IV | |

| SEC TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Roanoke River Subbasin (cont.) | | |
| | Put and Take Trout Waters in Section 3g | V | |
| | Dan River from Route 773 upstream to the Townes Dam. | | |
| | Little Dan River from its confluence with Hookers Creek to its headwaters. | | |
| | Smith River from Koehler (at about Route 667) upstream to the Philpott Dam. | | |
| | South Mayo River from its confluence with the North Fork South Mayo River to Route 815. | | |
| | Natural Trout Waters in Section 3g | VI | |
| | Dan River from Otter Arm to its headwaters. | | |
| | North Prong North Fork Smith River from its confluence with the North Fork Smith River to its headwaters. | | |
| | North Fork Smith River from its confluence with the Smith River to its headwaters. | | |
| | Smith River from Route 613 to its headwaters. | | |
| | South Mayo River from Route 815 to its headwaters. | | |
| 3h | South Mayo River and its tributaries from the Town of Stuart's raw water intake 0.4 mile upstream of its confluence with the North Fork South Mayo River to a point 5 miles upstream. | IV | PWS |
| | Natural Trout Waters in Section 3h | VI | |
| | Brushy Fork from its confluence with the South Mayo River to its headwaters. | | |
| | Little Cove Branch from its confluence with Rye Cove Creek to its headwaters. | | |
| | Rye Cove Creek from its confluence with the South Mayo River to its headwaters. | | |
| 4 | Intrastate tributaries to the Dan River above the Virginia-North Carolina State line just east of Draper, North Carolina, to their headwaters, unless otherwise designated. | III | |
| | Put and Take Trout Waters in Section 4 | V | |
| | Browns Dan River from the intersection of Routes 647 and 646 to its headwaters. | | |
| | Ivy Creek from Coleman's Mill Pond upstream to Route 58 (approximately 2.5 miles). | | |
| | Little Spencer Creek from its confluence with Spencer Creek to its headwaters. | | |
| | North Fork South Mayo River from its confluence with the South Mayo River to its headwaters. | | |
| | Poorhouse Creek from its confluence with North Fork South Mayo River upstream to Route 817. | | |
| | Rock Castle Creek from its confluence with the Smith River upstream to Route 40. | | |
| | Sawpit Branch from its confluence with Round Meadow Creek to its headwaters. | | |
| | Squall Creek from its confluence with the Dan River to its headwaters. | | |
| | Natural Trout Waters in Section 4 | VI | |
| | Barnard Creek from its confluence with the Dan River to its headwaters. | | |
| | Big Cherry Creek from its confluence with the Dan River to its headwaters. | | |
| | Big Ivy Creek from its confluence with the Dan River to its headwaters. | | |
| | Camp Branch from its confluence with Big Ivy Creek to its headwaters. | | |
| | Cherry Creek from its confluence with Ivy Creek upstream to its headwaters. | | |
| | Haunted Branch from its confluence with Barnard Creek to its headwaters. | | |
| | Hookers Creek from its confluence with the Little Dan River to its headwaters. | | |
| | Little Ivy Creek from its confluence with Big Ivy Creek to its headwaters. | | |
| | Little Rock Castle Creek from its confluence with Rock Castle Creek to its headwaters. | | |
| | Maple Swamp Branch from its confluence with Round Meadow Creek upstream to its headwaters. | | |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Roanoke River Subbasin (cont.) | | |
| | Natural Trout Waters in Section 4 (cont.)<br>Mayberry Creek from its confluence with Round Meadow Creek upstream to its headwaters.<br>Mill Creek from its confluence with the Dan River to its headwaters.<br>Patrick Springs Branch from its confluence with Laurel Branch to its headwaters.<br>Polebridge Creek from Route 692 to its headwaters.<br>Poorhouse Creek from Route 817 to its headwaters.<br>Rhody Creek from its confluence with the South Mayo River to its headwaters.<br>Rich Creek from Route 58 to its headwaters.<br>Roaring Creek from its confluence with the Dan River to its headwaters.<br>Rock Castle Creek from Route 40 to its headwaters.<br>Round Meadow Creek from its confluence with the Dan River to its headwaters.<br>Shooting Creek from its confluence with the Smith River to its headwaters.<br>Spencer Creek from Route 692 to its headwaters.<br>Tuggle Creek from its confluence with the Dan River upstream to its headwaters.<br>Widgeon Creek from Route 719 to its headwaters. | VI | |
| 4a | Intrastate tributaries to the Smith River from DuPont's raw water intake to a point 5 miles upstream from Fieldale's raw water intake. | III | PWS |
| 4b | Marrowbone Creek and its tributaries from Henry County's raw water intake (about 1/4 mile upstream from Route 220) to their headwaters. | III | PWS<br>pH-6.5-9.0 |
| 5 | Roanoke River from the headwaters of the John Kerr Reservoir to Leesville Dam and including Leesville Reservoir and Smith Mountain Lake. | IV | PWS,e<br>pH-6.5-9.0<br>SR-7 |
| 5a | Tributaries to the Roanoke River from the headwaters of the John Kerr Reservoir to Leesville Dam, unless otherwise designated. | III | PWS<br>pH-6.5-9.0 |
| | Put and Take Trout Waters in Section 5a<br>Day Creek from Route 741 to its headwaters. | V | pH-6.5-9.0 |
| | Natural Trout Waters in Section 5a<br>Gunstock Creek from its confluence with Overstreet Creek to its headwaters.<br>Overstreet Creek from its confluence with North Otter Creek to its headwaters.<br>Roaring Run from its confluence with the South Fork Blackwater River to its headwaters. | VI | pH-6.5-9.0 |
| 5b | Spring Creek from Keysville's raw water intake upstream to its headwaters. | III | PWS<br>pH-6.5-9.0 |
| 5c | Falling River and its tributaries from a point just upstream from State Route 40 (the raw water source for Brookneal Mills/Burlington Industries) to a point 5 miles upstream and including the entire Phelps Creek watershed which contains the Brookneal Reservoir. | III | PWS<br>pH-6.5-9.0 |
| 5d | Falling River from 5 miles above the Brookneal Mills/Burlington Industries' raw water intake to its headwaters. | III | pH-6.5-9.0 |
| 5e | Reed Creek from Altavista's raw water intake upstream to its headwaters. | III | PWS<br>pH-6.5-9.0 |
| 5f | Big Otter River and its tributaries from Bedford's raw water intake to a point 5 miles upstream, and Stony Creek and Little Stony Creek upstream to their headwaters. | III | PWS<br>pH-6.5-9.0 |

| SEC TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Roanoke River Subbasin (cont.) | | |
| | Natural Trout Waters in Section 5f | VI | PWS pH-6.5-9.0 |
| | Little Stony Creek from 1 mile above its confluence with Stony Creek to its headwaters. Stony Creek from the Bedford Reservoir to its headwaters. | | |
| 5g | Big Otter River and its tributaries from 5 miles above Bedford's raw water intake upstream to their headwaters. | III | pH-6.5-9.0 |
| 5h | Ash Camp Creek and that portion of Little Roanoke Creek from its confluence with Ash Camp Creek to the Route 47 bridge. | III | w pH-6.5-9.0 |
| 6 | Roanoke River from the headwaters of Smith Mountain Lake upstream to Salem's #1 raw water intake. | IV | pH-6.5-9.0 |
| | Put and Take Trout Waters in Section 6 | V | pH-6.5-9.0 |
| | Roanoke River from its junction with Routes 11 and 419 to Salem's #1 raw water intake. | | |
| 6a | Tributaries of the Roanoke River from Leesville Dam to Niagra Reservoir, unless otherwise designated. | III | pH-6.5-9.0 |
| | Put and Take Trout Waters in Section 6a | V | pH-6.5-9.0 |
| | Green Creek from its confluence with the Blackwater River upstream to its headwaters. Maggodee Creek from Boones Mill upstream to Route 862 (approximately 3.8 miles). South Prong Pigg River from its confluence with the Pigg River to its headwaters. | | |
| | Natural Trout Waters in Section 6a | VI | pH-6.5-9.0 |
| | Daniels Branch from its confluence with the South Fork Blackwater River to its headwaters. Gourd Creek from Route 652 to its headwaters. Pigg River from 1 mile above the confluence of the South Prong Pigg River to its headwaters. | | |
| 6b | Pigg River from Rocky Mount's raw water intake to a point 5 miles upstream. | III | PWS pH-6.5-9.0 |
| 6c | Falling Creek Reservoir and Beaverdam Reservoir. | III | PWS pH-6.5-9.0 |
| 6d | Tributaries of the Roanoke River from Niagra Reservoir to Salem's #1 raw water intake. | IV | pH-6.5-9.0 |
| | Put and Take Trout Waters in Section 6d | V | pH-6.5-9.0 |
| | Glade Creek from its junction with Route 633 to the Bedford County line. Tinker Creek from its confluence with Route 115 north to Routes 11 and 220 (1.5 miles). | | |
| 6e | Carvin Cove Reservoir and its tributaries to their headwaters. | IV | PWS pH-6.5-9.0 |
| 6f | Blackwater River and its tributaries from the Town of Rocky Mount's raw water intake (just upstream of State Route 220) to a point 5 miles upstream. | IV | PWS |
| 6g | Tinker Creek from the City of Roanoke's raw water intake (about 0.4 mile downstream from Glebe Mills) upstream 5 miles. | IV | PWS |
| 7 | Roanoke River and its tributaries, unless otherwise designated, from Salem's #1 raw water intake to their headwaters. | IV | pH-6.5-9.0 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Roanoke River Subbasin (cont.) | | |
| | Put and Take Trout Waters in Section 7 | V | pH-6.5-9.0 |
| | Goose Creek from its confluence with the South Fork Roanoke River to its headwaters. | | |
| | Elliott Creek from the confluence of Rocky Branch to its headwaters. | | |
| | Lick Fork from its confluence with Goose Creek to its headwaters. | | |
| | Mill Creek from its confluence with Bottom Creek to its headwaters. | | |
| | Smith Creek from its confluence with Elliott Creek to its headwaters. | | |
| | Natural Trout Waters in Section 7 | VI | pH-6.5-9.0 |
| | Big Laurel Creek from its confluence with Bottom Creek to its headwaters. | | |
| | Bottom Creek from its confluence with the South Fork Roanoke River to its headwaters. | | |
| | Mill Creek from its confluence with the North Fork Roanoke River to its headwaters. | | |
| | Purgatory Creek from Camp Alta Mons to its headwaters. | | |
| | Roanoke River from 5 miles above Salem's #2 raw water intake to the Montgomery County line. | | |
| | South Fork Roanoke River from its confluence with North Fork Roanoke River to its headwaters. | | |
| | Spring Branch from its confluence with the South Fork Roanoke River to its headwaters. | | |
| 7a | Roanoke River and its tributaries from Salem's #1 raw water intake to a point 5 miles upstream from Salem's #2 raw water intake. | IV | PWS pH-6.5-9.0 |
| | Put and Take Trout Waters in Section 7a | V | PWS pH-6.5-9.0 |
| | Roanoke River from Salem's #1 raw water intake to a point 5 miles upstream from Salem's #2 raw water intake. | | |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | ROANOKE RIVER BASIN | | |
| | Yadkin River Subbasin | | |
| 1 | Yadkin River Basin in Virginia including Ararat River, Johnson Creek, Little Fisher River, Lovills Creek, Pauls Creek and Stewarts Creek - the entire reach of these streams from the Virginia-North Carolina State line to their headwaters. | IV | PWS |
| | Put and Take Trout Waters in Section 1<br>Ararat River from Route 823 upstream to Route 671.<br>Halls Branch from its confluence with Lovills Creek 4.5 miles upstream.<br>Johnson Creek from the Virginia-North Carolina State line to its headwaters. | V | PWS |
| | Natural Trout Waters in Section 1<br>Ararat River from Route 671 upstream to its headwaters.<br>East Fork Johnson Creek from its confluence with Johnson Creek to its headwaters.<br>Elk Spur Branch from its confluence with Lovills Creek 5.1 miles upstream.<br>Little Fisher River from the Virginia-North Carolina State line 2.5 miles upstream (at Route 716).<br>Little Pauls Creek in the vicinity of Route 692 (4 miles above its confluence with Pauls Creek) 1.4 miles upstream.<br>Lovills Creek from the Virginia-North Carolina State line 2.4 miles upstream.<br>North Fork Stewarts Creek from its confluence with Stewarts Creek 2.4 miles upstream.<br>Pauls Creek (at the Carroll County line, at Route 690) 8.8 miles upstream.<br>South Fork Stewarts Creek from its confluence with Stewarts Creek 2.5 miles upstream.<br>Stewarts Creek below Lambsburg in the vicinity of Route 696 (10.4 miles above its confluence with the Ararat River) 3.8 miles upstream.<br>Sun Run from its confluence with the Ararat River to its headwaters.<br>Thompson Creek from its confluence with the Ararat River to its headwaters.<br>Turkey Creek from its confluence with Stewarts Creek 2.1 miles upstream.<br>Waterfall Branch from its confluence with Lovills Creek 0.9 mile upstream. | VI | PWS |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | CHOWAN AND DISMAL SWAMP BASIN | | |
| | Chowan River Subbasin | | |
| 1 | Blackwater River and its tidal tributaries from the Virginia-North Carolina State line to the end of tidal waters at approximately State Route 611 at river mile 20.90; Nottoway River and its tidal tributaries from the Virginia-North Carolina State line to the end of tidal waters at approximately Route 674. | II | |
| 2 | Blackwater and Nottoway Rivers from the end of tidal waters to their headwaters and their free-flowing tributaries in Virginia, unless otherwise designated. | III | SR-8 |
| 2a | Blackwater River and its tributaries from Norfolk's auxiliary raw water intake near Burdette, Virginia, to a point 5 miles above the raw water intake, to include Corrowaugh Swamp to a point 5 miles above the raw water intake. | III | PWS |
| 2b | Hanzlik Pond Branch from a point one mile below Route 460 to its headwaters. | III | |
| 2c | Nottoway River and its tributaries from Norfolk's auxiliary raw water intake near Courtland, Virginia, to a point 5 miles upstream. | III | PWS |
| 2d | Hatcher Run from the impoundment dam on Lake Jordan to State Route 631. | III | |
| 2e | Nottoway River from Johns Manville's raw water intake near Jarratt, Virginia, to a point 5 miles above the intake. | III | PWS |
| 2f | Nottoway River and its tributaries from Camp Pickett's raw water intake to a point 5 miles above the raw water intake. | III | PWS |
| 2g | Lazaretto Creek and its tributaries from Crewe's raw water intake to a point 5 miles upstream. | III | PWS |
| 2h | Modest Creek and its tributaries from Victoria's raw water intake to their headwaters. | III | PWS |
| 2i | Nottoway River and its tributaries from the Town of Victoria's raw water intake (about 200 feet upstream from State Route 49) to a point 5 miles upstream. | III | PWS |
| 3 | Meherrin River and its tributaries in Virginia from the Virginia-North Carolina State line to its headwaters. | III | |
| 3a | Meherrin River and its tributaries from Emporia's water supply dam to a point 5 miles upstream. | III | PWS |
| 3b | Great Creek from Lawrenceville's raw water intake to a point 5 miles upstream. | III | PWS |
| 3c | Meherrin River from Lawrenceville's raw water intake to a point 5 miles upstream. | III | PWS |
| 3d | Flat Rock Creek from Kenbridge's raw water intake upstream to its headwaters. | III | PWS |
| 3e | Meherrin River and its tributaries from South Hill's raw water intake to a point 5 miles upstream. | III | PWS |
| 3f | Couches Creek from a point 1.6 miles downstream from the Industrial Development Authority discharge to its headwaters. | III | t |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | CHOWAN AND DISMAL SWAMP BASIN | | |
| | Albemarle Sound Subbasin | | |
| 1 | Back Bay and its tributaries in the City of Virginia Beach to the Virginia-North Carolina State line and the Northwest River and its tidal tributaries from the Virginia-North Carolina State line to the free flowing portion, and North Landing River and its tidal tributaries from the Virginia-North Carolina State line to the Great Bridge Lock. | II | |
| 1a | The free flowing portions of streams in Section 1 and tributaries of Stumpy Lake. | III | |
| 1b | Stumpy Lake. | III | e |
| 1c | Northwest River and its tributaries from the City of Chesapeake's raw water intake to a point 5 miles upstream and a point 5 miles downstream. | III | PWS |
| 2 | Intracoastal Waterway (portions not described in Section 1). | III | |
| 3 | Lake Drummond, including feeder ditches, and all interstate tributaries of the Dismal Swamp between Virginia and North Carolina. | III | |

| SEC TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | TENNESSEE AND BIG SANDY RIVER BASINS | | |
| | Big Sandy River Subbasin | | |
| 1 | All tributaries of Tug Fork in Virginia. | IV | |
| 2 | All tributaries of Jacobs Fork and Dry Fork in Virginia. | IV | |
| 3 | Levisa Fork and its tributaries and Knox Creek and its tributaries, unless otherwise designated, from the Virginia-Kentucky State line upstream to their headwaters. | IV | |
| | Put and Take Trout Waters in Section 3<br>Slate Creek from the northern corporate limits of Grundy to the Slate post office. | V | |
| 4 | Russell Fork and its tributaries, unless otherwise designated, from the Virginia-Kentucky State line upstream to their headwaters. | IV | |
| | Put and Take Trout Waters in Section 4<br>Caney Creek from Long Branch Creek upstream 5.5 miles.<br>Fryingpan Creek from its confluence with Russell Fork upstream to the junction of the stream and Routes 604 and 600.<br>North Fork Pound River from the town limits of Pound upstream to the water supply dam. | V | |
| | Natural Trout Waters in Section 4<br>Pound River to the John W. Flannagan Dam.<br>Russell Fork from the Virginia-Kentucky State line to the confluence with the Pound River. | VI | |
| 4a | The Pound River and its tributaries from the John W. Flannagan Dam, including the John W. Flannagan Reservoir, and including the Cranesnest River and its tributaries to a point 5 miles above the John W. Flannagan Water Authority's raw water intake. | IV | PWS,e |
| 4b | North Fork Pound River and its tributaries from North Fork Pound River Dam and the Town of Pound's raw water intake upstream to their headwaters, unless otherwise designated. | IV | PWS |
| 4c | Holly Creek (a tributary to Cranesnest River) from Clintwood's raw water intake to its headwaters. | IV | PWS |
| 4d | Phillips Creek from its mouth to its headwaters and the North Fork Pound River from Wise County's swimming area around the mouth of Phillips Creek to a point 1/2 mile upstream. | IV | |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | TENNESSEE AND BIG SANDY RIVER BASINS<br><br>Clinch River Subbasin | | |
| 1 | Powell River and its tributaries from the Virginia-Tennessee State line to their headwaters; Indian Creek and Martin Creek in Virginia, unless otherwise designated. | IV | pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 1<br>Batie Creek from its confluence with the Powell River 0.8 mile upstream.<br>Lick Branch from its confluence with Indian Creek 1.4 miles upstream.<br>North Fork Powell River above Pennington Gap to the confluence of Straight Fork.<br>Poor Valley Branch from its confluence with Martin Creek 1.4 miles upstream.<br>Sims Creek from its confluence with the Powell River 1.1 miles upstream to Sims Spring.<br>Wallen Creek above its confluence with the Powell River (at Rasnic Hollow) 5.9 miles upstream. | V | pH-6.0-9.0 |
| | Natural Trout Waters in Section 1<br>Dry Creek from its confluence with Hardy Creek to its headwaters.<br>Hardy Creek and its tributaries to their headwaters.<br>Laurel Fork (Scott County) from its confluence with Stock Creek 4 miles upstream.<br>Martin Creek (Lee County) from the Virginia-Tennessee State line to its headwaters.<br>North Fork Powell River from the confluence of Straight Fork to its headwaters.<br>Station Creek at the boundary of the Cumberland Gap National Historical Park (river mile 2.2) 2.6 miles upstream.<br>Straight Fork (Scott County) from its confluence with Stony Creek 5.1 miles upstream.<br>White Branch from its confluence with Poor Valley Branch 0.7 mile upstream (to the Falls at Falling Water Gap).<br>Wolf Creek (Scott County) from its confluence with Laurel Fork 1.8 miles upstream. | VI | pH-6.0-9.0 |
| 1a | Powell River from Pennington Gap's raw water intake to 5 miles upstream. | IV | pH-6.0-9.0 |
| 1b | Bens Branch from Appalachia's raw water intake to its headwaters. | IV | PWS<br>pH-6.0-9.0 |
| 1c | South Fork Powell River from Big Stone Gap's raw water intake to its headwaters. | IV | PWS<br>pH-6.0-9.0 |
| 1d | Benges Branch from Norton's raw water intake to its headwaters. | IV | PWS<br>pH-6.0-9.0 |
| 2 | Clinch River and its tributaries from the Virginia-Tennessee State line to their headwaters; North Fork Clinch River and its tributaries, Blackwater Creek and its tributaries, and Little Creek in Virginia, unless otherwise designated. | IV | pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 2<br>Amos Branch from its confluence with Copper Creek 3.3 miles upstream.<br>Burns Creek from its confluence with the Guest River 2.3 miles upstream.<br>Clear Creek (Wise County) from 1/2 mile above its confluence with the Guest River 2.6 miles upstream.<br>Copper Creek (Russell County) from Route 678 below Parsonage - river mile 52.5 - 4.3 miles upstream.<br>Corder Branch from its confluence with Little Stony Creek to its headwaters.<br>Cove Creek from the first bridge on State Route 649 west of Kerns to Stanleytown.<br>Cowan Creek from its confluence with Sinking Creek 2.7 miles upstream.<br>Fall Creek from its confluence with the Clinch River 4.6 miles upstream. | V | pH-6.0-9.0 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Clinch River Subbasin (cont.) | | |
| | Put and Take Trout Waters in Section 2 (cont.)<br>Gillinswater Branch from its confluence with Obeys Creek 2.8 miles upstream.<br>Gray Branch from its confluence with Mill Creek (Scott County) 1.6 miles upstream.<br>Jessee Branch from its confluence with Copper Creek at Thompson Ford 2 miles upstream.<br>Lark Creek from its confluence with Copper Creek 3 miles upstream.<br>Liberty Creek from its confluence with Little River 1.6 miles upstream.<br>Little Stony Creek from the intersection of the stream and Route 72 upstream to its headwaters.<br>Mill Creek (Russell County) from its confluence with the Clinch River 2.7 miles upstream.<br>Mill Creek (Scott County) from its confluence with the Clinch River at Grays Fork 1.6 miles upstream.<br>Obeys Creek from 2 1/2 miles above its confluence with Copper Creek 6 miles upstream.<br>Palmer Branch from its confluence with the Clinch River 1.8 miles upstream.<br>Powers Branch from its confluence with the Clinch River 2.4 miles upstream.<br>Stock Creek from 1/4 mile north of Sunbright to 1 1/2 miles north of Mabe.<br>Stony Creek from Fort Blackmore upstream to its headwaters.<br>Valley Creek from 1.1 miles above its confluence with Copper Creek 6.8 miles upstream. | V | pH-6.0-9.0 |
| | Natural Trout Waters in Section 2<br>Big Cedar Creek from its confluence with Little Cedar Creek to its headwaters.<br>Cove Creek from river mile 6.5 (above Stanleytown) 5.5 miles upstream.<br>Devil Fork from its confluence with Straight Fork 3.2 miles upstream.<br>Laurel Fork (Scott County) from its confluence with Stock Creek 4 miles upstream.<br>Little Cedar Creek from its confluence with Big Cedar Creek to its headwaters.<br>Maiden Spring Creek from 15 miles above its confluence with Little River at Route 602 above Benbow 5.3 miles upstream.<br>Straight Fork (Scott County) from its confluence with Stony Creek 5.1 miles upstream.<br>Wolf Creek (Scott County) from its confluence with Laurel Fork 1.8 miles upstream. | VI | pH-6.0-9.0 |
| 2a | Clinch River from St. Paul's raw water intake to 5 miles upstream, and its tributaries to their headwaters. | IV | PWS<br>pH-6.0-9.0 |
| 2b | Clinch River and its tributaries from Raven-Doran's raw water intake to a point 5 miles upstream of the Richland's raw water intake. | IV | PWS<br>pH-6.0-9.0 |
| 2c | Clinch River and its tributaries from Tazewell's raw water intake to their headwaters. | IV | PWS<br>pH-6.0-9.0 |
| 2d | North Fork Clinch River and its tributaries from Duffield Development Authority's raw water intake at the confluence with Spurlock Branch to 5 miles upstream. | IV | PWS<br>pH-6.0-9.0 |
| 2e | Bear Creek from Wise's raw water intake to its headwaters. | IV | PWS<br>pH-6.0-9.0 |
| 2f | Toms Creek from Coeburn's raw water intake to its headwaters. | IV | PWS<br>pH-6.0-9.0 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | TENNESSEE AND BIG SANDY RIVER BASINS<br><br>Holston River Subbasin | | |
| 1 | North Fork Holston River and its tributaries, unless otherwise designated, from the Virginia-Tennessee State line to their headwaters, and those sections of Timbertree Branch and Boozy Creek in Virginia. | IV | pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 1<br>Brier Cove from its confluence with Tumbling Creek 2.1 miles upstream.<br>Greendale Creek from its confluence with the North Fork Holston River 4.1 miles upstream.<br>Laurel Bed Creek from its confluence with Tumbling Creek 1.8 miles upstream.<br>Laurel Creek within the Thomas Jefferson National Forest boundaries.<br>Little Tumbling Creek from Tannersville upstream to where the powerline crosses the stream.<br>Lynn Camp Creek from its confluence with Lick Creek 3.9 miles upstream.<br>Punch and Judy Creek from its confluence with Laurel Creek 3.2 miles upstream.<br>Tumbling Creek from its confluence with the North Fork Holston River 7.1 miles upstream. | V | pH-6.0-9.0 |
| | Natural Trout Waters in Section 1<br>Barkcamp Branch from its confluence with Roaring Fork 2 miles upstream.<br>Beartown Branch from its confluence with Sprouts Creek 2.2 miles upstream.<br>Beaver Creek (Smyth County) from its confluence with the North Fork Holston River 2.8 miles upstream.<br>Big Tumbling Creek from its confluence with the North Fork Holston River to its headwaters.<br>Brumley Creek from its confluence with the North Fork Holston River to its headwaters.<br>Campbell Creek (Smyth County) from its confluence with the North Fork Holston River at Ellendale Fork 1 mile upstream.<br>Coon Branch from its confluence with Roaring Fork 1.4 miles upstream.<br>Cove Branch from its confluence with Roaring Fork 2.1 miles upstream.<br>Henshaw Branch from its confluence with Lick Creek 1 mile upstream.<br>Laurel Creek from Route 16 to its confluence with Roaring Fork.<br>Lick Creek (Bland County) from its confluence with the North Fork Holston River to its headwaters.<br>Little Sprouts Creek from its confluence with Sprouts Creek 3 miles upstream.<br>Little Tumbling Creek from the powerline crossing to its headwaters.<br>Red Creek from its confluence with Tumbling Creek 4.7 miles upstream.<br>Roaring Fork (Tazewell County) from its confluence with Laurel Creek to its headwaters.<br>Sprouts Creek from its confluence with the North Fork Holston River 3.8 miles upstream.<br>Toole Creek from its confluence with the North Fork Holston River 5.9 miles upstream. | VI | pH-6.0-9.0 |
| 1a | North Fork Holston River from the Olin Corporation downstream to the Virginia-Tennessee State line. | IV | Total Dissolved Solids not to exceed 500 mg/l pH-6.0-9.0 |
| 1b | Big Moccasin Creek and its tributaries from Weber City's raw water intake to a point 5 miles upstream from Gate City's raw water intake. | IV | PWS pH-6.0-9.0 |
| 2 | All waters of the South Holston Lake in Virginia. | IV | PWS,e pH-6.0-9.0 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Holston River Subbasin (cont.) | | |
| 3 | Tributaries of the South Holston Lake, and Sinking Creek and Nicely Branch in Virginia, unless otherwise designated. | IV | pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 3<br>Berry Creek from its confluence with Fifteenmile Creek (Washington County) 2 miles upstream. | V | pH-6.0-9.0 |
| | Natural Trout Waters in Section 3<br>Cox Mill Creek from its confluence with the South Fork Holston River 1.8 miles upstream.<br>Fifteenmile Creek from its confluence with the South Holston Lake to to its headwaters.<br>Spring Creek from its confluence with the South Holston Lake to its headwaters. | VI | pH-6.0-9.0 |
| 3a | Wolf Creek and its tributaries from the northern corporate limits of Abingdon to their headwaters. | IV | pH-6.0-9.0 |
| 4 | Steel Creek and Beaver Creek and their tributaries in Virginia. | IV | pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 4<br>Sinking Creek (tributary to Paperville Creek - Washington County) from the Virginia-Tennessee State line at Bristol 3.4 miles upstream. | V | pH-6.0-9.0 |
| | Natural Trout Waters in Section 4<br>Beaver Creek (Washington County) and its tributaries from the flood control dam (near Route 11) to their headwaters. | VI | pH-6.0-9.0 |
| 5 | Middle Fork Holston River and its tributaries, unless otherwise designated. | IV | pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 5<br>Dry Run from its confluence with the Middle Fork Holston River 1.6 miles upstream.<br>Dutton Branch from its confluence with the Middle Fork Holston River 0.7 mile upstream.<br>Laurel Springs Creek from its confluence with the Middle Fork Holston River 2 miles upstream.<br>Preston Hollow from 1/2 mile above its confluence with the Middle Fork Holston River 1.5 miles upstream. | V | pH-6.0-9.0 |
| | Natural Trout Waters in Section 5<br>East Fork Nicks Creek from its confluence with Nicks Creek 2.8 miles upstream.<br>Middle Fork Holston River from the eastern town limits of Marion to its headwaters.<br>Nicks Creek within the National Forest boundary (river mile 1.6) to its headwaters.<br>Staley Creek from its confluence with the Middle Fork Holston River to its headwaters. | VI | pH-6.0-9.0 |
| 5a | Middle Fork Holston River and its tributaries from Edmondson Dam upstream to the Route 91 bridge. | IV | pH-6.0-9.0 |
| 5b | Hungry Mother Creek from the dam to its headwaters. | IV | pH-6.0-9.0 |
| 5c | Middle Fork Holston River and its tributaries from Marion's raw water intake to a point 5 miles upstream. | IV | PWS<br>pH-6.0-9.0 |
| | Put and Take Waters in Section 5c<br>Middle Fork Holston River at Mt. Carmel from 46.1 miles above its confluence with the South Fork Holston River 12.6 miles upstream. | V | pH-6.0-9.0 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Holston River Subbasin (cont.) | | |
| | Natural Trout Waters in Section 5c | VI | pH-6.0-9.0 |
| | Bear Creek from its confluence with the Middle Fork Holston River to its headwaters. | | |
| 5d | Middle Fork Holston River and its tributaries from Washington County Service Authority's raw water intake to a point 5 miles upstream. | IV | PWS<br>pH-6.0-9.0 |
| 6 | South Fork Holston River and its tributaries in Virginia. | IV | pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 6 | V | pH-6.0-9.0 |
| | Cressy Creek from the Forest Service boundary to its headwaters (unless otherwise designated). | | |
| | Dickey Creek from the Forest Service boundary to its headwaters (unless otherwise designated). | | |
| | Grosses Creek from its confluence with the South Fork Holston River 3.4 miles upstream. | | |
| | Rowland Creek from the Forest Service boundary to its headwaters (unless otherwise designated). | | |
| | Rush Creek (Washington County) from its confluence with the South Fork Holston River 2.2 miles upstream. | | |
| | Natural Trout Waters in Section 6 | VI | pH-6.0-9.0 |
| | Bark Camp Branch from its confluence with Rowland Creek 1.3 miles upstream. | | |
| | Beaverdam Creek (Washington County) from its confluence with Laurel Creek to the Virginia-Tennessee State line 2 miles upstream. | | |
| | Bell Hollow from its confluence with Dickey Creek 0.9 mile upstream | | |
| | Big Branch from its confluence with Big Laurel Creek 1.6 miles upstream. | | |
| | Big Laurel Creek (Smyth County) from its confluence with Whitetop Laurel Creek to its headwaters. | | |
| | Brush Creek from its confluence with Rush Creek 1.5 miles upstream. | | |
| | Buckeye Branch from its confluence with Green Cove Creek 2.2 miles upstream. | | |
| | Charlies Branch from its confluence with Big Laurel Creek 1.6 miles upstream. | | |
| | Cold Branch from its confluence with Jerrys Creek 0.6 mile upstream. | | |
| | Comers Creek from its confluence with the South Fork Holston River to its headwaters. | | |
| | Cressy Creek from 1.7 miles above its confluence with the South Fork Holston River at Route 60 - 4.6 miles upstream. | | |
| | Daves Branch from its confluence with Big Laurel Creek 1.8 miles upstream. | | |
| | Dickey Creek from 0.6 mile above its confluence with the South Fork Holston River 4.7 miles upstream. | | |
| | Dry Fork from 1.2 miles above its confluence with St. Clair Creek 2.3 miles upstream. | | |
| | Feathercamp Branch from its confluence with Straight Branch 1.8 miles upstream. | | |
| | Grassy Branch from its confluence with Big Laurel Creek 1.4 miles upstream. | | |
| | Green Cove Creek from its confluence with Whitetop Laurel Creek 4.8 miles upstream. | | |
| | Grindstone Branch from its confluence with Big Laurel Creek 1.1 miles upstream. | | |
| | High Trestle Branch from its confluence with Buckeye Branch 1.6 miles upstream. | | |
| | Hopkins Branch from its confluence with the South Fork Holston River 1.4 miles upstream. | | |
| | Houndshell Branch from its confluence with Cressy Creek 3.8 miles upstream. | | |
| | Hurricane Creek (Smyth County) from its confluence with Comers Creek to its headwaters. | | |
| | Hutton Branch from its confluence with Dickey Creek 1.1 miles upstream. | | |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | Holston River Subbasin (cont.) | | |
| | Natural Trout Waters in Section 6 (cont.)<br>Jerrys Creek (Smyth County) from 1 1/2 miles above its confluence with Rowland Creek 3.5 miles upstream.<br>Little Laurel Creek (Smyth County) from its confluence with Big Laurel Creek 4.2 miles upstream.<br>Little Laurel Creek from its confluence with Beaverdam Creek (Washington County) 0.6 mile upstream.<br>London Bridge Creek from its confluence with Beaverdam Creek (Washington County) 0.6 mile upstream.<br>Long Branch from its confluence with Jerrys Creek 1 mile upstream.<br>Mill Creek (Washington County) from its confluence with the South Fork Holston River 3.6 miles upstream.<br>Parks Creek from its confluence with Cressy Creek 2.4 miles upstream.<br>Pennington Branch from its confluence with Big Laurel Creek 2.7 miles upstream.<br>Quarter Branch from 1.1 miles above its confluence with Cressy Creek 3 miles upstream.<br>Raccoon Branch from its confluence with Dickey Creek 2.9 miles upstream.<br>Rowland Creek from 2 1/2 miles above its confluence with the South Fork Holston River 4 miles upstream.<br>Rush Creek (Washington County) from 2.2 miles above its confluence with the South Fork Holston River 5 miles upstream.<br>Scott Branch from its confluence with Dickey Creek 1.3 miles upstream.<br>Slemp Creek from 2 miles above its confluence with Cressy Creek 2.6 miles upstream.<br>South Fork Holston River from 101.8 miles above its confluence with the Holston River 12.9 miles upstream.<br>Star Hill Branch from its confluence with Green Cove Creek 2.5 miles upstream.<br>St. Clair Creek from 3.3 miles above its confluence with the South Fork Holston River at Route 600 above Horseshoe Bend 2.1 miles upstream.<br>Straight Branch from its confluence with Whitetop Laurel Creek to its headwaters.<br>Sturgill Branch from its confluence with Whitetop Laurel Creek 2.5 miles upstream.<br>Valley Creek (Washington County) from its confluence with Whitetop Laurel Creek to its headwaters.<br>Whitetop Laurel Creek from its confluence with Laurel Creek to its headwaters. | VI | pH-6.0-9.0 |

| SEC-TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | CHESAPEAKE BAY, ATLANTIC OCEAN<br><br>AND SMALL COASTAL BASINS | | |
| 1 | The Atlantic Ocean from Cape Henry Light (Latitude 36°55'06" North; Longitude 76°00'04" West) east to the three mile limit and south to the North Carolina State line. The Atlantic Ocean from Cape Henry Light to Thimble Shoal Channel (Latitude 36°57'30" North; Longitude 76°02'30" West) from Thimble Shoal Channel to Smith Island (Latitude 37°07'04" North; Longitude 75°54'04" West), and north to the Virginia-Maryland State line. | I | a |
| 1a | All free flowing portions of the streams, creeks and coves in Section 1 east of the east-west divide boundary on the Eastern Shore of Virginia. | III | |
| 1b | Tidal portions of streams, creeks and coves in Section 1 east of the east-west divide boundary on the Eastern Shore of Virginia. | II | a |
| 2 | Chesapeake Bay and its tidal tributaries from Old Point Comfort Tower (Latitude 37°00'00" North; Longitude 76°18'8" West) to Thimble Shoal Light (Latitude 37°00'09" North; Longitude 76°14'04" West) to and along the south side of Thimble Shoal Channel to its eastern end (Latitude 36°57'03" North; Longitude 76°02'03" West) to Smith Island (Latitude 37°07'04" North; Longitude 75°54'04" West) north to the Virginia-Maryland border following the east-west divide boundary on the Eastern Shore of Virginia, west along the Virginia-Maryland border, to the Virginia Coast, (Latitude 37°53'23" North; Longitude 76°14'25" West) and south following the Virginia Coast to Old Point Comfort Tower (previously described), unless otherwise designated. | II | a |
| 2a | Free flowing portions of streams lying on the Eastern Shore of Virginia west of the east-west divide boundary unless otherwise designated. | III | |
| 2b | Drummonds Millpond including Coards Branch. | III | e |
| 2c | The Virginia Department of Agriculture experimental station pond and its tributaries. | III | e |
| 2d | The free flowing streams tributary to the western portion of the Chesapeake Bay lying between the Virginia-Maryland State line and Old Point Comfort. | III | |
| 2e | Harwood's Mill Reservoir (in Poquoson River's headwaters - a source of water for the City of Newport News) and its tributaries. | III | PWS |
| 3 | Chesapeake Bay from Old Point Comfort Tower (Latitude 37°00'00" North; Longitude 76°18'08" West) to Thimble Shoal Light (Latitude 37°00'09" North; Longitude 76°14'04" West) along the south side of Thimble Shoal Channel to Cape Henry Light (Latitude 36°55'06" North; Longitude 76°00'04" West). | II | a |
| 3a | Little Creek from its confluence with Chesapeake Bay (Lynnhaven Roads) to end of navigable waters. | II | a |
| 3b | Tidal portions of Lynnhaven watershed from its confluence with the Chesapeake Bay (Lynnhaven Roads) to and including Lynnhaven Bay, Western Branch Lynnhaven River, Eastern Branch Lynnhaven River, Long Creek, Broad Bay and Linkhorn Bay. Thalia Creek and its tributaries to the end of tidal waters. Great Neck Creek and Little Neck Creek from their confluence with Linkhorn Bay and their tidal tributaries. Rainey Gut and Crystal Lake from their confluence with Linkhorn Bay. | II | a,j,k |
| 3c | Free flowing portions of streams in Section 3b, unless otherwise designated. | III | j,k |
| 3d | Impoundments on Little Creek watershed. | III | PWS,e |
| 3e | London Bridge Creek from its confluence with the Eastern Branch of Lynnhaven River to the end of tidal waters. Wolfsnare Creek from its confluence with the Eastern Branch Lynnhaven River to the fall line. | II | j,k |
| 3f | Free flowing portions of London Bridge Creek and Wolfsnare Creek and their free flowing tributaries. | III | j,k |
| 3g | Lake Joyce and Lake Bradford. | III | e,j,k |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | YORK RIVER BASIN | | |
| 1 | York River and the tidal portions of its tributaries from Goodwin Neck and Sandy Point upstream to Thorofare Creek and Little Salem Creek near West Point; Mattaponi River and the tidal portions of its tributaries from Little Salem Creek to the end of tidal waters; Pamunkey River and the tidal portions of its tributaries from Thorofare Creek near West Point to the end of tidal waters. | II | a |
| 2 | Free flowing tributaries of the York River, free flowing tributaries of the Mattaponi River to Clifton and the Pamunkey River to Romancoke, unless otherwise designated. | III | |
| 2a | Queen Creek and Wallers Mill Pond to the headwaters of the pond. | III | PWS |
| 3 | Free flowing portions of the Mattaponi and Pamunkey Rivers, free flowing tributaries of the Mattaponi above Clifton, and free flowing tributaries of the Pamunkey above Romancoke, unless otherwise designated. | III | |
| 3a | South Anna River from Ashland's raw water intake to a point 5 miles upstream. | III | PWS |
| 3b | Northeast Creek from the proposed site of the Louisa County Water Authority impoundment dam (approximately 1/8 mile upstream of Route 33) to its headwaters. | III | PWS |
| 3c | South Anna River from Route 15 upstream to a point 1.5 miles below the effluent from the Gordonsville Sewage Treatment Plant. | III | |
| 3d | Ni River and its tributaries from Spotsylvania's raw water intake near 208 to their headwaters. | III | PWS |
| 3e | The North Anna River and its tributaries from Hanover County's raw water intake near Doswell (approximately 1/2 mile upstream from State Route 30) to point 5 miles upstream. | III | PWS |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | NEW RIVER BASIN | | |
| 1 | New River and its tributaries, unless otherwise designated, from the Virginia-West Virginia State line to the Montgomery-Giles County line. | IV | u<br>pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 1<br>Laurel Creek (a tributary to Wolf Creek in Bland County) from Rocky Gap to the Route 613 bridge one mile west of the junction of Routes 613 and 21.<br>Laurel Creek (Bland County) from its confluence with Hunting Camp Creek 3.2 miles upstream.<br>Little Wolf Creek (Bland County) from its confluence with Laurel Creek 2.6 miles upstream.<br>Sinking Creek from the Route 778 crossing to the Route 628 crossing.<br>Wolf Creek (Bland County) from Rocky Gap to its confluence with Wilderness Creek. | V | pH-6.0-9.0 |
| | Natural Trout Waters in Section 1<br>Bear Spring Branch from its confluence with the New River to its headwaters.<br>Clear Fork (Bland-Tazewell Counties) from its confluence with Wolf Creek to its headwaters.<br>Cove Creek (Tazewell County) from its confluence with Clear Fork to its headwaters.<br>Cox Branch from its confluence with Clear Fork 3.5 miles upstream.<br>Ding Branch from its confluence with Nobusiness Creek 4.9 miles upstream.<br>Dismal Creek from its confluence with Kimberling Creek to its headwaters.<br>Dry Fork (Bland County) from 4.8 miles above its confluence with Laurel Creek 3.7 miles upstream.<br>East Fork Clear Fork from its confluence with Clear Fork to its headwaters.<br>East Fork Cove Creek (Tazewell County) from its confluence with Cove Creek 3.2 miles upstream.<br>Hunting Camp Creek from its confluence with Wolf Creek to its headwaters.<br>Laurel Creek (tributary to Wolf Creek in Bland County) from Camp Laurel in the vicinity of Laurel Fork Church, 4.5 miles upstream.<br>Laurel Creek from a point 0.7 mile from its confluence with Sinking Creek to its headwaters.<br>Little Creek (Tazewell County) from 1 1/2 miles above its confluence with Wolf Creek above the Tazewell County Sportsmen's Club Lake 4 miles upstream.<br>Little Walker Creek from the Pulaski-Bland County line to its headwaters.<br>Mill Creek from the Narrows Town line to the Narrows Reservoir dam.<br>Mudley Branch from its confluence with the West Fork Cove Creek 0.7 mile upstream.<br>Nobusiness Creek from its confluence with Kimberling Creek to its headwaters.<br>Oneida Branch from its confluence with the West Fork Cove Creek 1 mile upstream.<br>Panther Den Branch from its confluence with Nobusiness Creek to its headwaters.<br>Piney Creek from its confluence with the New River to its headwaters.<br>Spur Branch from its confluence with Little Walker Creek to its headwaters.<br>Wabash Creek from its confluence with Walker Creek to its headwaters.<br>Walker Creek from the Bland corporate limits to its headwaters.<br>West Fork Cove Creek from its confluence with Cove Creek 5.4 miles upstream.<br>Wolf Creek (Bland County) from Grapefield to its headwaters. | VI | pH-6.0-9.0 |
| 1a | New River and its tributaries from Appalachian Power Company's raw water intake to a point 5 miles upstream. | IV | PWS,u<br>pH-6.0-9.0 |
| 1b | Wolf Creek and its tributaries in Virginia from its confluence with Mill Creek upstream to the Giles-Bland County line. | IV | u<br>pH-6.0-9.0 |
| 1c | Mill Creek from Narrows' raw water intake upstream to its headwaters. | IV | PWS,u<br>pH-6.0-9.0 |
| | Natural Trout Waters in Section 1c<br>Mercy Branch from its confluence with Mill Creek to its headwaters.<br>Mill Creek from the Narrows Reservoir Dam to its headwaters. | VI | PWS<br>pH-6.0-9.0 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | NEW RIVER BASIN (CONT.) | | |
| 1d | Stony Creek and its tributaries from its confluence with the New River upstream to its headwaters, and Little Stony Creek and its tributaries from its confluence with the New River to its headwaters. | IV | u<br>pH-6.0-9.0 |
| | Natural Trout Waters in Section 1d<br>Dismal Branch from its confluence with Stony Creek to its headwaters.<br>Dixon Branch from its confluence with North Fork Stony Creek to its headwaters.<br>Hemlock Branch from its confluence with Little Stony Creek to its headwaters.<br>Laurel Branch from its confluence with Stony Creek to its headwaters.<br>Laurel Creek from its confluence with Little Stony Creek to its headwaters.<br>Little Stony Creek from its confluence with the New River to its headwaters.<br>Maple Flats Branch from its confluence with Little Stony Creek to its headwaters.<br>Meredith Branch from its confluence with Little Stony Creek to its headwaters.<br>Nettle Hollow from its confluence with Stony Creek to its headwaters.<br>North Fork Stony Creek from its confluence with Stony Creek to its headwaters.<br>Pine Swamp Branch from its confluence with Stony Creek to its headwaters.<br>Pond Drain from its confluence with Little Stony Creek to its headwaters.<br>Stony Creek from its confluence with the New River to its headwaters.<br>White Rock Branch from its confluence with Stony Creek to its headwaters.<br>Wildcat Hollow from its confluence with Stony Creek to its headwaters. | VI | pH-6.0-9.0 |
| 1e | Kimberling Creek and its tributaries from Bland Correctional Farm's raw water intake to a point 5 miles upstream. | IV | PWS,u<br>pH-6.0-9.0 |
| | Natural Trout Waters in Section 1e<br>Dismal Creek from its confluence with Kimberling Creek to its headwaters.<br>Pearis Thompson Branch from its confluence with Dismal Creek to its headwaters.<br>Standrock Branch from its confluence with Dismal Creek to its headwaters. | VI | PWS<br>pH-6.0-9.0 |
| 1f | Laurel Fork from the Virginia-West Virginia State line to its headwaters. | IV | u<br>pH-6.0-9.0 |
| 1g | Bluestone River and its tributaries, unless otherwise designated, from the Virginia-West Virginia State line upstream to their headwaters. | IV | u<br>pH-6.0-9.0 |
| 1h | Bluestone River and its tributaries from Bluefield's raw water intake upstream to its headwaters. | IV | PWS,u<br>pH-6.0-9.0 |
| | Natural Trout Waters in Section 1h<br>Bluestone River (at Route 650 in the vicinity of Dills Spring) 5.7 miles upstream. | VI | PWS<br>pH-6.0-9.0 |
| 2 | New River and its tributaries, unless otherwise designated, from the Montgomery-Giles County line upstream to the Virginia-North Carolina State line. | IV | v<br>pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 2<br>Beaverdam Creek from its confluence with the Little River to its headwaters.<br>Big Indian Creek from its confluence with the Little River to a point 7.4 miles upstream.<br>Big Laurel Creek from its confluence with the Little River to its headwaters.<br>Boyd Spring Run from its confluence with the New River to its headwaters.<br>Brush Creek from the first bridge on Route 617 south of the junction of Routes 617 and 601 to the Floyd County line.<br>Camp Creek from its confluence with the Little River to its headwaters.<br>Cove Creek (Wythe County) from Route 77, 8.1 miles above its confluence with Reed Creek, 10.5 miles upstream. | V | pH-6.0-9.0 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | NEW RIVER BASIN (CONT.) | | |
| | Put and Take Waters in Section 2 (cont.) | V | pH-6.0-9.0 |
| | Dodd Creek from its confluence with the West Fork Little River to its headwaters. | | |
| | East Fork Stony Fork from its confluence with Stony Fork 4 miles upstream. | | |
| | Elk Creek from its confluence with Knob Fork Creek to the junction of State Routes 611 and 662. | | |
| | Greasy Creek from the Floyd-Carroll County line to its headwaters. | | |
| | Gullion Fork from its confluence with Reed Creek 3.3 miles upstream. | | |
| | Lost Bent Creek from its confluence with the Little River to its headwaters. | | |
| | Middle Creek from its confluence with Little River to its headwaters. | | |
| | Mill Creek (Wythe County) from its confluence with the New River 3.7 miles upstream. | | |
| | North Fork Greasy Creek from its confluence with Greasy Creek to its headwaters. | | |
| | Oldfield Creek from its confluence with the Little River to its headwaters. | | |
| | Payne Creek from its confluence with the Little River to its headwaters. | | |
| | Pine Branch from its confluence with the Little River to its headwaters. | | |
| | Pine Creek from the intersection of Routes 681 and 860 to its headwaters. | | |
| | Pine Creek (Carroll County) from its confluence with Big Reed Island Creek 3.4 miles upstream. | | |
| | Piney Fork from its confluence with Greasy Creek 2.4 miles upstream. | | |
| | Poor Branch from its confluence with the New River 4.4 miles upstream. | | |
| | Poverty Creek (Montgomery County) from its confluence with Toms Creek to its headwaters. | | |
| | Reed Creek (Wythe County) within the Jefferson National Forest from 57 miles above its confluence with the New River 6.8 miles upstream, unless otherwise designated. | | |
| | Shady Branch from its confluence with Greasy Creek to its headwaters. | | |
| | Shorts Creek from 6.2 miles above its confluence with the New River in the vicinity of Route 747, 3 miles upstream. | | |
| | South Fork Reed Creek from river mile 6.8 (at Route 666 below Groseclose) 11.9 miles upstream. | | |
| | St. Lukes Fork from its confluence with Cove Creek 1.4 miles upstream. | | |
| | Stony Fork (Wythe County) from 1.9 miles above its confluence with Reed Creek at the intersection of Routes 600, 682, and 21/52 at Favonia 5.7 miles upstream. | | |
| | Toms Creek to its headwaters. | | |
| | Tract Fork from the Forest Service boundary to its headwaters. | | |
| | West Fork Big Indian Creek from its confluence with Big Indian Creek to its headwaters. | | |
| | West Fork Peak Creek from the Forest Service boundary to its headwaters. | | |
| | Wolf Branch from its confluence with Poor Branch 1.2 miles upstream. | | |
| | Natural Trout Waters in Section 2 | VI | pH-6.0-9.0 |
| | Baker Branch from its confluence with Cabin Creek 0.9 mile upstream. | | |
| | Baldwin Branch from 0.2 mile above its confluence with Big Horse Creek at the Grayson County - Ashe County State line 2.4 miles upstream. | | |
| | Bear Creek (Carroll County) from its confluence with Laurel Fork 2.4 miles upstream. | | |
| | Beaver Creek from its confluence with the Little River to its headwaters. | | |
| | Beaverdam Creek (Carroll County) from its confluence with Crooked Creek 1.8 miles upstream. | | |
| | Big Branch from its confluence with Greasy Creek 1.7 miles upstream. | | |
| | Big Horse Creek 12.8 miles above its confluence with the North Fork New River (above the State line below Whitetop) 5.5 miles upstream. | | |
| | Big Indian Creek from a point 7.4 miles upstream of its confluence with the Little River to its headwaters. | | |
| | Big Laurel Creek from its confluence with Pine Creek 1.5 miles upstream. | | |
| | Big Reed Island Creek from Route 221 to its headwaters. | | |
| | Big Run from its confluence with the Little River to its headwaters. | | |
| | Big Wilson Creek from its confluence with the New River to its headwaters. | | |
| | Blue Spring Creek from its confluence with Cripple Creek 4.4 miles upstream. | | |
| | Boothe Creek from its confluence with the Little River to its headwaters. | | |
| | Bournes Branch from its confluence with Brush Creek 3.4 miles upstream. | | |
| | Brannon Branch from its confluence with Burks Fork 1.8 miles upstream. | | |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | NEW RIVER BASIN (CONT.) | | |
| | Natural Trout Waters in Section 2 (cont.)<br>Brier Run from its confluence with Big Wilson Creek 1.3 miles upstream.<br>Buffalo Branch from its confluence with Laurel Fork to its headwaters.<br>Burgess Creek from its confluence with Big Horse Creek 1.8 miles upstream.<br>Burks Fork from the Floyd-Carroll County line to its headwaters.<br>Byars Creek from its confluence with Whitetop Creek 2.8 miles upstream.<br>Cabin Creek from its confluence with Helton Creek to its headwaters.<br>Cherry Creek from its confluence with Big Reed Island Creek 1.4 miles upstream.<br>Chisholm Creek from its confluence with Laurel Fork 2.7 miles upstream.<br>Crigger Creek from its confluence with Cripple Creek 5.9 miles upstream.<br>Cripple Creek from the junction of the stream and U.S. Route 21 in Wythe County to its headwaters.<br>Crooked Creek (Carroll County) from its confluence with the New River to its headwaters.<br>Daniel Branch from its confluence with Crooked Creek 3.4 miles upstream.<br>Dobbins Creek from its confluence with the West Fork Little River to its headwaters.<br>Dry Creek from 1.9 miles above its confluence with Blue Spring Creek 6.5 miles upstream.<br>Dry Run (Wythe County) from its confluence with Cripple Creek to its headwaters.<br>Earls Branch from its confluence with Beaver Creek to its headwaters.<br>East Fork Crooked Creek from its confluence with Crooked Creek to its headwaters.<br>East Fork Dry Run from its confluence with Dry Run 2.8 miles upstream.<br>East Prong Furnace Creek from its confluence with Furnace Creek to its headwaters.<br>Elkhorn Creek from its confluence with Crooked Creek 4.5 miles upstream.<br>Fox Creek from junction of the creek and Route 734 to its headwaters.<br>Francis Mill Creek from its confluence with Cripple Creek to its headwaters.<br>Furnace Creek from its confluence with the West Fork Little River to its headwaters.<br>Glade Creek from its confluence with Crooked Creek to its headwaters.<br>Grassy Creek (Carroll County) from its confluence with Big Reed Island Creek at Route 641 6.3 miles upstream.<br>Grassy Creek (Carroll County) from its confluence with Little Reed Island Creek at Route 769 2.5 miles upstream.<br>Greens Creek from its confluence with Stone Mountain Creek 1.9 miles upstream.<br>Guffey Creek from its confluence with Fox Creek 4.9 miles upstream.<br>Hanks Branch from its confluence with the East Fork Chestnut Creek 2.9 miles upstream.<br>Helton Creek from the Virginia-North Carolina State line to its headwaters.<br>Howell Creek from its confluence with the West Fork Little River to its headwaters.<br>Jerry Creek (Grayson County) from its confluence with Middle Fox Creek 6.1 miles upstream.<br>Jones Creek from its confluence with Harris Branch to its headwaters.<br>Jones Creek (Wythe County) from its confluence with Kinser Creek 1.9 miles upstream.<br>Killinger Creek from its confluence with Cripple Creek and White Rock Creek to its headwaters.<br>Kinser Creek from 0.4 mile above its confluence with Crigger Creek above the National Forest Boundary at Groseclose Chapel 3.4 miles upstream.<br>Laurel Branch (Carroll County) from its confluence with Staunton Branch 1.2 miles upstream.<br>Laurel Creek (Grayson County) from its confluence with Fox Creek 6.1 miles upstream.<br>Laurel Fork from the Floyd-Carroll County line to its headwaters.<br>Laurel Fork (Grayson County) from its confluence with Big Reed Island Creek 14.8 miles upstream.<br>Lewis Fork from its confluence with Fox Creek 2.6 miles upstream.<br>Little Brush Creek from its confluence with Brush Creek 1.9 miles upstream.<br>Little Cranberry Creek from its confluence with Crooked Creek 2.8 miles upstream. | VI | pH-6.0-9.0 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | NEW RIVER BASIN (CONT.) | | |
| | Natural Trout Waters in Section 2 (cont.)<br>Little Helton Creek from the Grayson County - Ashe County State line 3.7 miles upstream.<br>Little Reed Island Creek from the junction of the stream and State Routes 782 and 772 to its headwaters, including the West Fork Little Reed Island Creek (unless otherwise designated).<br>Little River from its junction with Route 706 to its headwaters.<br>Little Snake Creek from its confluence with Big Reed Island Creek 5.1 miles upstream.<br>Little Wilson Creek from its confluence with Wilson Creek (at Route 16 at Volney) 6.4 miles upstream.<br>Long Mountain Creek from its confluence with Laurel Fork to its headwaters.<br>Meadow Creek from its confluence with the Little River to its headwaters.<br>Meadow View Run from its confluence with Burks Fork 1.6 miles upstream.<br>Middle Creek from its confluence with Crigger Creek 1.8 miles upstream.<br>Middle Fork Helton Creek from its confluence with Helton Creek 2.2 miles upstream.<br>Middle Fox Creek from its confluence with Fox Creek to its headwaters.<br>Mill Creek (Carroll County) from its confluence with Little Reed Island Creek 7 miles upstream.<br>Mill Creek (Grayson County) from its confluence with Fox Creek 6.2 miles upstream.<br>Mine Branch from its confluence with the East Fork Little Reed Island Creek 2 miles upstream.<br>Mira Fork from its confluence with Greasy Creek to its headwaters.<br>North Branch Elk Creek from its confluence with Elk Creek 3.7 miles upstream.<br>North Prong Buckhorn Creek from its confluence with Buckhorn Creek 1.3 miles upstream.<br>Oldfield Creek from its confluence with Laurel Fork to its headwaters.<br>Opossum Creek from its confluence with Fox Creek 1.9 miles upstream.<br>Peach Bottom Creek from its confluence with the New River to its headwaters.<br>Peak Creek from 19 miles above its confluence with the New River above the Gatewood Reservoir 5.5 miles upstream.<br>Pine Creek (Carroll County) from its confluence with Big Reed Island Creek 6.6 miles upstream.<br>Pipestem Branch from its confluence with Big Reed Island Creek 1 mile upstream.<br>Quebec Branch from its confluence with Big Wilson Creek 1.1 miles upstream.<br>Racoon Branch from its confluence with White Rock Creek 1.3 miles upstream.<br>Reed Creek (Wythe County) from 5 miles above Wytheville's raw water intake to its headwaters.<br>Ripshin Creek from its confluence with Laurel Creek 5 miles upstream.<br>Road Creek (Carroll County) from its confluence with Big Reed Island Creek 7.7 miles upstream.<br>Roads Creek (Carroll County) from its confluence with Laurel Fork 3.3 miles upstream.<br>Rock Creek from its confluence with Reed Island Creek to its headwaters.<br>Silverleaf Branch from its confluence with the Little River to its headwaters.<br>Snake Creek from Route 670 (3.2 miles above its confluence with Big Reed Island Creek) 6.3 miles upstream.<br>Solomon Branch from its confluence with Fox Creek 2.7 miles upstream.<br>South Branch Elk Creek from its confluence with Elk Creek 2.9 miles upstream.<br>Spurlock Creek from its confluence with the West Fork Little River to its headwaters.<br>Staunton Branch from its confluence with Crooked Creek 4.5 miles upstream.<br>Stone Mountain Creek from its confluence with Big Reed Island Creek 5.5 miles upstream.<br>Straight Branch (Carroll County) from its confluence with Greens Creek 1.1 miles upstream. | VI | pH-6.0-9.0 |

| SECTION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | NEW RIVER BASIN (CONT.) | | |
| | Natural Trout Waters in Section 2 (cont.)<br>Sulphur Spring Branch from its confluence with Big Reed Island Creek 1.5 miles upstream.<br>Tory Creek from its confluence with Laurel Fork 3.6 miles upstream.<br>Tract Fork from the confluence of Shuffle Branch to its headwaters.<br>Trout Branch from its confluence with Little Reed Island Creek 2 miles upstream.<br>Turkey Branch from 2.6 miles above its confluence with Elk Creek 3.1 miles upstream.<br>Venrick Run from its confluence with Reed Creek 3.2 miles upstream.<br>West Fork Comers Rock Branch from its confluence with Comers Rock Branch to its headwaters.<br>West Fork Dodd Creek from its confluence with Dodd Creek to its headwaters.<br>West Fork Dry Run from its confluence with Dry Run 2 miles upstream.<br>West Fork Little Reed Island Creek (Carroll County) from its confluence with Little Reed Island Creek 7.1 miles upstream.<br>West Fork Little River from its confluence with Little River to its headwaters.<br>West Prong Furnace Creek from its confluence with Furnace Creek to its headwaters.<br>White Rock Creek from its confluence with Cripple Creek to its headwaters.<br>Whitetop Creek from its confluence with Big Horse Creek 4.1 miles upstream.<br>Wilburn Branch from its confluence with Big Wilson Creek 1.5 miles upstream. | VI | pH-6.0-9.0 |
| 2a | New River from Radford Army Ammunition Plant's raw water intake (that intake which is the further downstream), upstream to a point 5 miles above the Blacksburg-Christianburg, V.P.I Water Authority's raw water intake and including tributaries in this area to a point 5 miles above the respective raw water intakes. | IV | PWS,v<br>pH-6.0-9.0 |
| 2b | New River and its tributaries from Radford's raw water intake upstream to Claytor Dam, and Little River and its tributaries from its confluence with the New River to the mouth of Burks Run. | IV | PWS,v<br>pH-6.0-9.0 |
| 2c | New River and its tributaries, except Peak Creek above Interstate Route 81, from Claytor Dam to Big Reed Island Creek (Claytor Lake). | IV | v<br>pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 2c<br>Chimney Branch from its confluence with Big Macks Creek to its headwaters.<br>White Oak Camp Branch from its confluence with Chimney Branch to its headwaters. | V | pH-6.0-9.0 |
| | Natural Trout Waters in Section 2c<br>Bark Camp Branch from its confluence with Big Macks Creek to its headwaters.<br>Big Macks Creek from Powhatan Camp to its headwaters.<br>Little Macks Creek from its confluence with Big Macks Creek to its headwaters.<br>Puncheoncamp Branch from its confluence with Big Macks Creek to its headwaters. | VI | pH-6.0-9.0 |
| 2d | Peak Creek and its tributaries from Pulaski's raw water intake upstream, including Hogan Branch to its headwaters and Gatewood Reservoir. | IV | PWS,e,v<br>pH-6.0-9.0 |
| 2e | Dodd Creek from Floyd's raw water intake upstream to its headwaters. | IV | PWS,v<br>pH-6.0-9.0 |
| | Natural Trout Waters in Section 2e<br>Howell Creek from its confluence with West Fork Little River to its headwaters. | VI | pH-6.0-9.0 |

| SEC TION | BASIN AND SECTION DESCRIPTION | CLASS | SPECIAL STANDARDS |
|---|---|---|---|
| | NEW RIVER BASIN (CONT.) | | |
| 2f | Little Reed Island Creek and its tributaries from Hillsville's raw water intake to a point 5 miles upstream, including the entire watershed of East Fork Little Reed Island Creek. | IV | PWS,v pH-6.0-9.0 |
| | Natural Trout Waters in Section 2f | VI | PWS pH-6.0-9.0 |
| | East Fork Little Reed Island Creek.<br>Little Reed Island Creek from Hillsville's raw water intake to a point 5 miles upstream.<br>Mine Branch from its confluence with the East Fork Little Reed Island Creek 2 miles upstream. | | |
| 2g | Reed Creek and its tributaries from Wytheville's raw water intake to 5 miles upstream. | IV | PWS,v pH-6.0-9.0 |
| | Natural Trout Waters in Section 2g | VI | PWS,v pH-6.0-9.0 |
| | Reed Creek from the western town limits of Wytheville to 5 miles upstream. | | |
| 2h | Chestnut Creek and its tributaries from Galax's raw water intake upstream to their headwaters or to the Virginia-North Carolina State line. | IV | PWS,v pH-6.0-9.0 |
| | Natural Trout Waters in Section 2h | VI | PWS pH-6.0-9.0 |
| | Coal Creek from its confluence with Chestnut Creek to its headwaters.<br>East Fork Chestnut Creek (Grayson County) from its confluence with Chestnut Creek 6.2 miles upstream.<br>Linard Creek from its confluence with Hanks Branch 1.2 miles upstream. | | |
| 2i | Fries Reservoir section of the New River. | IV | e pH-6.0-9.0 |
| 2j | Eagle Bottom Creek from Fries' raw water intake upstream to its headwaters. | IV | PWS pH-6.0-9.0 |
| 2k | Stuart Reservoir section of the New River. | IV | e pH-6.0-9.0 |
| 2l | New River and its tributaries from New Jersey Zinc Company's raw water intake to a point 5 miles upstream, including Powder Mill Branch and its tributaries from the Wythe-Bland Water Authority's Ivanhoe raw water intake to a point 5 miles upstream. | IV | PWS pH-6.0-9.0 |
| | Put and Take Trout Waters in Section 2l | V | PWS, pH-6.0-9.0 |
| | Powder Mill Branch (from 0.6 mile above its confluence with the New River) 2.1 miles upstream. | | |
| 2m | New River (Claytor Lake) and its tributaries from the Klopman Mills raw water intake to a point 5 miles upstream of the Pulaski County Public Service Authority's raw water intake. | IV | PWS pH-6.0-9.0 |

## 5. KEY TO SPECIAL STANDARDS AND INFORMATIONAL DESIGNATIONS

### 5.01 Specific Standards and Requirements

a. Shellfish Waters

**In all open ocean or estuarine waters capable of propagating shellfish or in specific areas where public or leased private shellfish beds are present, including those waters on which condemnation or restriction classifications are established by the State Department of Health, the following standard for fecal coliform bacteria will apply:**

**The median fecal coliform value for a sampling station shall not exceed an MPN of 14 per 100 ml of sample and not more than 10% of samples shall exceed 43 for a 5 tube, 3 dilution test or 49 for a 3 tube, 3 dilution test.**

**The shellfish area is not to be so contaminated by radionuclides, pesticides, herbicides, or fecal material that the consumption of shellfish might be hazardous.**

b. Potomac Embayment Standards

**The standards of quality, based on a one-month average, for all sewage treatment plant effluents discharging into Potomac River embayments in Virginia from Jones Point (Hunting Creek) to the Route 301 Bridge, and for expansions of existing plants discharging into the non-tidal tributaries of these embayments, are:**

| | | | NOTES |
|---|---|---|---|
| 1. | Biochemical oxygen demand | Not greater than 3 ppm | A, B |
| 2. | Unoxidized nitrogen | Not greater than 1.0 ppm during the periods April 1 - Oct. 31 | B, C |
| 3. | Total phosphorus | Not greater than 0.2 ppm | D |
| 4. | Total nitrogen (when technology is available) | Not greater than 1 ppm | E |

Background notes

A. **This $BOD_5$ standard is a factor of three less stringent than that being presently produced at the Lake Tahoe plant which is approximately 1 ppm of $BOD_5$.**

B. **A $BOD_5$ of 3 ppm and 1 ppm of unoxidized nitrogen will result in a UOD of approximately 10 ppm.**

C. **To achieve this level of unoxidized nitrogen, nitrification can be accomplished by limiting the $BOD_5$ load on aeration units to 25 pounds per 1000 cubic feet or less and designing the aeration units to maximize the "plug-flow" principle.**

D. **This phosphorus standard is a factor of two less stringent than that being presently produced at the Lake Tahoe plant which is 0.1 ppm or less of P.**

E. **For the time being the requirement for total nitrogen removal is waived. However, all plants will have to have facilities to meet this standard as soon as practical after a technically feasible process with year-round reliability is developed and available.**

These standards were adopted as the result of a study by the Chesapeake Technical Support Laboratory of the Federal Water Quality Administration (now EPA) which recommended certain maximum effluent concentration limits for ultimate oxygen demand, phosphorus and nitrogen to maintain and improve water quality, and a public hearing held on March 30, 1971. The standards shown above were adopted at the June 14-15, 1971, Board meeting (Minute 42) to apply from Jones Point to Marlboro Point (Aquia Creek). At its June 10-11, 1974, meeting (Minute 4) following a March 28, 1974 hearing, the Board extended the standards to the Route 301 Bridge.

c. Williams and Upper Machodoc Creeks

**The following criteria will be applied to proposals for sewage treatment facilities which will discharge effluent to Williams and Upper Machodoc Creek, King George County:**

1. **If raw sewage stabilization ponds are proposed, they shall be followed by a 15-day holding pond and chlorination facilities in duplicate;**

2. **If "conventional" sewage treatment facilities are proposed, they shall effect at least 85% removal of BOD and shall be followed by a 15-day holding pond and chlorination facilities in duplicate;**

3. **Chlorination facilities are to be operated continuously during the entire year and chlorine residual of at least 2.0 ppm shall be maintined at all times;**

4. **In sewerage systems where pumping stations are found to be necessary, they shall be designed to prevent the discharge of raw sewage to State waters;**

5. **If, in the opinion of the staff, following consultation with the State Department of Health it is determined that more satisfactory water quality can thereby be maintained in the receiving stream, the holding pond shall be operated to provide for controlled flow discharge.**

The purpose of these criteria was to establish a Board regulation with respect to the discharge of treated effluents to the two watersheds, because of the likelihood of increased development in the area and the need to protect water quality and beneficial water uses, especially shellfish growing. Adoption of the criteria at the May 17-18, 1966, Board meeting (Minute 59) followed a public hearing on May 5, 1965. They were slightly amended in April 1970.

d. Aquia Creek

**No proposal resulting in the discharge of treated wastes to Aquia Creek will be approved unless the following is provided.**

1. **At least 100 days' storage to allow complete elimination of discharges during the low-flow summer months or**

2. **Other treatment, based on sound engineering concepts (preferably with experimental data to show their feasibility), be provided for nutrient removal prior to discharge.**

The above requirements were initially adopted by the Board at its meeting of June 30-July 1, 1964 (Minute 71) to protect the recreational uses of Aquia Creek. They were based on information received at a public hearing before the Board at its meeting on June 30 and July 1, 1964.

e. Lakes with Thermal Discharges

**The following temperature standard will apply to lakes and impoundments receiving thermal discharges.**

> **In lakes and impoundments receiving thermal discharges, the average temperature of the epilimnion, in those areas where important organisms are most likely to be affected, shall not be raised more than 3°C above that which existed before the addition of heat of artificial origin. (The permissible increase shall be determined on a case-by-case basis and in some instances may be less than 3°C) The increase is to be based on the monthly average of the maximum daily temperature. The temperature of releases from these lakes and impoundments shall be consistent with standards established for the receiving waters. Unless a special study shows that a discharge of heated effluent into the hypolimnion (or pumping water from the hypolimnion for discharging back into the same water body) will not produce adverse effects, such practice shall not be approved. Maximum temperatures consistent with the standards established for water immediately above and below the lake or impoundment will be established for these waters.**

This thermal standard was incorporated into water quality standards with the 1970 amendments and was subsequently amended in March 1977.

f. **Potomac Enforcement Conference - Recommendation 1**

**On May 8, 1969, conferees to a Potomac Enforcement Conference, covering the 26-mile stretch from Little Falls to Hallowing Point just below Gunston Cove, made 15 recommendations. The following requirments of Recommendation 1 from that conference pertain to Virginia treatment facilities:**

**Based on the existing points of discharge, waste treatment facilities now discharging to the Potomac River between river mile 106 and river mile 91 (the 15 mile stretch of the river from Chain Bridge downstream to the vicinity of Hog Island) shall be improved to achieve removal of $BOD_5$, total phosphorus, and total nitrogen so as to limit loadings as follows:**

| FACILITY | LBS/DAY | | |
|---|---|---|---|
| | $BOD_5$ | TOTAL P | TOTAL N |
| Arlington | 1,300 | 60 | 650 |
| Alexandria | 1,300 | 60 | 630 |
| Fairfax Westgate | 900 | 40 | 445 |

**Additional loading and additional points of discharge will be acceptable only if the resultant water quality will be equal to, or better than, that which results from adherance to the above load limits at the existing points of discharge.**

**The following treatment plants shall provide 96% $BOD_5$ removal, 96% phosphorus removal, and 85% total nitrogen removal, so long as they discharge their effluents to tributaries or embayments of the Potomac River: Fairfax County Doque Creek, Little Hunting Creek, and Accotink-Pohick (Lower Potomac) treatment plants; and Fort Belvoir.**

**NOTE: In accordance with Board action in Minute 13 from its meeting on September 20-21, 1971, discharges which lie within boundaries of the Potomac Enforcement Conference (Little Falls to Hallowing Point) and of the Potomac Embayment Standards (Hunting Creek- Jones Point to the Route 301 Bridge) must comply with the more restrictive provisions of the two.**

Prior to the 1972 Amendments to the Federal Water Pollution Control Act, Federal water pollution control agencies convened a conference of all parties involved in order to take enforcement action relative to water pollution abatement. Such an "Enforcement Conference" was held concerning the Potomac River in the Washington, D.C., metropolitan area in the late 1950's and was reconvened in 1968. The area covered by this conference was a 26-mile stretch of the River, from Little Falls to Hallowing Point. Recommendation 1 of the 15 recommendations made by the conferees on May 8, 1969, set allowable daily loads or percent removals for BOD, nitrogen and phosphorus for discharges into the river. The limits were based on a study done by FWPCA's Annapolis laboratory, which determined assimilation capacities of the river in the conference area and the downstream estuary.

g. **Occoquan Watershed Policy**

At its meeting on July 26, 1971, (Minute 10) the Board adopted a comprehensive pollution abatement and water quality management policy for the Occoquan watershed. The policy set very stringent treatment and discharge requirements in order to improve and protect water quality, particularly since the waters are an important water supply for Northern Virginia areas. Following a public hearing on November 20, 1980, the Board, at its December 10-12, 1980, meeting, adopted as of February 1, 1981, revisions to this Policy (Minute 20). These revisions became effective March 4, 1981. Copies are available upon request from the State Water Control Board.

h. **Chlorides not to exceed 800 mg/l at any time.**

i. Powhatan Creek Watershed

**The following, from Minute 20 of the proceedings of the Board at its meeting on January 16, 1969, will also apply to the Powhatan Creek Watershed in James City County:**

1. **All proposals for treated waste discharges to the Powhatan Creek Watershed will in the future be approved only after:**

   a. **Engineering data have been submitted indicating the capability of the proposed treatment facilities to remove all phosphorus and nitrogen compounds.**

   b. **Owners with facilities existing at the time of this action will, in a period not to exceed 60 days, submit to the Board engineering reports and pollution abatement schedules indicating the maximum concentrations of phosphorus and nitrogen compounds which they can remove from waste waters prior to discharge. No schedule providing a time period exceeding three years will be approved. Modification or replacement of existing treatment facilities may be necessary.**

2. **It will entertain from owners in the area a proposal for development of:**

   a. **A central facility to treat all wastes at a point outside the Watershed, where phosphorus and nitrogen removal will probably not be necessary, or**

   b. **Treatment facilities inside the Watershed which include complete removal of all phosphorus and nitrogen compounds.**

3. **If the above plan is accompanied by a firm schedule leading to completion of sewage treatment facilities within a reasonable length of time, and it can be demonstrated that the financing for the facilities is available, the Board will consider allowing interim construction of sewage treatment facilities in the Powhatan Creek Watershed without the requirement of phosphorus and nitrogen compound removal.**

These requirements for the Powhatan Creek Watershed were developed to attempt to alleviate the secondary pollution problems due to algae growth developing in the tidal waters of Powhatan Creek which, the Board felt, would in all probability become more intensive with expected population growth and its attendant waste discharges. They were adopted following a public hearing on September 17, 1968.

j. **For the Lynnhaven River and Eastern Branch Elizabeth River Watersheds the following applies:**

   **Objective for Nutrients - The cumulative total of nitrogen as N from all sources in the effluent shall not be greater than 0.5 mg/l at any time; phosphorus as P from all sources in the effluent shall not be greater than 1.0 mg/l at any time.**

k. **For the Lynnhaven River and Eastern Branch Elizabeth River Watersheds the State Water Control Board has directed and/or ordered the following:**

1. **That all existing discharges in accordance with j above shall substantially remove the nutrients in their effluents on or before such time as central facilities (The Hampton Roads Sanitation District Commission Chesapeake-Elizabeth System) become available or connect to central facilities, (i.e. The Chesapeake-Elizabeth System).**

2. **That it will consider approving small discharges to this watershed to facilitate the elimination of potential public health hazards provided central facilities (Chesapeake-Elizabeth System) are not available, and**

3. **That it will not allow additional significant new discharges to this watershed, which do not provide for nutrient removal facilities in accordance with j above.**

In 1961 a water quality survey was made of the Lynnhaven watershed; - In 1964, a survey was undertaken on the Eastern Branch of the Elizabeth River resulting in a Board report entitled "An Evaluation of Water Quality

nutrient enrichment.

2. The watersheds have poor flushing characteristics.

3. Nutrients causing water quality problems should be removed from discharges into the watershed or the discharges themselves should be removed.

The wastewater treatment requirements of j and k above attempted to accomplish removal of nutrients from the streams.

l. **Nansemond River Watershed**

**The following requirements, from Minute 1 of the proceedings of the Board at its meeting on July 20-21, 1965, were adopted to apply to the Nansemond River Watershed from the river's confluence with the James River upstream to the dam at Lake Meade in Suffolk:**

2. **All known existing treated discharges containing bacteria shall be chlorinated sufficiently and continuously (100% of the time) to maintain a residual which will insure substantially complete removal of coliform organisms. This action is to be instituted immediately by all concerned owners.**

3. **All owners now discharging industrial wastes and sewage shall install facilities which will provide the maximum possible degree of biochemical oxygen demand (BOD) removal; in addition, the effluent from such facilities shall contain a minimum of 5 mg/l of dissolved oxygen (D.O.).**

4. **All owners in the area (City of Suffolk, County of Nansemond, industrial establishments and individuals) shall immediately take steps to collect and treat, in accordance with items 2 and 3 above, the wastes that are now being discharged untreated either directly or indirectly to the River and Shingle Creek and which now constitute a health hazard to the area.**

5. **The City of Suffolk, the County of Nansemond, and those private owners who are now discharging sewage and industrial wastes to these waters are to immediately initiate programs to formulate a plan, or alternative plans, for improving water quality in the River and Shingle Creek. Alternative plans may include conveying all wastes completely from out of this watershed for treatment and/or disposal. Only under exceptional circumstances will additional discharges of treated wastes into these waters be permitted.**

The Board established these requirements because, based on evidence presented at a public hearing on May 4-5, 1965, and the information presented by the staff in its technical report entitled "The Nansemond River Watershed - Water Quality Aspects", it determined that portions of the watershed were degraded to the point of the contravention of certain uses.

m. **The following effluent standards apply to the entire Chickahominy Watershed above Walker's Dam:**

| | CONSTITUENT | CONCENTRATION |
|---|---|---|
| 1. | **Bio-chemical Oxygen demand 5-day at $20^{o}$** | **6.0 mg/l monthly average, with not more than 5% of individual samples to exceed 8.0 mg/l** |
| 2. | **Settleable Solids** | **Not to exceed 0.1 ml/l** |
| 3. | **Suspended Solids** | **5.0 mg/l monthly average, with not more than 5% of individual samples to exceed 7.5 mg/l** |

| | CONSTITUENT | CONCENTRATION |
|---|---|---|
| 4. | **Ammonia Nitrogen** | **Not to exceed 2.0 mg/l as N** |
| 5. | **Total Phosphorus** | **Not to exceed 0.1 mg/l monthly average for all discharges with the exception of Holly Farms Poultry Industries, Inc. which shall meet 0.3 mg/l monthly average and 0.5 mg/l daily maximum** |
| 6. | **Other Physical and Chemical Constitutents** | **Other physical or chemical constituents not specifically mentioned will be covered by additional specifications as conditions determental to the stream arise. The specific mention of items 1 through 5 does not necessarily mean that the addition of other physical or chemical constituents will be condoned.** |

Standards to protect the Chickahominy Watershed are long-standing. The Watershed is impounded by Walker's Dam, serves as a water supply source for the City of Newport News, is an excellent fishery and is in an area which is subject to growth pressure. To protect the watershed from water quality problems associated with these factors and to protect existing and intended water uses, in July 1966, the Board adopted standards of effluent quality for discharges into the watershed above Walker's Dam. The action was based on information obtained in a July 11-12, 1966, public hearing and the staff's technical report entitled "A Water Quality Study of the Chickahominy River". In 1970 amendments were proposed to update the effluent standards. They were considered in a November 18, 1970, public hearing and adopted in February 1971 in unanimous letter ballot 2144. Following a public hearing on March 17, 1981, the Board, by unanimous vote on letter ballot 4862 dated April 13, 1981, adopted revisions to this special standard. These revisions are incorporated in Items 1-6 above, and became effective December 12, 1981.

n. **The following, from Minute 38 of the proceedings of the Board at its meeting on March 30, 1955, will also apply:**

**No sewage discharges, regardless of degree of treatment, should be allowed into the James River between Bosher and Williams Island Dams.**

The Board's action was based upon the following items:

1. During periods of low stream flows, all flow in a portion of the James below Boshers Dam virtually stops due to the diversion of water behind the dam into a canal;

2. The City of Richmond's water supply is usually obtained from the James River at Williams Island (except during those low flow periods when the river's flow is diverted into the above-mentioned canal and the City's supply is taken only from the canal).

3. Recreational uses, including swimming and fishing, are well established in the area.

o. **The following from Minute 32 of the proceedings of the Board at its meeting on September 13, 1960, will also apply:**

**The concentration and total amount of impurities in Tuckahoe Creek and its tributaries of sewage origin shall be limited to those amounts from sewage, industrial wastes, and other wastes which are now present in the stream from natural sources and from existing discharges in the watershed.**

This "no net increase of material of sewage origin" policy for the Tuckahoe Creek watershed was developed to protect various uses of the creek, including its use as an auxiliary water source for the City of Richmond, in light of anticipated population growth in the Henrico, Goochland, and Hanover portions of the Watershed.

**p. Radiation Standard**

1. **Radium-226 not to exceed 3 pc/l.**
   **Strontium-90 not to exceed 10 pc/l.**

2. **In the known absence of strontium-90 and alpha-emitting radionuclides, gross beta activity not to exceed 1,000 pc/l.**

3. **If the gross beta activity is in excess of this amount, a more complete radiochemical analysis is required to determine that the sources of radiation exposure are within the limits of the Radiation Protection Guides.**

**q. Rappahannock River Basin**

**The following effluent standards (adopted in Minute 17 from the proceedings of the Board at its meeting on September 17-18, 1972) apply to all waste discharges to the Rappahannock River Basin above the proposed Salem Church Dam in accordance with paragraphs a and b below:**

| CONSTITUENT | FINAL EFFLUENT REQUIREMENTS (WEEKLY AVERAGE) |
|---|---|
| BOD - mg/l | 1 |
| COD - mg/l | 10 |
| Suspended solids - mg/l | 0 (unmeasurable) |
| MBAS - mg/l | 0.1 |
| Turbidity (Jackson Units) | 0.4 |
| Fecal Coliform Bacteria per 100 ml sample | Less than 2 |
| Nitrogen - mg/l | 1 |
| Phosphorus - mg/l | 0.1 |

a. **After the date of Congressional authorization for actual construction of the dam has been given, all new proposals shall comply fully with the adopted standards of paragraph (1) above and all existing owners shall immediately commence the necessary planning, financing and design to insure that facilities are completed prior to final completion of the construction of the dam, and**

b. **Any new proposals for waste discharges to the area encompassed by the standards shall provide such conventional treatment that in the opinion of the State Department of Health, the staff and the Board, satisfactory advanced waste treatment units can readily be added when funds for construction of the Salem Church Dam have been authorized.**

These effluent requirements will apply if the proposed Salem Church Dam is constructed, since, with the dam's construction, the Rappahannock River would be changed from a free-flowing stream to an impoundment which would serve, among other things, as a domestic water supply. The strict effluent limits were intended to prevent the water quality problems that can occur when wastewater with insufficient nutrient removal is discharged into an impoundment and to protect the impoundment's proposed use as a water supply.

The standards were proposed at a public hearing on September 29, 1971, and adopted in Minute 17 from the proceedings of the Board at its September 17-18, 1972 meeting.

**r. Zinc (total) not to exceed 0.5 mg/l at any time.**

**s. Chlorides not to exceed 40 mg/l at any time.**

t. **Chlorides not to exceed 8000 mg/l at any time.**

u. **Maximum temperature for the New River Basin from West Virginia State line upstream to the Giles - Montgomery County line:**

**The maximum temperature shall be 27°C (81°F) unless caused by natural conditions; the maximum rise above natural temperatures shall not exceed 2.8°C (5°F).**

This maximum temperature limit of 81°F was established in the 1970 water quality standards amendments so that Virginia temperature standards for the New River would be consistent with those of West Virginia since the stream flows into that state.

v. **The maximum temperature of the New River and its tributaries (except trout waters) from the Montgomery-Giles County line upstream to the Virginia-North Carolina State line shall be 29°C (84°F).**

w. **In Minute 3 from its meeting on March 10-11, 1977, the Board authorized a variance to the General Standard relating to zinc for the length of Ash Camp Creek and a portion of Little Roanoke Creek from the confluence of Ash Camp Creek to the Route 47 bridge.**

### 5.02 Scenic Rivers

The Designation of a Scenic River and the significance of this designation are the subject of the Scenic Rivers Act (Section 10-167 *et seq* of the Code of Virginia).

The listing of Scenic Rivers that follows imposes no additional Water Control Board requirements or standards. It is only a means to identify for this booklet those streams that have been included by the General Assembly in the Scenic Rivers System.

POTOMAC RIVER BASIN

Potomac River Subbasin

SR-1 Goose Creek from its confluence with the Potomac River upstream to the Fauqier-Loudoun County line (about 28 miles).

SR-2 Catoctin Creek in Loudoun County from its confluence with the Potomac River upstream to the Town of Waterford.

Shenandoah River Subbasin

SR-3 The Shenandoah River in Clark County from the Warren-Clark County line to Lockes Landing.

JAMES RIVER BASIN

SR-4 The Saint Marys River in Augusta County within the George Washington National Forest.

SR-5 Rivanna River from its confluence with the James River upstream to the Fluvanna-Albemarle County line.

SR-6 Appomattox River from the Route 36 bridge crossing in the City of Petersburg upstream to the abutment dam located about 1.3 miles below Lake Chesdin (about 5 miles).

ROANOKE RIVER BASIN

SR-7 Roanoke (Staunton) River from Brookneal upstream to Long Island.

## CHOWAN AND DISMAL SWAMP BASIN

### Chowan River Subbasin

SR-8 The Nottoway River in Sussex County from the Route 40 bridge at Stony Creek to the Southampton County line.

## 6. WATER QUALITY CRITERIA

In its 1977 amendments to Virginia's Water Quality Standards, the Board included the adoption of water quality criteria for certain substances in surface water and groundwater. These may be found in Sections 6.01 and 6.02 below.

Since there are differing interpretations of the term criteria, the Board's distinction between ***criteria*** and ***standards*** in its Water Quality Standards book should be explained. Both criteria and standards describe a desired degree of water quality either with narrative statements, or by numeric limits for specific substances. Criteria are ***recommended*** concentrations of substances that, when not exceeded, should generally protect the aquatic environment for aquatic life and various water uses with an adequate degree of safety. The Board-adopted criteria are guidelines only, which may serve as a base of information for various Board programs. They are not intended for direct regulatory use and should not be considered as absolute, mandatory requirements to maintain any specific degree of water quality. Criteria are not standards; they carry no regulatory mandate and must be justified independently in each application. Criteria differ from standards, which are legally enforceable water quality requirements adopted for a particular waterway. A ***standard*** has direct regulatory use - i.e., effluent limits placed in a discharge permit ***must ensure*** that water quality standards are met in the receiving stream. The Board will undoubtedly be developing standards in the future based on these criteria, but the actual values of the standards could be different from the criteria in the final analysis and adoption process.

### 6.01 Water Quality Criteria for Surface Water

| | | |
|---|---|---|
| Cadmium | 5.0 | ug/l - Class I and II waters |
| | 0.4 ug/l - soft water*<br>1.2 ug/l - hard water | Class III, IV, V, and VI waters for cladocerans and salmonid fishes |
| | 4.0 ug/l - soft water*<br>12.0 ug/l - hard water | Class III, IV, V, and VI waters for other less sensitive species |
| Chlorine | 0.5 | ug/l - Class I and II waters |
| | 1.0 | ug/l - Class III, IV, V, and VI waters |
| Chromium (total) | 100 | ug/l - All waters |
| Copper | | 0.1 times the 96-hour $LC_{50}$ value as determined through nonaerated, continuous flow bioassay, using the receiving water or comparable water as the diluent and using a sensitive resident species |
| Cyanide | 5.0 | ug/l - All Waters |
| Iron | 1.0 | mg/l - Class III, IV, V, and VI waters |
| Lead | | 0.01 times the 96-hour $LC_{50}$ value as determined through continuous flow bioassay, using the receiving or comparable water as the diluent and soluble lead measurements (non-filterable lead using an 0.45 micron filter), for sensitive freshwater fish species. |
| Manganese | 100 | ug/l - Class I and II waters |
| Mercury | 0.10 | ug/l - Class I and II waters |
| | 0.05 | ug/l - Class III, IV, V, and VI waters |

***Soft water generally is considered to be less than 100 mg/l hardness as $CaCO_3$ and hard water generally is 100 mg/l $CaCO_3$ or greater.**

## 6.01 Water Quality Criteria for Surface Water (Contd.)

| | |
|---|---|
| Nickel | 0.01 times the 96-hour $LC_{50}$ value as determined through continuous flow bioassay using the receiving or comparable water as the diluent and using a sensitive resident species |
| Phenol | 1.0 ug/l - All waters |
| Phthalate Ester | 3.0 ug/l - Class III, IV, V, and VI waters (3 ug/l is a goal for Class I and II waters pending additional effect data) |
| Polychlorinated biphenyls | Zero |
| Selenium | For marine and aquatic life 0.01 times the 96-hour $LC_{50}$ value as determined through continuous flow bioassay using receiving or comparable dilution water and using a sensitive resident fish species. |
| Silver | Zero |
| Zinc | For freshwater aquatic life 0.01 times the 96-hour $LC_{50}$ value as determined through continuous flow bioassay using receiving or comparable dilution water and using a sensitive resident species. |
| Nutrients | In impounded waters, the total phosphates as phosphorous (P) should not exceed 50 ug/l in any stream where it enters a lake or reservoir nor 25 ug/l within the lake or reservoir. |
| Oil and Grease | 0.01 times the lowest continuous flow 96-hour $LC_{50}$ value for several important freshwater and marine species, each having a demonstrated high susceptibility to oils and petrochemicals. |

Pesticides

| | |
|---|---|
| Aldrin/Dieldrin | 0.003 ug/l - All waters |
| Chlordane | 0.004 ug/l - Class I and II<br>0.01 ug/l - Class III, IV, V and VI waters |
| DDT | 0.001 ug/l - All waters |
| Demeton | 0.1 ug/l - All waters |
| Endosulfan | 0.001 ug/l - Class I and II waters<br>0.003 ug/l - Class II, IV, V, and VI waters |
| Endrin | 0.004 ug/l - All waters |
| Guthion | 0.01 ug/l - All waters |
| Heptachlor | 0.001 ug/l - All waters |

## 6.01 Water Quality Criteria for Surface Water (Contd.)

| | |
|---|---|
| Kepone | Zero |
| Lindane | 0.004 ug/l - Class I and II waters<br>0.01 ug/l - Class III, IV, V, and VI waters |
| Malathion | 0.1 ug/l - All waters |
| Methoxychlor | 0.03 ug/l - All waters |
| Mirex | Zero |
| Parathion | 0.04 ug/l - All waters |
| Toxaphene | Zero |

## 6.02 Water Quality Criteria for Groundwater

These groundwater quality criteria apply primarily to groundwater constituents that occur naturally. Since natural groundwater quality can vary greatly from area to area for these constituents, enforceable standards were not adopted. These criteria are intended to provide guidance in preventing groundwater pollution. (For additional information about their development see page 9.) Groundwater criteria carry the same regulatory limitation as surface water criteria: they are not mandatory.

| CONSTITUENT | UNITS | GROUNDWATER CRITERIA BY PHYSIOGRAPHIC PROVINCE*** | | | |
|---|---|---|---|---|---|
| | | Coastal Plain | Piedmont & Blue Ridge | Valley & Ridge | Cumberland Plateau |
| Alkalinity | (mg/l) | 30-500 | 10-200 | 30-500 | 30-200 |
| Total Dissolved Solids | (mg/l) | 1000 | 250 | 500 | 500 |
| Chloride | (mg/l) | 50* | 25 | 25 | 25 |
| Sulfate | (mg/l) | 50 | 25 | 100 | 150 |
| Total Organic Carbon | (mg/l) | 10 | 10 | 10 | 10 |
| Color | (color units) | 15 | 15 | 15 | 15 |
| Iron | (mg/l) | 0.3 | 0.3 | 0.3 | 0.01-10 |
| Manganese | (mg/l) | 0.05 | 0.05 | 0.05 | 0.01- 0.5 |
| Sodium | (mg/l) | 100* | 25 | 25 | 100 |
| Fluoride | (mg/l) | 1.4** | 1.4 | 1.4 | 1.4 |
| Hardness | (mg/l) | 120 | 120 | 300 | 180 |

***It is recognized that naturally occurring concentrations will exceed this limit in the eastern part of the Coastal Plain, especially toward the shoreline and with increased depth.**

****Except within the cretaceous aquifer: concentration up to 5 mg/l and higher.**

*****See map, page 11, for delineation of physiographic provinces.**

## 7. River Basin Maps

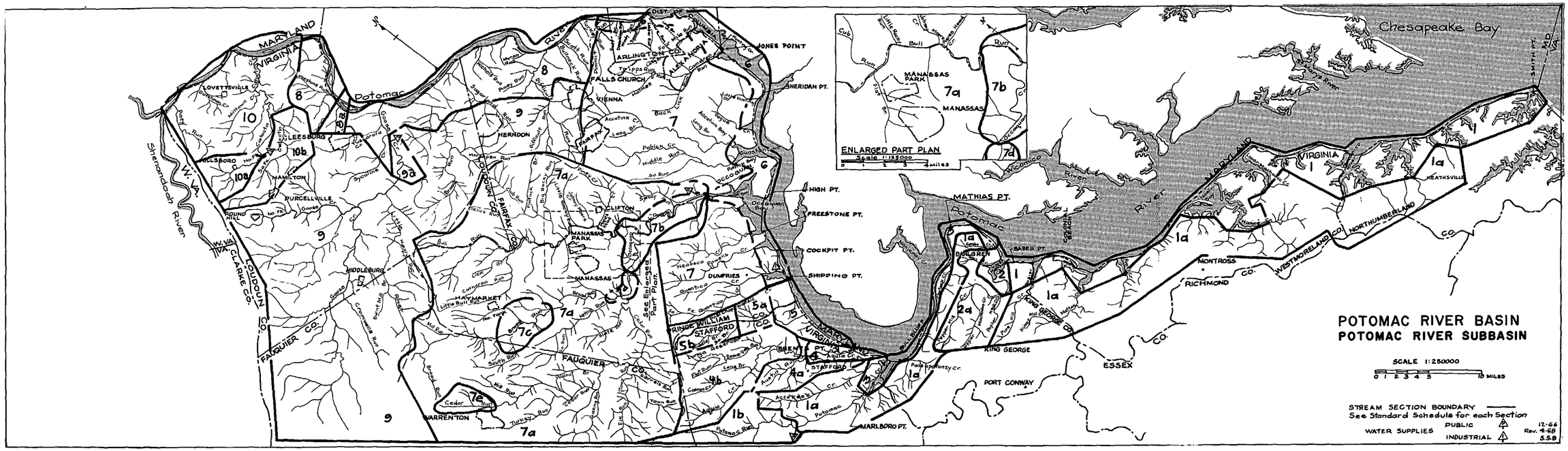

Potomac
MARYLAND
VIRGINIA
Shenandoah River
W. VA.
LOUDOUN CO.
CLARKE CO.
FAUQUIER CO.
FAIRFAX CO.
PRINCE WILLIAM CO.
STAFFORD CO.
ARLINGTON CO.
DIST. OF COL.
ALEXANDRIA
FALLS CHURCH
VIENNA
HERNDON
CLIFTON
MANASSAS
MANASSAS PARK
DUMFRIES
HAYMARKET
WARRENTON
MIDDLEBURG
LEESBURG
LOVETTSVILLE
HAMILTON
PURCELLVILLE
ROUND HILL
HILLSBORO
JONES POINT
SHERIDAN PT.
HIGH PT.
FREESTONE PT.
COCKPIT PT.
SHIPPING PT.
Occoquan Bay
Occoquan River
Neabsco Cr.
Quantico Cr.
Aquia Cr.
Potomac River
Chesapeake Bay
MATHIAS PT.
SABER PT.
DARLGREN
MONTROSS
RICHMOND CO.
WESTMORELAND CO.
NORTHUMBERLAND CO.
KING GEORGE
ESSEX CO.
PORT CONWAY
MARLBORO PT.
HEATHSVILLE
SMITH PT.
MD.
VA.
ENLARGED PART PLAN
Scale 1:125000
0 1 2 3 4 5 Miles
POTOMAC RIVER BASIN
POTOMAC RIVER SUBBASIN
SCALE 1:250000
0 1 2 3 4 5 10 MILES
STREAM SECTION BOUNDARY
See Standard Schedule for each Section
WATER SUPPLIES
PUBLIC
INDUSTRIAL
12-66
Rev. 4-68
S.S.B.

PLATE NO. 1

NOTE: STREAM SECTIONS 11, 11a, & 12 ARE IN POTOMAC RIVER SUBBASIN.

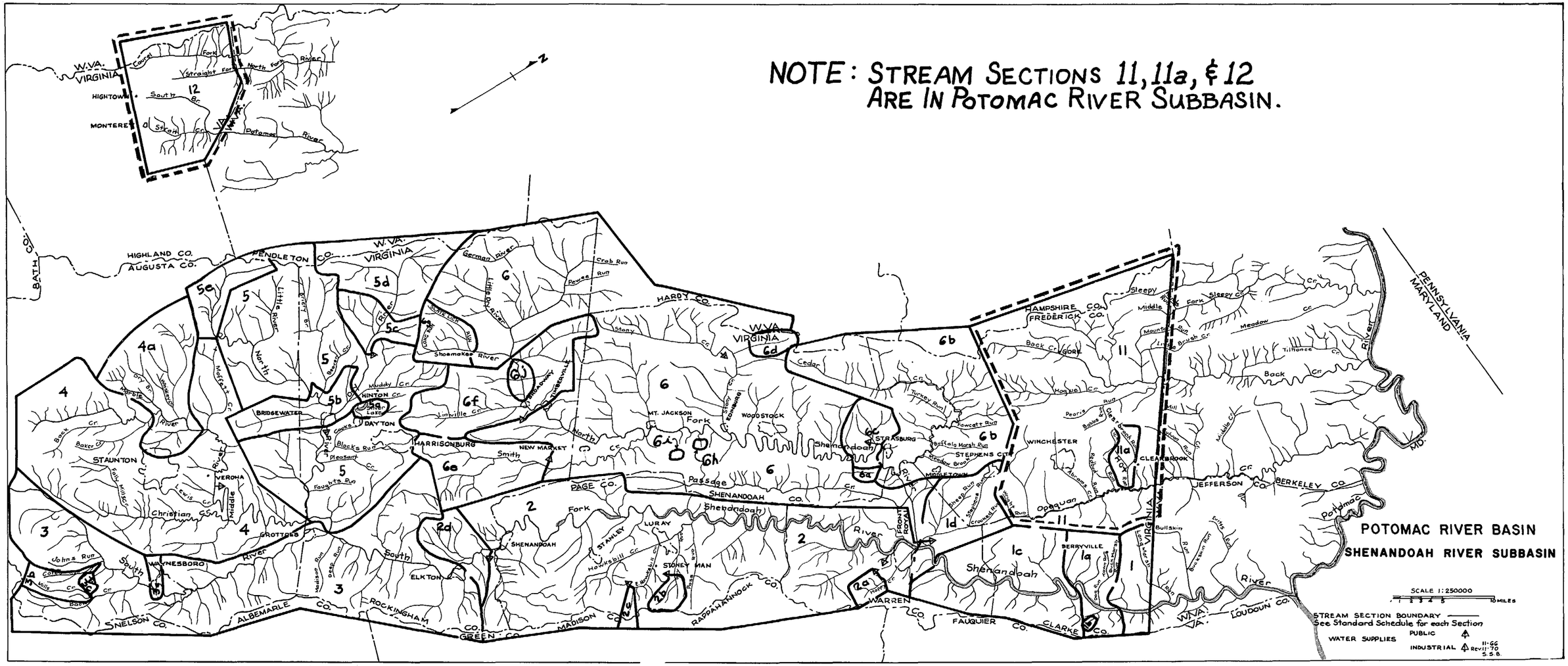



PLATE NO. 2

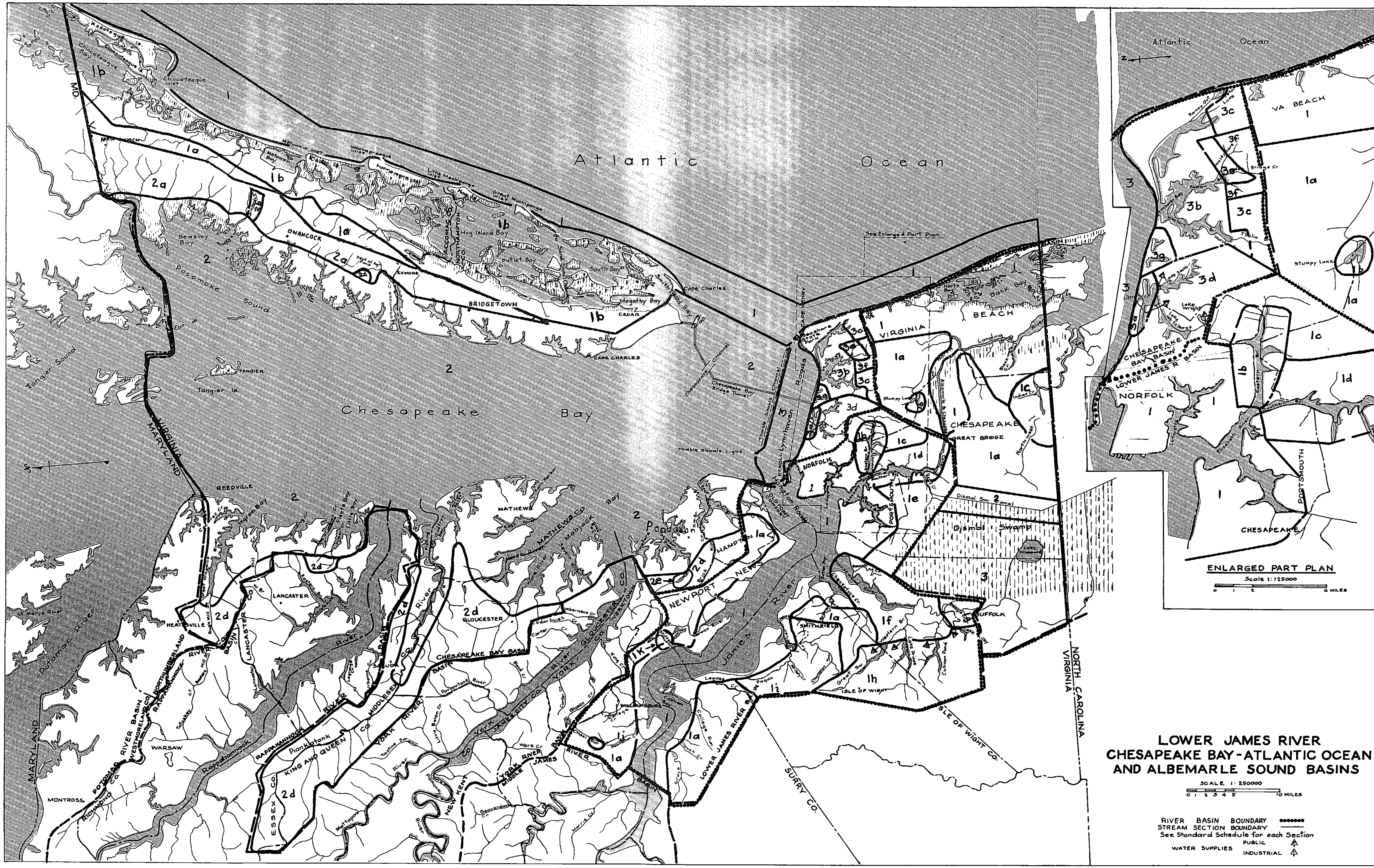
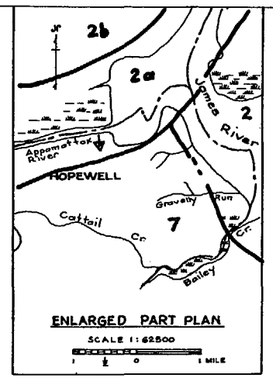

LOWER JAMES RIVER
CHESAPEAKE BAY - ATLANTIC OCEAN
AND ALBEMARLE SOUND BASINS
SCALE 1:250000
0 1 2 3 4 5 10 MILES
RIVER BASIN BOUNDARY
STREAM SECTION BOUNDARY
See Standard Schedule for each Section
WATER SUPPLIES
PUBLIC
INDUSTRIAL
ENLARGED PART PLAN
Scale 1:125000
0 1 2 6 MILES
See Enlarged Part Plan
Atlantic Ocean
Chesapeake Bay
Pocomoke Sound
Tangier Sound
Tangier Is.
TANGIER
Beasley Bay
Chincoteague Bay
Chincoteague Is.
Chincoteague Inlet
Assateague Is.
Metomkin Inlet
Wachapreague Inlet
Little Machipongo Inlet
Great Machipongo Inlet
Hog Island Bay
Outlet Bay
South Bay
Magothy Bay
Smith Island Bay
Cape Charles
CAPE CHARLES
CAPE HENRY
Thimble Shoals Light
Thimble Shoals Channel
Chesapeake Bay Bridge Tunnel
Chesapeake Channel
Lynnhaven Roads
Hampton Roads
OLD POINT COMFORT
MD.
VIRGINIA
MARYLAND
NORTH CAROLINA
ACCOMAC CO.
NORTHAMPTON CO.
NEW CHURCH
ONANCOCK
EXMORE
BRIDGETOWN
CEDAR
REEDVILLE
HEATHSVILLE
LANCASTER
WARSAW
MONTROSS
MATHEWS
GLOUCESTER
YORKTOWN
WILLIAMSBURG
HAMPTON
NEWPORT NEWS
SMITHFIELD
ISLE OF WIGHT
SUFFOLK
NORFOLK
PORTSMOUTH
CHESAPEAKE
GREAT BRIDGE
VIRGINIA BEACH
VA. BEACH
Dismal Swamp
Dismal Sw. Canal
Lake Drummond
Stumpy Lake
Back Bay
North Bay
Potomac River
St Marys River
Rappahannock River
Piankatank
York River
Mattaponi
Pamunkey River
Poquoson
Mobjack Bay
James River
Elizabeth River
Albemarle & Chesapeake Canal
Northwest River
POTOMAC RIVER BASIN
RAPPAHANNOCK RIVER BASIN
YORK RIVER BASIN
CHESAPEAKE BAY BASIN
MIDDLE JAMES RIVER BASIN
LOWER JAMES RIVER BASIN
ALBEMARLE SOUND BASIN
CHESAPEAKE BAY BASIN
LOWER JAMES R. BASIN
NORTHUMBERLAND CO.
WESTMORELAND CO.
RICHMOND CO.
LANCASTER CO.
ESSEX CO.
KING AND QUEEN CO.
MIDDLESEX CO.
MATHEWS CO.
GLOUCESTER CO.
YORK CO.
JAMES CITY CO.
NEW KENT
SURRY CO.
ISLE OF WIGHT CO.

PLATE NO. 3




# MIDDLE JAMES RIVER BASIN

SCALE 1:250000

0 1 2 3 4 5 10 MILES

PLATE NO. 4

# UPPER JAMES RIVER BASIN

SCALE 1:250000

0 1 2 3 4 5 10 MILES

PLATE NO. 5

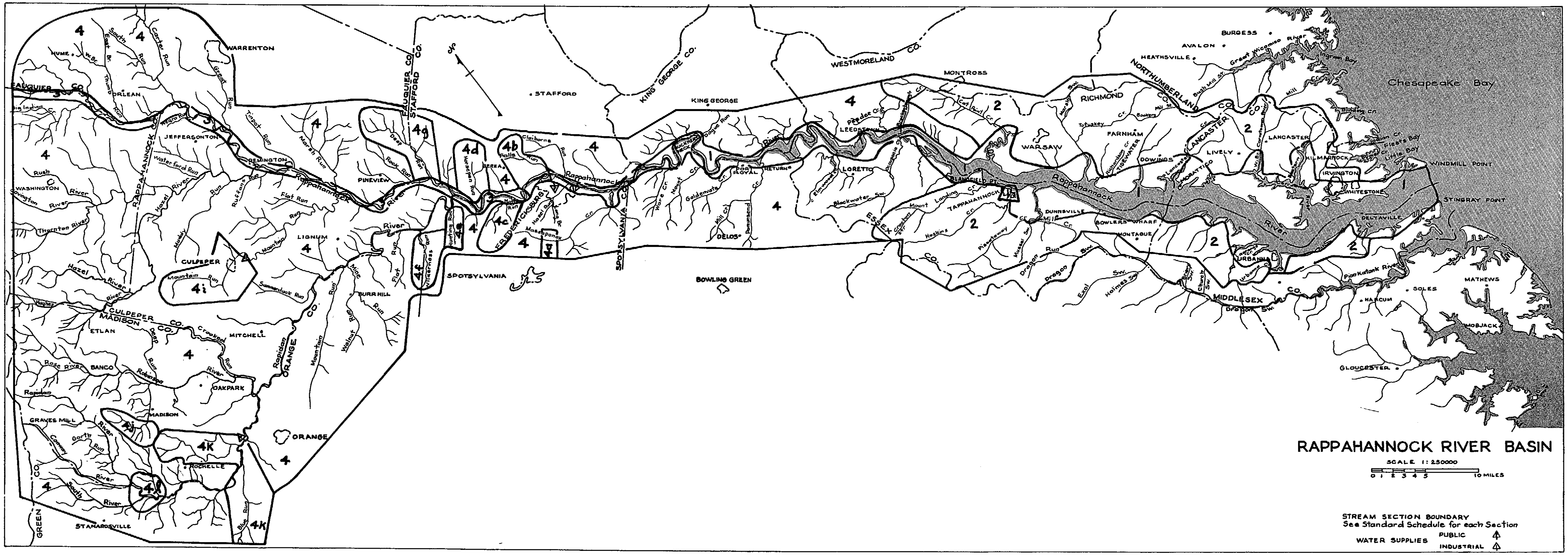

RAPPAHANNOCK RIVER BASIN
SCALE 1:250000
0 1 2 3 4 5 10 MILES
STREAM SECTION BOUNDARY
See Standard Schedule for each Section
WATER SUPPLIES PUBLIC INDUSTRIAL
Chesapeake Bay
WARRENTON
HUME
ORLEAN
FAUQUIER CO.
FAUQUIER CO.
STAFFORD CO.
RAPPAHANNOCK CO.
JEFFERSONTON
REMINGTON
WASHINGTON
PINEVIEW
CULPEPER
LIGNUM
BURR HILL
CULPEPER CO.
MADISON CO.
ETLAN
MITCHELL
BANCO
OAKPARK
MADISON
GRAVES MILL
ROCHELLE
ORANGE CO.
ORANGE
GREEN CO.
STANARDSVILLE
SPOTSYLVANIA
STAFFORD
KING GEORGE CO.
KING GEORGE
BEREA
FREDERICKSBURG
SPOTSYLVANIA CO.
BOWLING GREEN
WESTMORELAND CO.
MONTROSS
LEEDSTOWN
PORT ROYAL
RETURN
LORETTO
DELOS
ESSEX CO.
TAPPAHANNOCK
BLANDFIELD PT.
DUNNSVILLE
WARSAW
RICHMOND
FARNHAM
TIDEWATER
DOWINGS
MORATTICO
NORTHUMBERLAND CO.
LANCASTER CO.
LANCASTER
LIVELY
KILMARNOCK
IRVINGTON
WHITESTONE
BURGESS
AVALON
HEATHSVILLE
WINDMILL POINT
STINGRAY POINT
DELTAVILLE
BOWLERS WHARF
MONTAGUE
URBANNA
MIDDLESEX CO.
HARCUM
SOLES
MATHEWS
MOBJACK
GLOUCESTER
Rappahannock River
Hazel River
Thornton River
Rush River
Covington River
Rose River
Rapidan River
Robinson River
Conway River
South River
Crooked Run
Mountain Run
Summerduck Run
Marsh Run
Tinpot Run
Great Run
Carter Run
Thumb Run
Waterford Run
Ruffans Run
Flat Run
Mine Run
Wilderness Run
Hunting Run
Horsepen Run
Deep Run
Rock Run
Claiborne Run
Falls Run
Hazel Run
Massaponax
Ware Cr.
Mount Cr.
Goldenvale Cr.
Mill Cr.
Occupacia Cr.
Elmwood Cr.
Blackwater Sw.
Mount Landing Cr.
Hoskins Cr.
Piscataway
Mussel Sw.
Dragon Run
Dragon Sw.
Exol Sw.
Holmes Sw.
Church Sw.
Urbanna Cr.
Lagrange Cr.
Piankatank River
Totuskey Cr.
Richardson Cr.
Lancaster Cr.
Corrotoman River
Great Wicomico River
Ingram Bay
Indian Cr.
Fleets Bay
Dymer Cr.
Little Bay
Cat Point Cr.
Peedee Cr.
Blue Run
Garth Run
Walnut Run
Mountain Run
4
4a
4b
4c
4d
4e
4f
4g
4i
4j
4K
4l
3
2
1

PLATE NO. 6

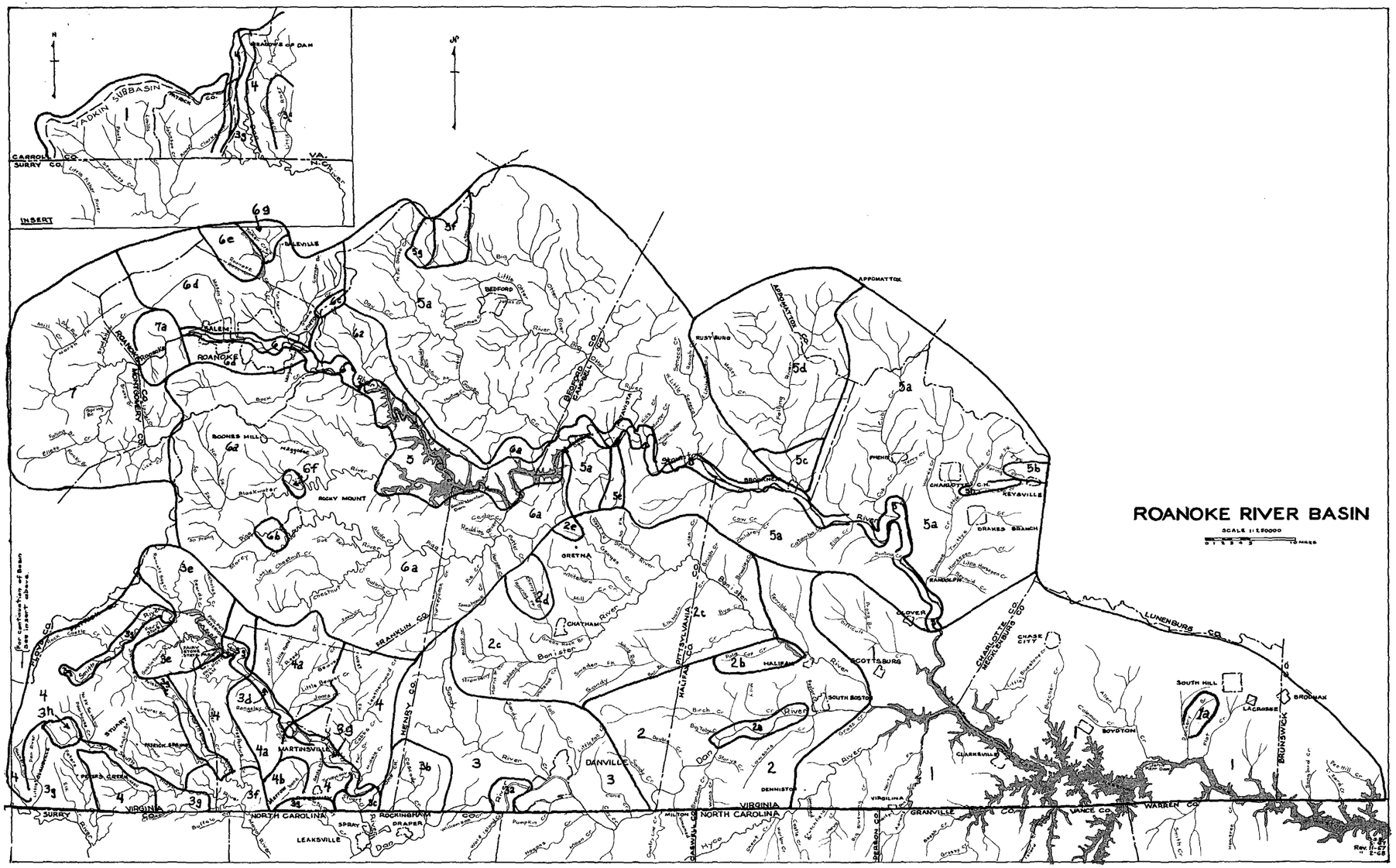

YADKIN SUBBASIN
INSERT
ROANOKE RIVER BASIN
SCALE 1:250000
CARROLL CO.
SURRY CO.
PATRICK CO.
HENRY CO.
FRANKLIN CO.
PITTSYLVANIA CO.
HALIFAX CO.
CAMPBELL CO.
APPOMATTOX CO.
BEDFORD CO.
CHARLOTTE
MECKLENBURG CO.
LUNENBURG CO.
BRUNSWICK
MONTGOMERY CO.
ROANOKE CO.
FLOYD CO.
PULASKI CO.
GILES CO.
ROCKINGHAM CO.
CASWELL CO.
PERSON CO.
GRANVILLE CO.
VANCE CO.
WARREN CO.
MILTON
DANVILLE
MARTINSVILLE
LEAKSVILLE
SPRAY
DRAPER
ROCKY MOUNT
BOONES MILL
HILLSVILLE
SALEM
ROANOKE
STUART
PATRICK SPRINGS
FERRUM
GRETNA
CHATHAM
HALIFAX
SCOTTSBURG
SOUTH BOSTON
DENNISTON
CLARKSVILLE
BOYDTON
SOUTH HILL
LACROSSE
BROOKNEAL
KEYSVILLE
CHARLOTTE C.H.
DRAKES BRANCH
RANDOLPH
CHASE CITY
CLOVER
RUSTBURG
APPOMATTOX
BEDFORD
PHENIX
BROOKNEAL
NORTH CAROLINA
VIRGINIA
SURRY
Dan River
Smith River
Mayo River
Pigg River
Staunton River
Roanoke River
Banister River
Sandy River
Hyco River
Blackwater River
Little Chestnut Cr.
Big Chestnut Cr.
Reddies River
Pigg River
Tomahawk Cr.
Snow Creek
Town Creek
Rocky Mount
Gretna
Chatham
Halifax
Scottsburg
South Boston
Danville
Martinsville
Leaksville
Spray
Draper
Hillsville
Salem
Roanoke
Stuart
Boones Mill
Rustburg
Appomattox
Bedford
Phenix
Brookneal
Keysville
Charlotte C.H.
Drakes Branch
Randolph
Clover
Chase City
Boydton
South Hill
Lacrosse
Clarksville
Denniston
Milton
Ferrum
Patrick Springs
Franklin Co.
Henry Co.
Pittsylvania Co.
Halifax Co.
Campbell Co.
Bedford Co.
Charlotte
Mecklenburg Co.
Lunenburg Co.
Brunswick
Montgomery Co.
Roanoke Co.
Floyd Co.
Pulaski Co.
Giles Co.
Rockingham Co.
Caswell Co.
Person Co.
Granville Co.
Vance Co.
Warren Co.
Appomattox Co.
Campbell Co.
Patrick Co.
Carroll Co.
Surry Co.
For continuation of Basin see insert above.
1
2
2a
2b
2c
2d
2e
2f
2g
3
3a
3b
3c
3d
3e
3f
3g
3h
4
4a
4b
4c
4d
5
5a
5b
5c
5d
6
6a
6b
6c
6d
6e
6f
6g
7
7a

PLATE NO. 7

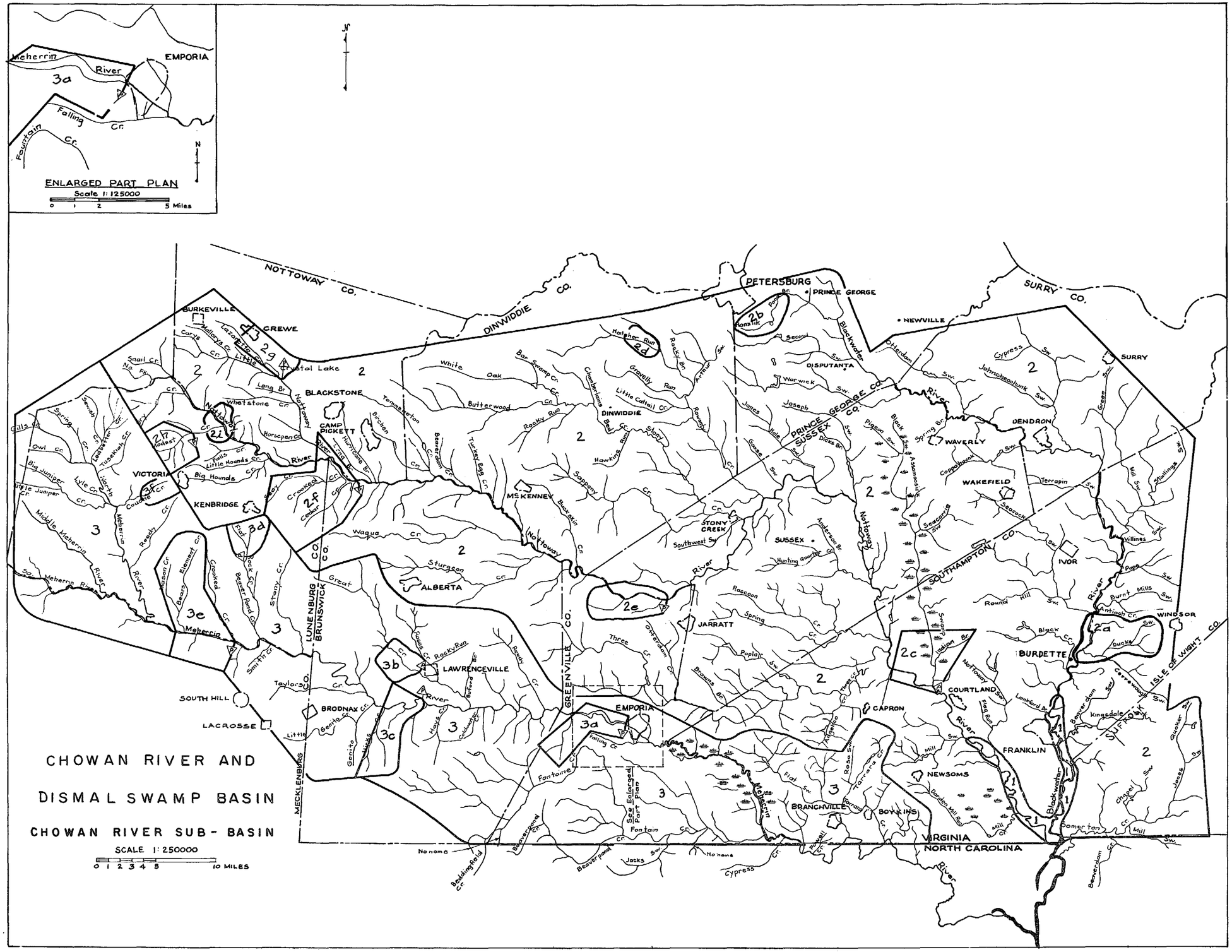

ENLARGED PART PLAN
Scale 1: 125000
0 1 2 5 Miles
Meherrin River
EMPORIA
3a
Falling Cr.
Fountain Cr.
N
NOTTOWAY CO.
DINWIDDIE CO.
PETERSBURG
PRINCE GEORGE
SURRY CO.
NEWVILLE
BURKEVILLE
CREWE
Crystal Lake
BLACKSTONE
CAMP PICKETT
DINWIDDIE
DISPUTANTA
SURRY
WAVERLY
DENDRON
WAKEFIELD
VICTORIA
KENBRIDGE
MCKENNEY
STONY CREEK
SUSSEX
IVOR
SOUTHAMPTON CO.
ISLE OF WIGHT CO.
WINDSOR
BURDETTE
JARRATT
ALBERTA
LUNENBURG
BRUNSWICK
GREENVILLE CO.
LAWRENCEVILLE
EMPORIA
CAPRON
COURTLAND
FRANKLIN
NEWSOMS
BRANCHVILLE
BOYKINS
VIRGINIA
NORTH CAROLINA
SOUTH HILL
LACROSSE
MECKLENBURG
See Enlarged Part Plan
CHOWAN RIVER AND
DISMAL SWAMP BASIN
CHOWAN RIVER SUB-BASIN
SCALE 1: 250000
0 1 2 3 4 5 10 MILES

PLATE NO. 8

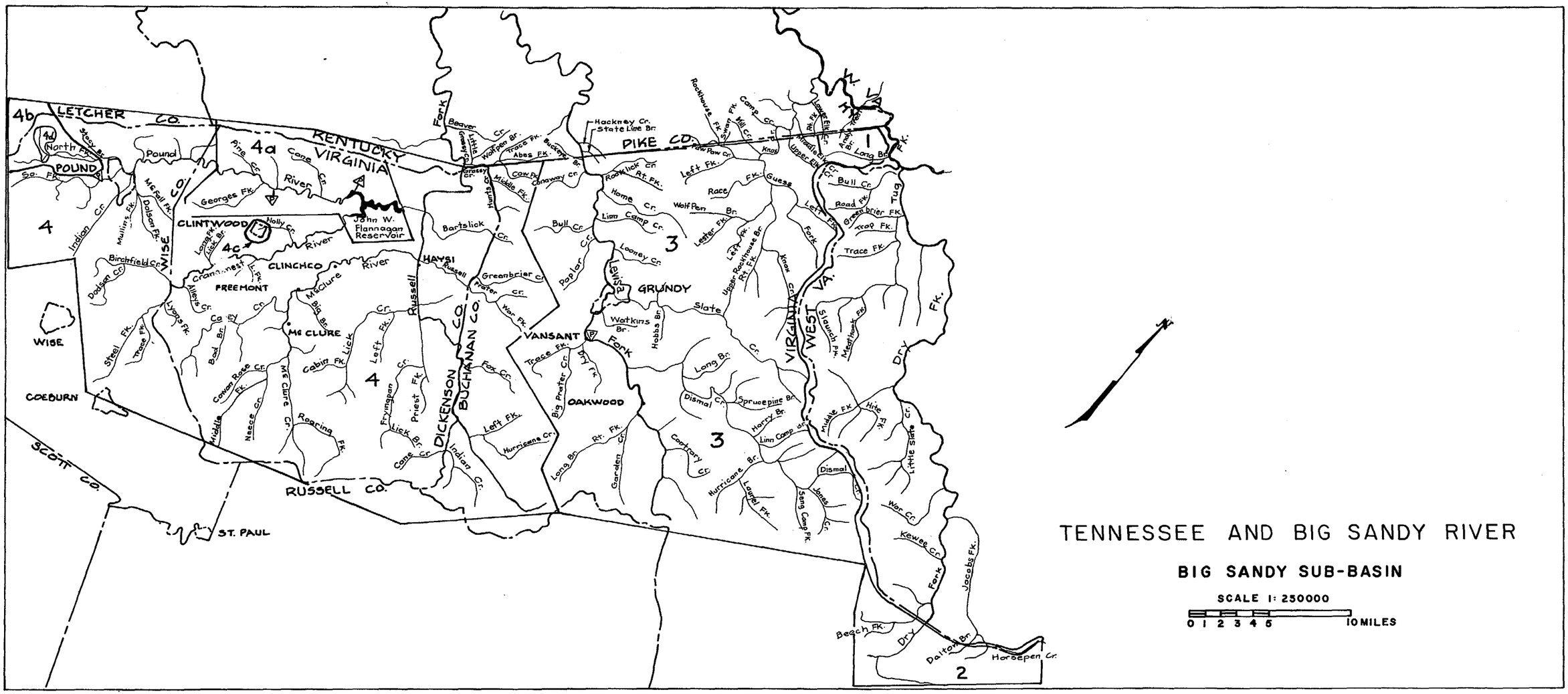
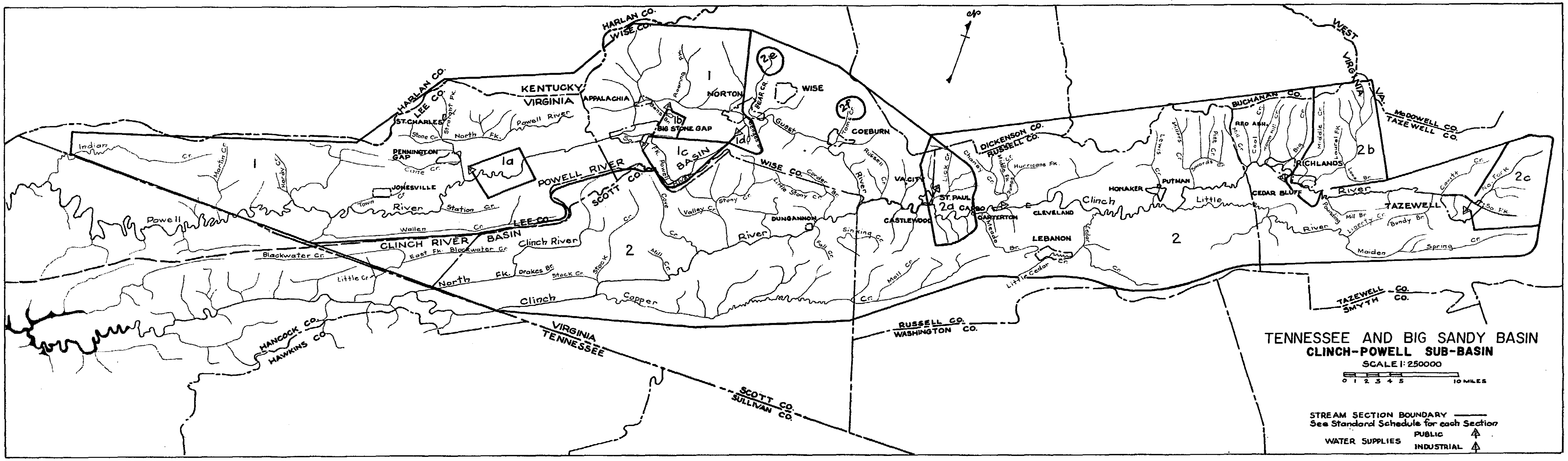

TENNESSEE AND BIG SANDY RIVER
BIG SANDY SUB-BASIN
SCALE 1: 250000
0 1 2 3 4 5 10 MILES
LETCHER CO.
KENTUCKY
VIRGINIA
PIKE CO.
POUND
WISE CO.
WISE
CLINTWOOD
FREEMONT
CLINCHCO
McCLURE
HAYSI
DICKENSON CO.
BUCHANAN CO.
VANSANT
OAKWOOD
GRUNDY
Levisa Fork
VIRGINIA
W. VA.
COEBURN
SCOTT CO.
RUSSELL CO.
ST. PAUL
John W. Flannagan Reservoir
Hackney Cr.
State Line Br.
Russell Fork
Tug Fk.
Dry Fk.
Jacobs Fk.
Beech Fk.
Dry Fork
Dalton Br.
Horsepen Cr.
Slate Cr.
Dismal Cr.
Contrary Cr.
Hurricane Br.
Laurel Fk.
Sang Camp Fk.
Jones Cr.
War Cr.
Kewee Cr.
Little Slate Cr.
Hite Fk.
Middle Fk.
Sprucepine Br.
Harry Br.
Linn Camp Cr.
Long Br.
Garden Cr.
Big Prater Cr.
Dry Fk.
Rt. Fk.
Trace Fk.
Fox Cr.
Left Fk.
Hurricane Cr.
Indian Cr.
Cane Cr.
Lick Br.
Cabin Fk.
Roaring Fk.
Neece Cr.
Middle Fk.
Cowan Race Cr.
Fryingpan Cr.
Priest Fk.
Big Br.
McClure River
Steel Fk.
Trace Fk.
Lyons Fk.
Allens Cr.
Cranmont L. Fk.
Birchfield Cr.
Dodson Cr.
Mullins Fk.
Dalson Fk.
McFall Fk.
Indian Cr.
Georges Fk.
Pine Cr.
Cane Cr.
Pound
North Fk.
So. Fk.
Stacy Br.
Holly Cr.
Long Fk.
Lick Br.
Bartslick Cr.
Greenbrier Cr.
Prater Cr.
War Fk.
Poplar Cr.
Bull Cr.
Looney Cr.
Watkins Br.
Hobbs Br.
Slate Cr.
Long Br.
Knox Cr.
Upper Rocktrouse Br.
Rt. Fk.
Left Fk.
Lester Fk.
Wolfpen Br.
Race Fk.
Guess Fk.
Home Cr.
Lim Camp Cr.
Rocklick Cr.
Rt. Fk.
Left Fk.
Paw Paw Cr.
Knox
Upper Elk Cr.
Middle Elk Cr.
Lower Elk Cr.
Rt. Fk.
Long Br.
Bull Cr.
Road Fk.
Greenbrier Fk.
Trap Fk.
Trace Fk.
Left Fk.
Fork
Slaunch Fk.
Meathook Fk.
Rocktrouse Fk.
Swan Fk.
Mill Cr.
Camp Cr.
Abes Fk.
Buckeye Br.
Cow Pk.
Conaway Cr.
Middle Fk.
Hunts Cr.
Wolfpen Br.
Trace Fk.
Beaver Cr.
Little Grassy Cr.
Grassy Cr.
4b
4d
4a
4c
4
3
2
1

PLATE NO. 9




TENNESSEE AND BIG SANDY BASIN
**CLINCH-POWELL SUB-BASIN**
SCALE 1:250000
0 1 2 3 4 5 10 MILES

STREAM SECTION BOUNDARY ———
See Standard Schedule for each Section
WATER SUPPLIES PUBLIC
INDUSTRIAL

**PLATE NO. 10**

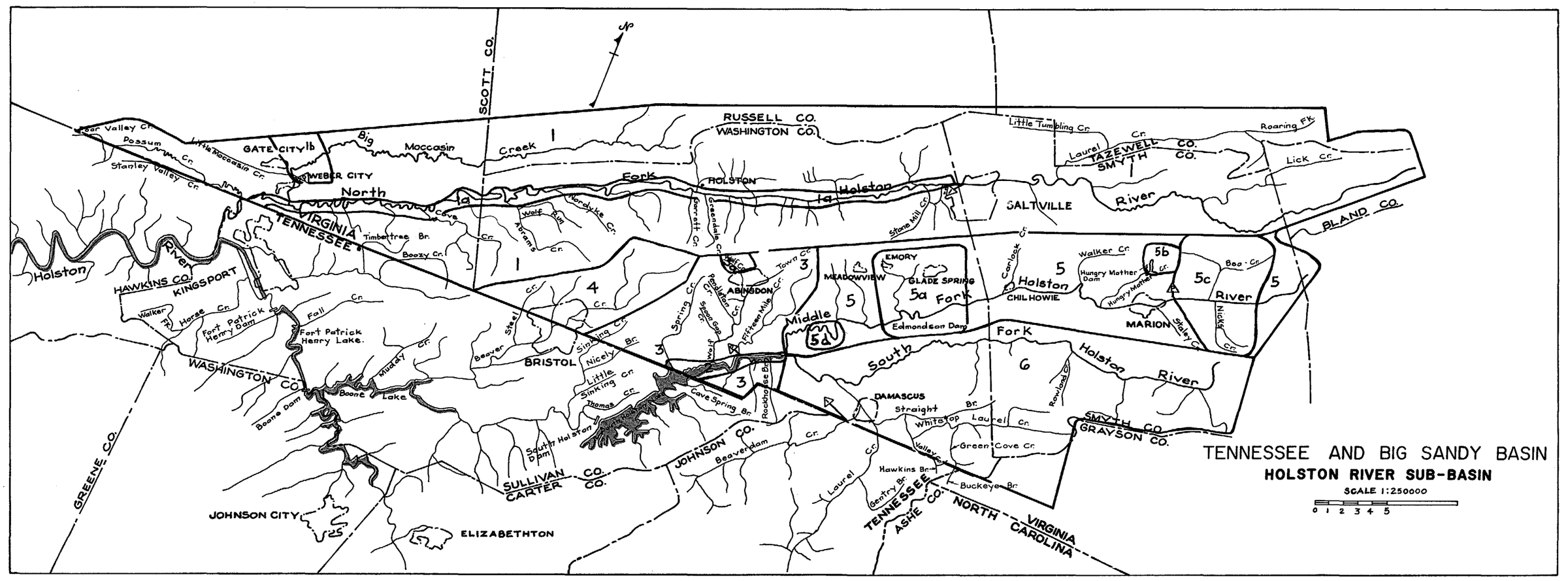

SCOTT CO.
RUSSELL CO.
WASHINGTON CO.
TAZEWELL CO.
SMYTH CO.
BLAND CO.
GREENE CO.
SULLIVAN CO.
CARTER CO.
JOHNSON CO.
GRAYSON CO.
ASHE CO.
VIRGINIA
TENNESSEE
NORTH CAROLINA
Holston River
North Fork Holston River
South Fork Holston River
Middle Fork Holston River
Big Moccasin Creek
Boone Lake
Fort Patrick Henry Lake
Edmondson Dam
Hungry Mother Dam
South Holston Dam
Beaverdam
Boone Dam
Fort Patrick Henry Dam
Bear Valley Cr.
Possum Cr.
Little Moccasin Cr.
Stanley Valley Cr.
Timbertree Br.
Boozy Cr.
Wolf Gun
Abrams Cr.
Hendyke Cr.
Garrett Cr.
Greendale Cr.
Stone Mill Cr.
Little Tumbling Cr.
Laurel Cr.
Roaring Fk.
Lick Cr.
Walker Cr.
Horse Cr.
Fall Cr.
Muddy Cr.
Beaver Steel Cr.
Sinking Cr.
Little Sinking Cr.
Nicely Br.
Thomas Cr.
Cove Spring Br.
Rockhouse Br.
Spring Cr.
Pendleton Cr.
Town Cr.
Fifteen Mile Cr.
Spoon Gap Cr.
Carlock Cr.
Hungry Mother Cr.
Bear Cr.
Nicks Cr.
Staley Cr.
Rowland Cr.
Straight Br.
Whitetop Laurel Cr.
Green Cove Cr.
Valley Cr.
Hawkins Br.
Gentry Br.
Buckeye Br.
Laurel Cr.
Cr.
Walker
Horse
Fall
Muddy
Beaver
Sinking
Nicely
Boone
Fort Patrick Henry
Spring
Pendleton
Town
Fifteen Mile
Spoon Gap
Carlock
Hungry Mother
Bear
Nicks
Staley
Rowland
Straight
Whitetop
Green
Valley
Hawkins
Gentry
Buckeye
Laurel
Cove Spring
Rockhouse
Beaverdam
Garrett
Greendale
Stone Mill
Little Tumbling
Roaring
Lick
Timbertree
Boozy
Wolf Gun
Abrams
Hendyke
Possum
Little Moccasin
Stanley Valley
Bear Valley
Big Moccasin Creek
Holston
Fork
Middle Fork
South Fork
Holston River
Boone Lake
Fort Patrick Henry Lake
Edmondson Dam
Hungry Mother Dam
South Holston Dam
Beaverdam
Boone Dam
Fort Patrick Henry Dam
Laurel Cr.
Cr.
GATE CITY
WEBER CITY
HOLSTON
SALTVILLE
HAWKINS CO.
KINGSPORT
ABINGDON
EMORY
MEADOWVIEW
GLADE SPRING
CHILHOWIE
MARION
DAMASCUS
BRISTOL
JOHNSON CITY
ELIZABETHTON
1
1a
1b
1a Holston
3
4
5
5a
5b
5c
5d
6
TENNESSEE AND BIG SANDY BASIN
HOLSTON RIVER SUB-BASIN
SCALE 1:250000
0 1 2 3 4 5

PLATE NO. 11

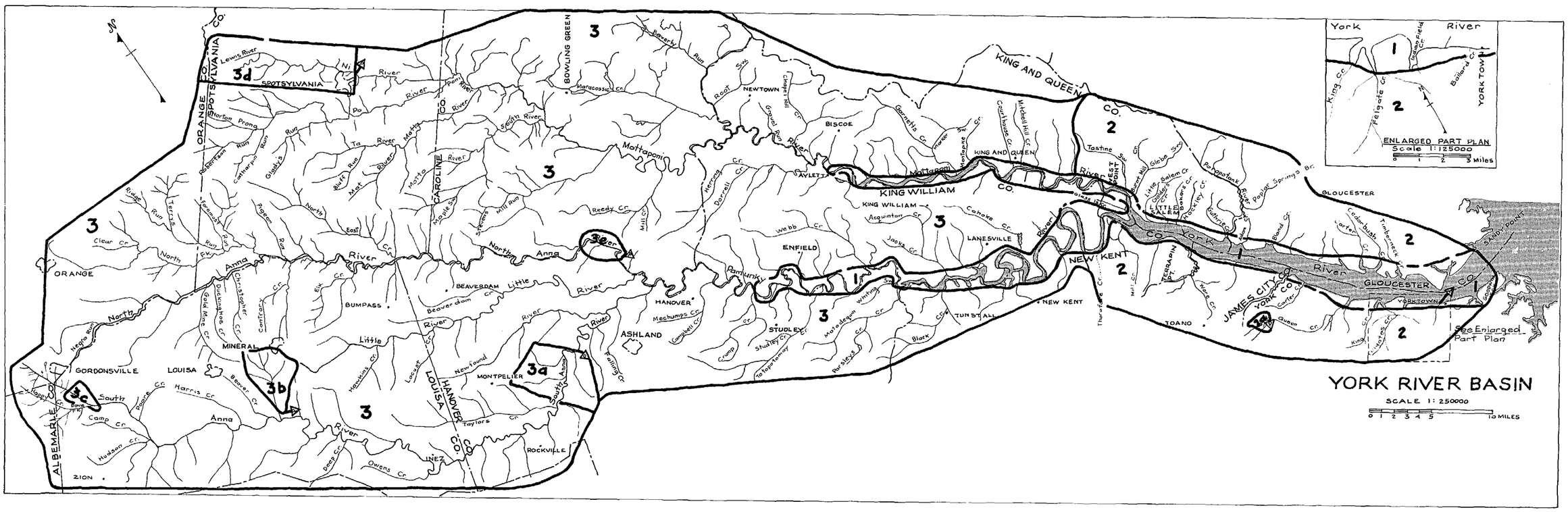

ENLARGED PART PLAN
Scale 1:125000
0 1 2 3 Miles
See Enlarged Part Plan
YORK RIVER BASIN
SCALE 1: 250000
0 1 2 3 4 5 10 MILES
ORANGE CO.
SPOTSYLVANIA CO.
SPOTSYLVANIA
CAROLINE CO.
BOWLING GREEN
KING AND QUEEN CO.
KING WILLIAM CO.
NEW KENT
JAMES CITY CO.
YORK CO.
GLOUCESTER CO.
ALBEMARLE CO.
HANOVER CO.
LOUISA CO.
GORDONSVILLE
LOUISA
MINERAL
BUMPASS
BEAVERDAM
HANOVER
ASHLAND
NEW CASTLE
NEWTOWN
BISCOE
AYLETT
KING WILLIAM
ENFIELD
LANESVILLE
NEW KENT
TUNSTALL
STUDLEY
MONTPELIER
ROCKVILLE
INEZ
ZION
TOANO
YORKTOWN
WEST POINT
LITTLE TOWN
SANDY POINT
North Anna River
South Anna River
Little River
Mattaponi
Pamunkey
Mechumps Cr.
Beaverdam Cr.
Newfound River
Po River
Ta River
Mat River
Matta River
Lewis River
Goldmine Run
Catharpin Run
Gladys Run
Thorton Prong
Terrys Run
Ridge Run
Pigeon Run
Clear Cr.
Maple Swamp
Stevens Mill Run
Reedy Cr.
Mill Cr.
Herring Cr.
Darrell Cr.
Webb Cr.
Jacks Cr.
Aquinton Cr.
Cohoke Cr.
Gravel Run
Chapel Hill Cr.
Beverly Run
Sixe Road
Garretts Cr.
Courthouse Cr.
Mitchell Hill Cr.
Tastine Swamp
Glebe Swamp
Little Salem Cr.
Baskers Cr.
Pocosey Cr.
Cohoke Cr.
Blands Cr.
Cedar Bush Cr.
Timberneck Cr.
Carter Cr.
Mill Cr.
Terrapin Cr.
Yarrow Cr.
Queen Cr.
King Cr.
Felgate Cr.
Bailard Cr.
Poquoson River
Poplar Springs Br.
Mechumps Cr.
Campbell Cr.
Crump Cr.
Studley Cr.
Matadequin Cr.
Black Cr.
Taylors Cr.
Owens Cr.
Deep Cr.
Hudson Cr.
Camp Cr.
Harris Cr.
Beaver Cr.
Moore Cr.
Hogg Run
Hogg Run
Duckstone Cr.
Christopher Cr.
Contrary Cr.
Falling Cr.
Hawkins Cr.
Locust Cr.
Little River
Beaverdam Cr.
Mechumps Cr.
Pamunkey
Mattaponi
Piankatank River
Rappahannock River
York River
Chesapeake Bay
3
3d
3c
3b
3a
2
1

PLATE NO. 12

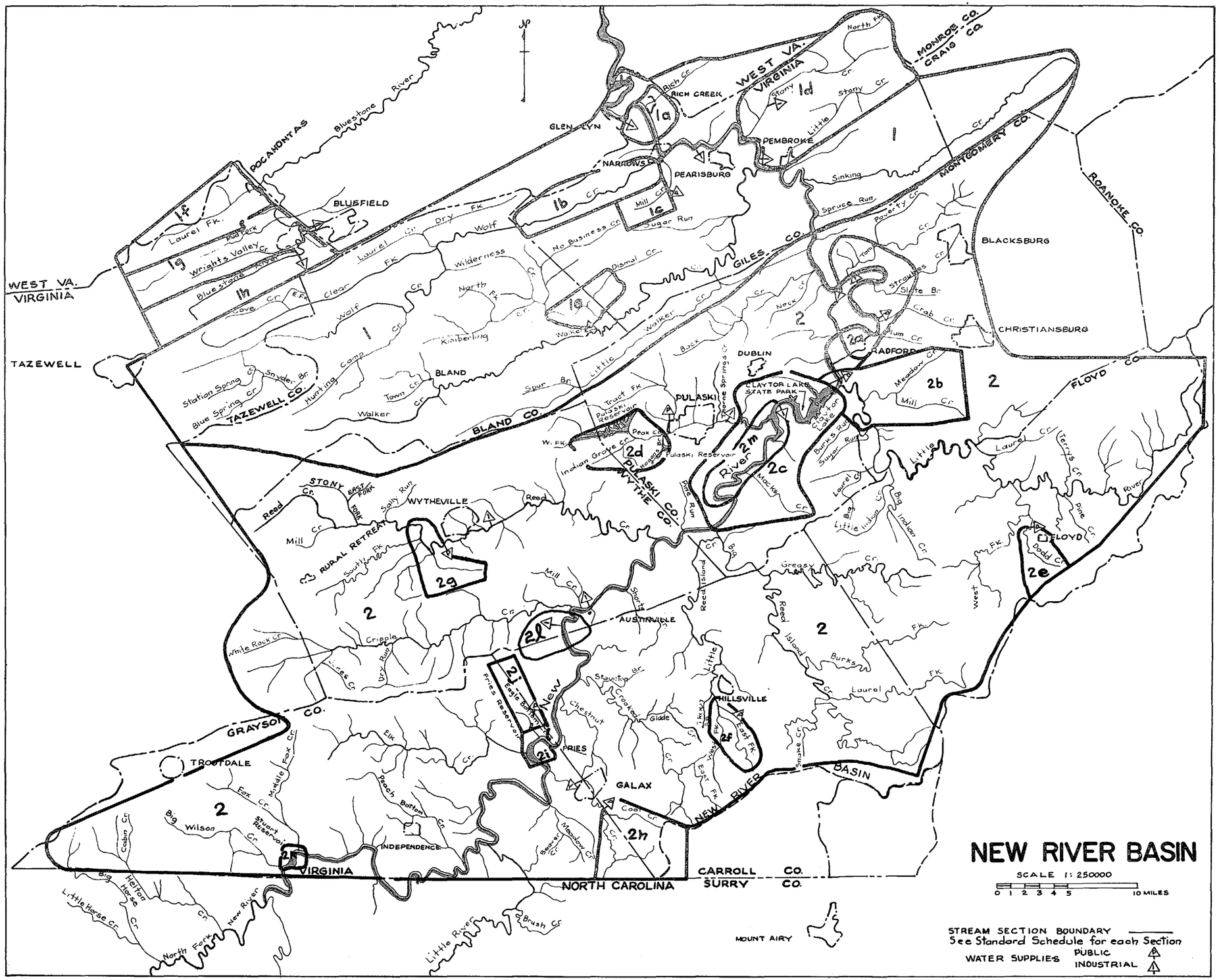

WEST VA.
VIRGINIA
TAZEWELL
BLUEFIELD
POCAHONTAS
Bluestone River
GLEN LYN
RICH CREEK
WEST VA.
VIRGINIA
MONROE CO.
CRAIG CO.
PEMBROKE
NARROWS
PEARISBURG
MONTGOMERY CO.
ROANOKE CO.
BLACKSBURG
CHRISTIANSBURG
GILES CO.
FLOYD CO.
FLOYD
TAZEWELL CO.
BLAND
BLAND CO.
DUBLIN
PULASKI
CLAYTOR LAKE STATE PARK
RADFORD
WYTHEVILLE
PULASKI CO.
RURAL RETREAT
AUSTINVILLE
HILLSVILLE
FRIES
GALAX
GRAYSON CO.
TROUTDALE
INDEPENDENCE
VIRGINIA
NORTH CAROLINA
CARROLL CO.
SURRY CO.
MOUNT AIRY
NEW RIVER BASIN
SCALE 1: 250000
0 1 2 3 4 5 10 MILES
STREAM SECTION BOUNDARY
See Standard Schedule for each Section
WATER SUPPLIES PUBLIC
INDUSTRIAL

PLATE NO. 13