

Robert Smith, Chief  
Water Bureau/Standards and Planning Division  
Connecticut Department of Environmental Protection  
79 Elm Street  
Hartford, CT 01606

Dear Mr. Smith:

Thank you for the submittal of *A Total Maximum Daily Load Analysis for Transylvania Brook, Southbury, Connecticut*. This surface water is included on Connecticut's 1998 303(d) list and was targeted for TMDL development by April 1st, 2000. This Total Maximum Daily Load (TMDL) analysis was developed to address the aquatic life support impairment in Transylvania Brook due to copper, zinc, ammonia and chlorine.

The U.S. Environmental Protection Agency New England (EPA New England) hereby approves Connecticut's final TMDL analysis for Transylvania Brook, received by EPA New England on March 7, 2001. We have determined that the Transylvania Brook TMDL for copper, zinc, ammonia and chlorine meets the requirements of §303(d) of the Clean Water Act (CWA), and EPA's implementing regulations (40 CFR Part 130).

The final submittal includes all the required elements of a TMDL; loading capacity, load allocations, waste load allocations, margin of safety seasonal variation, and public participation process. Consistent with EPA policies, the TMDL also includes an implementation plan addressing the primary source contributing to the impairment. In addition, Connecticut DEP has provided reasonable assurances that the necessary controls will be implemented in a timely manner.

We recognize the future benefits of this TMDL for the aquatic life in Transylvania Brook. My staff and I look forward to continued cooperation with Connecticut DEP in exercising our shared responsibility to implement the requirements under Section 303(d) of the CWA. We would also like to thank Chris Bellucci of your staff for his dedication to developing and completing this TMDL. If you have any questions or comments regarding the attached approval documentation, please contact me at (617) 918-1500, or Ms. Jeanne Voorhees at (617) 918-1686.

Sincerely,

Linda M. Murphy, Director  
Office of Ecosystem Protection

Enclosure

cc: Tom Morrissey, CT DEP  
Fred Banach, CT DEP  
Lee Dunbar, CT DEP  
Chris Bellucci, CT DEP  
Ron Manfredonia, EPA  
Ann Williams, EPA

Lynne Hamjian, EPA  
Roger Janson, EPA

# EPA NEW ENGLAND'S APPROVAL DOCUMENTATION FOR CT DEP'S TRANSYLVANIA BROOK TMDL ANALYSIS

EFFECTIVE DATE: MARCH 27, 2001

## REVIEW ELEMENTS OF TMDLs

Section 303(d) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 C.F.R. § 130 describe the statutory and regulatory requirements for approvable TMDLs. The following information is generally necessary for EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation.

*Connecticut Department of Environmental Protection (CT DEP) submitted **Total Maximum Daily Load Analysis for Transylvania Brook, Southbury, CT (received March 7, 2001)** requesting EPA New England's review and approval of TMDLs for copper, zinc, ammonia (summer and winter) and chlorine. The TMDL submission includes the following documents:*

- *Submittal letter dated February 26, 2001 and received by EPA New England March 7, 2001*
- *Total Maximum Daily Load Analysis for Transylvania Brook, Southbury, CT (02/22/01)*
- *Notice of Tentative Determination: Intent to Renew A National Pollutant Discharge Elimination System Permit (for discharge to Transylvania Brook)*
- *Transylvania Brook TMDL Support Document: Estimating Load Allocation for the Transylvania Brook TMDL*
- *Transylvania Brook TMDL Support Document: Application of the Rare Copper Criterion to the Transylvania Brook TMDL*

### **1. Description of Waterbody, Pollutant of Concern, Pollutant Sources and Priority Ranking**

The TMDL analytical document must identify the waterbody as it appears on the State/Tribe's 303(d) list, the pollutant of concern and the priority ranking of the waterbody. The TMDL submittal must include a description of the point and nonpoint sources of the pollutant of concern, including the magnitude and location of the sources. Where it is possible to separate natural background from nonpoint sources, a description of the natural background must be provided, including the magnitude and location of the source(s). Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation. The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as: (1) the assumed distribution of land use in the watershed; (2) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources; (3) present and future growth trends, if taken into consideration in preparing the TMDL; and, (4) explanation and analytical basis for expressing the TMDL through surrogate measures, if

applicable. Surrogate measures are parameters such as percent fines and turbidity for sediment impairments, or chlorophyll *a* and phosphorus loadings for excess algae.

***a. Description of Waterbody, Pollutant(s) of Concern and Priority Ranking***

*The final TMDL (page 2) identifies Transylvania Brook as it appears on the 1998 303(d) list, the pollutants of concern (copper, zinc, ammonia and chlorine) and the priority ranking of the brook for the development of a TMDL. Although the brook appears on the 1998 303(d) list for impairments due to nutrients, the final TMDL was not necessary for nutrients since there are no data to suggest that nutrients contribute to the impairment (pages 2-3 final TMDL). However, it should not be interpreted that the final approval of the TMDL is justification for delisting Transylvania Brook for nutrients. When the next list is submitted, justification for delisting due to nutrients will need to be provided.*

***b. Description of Point Source(s): location and magnitude***

*The sole point source of pollution, Southbury Training School POTW, is adequately described (page 3) and its location identified in Figure 1 (TMDL page 4). There are no other point sources in the Transylvania Brook watershed. Therefore, the Southbury Training School POTW is solely responsible for the point source contributions of the identified pollutants. Subsequently, the relative magnitude of this sole point source is identified as contributing 100% to the Waste Load Allocation.*

***c. Description of Nonpoint Sources(s): location and magnitude***

*Contributions of nonpoint sources and natural background levels of pollutants are unknown in Transylvania Brook. However, CT DEP considered the potential for nonpoint source loadings by evaluating land use coverage, which is predominately forested. Based on a review of the land use/cover maps, and the percent of land use categories found in the Transylvania Brook watershed (Figures 2 and 4, respectively), it is likely that nonpoint sources are not a significant contributor to the total pollutant loads to Transylvania Brook.*

*The potential for nonpoint source loadings can be evaluated by review of land use coverage. The Transylvania Brook watershed is predominately forest (approximately 72%) with approximately 19% open space, 6% developed, and 3% water/wetland. Since the Transylvania Brook watershed is predominantly undeveloped, it can be concluded that nonpoint sources are not a significant contributor to total pollutant loads to Transylvania Brook. This conclusion is further supported based on a literature review, and the land use/land cover statistics for the Transylvania Brook watershed (see TMDL, Figure 4 and accompanying GIS generated Land Use/Land Cover table).*

*Arnold and Gibbons (1996) believe that if detailed site information is unavailable, impervious surface area can serve as a feasible and cost-effective means for examining impact to water pollution. Imperviousness can estimate or predict cumulative water resource impacts. Research consistently demonstrates a strong correlation between imperviousness of a watershed and health of a receiving water. In particular, Arnold and Gibbons (1996), explain the relationship between area of impervious surface area and stream degradation; specifically, there is a consistent relationship*

*demonstrating that with increasing impervious surface area in a watershed there is an decrease in stream integrity/health. Also, Schueler (1992, in Arnold and Gibbons 1996) developed thresholds values of imperviousness at which degradation occurs; degradation first occurs at 10% impervious surface area, and at 30% degradation becomes so severe as to become almost unavoidable. Schueler (1992, in Arnold and Gibbons 1996) develops three categories of stream health based on these thresholds; less than 10% imperviousness is "protected," 10% - 30% is "impacted," and greater than 30% is "degraded."*

*Although a category for percent impervious surface area is not included in the watershed land use/cover categories for Transylvania Brook, it can be estimated from the percent developed category. Applying this approach, it can be estimated that approximately 6% of the Transylvania Brook watershed could include impervious surface. Based on this estimate of the total percent of impervious surface area in the Transylvania Brook watershed, it can be concluded that, at this magnitude, nonpoint sources are not likely to be significant contributors to total pollutant loads to Transylvania Brook, and that water quality degradation due to nonpoint source pollution is currently insignificant.*

## **2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target**

The TMDL submittal must include a description of the applicable State/Tribe water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion, and the antidegradation policy. Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation. A numeric water quality target for the TMDL (a quantitative value used to measure whether or not the applicable water quality standard is attained) must be identified. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, usually site specific, must be developed from a narrative criterion and a description of the process used to derive the target must be included in the submittal.

*The final TMDL (pages 8-9) includes an adequate description of the applicable water quality standards, including the designated uses, and the applicable numeric criteria for copper, zinc, ammonia and chlorine (Table 1). Transylvania Brook is identified as a Class A surface water from the headwaters in Roxbury, CT to the Southbury Training School POTW. Below the POTW, to the confluence with the Pomperaug River, Transylvania Brook is identified as a Class B surface water to reflect the presence of the POTW discharge. This TMDL covers the Class B segment of the brook. The designated uses are appropriately identified for Class B (page 8) and include recreational use; fish and wildlife habitat; agriculture and industrial supply and other legitimate uses, including navigation.*

*The applicable numeric criteria for copper, zinc, ammonia and chlorine are identified in Table 1 (page 9) including acute and chronic criteria. CT DEP included an explanation of the frequency of*

*acceptable exceedances for copper, zinc and chlorine. Also, CT DEP explained adjustments to the freshwater ammonia criteria to account for variations in water temperatures during the summer and winter (page 9). EPA New England agrees with the temperatures selected for summer and winter ammonia criteria because they represent appropriate average temperatures during these seasons.*

*Based on a request by EPA New England, CT DEP submitted a supporting document to explain the application of the rare copper criteria to the Transylvania Brook TMDL. Based on a review of CT DEP's water quality standards (1997), EPA New England agrees that the TMDL identifies and describes the applicable water quality standards for Transylvania Brook. Also, based on a review of the criteria for each pollutant, and review of the support documentation for the rare copper criterion, EPA New England concludes that criteria are consistent with CT DEP's water quality standards (CT DEP 1997).*

### **3. Loading Capacity - Linking Water Quality and Pollutant Sources**

As described in EPA guidance, a TMDL identifies the loading capacity of a waterbody for a particular pollutant. EPA regulations define loading capacity as the greatest amount of loading that a water can receive without violating water quality standards (40 C.F.R. § 130.2(f) ). The loadings are required to be expressed as either mass-per-time, toxicity or other appropriate measure (40 C.F.R. § 130.2(i) ). The TMDL submittal must identify the waterbody's loading capacity for the applicable pollutant and describe the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In most instances, this method will be a water quality model. Supporting documentation for the TMDL analysis must also be contained in the submittal, including the basis for assumptions, strengths and weaknesses in the analytical process, results from water quality modeling, etc. Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation.

In many circumstances, a critical condition must be described and related to physical conditions in the waterbody as part of the analysis of loading capacity (40 C.F.R. § 130.7(c)(1) ). The critical condition can be thought of as the "worst case" scenario of environmental conditions in the waterbody in which the loading expressed in the TMDL for the pollutant of concern will continue to meet water quality standards. Critical conditions are the combination of environmental factors (e.g., flow, temperature, etc.) that results in attaining and maintaining the water quality criterion and has an acceptably low frequency of occurrence. Critical conditions are important because they describe the factors that combine to cause a violation of water quality standards and will help in identifying the actions that may have to be undertaken to meet water quality standards.

#### ***a. Loading Capacity***

*The loading capacity (LC) for copper, zinc, ammonia (summer and winter) and chlorine are identified in Table 3 (page 12). Individual LC calculations and results appear in Attachments 1-5 for each pollutant. The LC calculations for each pollutant were performed using a steady-state*

*water quality model under critical low flow conditions. Loading capacities were calculated by multiplying the waterbody's critical low flow (equal to the 7Q10 flow plus the average low flow from the POTW) by the adopted numeric criteria. The loadings are expressed in mass-per-time (grams/day for all pollutants, except ammonia which is expressed in kg/day).*

*Based on this approach, and review of attachments 1 - 5, EPA New England believes the LC s are sufficient to meet water quality standards because the individual LC calculations were applied to achieve consistency with criteria under critical low flow conditions.*

#### ***b. Critical Conditions***

*The steady-state model calculated the TMDLs for each pollutant under critical conditions that represent the worst-case assumptions for flow (7Q10). CT DEP appropriately defined the critical condition for the low flow event as the seven day, ten year low flow . Critical 7Q10 flows used in the development of the TMDLs appear in Table 2 of the TMDL document (page 11) This approach is consistent with CT's water quality standards (1997), in which the 7Q10 represents the minimum low flow to which criteria apply. As described in the TMDL, and consistent with CT's water quality standards, the application of the U.S. Geological Survey method of Cervione et. al. (1982) was used to calculate the critical 7Q10 conditions.*

*EPA New England agrees that the calculated 7Q10 is the expected critical condition that would provide the necessary capacities to protect water quality, and meet water quality standards. Further, this approach is consistent with CT DEPs water quality standards, in particular standard number eleven.*

#### ***c. Assumptions***

*The application of the steady-state model included assumptions regarding the fate of pollutants after discharge to Transylvania Brook and flow condition. The model assumed pollutants behave conservatively after discharge to Transylvania Brook. Specifically, the model assumed that all metals were present in the dissolved phase without adsorption to particulates and the absence of attenuation, except that which occurs through dilution. Applying this assumption will likely result in an overestimation of downstream concentrations since adsorption and attenuation will actually occur.*

#### ***d. Strengths and Weaknesses***

*The assumptions regarding the chemical phase of copper and zinc (e.g. dissolved) and ultimate fate of these metals after discharge to Transylvania Brook represent a conservative approach used in the model and can be considered as strengths in the analysis. Connecticut DEP considered that copper and zinc are in the most toxic, bioavailable form (e.g. dissolved), and that no attenuation, except through dilution, would occur. If in-stream data were collected, it would be expected that some portion of the discharged metals would not be bioavailable, and that some portion would be attenuated through natural processes. Rather than expending resources and time to collect in-stream data that could be used to predict the quantity of each metal that is dissolved, or adsorbed to*

*particulate, or be used to determine attenuation, Connecticut DEP chose a simple and conservative approach to ensure the likelihood that water quality standards will be attained.*

*One weakness in the analysis is the unavailability of site-specific data to establish the nonpoint source and natural background loadings of the pollutants. Considering that CT DEP relied upon measured concentrations in other surface waters, nonpoint and/or natural background source contributions could be either higher or lower than estimated for Transylvania Brook. However, CT DEP based their estimates of nonpoint and natural background sources on reasonable, conservative assumptions (see TMDL page 13).*

#### **4. Load Allocations (LAs)**

EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity allocated to existing and future nonpoint sources and to natural background (40 C.F.R. § 130.2(g)). Load allocations may range from reasonably accurate estimates to gross allotments (40 C.F.R. § 130.2(g)). Where it is possible to separate natural background from nonpoint sources, load allocations should be described separately for background and for nonpoint sources.

If the TMDL concludes that there are no nonpoint sources and/or natural background, or the TMDL recommends a zero load allocation, the LA must be expressed as zero. If the TMDL recommends a zero LA after considering all pollutant sources, there must be a discussion of the reasoning behind this decision, since a zero LA implies an allocation only to point sources will result in attainment of the applicable water quality standard, and all nonpoint and background sources will be removed.

*The LAs for copper, zinc, and ammonia appear on pages 13-14, Table 3 and in Attachments 1-5 of the TMDL. Additionally, CT DEP provided a support document explaining the means used to estimate the LAs for the development of this TMDL.*

*Load allocations were calculated by multiplying the critical stream flow under 7Q10 natural conditions by an estimated concentration of each pollutant. Applying an estimated concentration for ammonia, zinc and copper was necessary because actual contributions from nonpoint sources and natural background levels of these pollutants are unknown in Transylvania Brook. Therefore, CT DEP estimated concentrations of these pollutants from known concentrations measured in Burlington Brook, which exhibits land use patterns very similar to Transylvania Brook and is considered a reference site by the U.S. Geologic Survey (USGS) for streams of that size. Figure four in the TMDL document clearly demonstrates the similarity between the land use patterns in each of these watersheds. Chlorine was assumed to be zero because natural background levels of chlorine do not occur naturally in aquatic environments and there is no known nonpoint source of chlorine to Transylvania Brook. EPA New England agrees with this approach for estimating nonpoint source contributions and natural background levels because it represents a practical estimation of pollutant concentrations.*



*As discussed, no data exists for nonpoint sources and natural background levels in Transylvania Brook. Also, adequate data was unavailable from Burlington Brook to distinguish between contributions of pollutants from nonpoint and natural background sources. Thus, the load allocations include both natural background and potential nonpoint source contributions. This approach is appropriate when meaningful data is unavailable to distinguish between natural background and nonpoint sources, and in cases, such as this, when the primary source of pollutants is attributed to a single point source.*

## **5. Wasteload Allocations (WLAs)**

EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to existing and future point sources (40 C.F.R. § 130.2(h) ). If no point sources are present or if the TMDL recommends a zero WLA for point sources, the WLA must be expressed as zero. If the TMDL recommends a zero WLA after considering all pollutant sources, there must be a discussion of the reasoning behind this decision, since a zero WLA implies an allocation only to nonpoint sources and background will result in attainment of the applicable water quality standard, and all point sources will be removed.

In preparing the wasteload allocations, it is not necessary that each individual point source be assigned a portion of the allocation of pollutant loading capacity. When the source is a minor discharger of the pollutant of concern or if the source is contained within an aggregated general permit, an aggregated WLA can be assigned to the group of facilities. But it is necessary to allocate the loading capacity among individual point sources as necessary to meet the water quality standard.

The TMDL submittal should also discuss whether a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur. In such cases, the State/Tribe will need to demonstrate reasonable assurance that the nonpoint source reductions will occur within a reasonable time.

*As discussed, the Southbury Training School POTW is the sole point source in the Transylvania Brook watershed. There are no other point sources in the watershed, thus, 100 percent of the Waste Load Allocations is assigned to this POTW. WLAs were calculated by subtraction the LA from the LC. Calculations and results appear in Attachments 1-5 for each pollutant. Based on our review of the TMDL and the Attachments 1-5, EPA New England believes that the WLAs for each pollutant have been set at levels sufficient to attain water quality standards because appropriate criteria and critical conditions were used in the overall development of the TMDL.*

## **6. Margin of Safety (MOS)**

The statute and regulations require that a TMDL include a margin of safety to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA § 303(d)(1)(C), 40 C.F.R. § 130.7(c)(1) ). EPA guidance explains that the MOS may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or

explicit, i.e., expressed in the TMDL as loadings set aside for the MOS. If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.

*Connecticut DEP identifies explicit and implied MOS. Explicit MOS is identified on page 15 and calculations are provided in Attachments 1-5. The assumption that copper and zinc are completely dissolved and bioavailable provides implied MOS because some portion of the metals will not actually be bioavailable due to adsorption to particulate material. As stated in the TMDL document (pages 15-16), attenuation of pollutants was assumed to occur only through dilution, and natural processes that serve to attenuate the toxicity of pollutants were not accounted for in the model. EPA New England is in agreement that some implied MOS is provided by assuming no additional in-stream attenuation of metals. It is likely that additional attenuation occurs in-stream due to sorption and settling processes, and that downstream metals concentrations could be overestimated using this approach.*

*EPA New England concludes that adequate implied MOS is provided in the TMDLs because of the conservative assumptions (e.g., no attenuation) used to establish the TMDLs. Additionally, we conclude that the LCs, corresponding WLAs and LAs, together with the conservative MOS are sufficient to result in attainment of WQS. CT DEP is committed to conduct post-implementation monitoring to assess the adequacy of the assumptions used in the TMDLs. In the event that WQS are not being attained, the TMDLs will be revised accordingly.*

## **7. Seasonal Variation**

The statute and regulations require that a TMDL be established with consideration of seasonal variations. The method chosen for including seasonal variations in the TMDL must be described (CWA § 303(d)(1)(C), 40 C.F.R. § 130.7(c)(1) ).

*Seasonal variation is adequately discussed in the TMDL document (page 16). Seasonal loading capacities were calculated for ammonia since criteria differ for summer and winter temperatures. Additionally, as explained in the TMDL, since the steady state model calculations were conducted at critical 7Q10 conditions, flows higher than 7Q10 will have an increased assimilative capacity. Thus, EPA New England agrees that the TMDLs account for seasonal variation and will be protective of all seasons because they were established for critical low flow conditions when impacts from the POTW discharge would be most pronounced.*

## **8. Monitoring Plan for TMDLs Developed Under the Phased Approach**

EPA's 1991 document, Guidance for Water Quality-Based Decisions: The TMDL Process (EPA 440/4-91-001), recommends a monitoring plan when a TMDL is developed under the phased approach. The guidance recommends that a TMDL developed under the phased approach also should provide assurances that nonpoint source controls will achieve expected load reductions. The phased approach is appropriate when a TMDL involves both point and nonpoint sources and the

point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur. EPA's guidance provides that a TMDL developed under the phased approach should include a monitoring plan that describes the additional data to be collected to determine if the load reductions required by the TMDL lead to attainment of water quality standards.

*Water quality monitoring and assessment will be conducted by the Connecticut DEP according to the Rotating Basin Ambient Monitoring Strategy. As stated in the TMDL (page 17), fisheries surveys will serve as the primary metric to determine the progress towards meeting the Aquatic Life Support uses in Transylvania Brook after the TMDL is implemented.*

*Additional monitoring will be conducted as a part of the requirements in the reissued National Pollutant Discharge Elimination System permit for the discharge of pollutants by the Southbury Training School POTW. Monitoring requirements will be included in this permit for ammonia, chlorine, copper and zinc.*

*EPA New England supports the conditions of this monitoring approach because it will adequately evaluate the adequacy of the TMDLs, and the efficacy of the NPDES permit to implement conditions as specified in the TMDL document to meet water quality standards.*

## **9. Implementation Plans**

On August 8, 1997, Bob Perciasepe (EPA Assistant Administrator for the Office of Water) issued a memorandum, "New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs)," that directs Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for 303(d)-listed waters impaired solely or primarily by nonpoint sources. To this end, the memorandum asks that Regions assist States/Tribes in developing implementation plans that include reasonable assurances that the nonpoint source load allocations established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. The memorandum also includes a discussion of renewed focus on the public participation process and recognition of other relevant watershed management processes used in the TMDL process. Although implementation plans are not approved by EPA, they help establish the basis for EPA's approval of TMDLs.

*Although implementation plans are not a required element for the development of a TMDL and its final approval, CT DEP included implementation in their TMDL document (page 17 and Table 4). The basis of the implementation plan will be offered through a schedule incorporated into the reissued NPDES permit. Final implementation is contingent upon the completion of the Southbury Training School POTW's upgrade, which is scheduled for the Summer of 2003. Table 4 (page 18) illustrates that progress is being made toward the upgrade and that the bidding and construction is currently on schedule. Ultimate implementation of this TMDL is schedule for 2003.*

## **10. Reasonable Assurances**

EPA guidance calls for reasonable assurances when TMDLs are developed for waters impaired by both point and nonpoint sources. In a water impaired by both point and nonpoint sources, where a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur, reasonable assurance that the nonpoint source reductions will happen must be explained in order for the TMDL to be approvable. This information is necessary for EPA to determine that the load and wasteload allocations will achieve water quality standards.

In a water impaired solely by nonpoint sources, reasonable assurances that load reductions will be achieved are not required in order for a TMDL to be approvable. However, for such nonpoint source-only waters, States/Tribes are strongly encouraged to provide reasonable assurances regarding achievement of load allocations in the implementation plans described in section 9, above.

As described in the August 8, 1997 Perciasepe memorandum, such reasonable assurances should be included in State/Tribe implementation plans and “may be non-regulatory, regulatory, or incentive-based, consistent with applicable laws and programs.”

*The NPDES permit, once reissued with limits calculated from the WLAs for copper, zinc, ammonia, and chlorine will be legally enforceable and offers reasonable assurances that controls will be implemented and that water quality standards will be met in Transylvania Brook.*

## **11. Public Participation**

EPA policy is that there must be full and meaningful public participation in the TMDL development process. Each State/Tribe must, therefore, provide for public participation consistent with its own continuing planning process and public participation requirements (40 C.F.R. § 130.7(c)(1)(ii) ). In guidance, EPA has explained that final TMDLs submitted to EPA for review and approval must describe the State/Tribe's public participation process, including a summary of significant comments and the State/Tribe's responses to those comments. When EPA establishes a TMDL, EPA regulations require EPA to publish a notice seeking public comment (40 C.F.R. § 130.7(d)(2) ).

Inadequate public participation could be a basis for disapproving a TMDL; however, where EPA determines that a State/Tribe has not provided adequate public participation, EPA may defer its approval action until adequate public participation has been provided for, either by the State/Tribe or by EPA.

*Public participation for these TMDLs was achieved in accordance with CT DEP's statutes. The TMDL was noticed in the Danbury News-Times on January 12<sup>th</sup>, 2001. No comments were received on the TMDL during the 30 day public notice period. EPA New England concludes that CT DEP provided reasonable opportunities for public involvement and comment.*

## **12. Submittal Letter**

A submittal letter should be included with the TMDL analytical document, and should specify whether the TMDL is being submitted for a technical review or is a final submittal. Each final TMDL submitted to EPA must be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the Clean Water Act for EPA review and approval. This clearly establishes the State/Tribe's intent to submit, and EPA's duty to review, the TMDL under the statute. The submittal letter, whether for technical review or final submittal, should contain such information as the name and location of the waterbody, the pollutant(s) of concern, and the priority ranking of the waterbody.

*The submittal letter (dated February 26, 2001 and received by EPA New England March 7, 2001) identified the TMDL document as a final TMDL submitted under Section 303(d) of the Clean Water Act for EPA review and approval.*

## REFERENCES

- Arnold, Chester and C. J. Gibbons. 1996. Impervious Surface Coverage: The Emergence of a Key Environmental Indicator. *Journal of the American Planning Association*, Vol. 62, No. 2.
- Connecticut Department of Environmental Protection. 1997. Connecticut Water Quality Standards.
- Connecticut Department of Environmental Protection. 1998. Connecticut Waterbodies not Meeting Connecticut Water Quality Standards.