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RIVERS AND STREAMS: POTENTIAL IMPACT OF PROPOSED WATER QUALITY STANDARDS ON MINERAL DEVELOPMENT

Anthony P. Tokarz*

I. INTRODUCTION

One of the major goals of the Clean Water Act is to achieve "fishable, swimmable waters."¹ However, of the nineteen percent of the nation's rivers and streams that have been assessed, thirty-five percent do not fully support water quality standards or uses.² In that regard, the purpose of water quality standards is to "assure protection of public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities in and on the water."³ Water quality standards are provisions of state or federal law consisting of:

- a. A designated use or uses for each body of water (e.g., propagation and maintenance of fish and other aquatic life, water contact recreation, public water supply, industrial, etc.); and
- b. Water quality criteria for such waters based on those uses.⁴

Water quality criteria are "elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use."⁵

Every two years, each state is required to identify those waters within its boundaries for which technology-based effluent limits or other required control strategies are not stringent enough to implement any water quality standard applicable to such waters ("impaired

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¹Clean Water Act (CWA) of 1977, 33 U.S.C. §1251 et seq. (1977).

²The Final National Water Quality Inventory Report to Congress for 1996, U.S. Env'tl. Protection Agency.

³33 U.S.C. §1312 (1972).

⁴40 C.F.R. §130.2(d) (1994).

⁵40 C.F.R. §131.3(b) (1994).

waters").⁶ States are also required to identify and establish a priority ranking for waters not meeting water quality standards, taking into account the severity of the pollution and the types of water use.⁷ The biennial list must "identify the pollutants causing or expected to cause violations of the applicable water quality standards."⁸

The United States Environmental Protection Agency ("EPA") is required to review each state list and approve it or, if it is deemed inadequate, to disapprove it and prepare a list for the state.⁹ The states must prepare Total Maximum Daily Loads ("TMDLs") for the impaired waters identified in its biennial list based on the severity of the impairment of the stream.¹⁰ In general, a TMDL is a quantitative assessment of water quality problems, contributing sources, and pollution reductions needed to attain water quality standards.¹¹ The TMDL specifies the amount of pollution or other stressor that needs to be reduced to meet water quality standards, allocates pollution control and management responsibilities among sources in a watershed, provides for either a scientific control or management responsibilities among sources in a watershed, and provides a scientific and policy basis for taking actions needed to restore a waterbody.¹²

The EPA is required to review each TMDL and establish a new TMDL for any current TMDL's found to be unsatisfactory.¹³ Once TMDLs are established, National Pollution Discharge Elimination System ("NPDES") permits must be issued and/or revised to allow the receiving stream to achieve attainment of the water quality standards.¹⁴ The basic questions are who will be allowed to discharge a certain pollutant and in what amount.¹⁵

⁶40 C.F.R. §130.7(b)(1) (1992).

⁷33 U.S.C. §1313(d)(1)(A) (1972).

⁸40 C.F.R. §130.7(b)(4) (1992).

⁹40 C.F.R. §130.7(d)(1) & (2) (1992).

¹⁰33 U.S.C. §1313(d)(1)(C).

¹¹1998 TMDL Federal Advisory Committee Report, U.S. Envtl. Protection Agency (last visited March 21, 1999) <<http://www.epa.gov/owow/tmdl/facq/chap2.html>>.

¹²Specifically, TMDL equals the sum of all waste load allocations of point sources, load allocations for non-point sources, including natural background sources, and a margin of safety. (WLA+LA=TMDL). 40 C.F.R. §130.2(i). TMDL's can be expressed as mass per time, toxicity, or some other appropriate measure. *Id.*

¹³40 C.F.R. §130.7(d)(2).

¹⁴40 C.F.R. §130.12.

¹⁵The situation can be illustrated by using a specific pollutant, such as lead. The first step is to determine how much lead the stream can contain without violating the water quality standard, which is the stream's "loading capacity." The next step is to determine how much lead there is in the stream, whether from human sources or natural sources. This provides the stream's

EPA's TMDL implementation strategy provides for a trading concept by which pollution sources can sell or barter their ability to reduce pollution with other sources that are unable to economically reduce their pollutant loads.¹⁶ The TMDL program has created a gigantic tug-of-war involving the EPA, states, citizen and environmental groups, farmers, land developers, industrialists and mineral developers.¹⁷ This paper will describe the status of this contentious TMDL program at the EPA level both in the State of West Virginia and the Commonwealth of Kentucky.

II. EPA LEVEL

All states have received EPA approval for their 1996 impaired water lists; however, the content and scope of these lists vary greatly among the states.¹⁸ States are required to submit impaired water lists for 1998. EPA is currently reviewing West Virginia's list and has already approved Kentucky's list.¹⁹ Development of TMDLs is being initiated at an increasing pace in some states, but most TMDLs have not been completed.²⁰ Many of the waters still needing TMDLs are impaired by contributions from both point and non-point sources.²¹

Starting around 1986 and escalating since 1996, environmental public interest groups have filed numerous lawsuits under the Clean Water Act Citizen Suit Provision²² alleging that EPA failed to carry out its duty to disapprove inadequate state impaired water lists and/or TMDLs or to carry out state program responsibilities where states have failed.²³ As of the beginning of 1998 more than twenty suits had been

"loading." The loading capacity is then used to determine how much of the load must be attributed to either a present or future non-point source or to natural background, which is the "load allocation or LA." A determination then must be made as to what portion of the loading capacity is to be allocated to an existing or future point source, which provides the "waste load allocation or WLA." Since the TMDL is the sum of LAs and WLAs, the sum should not exceed the loading capacity. 40 C.F.R. §130.2(i).

¹⁶Draft, TMDL Implementation Strategy, U.S. Env'tl. Protection Agency (Dec. 20, 1996) <<http://www.epa.gov/owow/tmdl/strategy/strathp.html>>.

¹⁷See Overview of the TMDL Program, U.S. Env'tl. Protection Agency (Aug. 16, 1998) <<http://www.epa.gov/owow/tmdl/focs/chap2.htm>>.

¹⁸See 1998 TMDL Federal Advisory Committee Report, *supra* note 11, at 2.

¹⁹See Overview of the TMDL Program, *supra* note 17, at 2.

²⁰*Id.*

²¹*Id.*

²²33 U.S.C. §505 (1983).

²³See Overview of the TMDL Program, *supra* note 17, at 2.

filed.²⁴ Five additional notices of intent to sue were also pending in early 1998.²⁵ At that time, about ten of the law suits had resulted in court orders and/or settlements with plaintiffs.²⁶ A number of these settlements were based on state commitments to EPA to establish TMDLs on a specific schedule and EPA commitments both to step in if states falter or otherwise strengthen the TMDL program.²⁷ Some suits have been dismissed and others are still pending.²⁸

²⁴See generally 1998 TMDL Federal Advisory Committee Report, *supra* note 11.

²⁵Notices of Intent to File Citizen's Suits: Cahaba River Society (filed June 1994), Southern Environmental Law Center (Filed June 1997) -- Alabama; Florida Wildlife Federation and Save Our Creeks, Inc. (filed August 1994 and June 1997) -- Florida; Natural Resources Defense Council and the Santa Monica Bay Keeper (filed December 8, 1997) -- California (Los Angeles region); American Canoe Association, Inc. and the American Littoral Society (dated March 16, 1998) -- Virginia; Spearfish Canyon Preservation Trust and Other Local Environmental Groups (filed March 27, 1998) -- South Dakota.

²⁶TMDL Cases with Court Decisions or Consent Decrees: *Scott v. City of Hammond*, 530 F.Supp. 288 (N.D. Ill. 1981) *aff'd in part, rev'd in part*, 741 F.2d 992, 996 (7th Cir. 1984), cert. denied, 469 U.S. 1196 (1985) -- Lake Michigan; *Northwest Env'tl. Defense Center, v. EPA*, No. 86-1578 (D.Ore.) -- Oregon; *Alaska Center for the Env'tl. v. Reilly*, 762 F.Supp. 1422, 1426-29 (W.D. Wash. 1991); 796 F.Supp. 1374 (W.D. Wash. 1992), *aff'd sub nom. Alaska Center for the Env't. v. Browner*, 20 F.3d 981 (9th Cir. 1994) -- Alaska; *Sierra Club v. Browner*, 843 F.Supp. 1304, 1314 (D. Minn.1993) -- Minnesota; *Dioxin/Organochlorine Center v. Rasmussen*, 57 F.3d 1517 (9th Cir. 1995) -- Columbia River TMDL (WA, OR, ID); *Idaho Sportsmen's Coalition v. Browner*, 951 F.Supp. 962 (W.D. Wash. 1996) -- Idaho; *Sierra Club v. Hankinson*, 939 F.Supp 865 (N.D. Ga. 1996) -- Georgia; *Natural Resources Defense Council v. Fox*, No. 94 Civ. 8424 (S.D.N.Y.) -- New York (ongoing litigation); *Pacific Coast Federation of Fishermen's Associations v. Marcus*, No. 95-4474 MHP (N.D. Cal.) -- California (North Coast); *American Littoral Society, et al. v. EPA*, No. 96-489 (E.D. Pa.) -- Pennsylvania; *Defenders of Wildlife v. Browner*, No. 93-234 TUC ACM (D. Ariz.) -- Arizona; *Forest Guardians v. Browner*, No. 96-0826 LH (D.N. Mex) -- New Mexico; *Ohio Valley Env'tl. Coalition, Inc. v. Carol Browner*, No. 2:95-0529 (S.D. W. Va.) -- West Virginia; *American Littoral Society v. EPA*, No. 96-330 (D. Del.) -- Delaware; *Defend the Bay, Inc. v. Marcus* No. C-97-3997 (N.D. Cal.) -- California (Newport Bay); *Northwest Env'tl. Advocates v. Browner*, No. 91-42R (W.D. Wash.) -- Washington.

²⁷See Overview of the TMDL Program, *supra* note 17, at 2.

²⁸TMDL Litigation Without Court Decisions or Settlements: *Kansas Natural Resources Counsel, Inc., v. Browner*, No. 95-2490-JWL (D. Kan.) -- Kansas; *American Littoral Society v. EPA*, No. 96-339(MLP)(D.N.J.) -- New Jersey; *Sierra Club v. Saginaw*, No. 96-0527 (N.D. La) -- Louisiana; *Northwest Environmental Advocates v. Browner*, No. C94-1666R (W.D. Wash) -- Oregon; *Wyoming Outdoor Council v. Browner*, No. 97-CV-0140-D (D. Wyo.) -- Wyoming; *Neuse River Found., Inc. v. Browner*, No. 4:96-CV-188-BO(3)(E.D. N.C.) -- North Carolina; *Friends of the Wild Swan, Inc. v. EPA*, No. CV97-35-M-DWM (D. Mont.) -- Montana; *Mudd v. Hankinson*, No. CV-97-s-0714-M (N.D. Ala.) -- Alabama; *Colorado Env'tl. Coalition v. EPA*, No. 97-1841 (D. Colo.) -- Colorado; *Sierra Club v. EPA*, No. H97-3838 (D. Md.) -- Maryland; *Hayes v. Browner*, No. 97CV 1090BU(J)(N.D. Okla.) -- Oklahoma; *Sierra Club v. Hankinson*, No. 97-CV-3683-MHS (N.D. Ga.) -- Mississippi; *Kingman Park Civic Ass'n v. U.S. EPA*, 1:98CV00758 (D.D.C.) -- District of Columbia.

III. WEST VIRGINIA'S TMDL PROGRAM

A. Litigation.

On July 9, 1997, the United States District Court for the Southern District of West Virginia approved and entered a consent decree that resolved two lawsuits brought by the Ohio Valley Environmental Coalition, Inc., West Virginia Highlands Conservancy, Inc., Rogina Fout, Thomas E. Keating, and Bill Ragette as plaintiffs, against Carol Browner, EPA Administrator, W. Michael McCabe, Regional Administrator, EPA Region III, and the EPA.²⁹ The lawsuits concerned the EPA's failure to enforce and implement the TMDL program in West Virginia.³⁰ The West Virginia Chamber of Commerce, the West Virginia Coal Association, the West Virginia Farm Bureau, the West Virginia Forestry Association, and the West Virginia Mining and Reclamation Association intervened in that litigation.³¹

The Consent Decree sets out a ten-year schedule for establishment of TMDLs for: (1) certain portions of the Ohio River, including a TMDL for dioxin; (2) forty-four other "priority" waterways, including the Kanawha River, the New River and the Tygart River; and (3) almost 500 waterways impaired by acid mine drainage.³² The Decree provides the EPA will insure that the TMDLs are established if West Virginia does not establish the TMDLs.³³ The Decree also includes provisions related to EPA's review of West Virginia subsequent impaired waters list and development of an annual report on the status of West Virginia's TMDL program.³⁴

The parties also signed a settlement agreement which includes additional commitments regarding EPA Region III guidance on listing, EPA technical assistance for the state, and EPA training to support state development of a watershed approach.³⁵ Significantly, the Consent Decree contains a provision that the parties understand that West

²⁹Ohio Valley Env'tl. Coalition, Inc. v. Browner, No. 2: 95-059, No.2: 96-0091 (S.D.W.Va.) Consent Decree (July 9, 1997).

³⁰*Id.* at 2-3.

³¹*Id.* at 1.

³²*Id.* at 12-15.

³³*Id.* at 8-9.

³⁴*Id.* at 17.

³⁵Ohio Valley Env'tl. Coalition, Inc. v. Browner, No. 2: 95-0509, No. 2: 96-0091 (S.D.W.Va.) Settlement Agreement (Jan. 17, 1997).

Virginia intends to assure that all NPDES permits issued for a waterbody are consistent with any TMDL for that waterbody developed by West Virginia, or developed by EPA with which West Virginia concurs, and EPA intends to work with the State to accomplish this goal.³⁶

B. TMDL Schedule

1. General -- The Consent Decree imposed a rigorous time schedule for the establishment of TMDLs for certain waterways.³⁷
2. Ohio River TMDLs -- If West Virginia fails to do so, EPA will establish by September 30, 2000 a TMDL for those segments of the Ohio River which border West Virginia.³⁸
3. Mine Drainage-Impacted Waters TMDLs -- If West Virginia fails to establish by September 30, 2006, TMDLs for all mine drainage-impacted waters listed on West Virginia's May 9, 1996 impaired waters list, then EPA will, as necessary, establish the balance by that date.³⁹ As interim milestones: (1) If West Virginia fails to establish by September 30, 1999, TMDLs for a minimum of 100 such mine drainage-impacted waters, EPA will establish the balance by that date; and (2) if West Virginia fails to establish TMDLs by September 30, 2004 for at least an additional 250 such mine drainage-impacted waters, EPA will establish the balance by that date.⁴⁰
4. Priority Waterway TMDLs -- If West Virginia fails to establish TMDLs for a total of 44 priority waterways by September 30, 2002, EPA shall establish the balance by that date.⁴¹

³⁶See *Ohio Valley Envtl. Coalition, Inc. v. Browner*, *supra* note 29, at 4.

³⁷*Id.* at 12.

³⁸*Id.* at 12-13.

³⁹*Id.* at 13.

⁴⁰*Id.*

⁴¹*Id.* at 13-14.

As interim milestones, for each 12-month period beginning October 1, of each year and ending on September 30th of the following year during the period between October 1, 1996 and September 30, 2002, if West Virginia fails to establish TMDLs for at least seven of the priority waterways identified on West Virginia's then applicable Impaired Water list, the EPA will establish the balance of seven TMDLs by September 30 of each year.⁴²

5. TMDLs for Specific Waters -- If West Virginia fails to do so, by or before September 30, 1999, EPA will establish TMDLs for the Upper Blackwater River, Ten Mile Creek, Buckhannon River, Tygart River, Kanawha River, Cheat River, North Branch of the Potomac River and the New River.⁴³ If West Virginia fails to do so, by or before September 30, 2001, EPA will establish a TMDL for the Lower Blackwater River.⁴⁴

C. Current Actions

Pursuant to the Consent Decree's requirement to establish TMDLs for forty-four priority waterways, West Virginia, with the EPA's concurrence, announced the selection of the following five waterways for TMDL development for 1998: Lost River, Hurricane Lake, Mountwood Park Lake, Tomlinson Run Lake, and Burches Run Lake. In addition, EPA has selected Ten Mile Creek of the Buckhannon River and the main stem of the Buckhannon River in Upshur County, West Virginia in lieu of the Cheat River and Paint Creek, which were the selections proposed by West Virginia.⁴⁵

In November, 1997, the West Virginia Division of Environmental Protection ("WVDEP") sent letters to a number of entities which had unused wasteload allocations in the Canaan Valley

⁴²*Id.* at 14-15.

⁴³*Id.* at 14.

⁴⁴*Id.*

⁴⁵63 Fed. Reg. 24, 804 (1998).

area of the Upper Blackwater River.⁴⁶ The letter essentially stated that the EPA and WVDEP have developed a draft

TMDL for dissolved oxygen in the Canaan Valley area of the Upper Blackwater River; that the TMDL proposes to lower permitted flow limits for existing permitted discharges in the valley during the summer and early fall; this is the period when stream flows are lowest and stream temperatures are highest leading to the dissolved oxygen insufficiency; and it also proposes to eliminate all unused wasteload allocations.⁴⁷

In the letter, WVDEP advised the entities that their wasteload allocations were either suspended or that their request for renewal of their wasteload allocation will not be processed.⁴⁸

The WVDEP's actions pursuant to this draft TMDL were the subjects of appeals to the West Virginia Environmental Quality Board (the "Board").⁴⁹ The appeals challenge the WVDEP action on a number of grounds. Among the grounds alleged are (1) the WVDEP did not have the authority to withdraw or restrict wasteload allocations;⁵⁰ (2) the Upper Blackwater River was not properly listed on the State's Impaired Water List;⁵¹ (3) DEP's action without prior notice and hearing constituted a violation of due process;⁵² (4) the removal of the wasteload allocation was a deprivation of taking a property without due process;⁵³ and (5) the proposal to eliminate unused wasteload allocations is based on a study performed for TMDL analysis which is flawed in numerous manners, e.g., EPA's analysis is based on incomplete data and the EPA model provided inaccurate results.⁵⁴

⁴⁶Letters from P.E. Sanga, WVDEP Engineering Branch Leader for Providence G, to several unnamed entities (Nov. 13, 1997).

⁴⁷*Id.*

⁴⁸*Id.*

⁴⁹*Timberline Util., Inc. v. Office of Water Resources, Div. of Env'tl. Protection, No. 97-08-EQB (W.Va. filed Dec. 12, 1997); Jefferson v. Office of Water Resources, Div. of Env'tl. Protection, No. 97-09-EQB (filed Dec. 12, 1997); Monogahela Power Co. v. Office of Water Resources, Div. of Env'tl. Protection, No. 97-11-EQB (W.Va. filed Dec. 11, 1997).*

⁵⁰*Id.*

⁵¹*Id.*

⁵²*Id.*

⁵³*Id.*

⁵⁴*Id.*

The WVDEP filed a motion to have the appeals dismissed.⁵⁵ The motion argued that since EPA, not WVDEP, established the Upper Blackwater River TMDL, the appeals were challenges to a federal action and therefore must be brought in federal court.⁵⁶ The Board denied WVDEP's motion and the appeals are currently pending Board action.⁵⁷

IV. KENTUCKY'S TMDL PROGRAM

A. General

So far, Kentucky has avoided the litigation and controversy experienced by West Virginia in regard to the TMDL program. EPA requested that Kentucky TMDLs for all listed waterways be completed within the next eight to thirteen years.⁵⁸ Kentucky's schedule will be closely integrated with the state's watershed management framework.⁵⁹ Thus, TMDL development for Kentucky's 1998 Listed Waters is slated for completion by 2011.⁶⁰ TMDLs for highly impacted waters, such as Elijahs and Gunpowder Creek in Boone County, are almost complete and many others are in progress.⁶¹

Under Kentucky's TMDL program waterbodies are grouped according to first priority and second priority ranking.⁶² Waterbodies are prioritized based upon the type, extent, and intensity of impairment.⁶³ All waterbodies listed as "not supporting" are given first priority in TMDL development for their particular basin.⁶⁴ All "partial

⁵⁵WVDEP Motion to Dismiss, *Timberline Util. Inc. v. Office of Water Resources*, Div. of Env'tl. Protection, No. 97-08-EQB (Dec. 12, 1997); *Jefferson v. Office of Water Resources*, Div. of Env'tl. Protection, No. 97-09-EQB (Dec. 12, 1997); *Monogahel Power Co. v. Office of Water Resources*, Div. of Env'tl. Protection, No. 97-11-EQB (Dec. 11, 1997).

⁵⁶*Id.* at 2.

⁵⁷EQB Order, *Timberline Util. Inc. v. Office of Water Resources*, Div. of Env'tl. Protection, No. 97-08-EQB (Dec. 12, 1997); *Jefferson v. Office of Water Resources*, Div. of Env'tl. Protection, No. 97-09-EQB (Dec. 12, 1997); *Monogahel Power Co. v. Office of Water Resources*, Div. of Env'tl. Protection, No. 97-11-EQB (Dec. 11, 1997).

⁵⁸Kentucky Dept. for Env'tl. Protection, Division of Water, 1998 303(d) *List of Water*, (March 10, 1998) <<http://water.nr.state.ky.us/303D.htm>>.

⁵⁹*Id.* at 11-12.

⁶⁰*Id.* at 5-6.

⁶¹*Id.* at 12.

⁶²*Id.* at 12-13.

⁶³*Id.*

⁶⁴*Id.*

support" waterbodies are given a second priority ranking.⁶⁵ TMDLs for all first-priority rank waters on the 1998 list will be complete by year 2001.⁶⁶ Again, the first priority streams are those that do not support the aquatic life, fish consumption, drinking water, and/or swimming uses.⁶⁷ Those waters listed as first priority are chosen for early TMDL development and will be addressed within the first five years of any particular watershed cycle.⁶⁸

The 1998 303(d) List of Waters not only lists and prioritizes impacted waters but also describes efforts that have been and continue to be made to address the problems in the waters listed in the 1996 303(d) report.⁶⁹ For example, the Elijahs and Gunpowder Creeks in Boone County are severely impacted by de-icing fluids applied to aircraft at the Cincinnati/Northern Kentucky International Airport.⁷⁰ This TMDL project focused on studying the impact that the de-icing fluids are having upon aquatic life, the reductions needed to restore the aquatic life use to these streams, and working with the airport to bring about the needed reductions.⁷¹ Water quality modeling was used to establish effluent limits that would be protective of water quality.⁷² These limits were incorporated into a new discharge permit for the airport which went into effect April 1, 1997.⁷³ Fines for past violations were levied against the airport, and additional control measures were required through enforcement action that culminated in an Agreed Order with the airport, filed March 28, 1997.⁷⁴

The draft report for the 1998 Impaired Water List was released for public comment on March 11, 1998.⁷⁵ Among the entities responding with comments were the Kentucky Coal Association and

⁶⁵*Id.*

⁶⁶*Id.*

⁶⁷*Id.*

⁶⁸*Id.* at 12-14.

⁶⁹*Id.* at 5-6.

⁷⁰*Id.*

⁷¹*Id.*

⁷²*Id.*

⁷³*Id.*

⁷⁴*Id.*

⁷⁵*Id.*

Sierra Club-Cumberland Chapter.⁷⁶ Their comments and DOW responses are as follows:⁷⁷

Kentucky Coal Association

Comments:

1) This proposal is deficient in regards to its application to actual KPDES permits. What appears in this proposal is simply a list of streams and stream segments that do not meet water quality uses.

2) The list of impaired waters did not contain any of the supporting documentation that justified the inclusion of the particular water in the targeted lists. There is no ability to effectively comment on the various listed water bodies without having access to the data used by the Division of Water to justify the inclusion of that particular water body in the 303(d)-listed waters.

3) Internet review of the Division of Water's TMDL information, this data was not available, nor was there any reference to where this data could be obtained.

DOW Responses

1) The application of specific TMDLs to KPDES permits is beyond the scope of this report. The purpose of the 303(d) List of Waters is to list and prioritize the impaired waters for TMDL development.

2) Inclusion of all referenced data and documentation is beyond the scope of this report. Please refer to sections "Methods of Assessing Use Support for 1998 303(d) Report" and "Monitoring Programs for a description of data sources."

3) The data used in preparing this report is available at and can be requested from Tom VanArsdall, Division of Water, 14 Reilly Road, Frankfort, KY 40601. A statement indicating where data

⁷⁶*Id.* at Appendix B, p. 30 and pp. 41-43.

⁷⁷Kentucky Dept. for Env'tl. Protection, Division of Water, *Comments to the 1998 303(d) List of Water*, (last visited November 16, 1999) < <http://water.nr.state.ky.us/303D/#response.htm>>.

can be obtained has been added to the text of the report.

4) It is also a concern to the Kentucky Coal Association on how the Division of Water will allocate pollutant load from both point and nonpoint sources for discharges in the watersheds of 303(d)-listed streams.

4) It is beyond the scope of this report to determine the allocation of pollutant loads for 303(d)-listed streams. Point and nonpoint source load allocations will be determined within specific TMDL reports. TMDLs are specific to a listed waterbody segment and pollutant.

I would appreciate your response to our concerns so that we can have a better understanding of the process being undertaken with this TMDL process. If this process will impact new and existing coal mines, then we need to understand exactly how the TMDL process will work in 303(d)-listed streams.

It is not anticipated that any changes would be made to KPDES coal mining permits. Compliance with those permit conditions should be sufficient to protect existing uses.

**Sierra Club - Cumberland
Chapter's Comments:**

1) The number of streams in the draft 1998 report are fewer than in the 1996 305(b) report.

DOW Responses:

1) The list of streams in the draft 1998 303(d) report should be compared to the approved 1996 303(d) report, not the 1996 305(b) report. The 303(d) and 305(b) reports are not meant to be the same. For example, problems identified on waters in the 305(b) report for the two year reporting period that have already been or are expected to be addressed in

the next two years are not required to be listed under 303(d).

2) Impaired waters should not be de-listed until water quality levels have been met.

2) We agree. Ongoing TMDLs are not de-listed, they were put into a separate list to show that they have already been listed and the TMDLs are being worked on. Streams are not de-listed until a TMDL has been approved or data indicates that the problem no longer exists.

3) Little progress has been made on ongoing TMDL projects.

3) The KDOW disagrees that little progress has been made in on-going TMDL projects, both on a state-wide basis as well as those specifically listed in this comment (Chenoweth Run and Floyds Fork). Chenoweth Run is expected to improve with the completion of the upgrades and phosphorus removal requirements at the Jeffersontown wastewater treatment plant (WWTP). Major upgrades such as this take time, and are expected to be fully operational at the next permit issuance in the year 2000. This action would not have occurred without the study conducted by the KDOW, with cooperation from both MSD and other local authorities and interested parties. Division staff participated in the development of the document "Implementation Plan Guidelines for Environmental Management Practices During Land Development in Chenoweth Run Watershed, 1996," prepared by

local government with input and participation from local citizens. It is our understanding that this document has yet to be implemented by local authorities. Other issues that need to be addressed were specifically listed in the TMDL report, such as tree planting and creation of riparian zones to filter storm water runoff before it reaches local waterway. The KDOW has no regulatory authority to demand that these activities be conducted.

As a result of the Floyds Fork TMDL, twenty requests for new or expanded waste water treatment facilities have been denied by the KDOW at locations throughout the basin. Several requests have been approved, depending on specific location and regionalization potential. Ten WWTP's have been removed by connection to other facilities, primarily the Cedar Creek WWTP noted in the comment. Our records indicate six more facilities will be connected to Cedar Creek and eliminated in mid 1998. The Floyds Fork Regional WWTP to be built in the next few years will eliminate ten to twelve existing package treatment plants in the basin. Both the Cedar Creek and Floyds Fork facilities are or will eliminate existing areas currently using septic tanks for sewage disposal. Efforts underway in

Oldham County's Crestwood regional project will eliminate several existing package plants and other areas currently on septic tanks. This project will also be completed in the next few years.

We agree that water quality problems will persist if urban growth continues without proper controls. The agricultural community also needs to play its part by implementing a variety of BMP's. Efforts are underway on both issues, but more needs to be done. The KDOW does not, however, have regulatory authority over urban growth or agriculture. We have been and will continue to be available to work with local interests and authorities to improve these conditions.

4) All available data, including that from citizen monitoring, should be used.

4) We agree that all available data should be used wherever possible. We actively solicit data from numerous entities as explained elsewhere. Volunteer monitoring data are screened to see if any obvious problems are present. As with our own data, we do not see many problems with volunteer data meeting water quality criteria. However, there are two major problems in using volunteer data. First, it is difficult to use infrequently collected water quality data from any source, including the Division of Water, to assess aquatic life use.

We typically use three years of data from at least bimonthly sampling. Second, the analytical techniques must be EPA-approved. Colorimetric tests using kits often used by volunteer groups do not provide the accuracy needed in many cases.

B. Summary of 1998 Impaired Water List

In June 1998, EPA approved Kentucky's 1998 Impaired Waters List and it was promulgated on June 22, 1998 by DOW.⁷⁸ This list includes about 196 unique stream segments and thirty-four lakes that have water quality impairments.⁷⁹ There are 104 stream segments and six lakes which do not support one or more uses (first priority) and sixty-six stream segments and twenty-seven lakes which partially support uses (second priority).⁸⁰ TMDLs are in progress for twenty-six of the 195 listed stream segments and two lakes, which represents about twelve percent of the 1998 listed waters.⁸¹ The 303(d) list includes more than 2,592 impaired stream miles: 992 first priority, 1338 second priority, and 262 stream miles with TMDL projects in progress.⁸² About thirty-three waters listed on the 1996 report are not listed on the 1998 impaired water list.⁸³ The most common rationale for de-listing the water is that the waters are now supporting designated uses.⁸⁴

The most frequent cause of impairment to the listed impaired streams is fecal coliform bacteria contamination.⁸⁵ Organic enrichment, pH, and siltation are the next most frequent causes of

⁷⁸Kentucky Dept. for Env'tl Protection, Division of Water, *1998 303(d) List of Water*, (June 22, 1998) <<http://water.nr.state.ky.us/303D.htm>>.

⁷⁹*Id.*

⁸⁰*Id.*

⁸¹*Id.*

⁸²*Id.*

⁸³*Id.* at Table 8.

⁸⁴*Id.*

⁸⁵*Id.*

stream impairment.⁸⁶ The primary pollutant to listed lakes is nutrients from agricultural nonpoint sources.⁸⁷

C. Concerns for Mineral Development

The 1998 Impaired Waters List identifies pollutants of concern for the specific waterways.⁸⁸ Pollutants identified which are related to the mineral development are pH, salinity/chlorides, metals, and siltation.⁸⁹ In general, thirty-one percent of the major pollution problems found in assessed waterways are attributed to coal mining.⁹⁰ Siltation from coal mines can impair water quality and destroy aquatic habitat.⁹¹ Contaminated run-off from mines is also contributing to high acidity and elevated levels of toxic metals found in some monitored streams.⁹² Information is not available to determine how much of this pollution is caused by active mines as opposed to abandoned mines; however, the data does reveal that acid mine drainage is responsible for about forty-six percent of the 963 miles of streams and rivers impaired by coal mining in Kentucky.⁹³ A review of coal mine violations reveals sediment control leads as the most frequently cited performance standard violation of coal mines in Kentucky.⁹⁴

Pollution from oil and gas wells can be caused by oil, grease, and brines associated with production.⁹⁵ Brine which can contain more salt than seawater is currently impairing water quality in five river basins: Licking River, Kentucky River, Big Sandy, Little Sandy, Green River, and Upper Cumberland.⁹⁶ Oil and gas operations are causing two percent of the known water pollution problems in Kentucky; polluting seventy miles of assessed waterways in the state.⁹⁷

⁸⁶*Id.*

⁸⁷*Id.*

⁸⁸*Id.* at Tables 2-7.

⁸⁹*Id.*

⁹⁰Kentucky Env'tl. Quality Comm., State of Kentucky Env'tl. Report, Water Quality Series (1996-97).

⁹¹*Id.*

⁹²*Id.*

⁹³*Id.*

⁹⁴Kentucky Env'tl. Quality Comm., State of Kentucky's Env'tl. Report Resource Extraction Service at 7 (1996-1997).

⁹⁵*Id.* at 16.

⁹⁶*Id.*

⁹⁷*Id.*

V. CONCLUSION

Overall, the development of TMDLs for impaired waterways can significantly impact mineral development. Future development and discharges could be prohibited for a waterway which has already reached its TMDL. In order to bring waterways in which pollutants are currently exceeding the TMDL determination into compliance, NPDES permit effluent limits could be reduced and discharges could be eliminated for certain pollutants, e.g., dioxins. The implementation of TMDLs forecast a condition of controversy and litigation among parties competing for discharge loads into a particular waterway. The balancing of environmental, economic, science, industrial, agricultural, and mineral interests with designated water uses appears to be one of the greatest challenges yet to be faced.