

WEST VIRGINIA
SECRETARY OF STATE
KEN HECHLER
ADMINISTRATIVE LAW DIVISION

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OFFICE WEST VIRGINIA
SECRETARY OF STATE

**NOTICE OF AGENCY ADOPTION OF A PROCEDURAL OR INTERPRETIVE RULE
OR A LEGISLATIVE RULE EXEMPT FROM LEGISLATIVE REVIEW**

AGENCY: Department Of Environmental Protection TITLE NUMBER: 60

CITE AUTHORITY: H.B.3240, passed April 14, 2001

RULE TYPE: PROCEDURAL _____ INTERPRETIVE _____

EXEMPT LEGISLATIVE RULE X
CITE STATUTE(s) GRANTING EXEMPTION FROM LEGISLATIVE REVIEW

W.Va. Code 22-11-7b(a)&(b)

AMENDMENT TO AN EXISTING RULE: YES _____, NO X

IF YES, SERIES NUMBER OF RULE BEING AMENDED: _____

TITLE OF RULE BEING AMENDED: _____

IF NO, SERIES NUMBER OF NEW RULE BEING ADOPTED: 60 CSR 5

TITLE OF RULE BEING ADOPTED: Antidegradation Implementation

Procedures

THE ABOVE RULE IS HEREBY ADOPTED AND FILED WITH THE SECRETARY OF STATE. THE
EFFECTIVE DATE OF THIS RULE IS July 2, 2001

Michael D. Callahan
Authorized Signature

rcp

Clerical Changes to the Anti-Degradation Rule

1. The Rule was removed from 46 CSR 1 and re-numbered and placed into 60 CSR 5 to reflect that the rule is no longer an EQB rule but is rather a DEP rule.
2. References to the "Division" have been changed to "Department" recognizing the legislatively mandated name change of the Division of Environmental Protection to the Department of Environmental Protection.
3. References to the "Director" have been changed to "Secretary" to reflect legislative changes elevating the Director of the Division of Environmental Protection to Secretary of the Department of Environmental Protection.
4. Added definitions at 60 CSR 2 for "Secretary," and "EQB" and "Board."
5. The effective date of rule, July 2, 2001, is placed into the rule where applicable.
6. The Appendix attachments have been re-numbered and re-ordered so as to coincide with their appearance in 60 CSR 5.
7. The "Designation of Tier 2.5 and 3 Waters; Public Participation in Antidegradation Review Process; Appeals" section of the Rule, previously section 4H, has been divided into two distinct sections, Section 8- Designation of Tier 2.5 and 3 Waters and Section 9-Public Participation and Anti-Degradation Reviews/Appeals in the final rule.
8. The words "as follows:" were added to Section 3.5.
9. References to Appendix F have been changed to reflect the re-numbering of the Rule.
10. Former Board subdivisions 4E.2.c. and 4E.2.c.1. have been combined into subdivision 5.6.c.
11. Removed the word "herein" at 60 CSR 5-6.3.a.1 and 3. since the reference is to the Water Quality Rule at 46 CSR 1 which is not a part of 60 CSR 5.
12. References to "SubPart(Appendix F)" have been removed and replaced by references to the "rule."
13. Removed duplicative column from what it is now Appendix C.
14. Former Board subdivisions 4H.3.c and 4H.3.d. have been combined into subsection 9.3.
15. The words "section outlines" were changed to "sections outline" subsection 3.2.

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TITLE 60
LEGISLATIVE RULES
SECRETARY OF DEPARTMENT OF ENVIRONMENTAL PROTECTION
SERIES 5
ANTIDEGRADATION IMPLEMENTATION
PROCEDURES

OFFICE WEST VIRGINIA
SECRETARY OF STATE

§60-5-1. General.

1.1. Scope. -- This rule establishes the procedures by which the Department of Environmental Protection shall implement the State's water quality anti-degradation policy found at 46 CSR 1-4.

1.2. Authority. -- House Bills 3240 and 2663.

1.3. Filing Date. -- July 2, 2001

1.4. Effective Date. - July 2, 2001

1.5. Applicability

1.5.a. Except as noted, the antidegradation implementation procedures herein apply to regulated activities that have the potential to affect water quality. The level of review required will depend upon the existing uses of the water segment that would be affected, the level of protection ("tier") assigned to the applicable water segment, the nature of the activity, and the extent to which existing water quality would be degraded.

1.5.b. Nonpoint source activities will be deemed to be in compliance with antidegradation requirements with the installation and maintenance of cost-effective and reasonable best management practices in accordance with 46 CSR 1-4.1.b. herein. These include, but are not limited to, best management practice programs for silviculture administered by the Division of Forestry, programs for oil and gas operations administered by the Office of Oil and Gas of the Department of Environmental Protection, nonpoint source construction activities, and reasonable land, soil and water conservation measures and practices applied to agricultural nonpoint sources.

1.5.c. Where applicable and practical, the antidegradation procedure and review shall be integrated into and proceed concurrently with existing environmental processes and reviews pursuant to the National Environmental Policy Act.

1.5.d. Information contained within existing environmental processes and reviews, such as environmental assessments, environmental impact statements, facilities plans, and findings of no significant impact, may be used to provide part or all of the requirements of the antidegradation procedure and review.

§60-5-2. Definitions.

2.1. For purposes of this rule the term "agency" or "agencies" refers to the Department of Environmental Protection or other federal, state, or local governmental entities with regulatory authority over activities that may affect water quality.

2.2. For purposes of this rule the term "regulated entity" refers generally to any regulated entity that affects or is proposing an activity that will affect water quality. For example, an applicant for a WV/NPDES permit, a WV/NPDES permit holder, or an owner or operator of an activity that discharges pollutants into a water of the state would be a regulated entity.

2.3. For purposes of this rule the term "minimum uses" refers to recreation and wildlife and the propagation and maintenance of fish and other aquatic life.

2.4. For purposes of this rule the term "Secretary" refers to the Secretary of the Department of Environmental Protection or its successor.

2.5. For purposes of this rule references to the "Board" or "EQB" mean the West Virginia Environmental Quality Board.

2.6. For purposes of this rule the definitions contained in 46 CSR 1-2 are hereby incorporated herein.

§60-5-3. Antidegradation Review Process.

3.1. As set forth in 46 CSR 1-4.1, the State's antidegradation policy requires that existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. This requirement applies to all waters of the state.

3.2. Except where a water segment is specifically listed as a Tier 2.5 or Tier 3 water, the following sections outline how the agency conducting the antidegradation review will determine the level of protection ("tier") assigned to the receiving water body associated with the activity subject to this rule.

3.3. Uses. The Secretary, in conducting an antidegradation review, must determine the existing uses of the receiving water body associated with the proposed activity. The Secretary shall determine the existing uses of the water body by identifying the uses set forth in 46 CSR 1 Section 6 that the water body currently supports, or has supported since November 28, 1975. The regulated entity may be required to provide data sufficient for the permitting agency to determine the existing uses of the water segment.

3.4. Baseline water quality. Where baseline water quality has not been established for the water segment the regulated entity proposes to impact or has not been established for a parameter of concern that is reasonably expected to be discharged into the water segment as a result of the proposed regulated activity, the Secretary must determine the baseline water quality for the receiving water body. The Secretary may consider data for establishing the baseline water quality from a federal or state agency, the regulated entity, the public, or any other source, as long as the data are recent and reliable. If adequate data are not available, the agency may, in conjunction with the regulated entity or on its own initiative, establish a plan for obtaining the necessary data. The regulated entity may be required to provide baseline water quality for those parameters of concern that are reasonably expected to be discharged as a result of the regulated activity into the affected water segment to help the permitting agency determine the baseline water quality, the existing uses, and the applicable tier. The regulated entity may contact the Secretary prior to initiating a baseline water quality evaluation to seek concurrence with its determination of the

parameters of concern for its proposed activity and its proposed sampling protocol.

3.5. Determination of tier. If the tier has not already been determined for the water segment the regulated entity proposes to impact, then after determining the baseline water quality for parameters of concern and the existing uses for a water body, the agency will determine which level of protection (i.e. "tier") applies to the receiving water body associated with the activity, as follows:

3.5.a. Water segments listed in Appendix A of this rule shall receive Tier 2.5 protection.

3.5.b. Water segments within a federally designated Wilderness Area, as well as other water segments specifically listed in this rule as an outstanding national resource water shall receive Tier 3 protection.

3.5.c. Water segments not within a federally designated Wilderness Area and not listed in Appendix A of this rule shall receive Tier 1 protection, and shall receive Tier 2 protection if the water segment is determined, pursuant to subsections 5.1. through 5.3. of this rule, to be a high quality water for purposes of antidegradation review.

3.5.d. Water segments may be determined to receive only Tier 1 protection, pursuant to subsections 4.2. through 4.6. of this rule, for purposes of antidegradation review.

3.5.e. To the extent practicable, a list of water segments protected under Tier 2.5 or Tier 3 will be maintained on the West Virginia Department of Environmental Protection's website.

3.6. Level of review. Once the correct level of protection ("tier") and water segment use(s) are identified for the receiving water body, the agency shall document its findings and proceed with the appropriate level of antidegradation review.

3.7. On or after July 2, 2001, the effective date of these implementation procedures, new and reissued WV/NPDES general permits will be evaluated to consider the potential

for significant degradation as a result of the permitted activity. Regulated activities that are granted coverage by a WV/NPDES general permit will not be required to undergo a Tier 2 antidegradation review as part of the permit registration process. Regulated activities that are granted coverage by a WV/NPDES permit that will degrade a Tier 2.5 or Tier 3 water segment must comply with the requirements of sections 6 and 7 herein.

3.8. Regulated activities that qualify for coverage under a Corps of Engineers regional or nationwide permit pursuant to section 404 of the Federal Act that has been certified by the state pursuant to section 401 of the Federal Act will not be required to undergo a Tier 2 antidegradation review, provided, however, that where an individual 401 certification is required, the Secretary may require an appropriate antidegradation review. Where an activity covered by a regional or nationwide permit pursuant to section 404 of the Federal Act and certified pursuant to section 401 of the Federal Act allows for filling of a water, this exemption only applies to the site of the fill, and does not apply to activities downstream of the site of the fill. Regulated activities that are granted section 401 certification that will degrade a Tier 2.5 or Tier 3 water segment must comply with the requirements of sections 6 and 7 herein.

3.9. The Secretary shall develop guidance which addresses these implementation procedures and provides additional information to persons conducting regulated activities that are affected by these procedures. Such guidance shall include, but shall not be limited to, information regarding the following: (a) the determination of baseline water quality; (b) social and economic importance pursuant to section 5.8; and (c) the reasonable alternatives analysis required by section 5.7. The Secretary shall provide an opportunity for public review and comment before finalizing any guidance. Within twelve months of the effective date of this rule, the Secretary shall report to the advisory committee established pursuant to W.Va. Code §22-1-9 regarding the status of its implementation.

§60-5-4. Tier 1 Protection.

4.1. Existing uses and the level of water quality necessary to protect the existing uses shall be maintained and

protected.

4.2. Tier 1 protection applies to all waters of the state. A water segment shall be afforded Tier 1 protection where the level of water quality is not sufficient to support recreation and wildlife and the propagation and maintenance of fish and other aquatic life, or where the water quality meets but does not exceed levels necessary to support recreation and wildlife and the propagation and maintenance of fish and other aquatic life.

4.3. In determining whether a water segment is afforded only Tier 1 protection, the agency will focus on whether the water segment is meeting or failing to meet minimum uses, except that, notwithstanding any other provision of this rule, the main stems of the Monongahela River, and the Kanawha River from milepoint 72 to the confluence with the Ohio River shall be afforded Tier 1 protection only.

4.4. The Secretary will consider whether a water segment is listed on the state's 303(d) impaired waters list, but where the parameter(s) for which the water segment is listed does not result in that water segment's failure to attain minimum uses and where all other parameters exceed the quality necessary to support recreation and wildlife and the propagation and maintenance of fish and other aquatic life, the water segment will be afforded Tier 2 protection. Where the parameter(s) for which the water segment is listed does result in failure to attain minimum uses, such as an acid mine drainage-impacted water segment, that water segment will be afforded only Tier 1 protection.

4.5. All water segments listed on the state's 303(d) impaired waters list will be afforded only Tier 1 protection for the parameter(s) that resulted in the water segment being listed.

4.6. There also may be waters in the state where one or both of the fishable/swimmable uses are attained, but existing water quality is not "better than necessary" to support those uses (i.e., assimilative capacity does not exist for any of the parameters that would be affected by the proposed activity). Tier 1 protection is appropriate for such a water segment.

4.7. Where existing uses of the water body are impaired, there shall be no lowering of the water quality with respect to the parameters of concern that are causing the impairment. The agency shall consider nomination of such water body for the 303(d) list of water quality-impaired streams.

4.8. Where a proposed activity will result in a new or expanded discharge that would otherwise prevent attainment of an existing use in a water subject to Tier 1 protection, the applicant may be allowed to satisfy antidegradation review requirements by implementing or financing upstream controls of point or nonpoint sources sufficient to offset the water quality effects of the proposed activity from the same parameters and insure an improvement in water quality as a result of the trade. The basis of the trade will be documented and will be consistent with the trading assessment procedure that has been approved by the Secretary. A trade may be made between more than one stream segment where removing a discharge in one stream segment directly results in improved water quality in another stream segment. In addition, (1) the effluent trade must be for the same parameter; (2) where uncertainty exists regarding the effluent trade, an adequate margin of safety will be required; (3) dischargers cannot claim offsets for water quality improvements that are required or will occur irrespective of the proposed new or expanded discharge; and (4) the trade must be enforceable.

§60-5-5. Tier 2 Protection (High Quality Waters).

5.1. A water segment shall be considered a Tier 2 high quality water where the level of water quality exceeds levels necessary to support recreation and wildlife and the propagation and maintenance of fish and other aquatic life.

5.2. Tier 2 waters need not exceed the level of quality needed to meet or exceed numeric criteria for every parameter. Water segments that support the minimum fishable/swimmable uses and have assimilative capacity remaining for some parameters shall generally be afforded Tier 2 protection. For example, a water segment listed on the state's 303(d) impaired waters list can qualify for Tier 2 protection, but where the impairment that caused the water segment to be listed results in failure to attain minimum uses, that water segment will be afforded only Tier 1 protection.

5.3. Where a water segment does not meet or exceed applicable water quality criteria for every parameter, the Secretary will determine whether the water segment will be afforded Tier 2 protection as part of the antidegradation review process using best professional judgment. In addition to data available for review, the Secretary may consider factors such as (1) existing aquatic life uses, (2) existing recreational or aesthetic uses, (3) existing water quality data for upstream segments or comparable segments, (4) biological score for the water segment, and (5) the overall value of the segment from an ecological, health and public use perspective.

5.4. Where insufficient information is available to determine which tier should apply, a regulated entity may seek a determination that a water segment should be afforded only Tier 1 protection by submitting water quality data consistent with guidance developed pursuant to subsection 3.9. of this rule showing that there is no remaining assimilative capacity for any parameter to be affected by its activity. In seeking such a determination, the impacts of all of the regulated entity's activities on the water segment must be considered.

5.5. Where there is insufficient information to establish which tier should apply, it is the intent of these procedures to apply Tier 2 protection to such waters until such time as sufficient water quality data is obtained to determine the appropriate level of protection. No presumption shall be made with regard to the actual quality of any waters as a result of such initial application.

5.6. Tier 2 antidegradation review.

5.6.a. Any regulated activity in a Tier 2 water segment is required to go through the Tier 2 antidegradation review process where:

5.6.a.1. The regulated activity is a new or expanded activity that would significantly degrade water quality; or

5.6.a.2. The Secretary determines, upon renewal of a permit or certification, that other individual circumstances warrant a full review such as cumulative degradation resulting from multiple discharges within a watershed, degradation

resulting from a single discharge over time, or degradation caused by a regulated facility's historic noncompliance with its permit.

5.6.b. In allowing any degradation, the agency shall assure water quality adequate to protect existing uses fully (i.e., Tier 1 protection).

5.6.c. The Secretary may determine that certain types or classes of activities should be exempt from Tier 2 review after balancing the relative impact of the activities on water quality against the overall benefit of the activities to public health and welfare or the environment. The Secretary's discretion to exempt activities from review pursuant to this section shall be exercised and construed narrowly. Such types or classes of activities may include, for example, expansions or improvements to publicly owned wastewater treatment facilities or activities, public benefit activities by governmental entities, or discharges related to environmental remediation activities. Where the agency tentatively determines to grant an exemption under this provision, notice of this determination must be included in any required public notice, such as public notice required prior to issuance of an NPDES permit. The Secretary's final determination is a final decision and subject to appeal to the Environmental Quality Board. A proposed new or expanded discharge from a publicly owned or publicly owned and privately operated sanitary wastewater treatment plant constructed or operated to alleviate a public health concern associated with failing septic systems or untreated or inadequately treated sewage, is exempt from Tier 2 review. This exemption would include combined sewer overflow elimination or reduction projects affecting one or more water bodies and applies only where there will be a net decrease in the overall pollutant loading discharged to the combined receiving waters.

5.6.d. Degradation for Tier 2 shall be deemed significant if the activity results in a reduction in the water segment's available assimilative capacity (the difference between the baseline water quality and the water quality criteria) of ten percent or more at the appropriate critical flow condition(s) for parameters of concern. Critical flow conditions for non-precipitation induced discharges are the 7Q10 flow of the receiving stream, plus either of the following: maximum permitted flow or maximum flow specified in the application, for industrial activities,

or the average design flow, for wastewater treatment activities. Degradation will also be deemed significant if the proposed activity, together with all other activities allowed after the baseline water quality is established, results in a reduction in the water segment's available assimilative capacity of 20% or more at the appropriate critical flow conditions for the parameters of concern.

5.6.e. Significant degradation will be determined on a parameter-by-parameter basis for each parameter of concern that might be affected by the regulated activity.

5.6.f. A proposed activity that will result in a new or expanded discharge in a water subject to Tier 2 protection may be allowed where the applicant agrees to implement or finance upstream controls of point or nonpoint sources sufficient to offset the water quality effects of the proposed activity from the same parameters and insure an improvement in water quality as a result of the trade. The basis of the trade will be documented and will be consistent with the trading assessment procedure that has been approved by the Secretary. A trade may be made between more than one stream segment where removing a discharge in one stream segment directly results in improved water quality in another stream segment. In addition, (1) the effluent trade must be for the same parameter; (2) where uncertainty exists regarding the effluent trade, an adequate margin of safety will be required; (3) dischargers cannot claim offsets for water quality improvements that are required or will occur irrespective of the proposed new or expanded discharge; and (4) the trades must be enforceable.

5.6.g. New or expanded activities determined to be significant by the agency shall be subject to the Tier 2 review requirements described in subsections 5.6. through 5.9. herein. If the agency determines that no further Tier 2 review requirements shall apply for an activity, the activity must still achieve the highest established statutory and regulatory requirements applicable to them, or conditions of the permit, or water quality certification, and that determination must be made a part of the public notification, as provided in subsections 9.1 through 9.5.

5.7. Review of alternatives.

5.7.a. If a determination is made that significant degradation will occur, the agency shall determine whether reasonable and cost effective less-degrading or non-degrading alternatives to the proposed activity exist. The agency will evaluate any alternatives analysis submitted by the regulated activity for consistency with the requirements set forth in Subdivision 5.7.b. herein.

5.7.b. A regulated entity proposing any new or expanded regulated activity that would significantly degrade water quality in a high quality water is required to prepare an evaluation of alternatives to the proposed activity. The evaluation must provide substantive information pertaining to the cost and environmental impacts associated with the following alternatives:

- 5.7.b.1.** Pollution prevention measures;
- 5.7.b.2.** Reduction in scale of project;
- 5.7.b.3.** Water recycle or reuse;
- 5.7.b.4.** Process changes;
- 5.7.b.5.** Innovative treatment technology or technologies;
- 5.7.b.6.** Advanced treatment technology or technologies;
- 5.7.b.7.** Seasonal or controlled discharge options to avoid critical water quality periods;
- 5.7.b.8.** Improved operation and maintenance of existing treatment systems; and
- 5.7.b.9.** Alternative discharge locations.

5.7.c. After alternatives to allowing degradation have been adequately evaluated, a determination shall be made regarding whether cost-effective and reasonable non-degrading or less-degrading alternatives to the proposed activity shall be required. This determination will be based primarily on the alternatives analysis developed by the regulated entity, but may be supplemented with other information and data. As a rule of thumb, cost effective and reasonable non-degrading or less-degrading pollution control alternatives with costs that

are less than 110% of the costs of the pollution control measures associated with the proposed activity shall be considered reasonable.

5.7.d. If it is determined that reasonable and cost effective less degrading or non-degrading alternatives to the proposed activity do exist, the project design may be revised accordingly. In general, if reasonable alternative(s) exist, the alternative or combination of alternatives that provide the least amount of degradation shall be implemented up to the determined reasonable and cost-effective threshold. If the regulated entity does not agree to adopt such reasonable and cost-effective alternatives, the alternatives analysis findings will be documented and the activity will not be allowed.

5.8. Review of social and economic importance.

5.8.a. If significant degradation would occur, even after application of reasonable less-degrading or non-degrading alternatives, a determination shall be made as to whether the proposed activity is necessary to accommodate important economic or social development in the area in which the waters are located.

5.8.b. The regulated activity must document the social and economic importance of the proposed activity.

5.8.c. The factors to be addressed in such documentation may include, but are not limited to, the following:

5.8.c.1. Employment (e.g., increasing, maintaining or avoiding a reduction in employment);

5.8.c.2. Increased production;

5.8.c.3. Improved community tax base;

5.8.c.4. Housing;

5.8.c.5. Ancillary community economic benefit; and

5.8.c.6. Correction of an environmental or public health problem.

5.8.d. In addition to the above, a regulated entity may be required to submit the following:

5.8.d.1. Information pertaining to current aquatic life, recreational, or other water uses;

5.8.d.2. Information necessary to determine the environmental impacts that may result from the proposed activity;

5.8.d.3. Facts pertaining to the current state of economic development in the area (e.g., population, area employment, area income, major employers, types of businesses);

5.8.d.4. Government fiscal base; and

5.8.d.5. Land use in the areas surrounding the proposed activity.

5.8.e. Once the available information pertaining to the socio-economic importance of the proposed activity has been reviewed by the agency, a preliminary determination regarding importance shall be made. In evaluating the regulated activity's demonstration of socio-economic importance, the agency may use EPA's Interim Economic Guidance for Water Quality Standards Workbook (EPA 823-B-95-002, March, 1995). Where there is a request for a variance from groundwater standards pursuant to 47 CSR 57 for existing sites where activities on those sites have the potential to impact surface water from contaminated groundwater and the activity is otherwise subject to this rule, the socio-economic justification process required under 47 CSR 57 subdivision 6.2.i will satisfy the requirements of this section. If the proposed activity is determined to have social or economic importance in the area in which the affected waters are located, the substance and basis for that preliminary determination shall be documented and the Tier 2 review shall continue.

5.9. Intergovernmental coordination for Tier 2 reviews.

5.9.a. The intergovernmental coordination requirements in 46 CSR 1-4.1.b. will be accomplished by providing notice to those agencies listed in Appendix B that the Secretary

believes may have regulatory oversight of the regulated activity of the preliminary determination of the socio-economic review and requesting comments from those agencies regarding that review.

5.9.b. The public notice of the proposed activity will be provided as set forth in subsections 9.1 through 9.5 herein.

5.9.c. Once the intergovernmental coordination and public notice requirements are satisfied, the Secretary shall make a final determination concerning the social or economic importance of the proposed activity. All social and economic importance determinations, including determinations to prohibit the activity, shall be documented and made a part of the public record.

§60-5-6. Tier 2.5 Protection Review Procedures (Waters of Special Concern). See 46 CSR 1-4.1.c and 46 CSR 1-2.29 for a description and definition of Waters of Special Concern.

6.1. Any proposed activity that would degrade a water segment listed in Appendix A of this rule as waters of special concern will go through the Tier 2.5 antidegradation review process. Discharges from publicly-owned or publicly-owned and privately operated sanitary wastewater treatment plants that expand to alleviate a public health concern associated with failing septic systems or untreated or inadequately treated sewage, shall be permissible in a Tier 2.5 water segment where there will be a net decrease in the overall pollutant loading discharged to the combined receiving waters: *Provided, That* less degrading alternative treatment technologies are considered and used where costs for such technologies are within budgets and rates approved for such expansion project. This provision may extend to combined sewer overflow elimination or reduction projects. Except as provided in subdivisions 6.2.a. and b. of this rule, the listing procedure for Tier 2.5 waters is set forth in section 8.1. herein. Currently listed Tier 2.5 waters are included in Appendix A to this rule.

6.2. Initial Presumptive Listing for Tier 2.5.

6.2.a. The stream or stream segments that appear on Appendix C shall be presumed to qualify as Tier 2.5 waters.

Before any such stream or stream segment is protected as Tier 2.5 waters (and listed on Appendix A) the Secretary shall do the following:

6.1.a.1. Assure compliance with all provisions of article one-a of chapter twenty-two; and

6.1.a.2. No sooner than six months and no later than twelve months from the effective date of this rule, provide, where practicable, individual notice to property owners along such stream or stream segment. In addition, notice by publication shall be provided to all property owners and others with a legal interest in the property. The notice shall include at a minimum, the information set forth in subparagraphs 8.1.a.1.A. through 8.1.a.1.D. of this rule. The notice shall indicate that a property owner or holder of legal interest in the property shall have thirty days to file an objection to the inclusion of the stream or stream segment as a Tier 2.5 water.

6.2.b. Should an objection be received from an owner or holder of a legal interest in property adjoining any stream on Appendix C, the Secretary shall provide written justification for the inclusion of the stream as a Tier 2.5 stream with reference to the criteria set out in paragraph 8.1.a.2. of this rule. The Secretary shall then provide a thirty-day comment period on the proposed action.

6.2.b.1. Where no objection is made to the inclusion of a stream or stream segment as a Tier 2.5 water, the stream shall be included by the Secretary on Appendix A without further justification.

6.2.b.2. Any final decision by the Secretary with regard to the inclusion of a stream in Tier 2.5 made following the procedure set forth in this paragraph, may be appealed to the EQB.

6.2.c. Following the initial listing for Tier 2.5 waters, as described in subdivisions 6.2.a. and b. above, subsequent additions or deletions from Appendix A shall be in accordance with section 8.1., herein.

6.3. Tier 2.5 antidegradation review.

6.3.a. No significant degradation of Tier 2.5 waters will be allowed. For Tier 2.5 waters, degradation will be deemed significant if it exceeds the baseline water quality plus ten percent of available assimilative capacity (the difference between the baseline water quality and the water quality criteria), whether from a single activity or cumulatively, except that discharges affecting dissolved oxygen, pH, fecal coliform or temperature will be deemed insignificant provided that:

6.3.a.1. For dissolved oxygen, the maximum DO sag will not be greater than 0.4 ppm based on an appropriate wasteload allocation model, unless that reduction is projected to cause a violation of 46 CSR 1-8.12 through 8.12.3, Appendix E, Table 1;

6.3.a.2. pH is maintained within the 6.0 to 9.0 range;

6.3.a.3. Thermal discharges will be consistent with 316(a) of the Federal Act or will not increase the temperature more than two degrees Fahrenheit at any time or cause other violations of applicable criteria in 46 CSR 1-8.28 through 8.28.4, Appendix E, Table 1.

6.3.a.4. For fecal coliform, necessary and appropriate treatment (disinfection) or control is required and the fecal coliform concentrations are established as 200/100 ml monthly average and 400/100 ml daily maximum.

6.3.b. Where a Tier 2.5 water has one or more parameters that fail to meet water quality criteria, the Secretary shall use best professional judgment in setting appropriate limitations for such parameters, with the goal of improving baseline water quality for such parameters over time.

6.3.c. Where baseline water quality has not been established for the Tier 2.5 water segment for a parameter of concern that is reasonably expected to be discharged into the water segment as a result of a new or expanded regulated activity, a determination of the baseline water quality for the receiving water segment must be established for that parameter of concern prior to allowing any new or expanded discharge.

6.3.d. The Secretary may consider data for establishing the baseline water quality from a federal or state agency, the regulated entity, the public, or any other source, as long as the data are recent and reliable. The regulated entity may be required to provide baseline water quality for those parameters of concern that are reasonably expected to be discharged as a result of the regulated activity into the affected water segment.

6.3.e. After the baseline water quality has been established for the parameters of concern reasonably expected to be discharged by the proposed activity, the *de facto* criteria for those parameters of concern will equal the established baseline water quality plus ten percent of available assimilative capacity.

6.3.f. Regulated entities with discharges existing on or before July 2, 2001, the effective date of this rule, that discharge into a Tier 2.5 water may be required to submit an alternatives analysis upon renewal of its application or upon the written request of the Secretary to evaluate reasonable and cost-effective alternatives that would reduce the activity's impact to a Tier 2.5 water.

6.3.g. Discharges from activities in waters upstream of a water of special concern shall not result in the ambient water quality within the Tier 2.5 water exceeding the *de facto* criteria.

6.3.h. A proposed activity that will result in a new or expanded discharge in a water subject to Tier 2.5 protection may be allowed where the applicant agrees to implement or finance upstream controls of point or nonpoint sources sufficient to offset the water quality effects of the proposed activity from the same parameters and insure an improvement in water quality as a result of the trade. The basis of the trade will be documented and will be consistent with the trading assessment procedure that has been approved by the Secretary. A trade may be made between more than one stream segment where removing a discharge in one stream segment directly results in improved water quality in another stream segment. In addition, (1) the effluent trade must be for the same parameter; (2) where uncertainty exists regarding the effluent trade, an adequate margin of safety will be required; (3) dischargers cannot claim offsets for water quality improvements that are required or will occur irrespective of

the proposed new or expanded discharge; and (4) the trades must be enforceable.

6.3.i. If a determination is made that the activity will result in significant degradation of a Tier 2.5 water, the activity shall not be allowed.

6.3.j. If the activity is determined not to result in significant degradation of a Tier 2.5 water, the activity may be allowed. In such case the antidegradation review findings will be documented in writing and public notice activities will be initiated consistent with subsections 9.1 through 9.5 herein.

6.3.k. Short-term water quality impacts. The Secretary shall determine whether a proposed activity is short term in nature and the resulting changes in water quality will be temporary and have limited effects. Notwithstanding subdivisions 6.3.a. and 6.3.e. herein, short-term activities which result in less than a 10% change in the available assimilative capacity may be deemed to have limited effects. Determinations will be made on a case-by-case basis and shall be made after consideration of the following factors:

6.3.k.1. The length of time during which the water quality will be lowered;

6.3.k.2. The percent change in ambient concentrations;

6.3.k.3. The parameters affected;

6.3.k.4. The likelihood for long-term water quality benefits to the segment (e.g., as may result from dredging of contaminated sediments);

6.3.k.5. The degree to which achieving applicable water quality standards during the proposed activity may be at risk;

6.3.k.6. The potential for any residual long-term influences on existing uses; and

6.3.k.7. The cumulative impacts from all sources for the parameters affected.

§60-5-7. Tier 3 Protection Review Procedures (Outstanding National Resource Waters). See 46 CSR 1-4.1.d and 46 CSR 1-2.15 for a description of Outstanding National Resource Waters (ONRW).

7.1. Tier 3 waters. ONRWs are to be maintained, protected and improved where necessary. Any proposed new or expanded regulated activity that would degrade (result in a lowering of water quality) a water body that has been approved as an ONRW, other than temporary lowering of water quality, is prohibited.

7.2. Tier 3 antidegradation review. The agency shall use the following antidegradation implementation procedures for evaluating new or expanded regulated activities that have the potential to affect Outstanding National Resource Waters (ONRWs), as described in 46 CSR 1-4.1.c. and as nominated and approved in accordance with the provisions of this rule.

7.2.a. Determine whether the proposed activity is short term in nature and the resulting changes in water quality will be temporary. Such determination will be made on a case-by-case basis and shall be made after consideration of the following factors:

7.2.a.1. The length of time during which the water quality will be lowered;

7.2.a.2. The percent change in ambient concentrations;

7.2.a.3. The parameters affected;

7.2.a.4. The likelihood for long-term water quality benefits to the segment (e.g., as may result from dredging of contaminated sediments);

7.2.a.5. The degree to which achieving applicable water quality standards during the proposed activity may be at risk; and

7.2.a.6. The potential for any residual long-term influences on existing uses.

7.2.b. If after review of the factors in paragraphs 7.2.a.1 through 7.2.a.6, the agency determines that the proposed activity will be short term in nature and the changes in water quality will be temporary and limited, the proposed activity may be authorized. In such case the antidegradation review findings shall be documented and public notice activities shall be initiated. If after review of the factors in paragraphs 7.2.a.1 through 7.2.a.6. the agency determines that the proposed activity will not be short term in nature or that changes in water quality will not be temporary and limited, the proposed activity shall be denied.

7.3. Sources upstream from an ONRW. Any proposed activity that would result in a permanent new or expanded discharge upstream of an ONRW segment is prohibited except where such source would improve or not degrade the existing water quality of the downstream ONRW segment.

7.3.a. To determine whether the proposed activity will result in the lowering of water quality in the downstream ONRW segment, the following factors, when applicable, shall be considered:

7.3.a.1. Change in ambient concentrations predicted at the appropriate critical condition(s);

7.3.a.2. Change in loadings (i.e., the new or expanded loadings compared to total existing loadings to the segment);

7.3.a.3. Reduction in available assimilative capacity;

7.3.a.4. Nature, persistence and potential effects of the parameter;

7.3.a.5. Potential for cumulative effects;

7.3.a.6. Degree of confidence in the various components of any modeling technique utilized (e.g., degree of confidence associated with the predicted effluent variability); and

7.3.a.7. Other factors determined by the Secretary, when appropriate.

7.3.b. If a preliminary determination is made that the applicable criteria in paragraphs 7.3.a.1. through 7.3.a.7. will be met, the antidegradation review findings shall be documented and the applicable public notice activities shall be initiated. If after review of the factors in paragraphs 7.3.a.1. through 7.3.a.7., the Secretary determines that the proposed activity will result in the lowering of water quality in the downstream ONRW stream segment, the proposed activity shall be denied.

7.4. For ONRWs in areas designated as federal Wilderness, nothing in this rule is intended to authorize activities not authorized by the Wilderness Act.

7.5. A proposed activity that will result in a new or expanded discharge in a water subject to Tier 3 protection may be allowed where the applicant agrees to implement or finance

upstream controls of point or nonpoint sources sufficient to offset the water quality effects of the proposed activity from the same parameters and insure an improvement in water quality as a result of the trade. The basis of the trade will be documented and will be consistent with the trading assessment procedure that has been approved by the Secretary. A trade may be made between more than one stream segment where removing a discharge in one stream segment directly results in improved water quality in another stream segment. In addition, (1) the effluent trade must be for the same parameter; (2) where uncertainty exists regarding the effluent trade, an adequate margin of safety will be required; (3) dischargers cannot claim offsets for water quality improvements that are required or will occur irrespective of the proposed new or expanded discharge; and (4) the trade must be enforceable.

§60-5-8. Designation of Tier 2.5 and Tier 3 waters.

8.1. Listing process for Tier 2.5.

8.1.a. Tier 2.5 Nomination Procedures. Any interested party or the Board may nominate a water to be listed as a Water of Special Concern. After reviewing the nomination the Board shall consider the qualification criteria and may designate the nominated water as a Tier 2.5 water in accordance with the notice and comment provisions of 46 CSR 6, Procedural Rules Governing Site Specific Revisions to Water Quality Standards. The address for filing such petitions is West Virginia Environmental Quality Board, 1615 Washington Street, East, Room 301, Charleston, West Virginia 25311-2126. The nominating party has the burden of establishing a basis for listing of a water segment as a Tier 2.5 water. The Board shall return insufficient nominations to the nominating party. Generally, nominations that fail to address at least three of the qualification criteria shall be considered insufficient.

8.1.a.1. Upon receiving a sufficient nomination of a water or segment of a water for designation as a Tier 2.5 water pursuant to the Board's antidegradation policy, the Board shall, within 180 days of receipt of the nomination, notify each locality in which the water or segment lies and shall provide individual notice to property owners on the nominated segment. Where individual notice to property owners is impracticable, constructive notice by publication shall be provided. The written notice shall include, at a minimum:

8.1.a.1.A. A description of the location of the waters or segment;

8.1.a.1.B. The procedures and criteria for designation as well as the impact of the designation;

8.1.a.1.C. The name of the person(s) making the nomination; and

8.1.a.1.D. The name of a contact person at the Environmental Quality Board who is knowledgeable about the nomination of the waters or segment. After receipt of the notice of the nomination, landowners, the public and localities shall be provided 60 days to comment.

8.1.a.2. Qualification Criteria. Factors to be considered in determining whether to assign a Water of Special Concern designation to a water from another category shall include the following:

8.1.a.2.A. Impact on private property owners;

8.1.a.2.B. Whether the interests of all affected parties have been adequately represented during the nomination and designation process;

8.1.a.2.C. The location of the water;

8.1.a.2.D. Any previous special designations;

8.1.a.2.E. Existing water quality;

8.1.a.2.F. Factors that indicate unique or exceptional ecological, recreational or aesthetic resource value;

8.1.a.2.G. Impact on economic development in the area, including development of demonstrated natural resources; and

8.1.a.2.H. Other factors determined by the Board, when applicable.

8.1.a.3. Reclassification of a Water of Special Concern. The Board may on its own, or at the request of an interested party, consider reclassifying a Water of Special Concern to another antidegradation tier. In considering a reclassification, the Board shall review the criteria outlined in subparagraphs 8.1.a.2.A. through 8.1.a.2.H. above. After such consideration, the Board may reclassify a Tier 2.5 water in accordance with the notice and comment provisions of 46 CSR 6, Procedural Rules Governing Site Specific Revisions to Water Quality Standards.

8.2. Listing process for Tier 3 waters.

8.2.a. Tier 3 Nomination Procedures. Any interested party or the Board may nominate a water as an ONRW. After reviewing the nomination the Board shall consider the qualification criteria and may classify the nominated water as a Tier 3 water in accordance with the notice and comment provisions of 46 CSR 6, Procedural Rules Governing Site Specific Revisions to Water Quality Standards. The address for filing such petitions is West Virginia Environmental Quality Board, 1615 Washington Street, East, Room 301, Charleston, West Virginia 25311-2126. The nominating party has the burden of establishing a basis for listing of a water segment as a Tier 3 water. The Board shall return insufficient nominations to the nominating party. Generally, nominations that fail to address at least three of the qualification criteria set out in paragraph 8.2.a.2. of this rule shall be considered insufficient.

8.2.a.1. Upon receiving a sufficient nomination of a water or segment of a water for designation as a Tier 3 water pursuant to the Board's antidegradation policy, the Board shall notify each locality in which the water or segment lies and shall provide individual notice to property owners on the nominated segment. Where individual notice to property owners is impracticable, constructive notice by publication shall be provided. The written notice shall include, at a minimum:

8.2.a.1.A. A description of the location of the waters or segment;

8.2.a.1.B. The procedures and criteria for designation as well as the impact of the designation;

8.2.a.1.C. The name of the person(s) making the nomination; and

8.2.a.1.D. The name of a contact person at the Environmental Quality Board who is knowledgeable about the nomination of the waters or segment. After receipt of the notice of the nomination, landowners, the public and localities shall be provided 60 days to comment.

8.2.a.2. Qualification Criteria. Factors to be considered in determining whether to assign an ONRW designation to a water from another category shall include the following:

8.2.a.2.A. Impact on private property owners;

8.2.a.2.B. Whether the interests of all affected parties have been adequately represented during the nomination and designation process;

8.2.a.2.C. The location of the water;

8.2.a.2.D. Any previous special designations;

8.2.a.2.E. Existing water quality;

8.2.a.2.F. Outstanding ecological value;

8.2.a.2.G. Outstanding recreational or aesthetic value;
and

8.2.a.2.H. Other factors determined by the Board, when applicable.

§60-5-9. Public participation in antidegradation reviews/Appeals.

9.1. All antidegradation review findings shall be documented by the Secretary and made part of the public record. The findings, including the baseline water quality, the existing uses, and the tier assigned to the water body are to be available to the public.

9.2. Any required public notice will be provided through the appropriate Class I or Class II legal advertisement in a qualified newspaper with the largest circulation for the county where the activity will occur. The notice will identify the action being considered, list all existing uses identified of the water, and call for comments from the public regarding the proposed activity. The cost of such publication will be borne by the applicant.

9.3. Public notice, opportunity for public comment, and opportunity for a public hearing, consistent with the requirements of 47 CSR 10-12, will be provided of all activities proposed to be allowed after a Tier 1, 2, 2.5, or 3 antidegradation review. Such public notice may be combined with other required notifications, such as notification to agencies as part of required intergovernmental coordination or notification of a proposed permit decision. Public notice is not required to be provided for proposed activities on Tier 1 or Tier 2 waters for which a review process has not been required, such as activities covered by a WV/NPDES general permits, except that any trading approved by the Secretary for

antidegradation purposes will require public notice consistent with the requirements of 47 CSR 10-12.

9.4. Public notice of Tier 2 antidegradation reviews.

9.4.a. After a full Tier 2 review has been completed for a proposed activity, the public notice shall include notice of the availability of the following:

9.4.a.1. The decision as to whether the proposed activity has been determined to comply with the antidegradation implementation rule;

9.4.a.2. Findings from the alternatives analysis;

9.4.a.3. A determination of the impact of the activity to ambient concentrations and baseline water quality;

9.4.a.4. The results of the socio-economic evaluation of the activity;

9.4.a.5. The determination regarding existence of reasonable and cost effective non-degrading or less degrading alternatives; and

9.4.a.6. A description of the water segment that is subject to the antidegradation review.

9.5. Once the intergovernmental coordination and public notice requirements of subsections 9.1. through 9.5. are satisfied, the Secretary shall make a determination concerning the social or economic importance in the area in which the affected water bodies are located. All determinations, including determinations to prohibit the activity, shall be documented and made a part of the public record.

9.6. Appeals-Final agency decisions, made after public comment, that identify applicable uses, designate tiers, or that find regulated activities to be allowed or prohibited, are final actions that are appealable as set forth in the Administrative Procedures Act. Final agency actions made by the Secretary are appealable to the Board.

APPENDIX A

WV DNR and WV DEP - Waters of Special Concern

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APPENDIX B
ANTIDEGRADATION IMPLEMENTATION PROCEDURES
INTERGOVERNMENTAL COORDINATION AGENCIES

STATE AGENCIES

Bureau of Commerce

Department of Natural Resources
Division of Forestry
Development Office

Department of Health and Human Resources

Bureau for Public Health

Bureau of the Environment

Department of Environmental Protection - all offices

Department of Agriculture

Soil Conservation Agency

Department of Transportation

Division of Highways

FEDERAL AGENCIES

US Environmental Protection Agency, Region III
US Fish and Wildlife Service
US Army Corps of Engineers
US Forest Service
US Office of Surface Mining

APPENDIX C
Initial Presumptive Listing for Tier 2.5

<u>DNR CODE</u>	<u>STREAM NAME</u>	<u>LENGTH (miles)</u>
Tug Fork Watershed		
BST-60-D	CUB BRANCH	0.72
BST-60-E	GEORGE BRANCH	3.79
BST-60-F	CRANE CREEK	1.22
BST-60-G	HURRICANE BRANCH	2.99
BST-60-H-2	WHITE OAK BRANCH	1.78
BST-70-N	LITTLE SLATE CREEK	3.42
BST-70-U-1	BIG BRANCH	1.86
BST-70-W	JACOBS FORK	10.50
BST-70-Z	VALL CREEK	2.31
BST-76-E	DAYCAMP BRANCH	1.67
BST-99	ELKHORN CREEK	8.41
		38.68 total miles
James River Watershed		
J-1-A	EWIN RUN	2.64
J-1-C	NORTH FORK	5.88
J-2	SWEET SPRINGS CREEK	6.10
J-3	COVE CREEK	6.66
		21.27 total miles
Kanawha River Watershed (Upper & Lower)		
K-13	LITTLE SIXTEENMILE CREEK	4.45
K-14-B-1	UNT OF FIVEFORK BRANCH	1.87
K-39-E-3	BAYS BRANCH	1.89
K-39-M-1	HOFFMAN HOLLOW	2.32
K-39-O	SHREWSBURY HOLLOW	1.54
K-76	LOOP CREEK	19.98
		32.06 total miles
Coal River Watershed		
KC-10-22	WHITE OAK BRANCH	2.08
KC-31-B	HOPKINS FORK	8.95
		11.03 total miles
Elk River Watershed		
KE	ELK RIVER	5.00
KE-102-A	CAMP CREEK	14.19
KE-111-K	SUGAR CREEK	10.51
KE-111-K-2	LITTLE SUGAR CREEK	7.61
KE-117-B	RIGHT FORK	13.60
KE-118	BERGOO CREEK	8.19
KE-127	BIG RUN	2.53
KE-129	VALLEY FORK	2.68
KE-133	DRY FORK	3.80
KE-135	BIG RUN	1.94

KE-136	PROPS RUN	1.38
KE-137	LAUREL RUN	2.63
KE-138	BIG SPRING FORK	9.67
KE-138-B	CUP RUN	2.02
KE-139-5A	SLATY FORK	4.79
KE-139-B	CROOKED FORK	2.51
KE-14-P	PANTHER HOLLOW	1.55
KE-50-B-10	IKE FORK	1.88
KE-50-I	ROCKCAMP RUN	6.66
KE-76-L-5	TUG FORK	3.83
KE-76-O	POPLAR CREEK	6.29
KE-76-U	JOHNSON BRANCH	2.44
KE-98-B-16	DESERT FORK	4.97
KE-98-C	LEFT FORK	5.73
KE-98-C-1	LAURELPATCH RUN	1.51
KE-98-C-11	LAUREL FORK	5.59
KE-98-C-14	FALL RUN	6.06
KE-98-C-15	BIG RUN	3.79
KE-98-C-1-A	LONG FORK	2.56
		145.90 total miles

Gauley River Watershed

KG GAULEY RIVER	26.56
KG-19-A DOGWOOD CREEK	5.08
KG-19-G ANGLINS CREEK	12.77
KG-19-J BRACKENS CREEK	6.55
KG-19-U-1 BROWN CREEK	3.19
KG-19-U-2-C OLD FIELD BRANCH	2.88
KG-19-U-2-D JOB KNOB BRANCH	3.85
KG-19-V-5 LAUREL CREEK	3.61
KG-19-V-7 KUHN BRANCH	1.91
KG-20 COLLISON CREEK	4.98
KG-24 HOMINY CREEK	23.40
KG-24-E GRASSY CREEK	5.68
KG-24-E-2 BRUSHY MEADOW CREEK	5.23
KG-24-J PRICE FORK	2.83
KG-26-K BRUSHY FORK	5.53
KG-32-J CRANES NEST RUN	2.26
KG-34-B COAL SIDING RUN	1.50
KG-34-E LAUREL CREEK	9.18
KG-34-E-11 MIDDLE BRANCH	3.34
KG-34-E-13 COLD SPRING BRANCH	1.71
KG-34-E-3 SPRING RUN	1.52
KG-34-E-8 BEECH RUN	3.08
KG-34-E-9 HOGCAMP RUN	2.55
KG-34-F LITTLE LAUREL CREEK	9.87
KG-34-F-2 IMPROVEMENT BRANCH	1.86
KG-34-G SOUTH FORK	7.21
KG-34-G-10 COLD KNOB FORK	5.60

KG-34-G-13	BIG RUN	1.44
KG-34-G-5	ELKLICK RUN	2.10
KG-34-G-6	ROCKY RUN	3.54
KG-34-G-8	BECKY RUN	2.56
KG-34-H	NORTH FORK	16.37
KG-34-H-14	BEAR RUN	2.21
KG-34-H-4	HUNTERS RUN	3.09
KG-34-H-5	COATS RUN	1.08
KG-34-H-9	ARMSTRONG RUN	1.24
KG-45	BIG LAUREL CREEK	6.56
KG-57	MILLER MILL RUN	4.37
KG-58	LAUREL CREEK	2.07
KG-59	BIG RUN	1.32
KG-5-F-3	BEARPEN FORK	1.27
KG-5-H	ASH FORK	3.09
KG-5-J	NEIL BRANCH	2.65
KG-6	RICH CREEK	6.74
KG-60	TURKEY CREEK	4.86
KG-61	HUGHES RUN	2.79
KG-65	WILLIAMS CAMP RUN	1.66
KG-67	STRAIGHT CREEK	1.83
KG-70	BIG RUN	3.22
KG-72	MIDDLE FORK	1.96
KG-73	NORTH FORK	3.29
KGC	CRANBERRY RIVER	38.39
KGC-14	LICK BRANCH	1.22
KGC-15	HANGING ROCK BRANCH	1.24
KGC-19	DOGWAY FORK	8.75
KGC-21	BIRCHLONG RUN	2.18
KGC-23-E	CHARLES CREEK	2.59
KGC-24-C	LEFT FORK	1.52
KGC-3	JAKEMAN RUN	2.06
KGC-4	BARRENSHE RUN	4.59
KGC-7	BEE RUN	1.57
KGC-8	FOXTREE RUN	1.56
KGC-9	ALDRICH BRANCH	1.25
KGW	WILLIAMS RIVER	34.70
KGW-1	CRAIG RUN	2.00
KGW-19	UPPER BANNOCK SHOALS RUN	1.83
KGW-2	JONATHAN RUN	1.38
KGW-20	TEA CREEK	5.96
KGW-20-A	LICK CREEK	1.82
KGW-21	SUGAR CREEK	3.63
KGW-22	LITTLE LAUREL CREEK	2.47
KGW-25	DAY RUN	3.08
KGW-26	BLACK MOUNTAIN RUN	1.65
KGW-27	MOUNTAIN LICK RUN	2.11
KGW-3	SAWYER RUN	1.33
KGW-4	SPICE RUN	1.81

KGW-8 WHITE OAK FORK	2.14	
KGW-9 LICK BRANCH	1.43	
	379.30 total miles	

New River Watershed (Upper & Lower)

KN-17	MANNS CREEK	3.37	
KN-18	EPHRAIM CREEK	4.22	
KN-23	BUFFALO CREEK	2.41	
KN-24	SLATER CREEK	5.08	
KN-26	PINEY CREEK	16.91	1
KN-26-B	FAT CREEK	6.56	
KN-27	LAUREL CREEK	12.37	
KN-27-C	CHESTNUT KNOB FORK	3.54	
KN-29	GLADE CREEK	5.76	
KN-29-E	PINCH CREEK	5.71	
KN-32	MEADOW CREEK	2.59	
KN-37	FALL BRANCH	1.93	
KN-51-O	TURKEY CREEK	9.19	
KN-61	RICH CREEK	2.85	
KNB-12-B	LAUREL CREEK	4.86	
KNB-13	CAMP CREEK	9.29	
KNB-13-D	MASH FORK	2.91	
KNB-13-G	SENG BRANCH	1.48	
KNB-3	LITTLE BLUESTONE RIVER	4.73	
KNB-30	CRANE CREEK	5.40	
	111.16 total miles		

Greenbrier River Watershed

KNG	GREENBRIER RIVER	25.30
KNG(S)-1	MILLIGAN CREEK	5.71
KNG(S)-2-B	FLYNN CREEK	4.27
KNG(S)-3-A	BURNS RUN	4.08
KNG-23	SECOND CREEK	6.06
KNG-28	ANTHONY CREEK	15.70
KNG-28-D	LITTLE CREEK	8.08
KNG-28-P-1	LAUREL RUN	4.20
KNG-28-Q-2	TWOMILE RUN	1.55
KNG-47	BEAVER CREEK	8.18
KNG-49	SWAGO CREEK	3.77
KNG-53-G	BARCLAY RUN	1.71
KNG-53-H	DOUTHAT CREEK	9.02
KNG-60	LAUREL RUN	3.00
KNG-66-D	SHOCK RUN	4.46
KNG-66-H-2	LEFT PRONG	3.29
KNG-68	DEER CREEK	8.75
KNG-68-A	NORTH FORK	10.73
KNG-68-A-3	SUTTON RUN	1.60
KNG-68-A-4	TACKER FORK	2.46
KNG-68-A-5	BLACK RUN	2.43

KNG-68-A-6 ELLEBER RUN	3.08
KNG-68-A-6-A GRIFFIN RUN	1.69
KNG-70 LEATHERBARK RUN	4.69
KNG-74 TROUT RUN	1.14
KNG-75 ALLEGHENY RUN	5.33
KNG-77 ELK CREEK	2.56
KNG-78 EAST FORK	19.87
KNG-78-A JOHNS RUN	2.21
KNG-78-C LITTLE RIVER	6.28
KNG-78-G FIVEMILE HOLLOW	2.29
KNG-78-H POCA RUN	2.73
KNG-78-H-1 LONG RUN	2.85
KNG-78-K MULLENAX RUN	2.92
KNG-78-L ABES RUN	2.65
KNG-79 WEST FORK	17.68
KNG-79-B FILL RUN	1.91
KNG-79-C LITTLE RIVER	7.59
KNG-79-C-1 SPAN OAK RUN	2.32
KNG-79-C-2 CLUBHOUSE RUN	11.02
KNG-79-C-3 HINKLE RUN	10.41
	245.59 total miles

Little Kanawha River Watershed

LK-111 LAUREL RUN	6.04
LK-131 GETOUT RUN	3.01
LK-86-E-4 PINE RUN	1.57
LK-95-L CARPENTER FORK	5.04
	15.66 total miles

Cheat River Watershed

MC-12-A LAUREL RUN	6.13
MC-12-B-3 HOG RUN	4.42
MC-12-B-6 MILL RUN	3.95
MC-18 ROARING CREEK	8.03
MC-1-A RYAN HOLLOW	2.33
MC-20 ELSEY RUN	3.40
MC-2-A DARNELL RUN	2.08
MC-33-A FLAG RUN	5.51
MC-36 WOLF CREEK	6.90
MC-41 LONG RUN	1.22
MC-45 TOBES RUN	1.16
MC-46-B RIGHT FORK	3.80
MC-47 JOHNATHAN RUN	1.86
MC-50 UPPER JOHNATHAN RUN	2.53
MC-51 CLOVER RUN	1.34
MC-51- LEFT FORK	9.16
MC-51-A RIGHT FORK	5.45
MC-51-B INDIAN FORK	4.16
MC-52 MINEAR RUN	6.63

MC-52-0.7	BRIDGE RUN	1.12
MC-52-A	ROARING RUN	2.12
MC-53	DRY RUN	2.73
MC-54	HORSESHOE RUN	15.55
MC-54-A	MIKE RUN	3.86
MC-54-C	MAXWELL RUN	2.92
MC-54-D	HYLE RUN	3.92
MC-54-E	LICK DRAIN	1.79
MC-54-F	LAUREL RUN	2.87
MC-54-G	LYNN RUN	1.33
MC-54-H	THUNDERSTRUCK RUN	3.89
MC-54-I	LEADMINE RUN	4.81
MC-54-I-1	LIME HOLLOW RUN	1.14
MC-54-J	WOLF RUN	1.80
MC-54-K	TWELVEMILE RUN	2.25
MC-55	DRY RUN	3.19
MC-56	MILL RUN	4.77
MC-57	WOLF RUN	1.90
MC-60	DRY FORK	3.76
MC-60-A	ROARING RUN	0.77
MC-60-C	ELKCLICK RUN	4.52
MC-60-C-3	JOHN B. HOLLOW	1.12
MC-60-D-10	SAND RUN	3.19
MC-60-D-11	YOAKUM RUN	2.48
MC-60-D-LOWER	BLACKWATER RIVER	2.62
MC-60-G	RED RUN	5.56
MC-60-I	MILL RUN	2.92
MC-60-J	ELKCLICK RUN	2.59
MC-60-K	GLADY FORK	31.31
MC-60-K-1	THREE SPRING RUN	1.25
MC-60-K-11	MCCRAY CREEK	2.41
MC-60-K-15	DANIELS CREEK	3.18
MC-60-K-16	WEST FORK GLADY FORK	6.13
MC-60-K-16	WEST FORK GLADY FORK	4.27
MC-60-K-17	EAST FORK GLADY FORK	7.28
MC-60-K-17-A	LOUK RUN	1.19
MC-60-K-2	PANTHER CAMP RUN	1.73
MC-60-K-2-A	HOG RUN	1.17
MC-60-K-4	FIVE LICK CREEK	1.71
MC-60-K-5	WOODFORD RUN	1.14
MC-60-K-6	BAKER CAMP RUN	1.19
MC-60-L	BIG RUN	3.69
MC-60-N	LAUREL FORK	21.52
MC-60-N-4	BEAVERDAM RUN	2.12
MC-60-N-8	FIVE LICK RUN	2.45
MC-60-O	RED CREEK	6.77
MC-60-O-1	BIG RUN	3.47
MC-60-O-2	FLATROCK RUN	2.89
MC-60-O-3	GANDY RUN	2.26

MC-60-P	SPRUCE RUN	3.25
MC-60-Q	HORSECAMP RUN	4.59
MC-60-R	TORY CAMP RUN	2.43
MC-60-T	GANDY CREEK	15.68
MC-60-T-1	LOWER TWO SPRING RUN	2.29
MC-60-T-10	NARROW RIDGE RUN	2.16
MC-60-T-11	WARNER RUN	2.21
MC-60-T-2	UPPER TWO SPRING RUN	2.53
MC-60-T-3	SWALLOW ROCK RUN	1.82
MC-60-T-6	TAYLOR RUN	0.87
MC-60-T-8	BIG RUN	3.75
MC-60-T-9	GRANTS BRANCH	2.80
MCS	SHAVERS' FORK	7.26
MCS-12	LITTLE LAUREL RUN	1.31
MCS-13	LITTLE BLACK RUN	4.74
MCS-14	CLIFTON RUN	2.11
MCS-15	RATTLESNAKE RUN	5.03
MCS-16	JOHNS RUN	2.70
MCS-2	HAWK RUN	1.09
MCS-22	TAYLOR RUN	2.97
MCS-22-A	STALNAKER RUN	1.61
MCS-28	UPPER POND LICK	6.29
MCS-3	HADDIT RUN	2.68
MCS-33	FISHING HAWK CREEK	3.60
MCS-3-A	SOUTH BRANCH	3.56
MCS-4	JOBS RUN	1.72
MCS-40	YOKUM RUN	2.56
MCS-43	GLADE RUN	2.67
MCS-46	RED RUN	2.75
MCS-47	BLISTER RUN	1.95
MCS-48	FISH HATCHERY RUN	2.66
MCS-49	LAMBERT RUN	3.23
MCS-5	LAUREL RUN	3.48
MCS-50	FIRST FORK	5.42
MCS-54	BEAVER CREEK	1.74
MCS-55	SECOND FORK	4.15
MCS-57	BLACK RUN	2.28
MCS-6	PLEASANT RUN	3.52
MCS-6-B	AARONS RUN	2.35
MCS-7	STONELICK RUN	1.68
MCS-8	LAUREL RUN	1.18
MCS-9	NAIL RUN	1.74
		415.11 total miles

Tygart River Watershed

MT-18-E-5-B	FROG RUN	2.36
MT-23-F	MILL RUN	4.03
MT-23-H	MILL RUN	3.72
MT-38	ZEBS CREEK	4.04

MT-44	MATHEUS RUN	1.66
MT-45-C	RIGHT FORK	3.24
MT-47	BEAVER CREEK	6.20
MT-50-A	RIGHT FORK OF FILES CREEK	8.33
MT-50-A-1	LIMEKILN RUN	2.12
MT-50-B	LEFT FORK FILES CREEK	2.84
MT-61	SHAVERS RUN	6.95
MT-64	MILL CREEK	10.69
MT-64-C	GLADE RUN	1.59
MT-64-E	MEATBOX RUN	1.19
MT-64-F	POTATOHOLE FORK	1.84
MT-66	RIFFLE CREEK	1.91
MT-66-B	MCGEE RUN	3.40
MT-66-C	BACK FORK	2.01
MT-67	RAFE RUN	1.54
MT-68	BECKY CREEK	9.41
MT-68-A	BIG BRANCH	2.25
MT-72	HAMILTON RUN	2.49
MT-73	CLAY RUN	2.61
MT-74	ELKWATER FORK	5.20
MT-74-A	MOWRY RUN	2.34
MT-74-B	LIMEKILN RUN	1.93
MT-75	STEWART RUN	8.08
MT-77	CONLEY RUN	7.10
MT-78	RALSTON RUN	6.99
MT-79	WINDY RUN	4.60
MT-80	LOGAN RUN	2.49
MT-81	BIG RUN	5.14
MTB-25-A	RIGHT FORK	3.88
MTB-27	PANTHER FORK	4.08
MTB-28	BIG RUN	3.03
MTB-31	RIGHT FORK	2.24
MTB-31-B	REGER RUN	1.13
MTB-31-C	ALEC RUN	1.93
MTB-31-D	MILLSITE RUN	3.76
MTB-32	LEFT FORK	6.85
MTB-32-D	BEARCAMP RUN	5.00
MTB-32-H	BEECH RUN	4.62
MTM	MIDDLE FORK RIVER	7.32
MTM-1	HANGING RUN	4.68
MTM-11	RIGHT FORK MIDDLE FORK RIVER	7.42
MTM-11-D	JACKSON FORK	3.88
MTM-11-E	JENKS FORK	3.70
MTM-13	LONG RUN	7.66
MTM-16	CASSITY FORK	4.25
MTM-16-A	PANTHER RUN	4.43
MTM-21	PLEASANT RUN	1.82
MTM-22	LAUREL RUN	2.57
MTM-23	LAUREL BRANCH	4.00

MTM-24	SUGAR RUN	2.30
MTM-25	SCHOOLCRAFT RUN	3.08
MTM-25-A	BIRCH FORK	1.48
MTM-26	BIRCH FORK	3.56
MTM-27	MITCHELL LICK FORK	2.52
		231.49 total miles

Upper Ohio North

O-102-A	WHITEOAK RUN	0.48
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Twelvepole Creek Watershed

O-2-H-2-A	STOWERS BRANCH	0.46
O-2-P-23	ARKANSAS BRANCH	0.75
O-2-P-25	SWEETWATER BRANCH	2.00
O-2-P-26	LONG BRANCH	2.59
O-2-P-27	SPRUCE FORK	1.84
O-2-Q-14	RICH CREEK	1.32
O-2-Q-16	BLUELICK BRANCH	2.28
O-2-Q-18-A	LITTLE LAUREL CREEK	2.09
		13.33 total miles

Upper Ohio South

O-77-B	LONG RUN	4.51
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Guyandotte River Watershed

OG-102	BRICKLE BRANCH	1.64
OG-29-C	HORSESHOE BRANCH	1.98
OG-32-F	PLUM BRANCH	2.35
OG-34-E	STEER FORK	1.64
OG-37	LITTLE UGLY CREEK	1.42
OG-38	BIG UGLY CREEK	8.49
OG-38-A	PIGEONROOST CREEK	3.62
OG-38-D	LAUREL CREEK	2.60
OG-61	BUFFALO CREEK	3.01
OG-96-A	STURGEON BRANCH	1.57
OGM-8-B	LEFT FORK	2.75
		31.06 total miles

Potomac Direct Drains Watershed

P-16	ROCKWELL RUN	10.39
P-9-G-1	NORTH FORK INDIAN RUN	1.49
P-9-G-2	SOUTH FORK INDIAN RUN	3.76
		15.63 total miles

Cacapon River Watershed

PC-0.9	CONOR HOLLOW	7.73
PC-1	CONSTANT RUN	5.23
PC-10	EDWARDS RUN	7.00
PC-17	HAWK RUN	4.62

PC-23 TROUT RUN	16.62
PC-24-H LOWER COVE RUN	4.63
	45.83 total miles

North Branch / Potomac River Watershed

PNB-14 HOWELL RUN	3.83
PNB-15 DEEP RUN	4.75
PNB-15-A CRANBERRY RUN	2.66
PNB-16-B WYCKOFF RUN	2.43
PNB-18 DIFFICULT CREEK	5.17
PNB-18-B-1 JOHNNYCAKE RUN	3.28
	22.11 total miles

South Branch / Potomac River Watershed

PSB-13 MILL RUN	8.95
PSB-21-F DUMPLING RUN	2.60
PSB-21-K ROUGH RUN	6.92
PSB-25-C-2 SPRING RUN	2.98
PSB-28-A-1 BIG RUN	2.61
PSB-28-A-2 LAUREL RUN	3.17
PSB-28-B SAMUEL RUN	2.85
PSB-28-C BROAD RUN	2.39
PSB-28-D MOYER FORK	7.92
PSB-28-E HIGH RIDGE RUN	2.28
PSB-28-EE BIG RUN	12.84
PSB-28-EE-2 SAWMILL BRANCH	3.22
PSB-28-EE-2-A BACK RUN	3.39
PSB-28-EE-3 TEETER CAMP RUN	3.71
PSB-28-EE-3-A HEMLOCK RUN	1.91
PSB-28-EE-3-B LEONARD SPRING HOLLOW	4.64
PSB-28-EE-3-C MIDDLE RIDGE HOLLOW	4.81
PSB-28-EE-3-D BUD HOLLOW	3.54
PSB-28-EE-4 ELK RUN	3.93
PSB-28-G ZEKE RUN	3.70
PSB-28-GG-1 VANCE RUN	3.27
PSB-28-GG-2 SAMS RUN	1.10
PSB-28-GG-2-A LITTLE LOW PLACE HOLLOW	1.10
PSB-28-I POWDERMILL RUN	2.84
PSB-28-K SENECA CREEK	20.26
PSB-28-K-1 BRUSHY RUN	7.79
PSB-28-K-2 ROARING CREEK	6.13
PSB-28-K-2-B LONG RUN	2.23
PSB-28-K-3 HORSECAMP RUN	4.06
PSB-28-K-3-B WAMSLEY RUN	1.52
PSB-28-K-4 STRADER RUN	2.56
PSB-28-K-5 GULF RUN	1.46
PSB-28-K-6 WHITES RUN	3.86
PSB-28-K-6-A LOWER GULF RUN	4.67
PSB-28-K-6-B UPPER GULF RUN	2.67

PSB-28-R BLIZZARD RUN	3.60
PSB-28-S BRIERY GAP RUN	2.65
PSB-28-T LAUREL RUN	2.74
PSB-29 REDMAN RUN	3.41
PSB-30 LONG RUN	2.88
PSB-32 BRIGGS RUN	4.57
PSB-33 REEDS CREEK	11.16
PSB-40 PETERS RUN	5.08
PSB-47 THORN CREEK	9.08
PSB-9 MILL CREEK	25.38
	224.40

Shenandoah River Watershed (Hardy County)
 S-9-A CAPON RUN 2.19

Total number of streams	444
Total Miles	2006.80