Original 2366

12/3/03

Garth & Caira Bongers
638 Pinney Road
Huntingdon Valley
PA 19006

To whom is may concern,

Eliminating the standards that govern industrial and commercial runoff can only result in more polluted streams, rivers and virtually every other source of water. Polluted waters that are then consumed by people, "filtered" or not, still presents an alarming health hazard which cannot be ignored.

Toxic substances in water (regardless of whether the water is for recreation or consumption) can have an immediate detrimental impact on our health, and *will* have a detrimental impact on our health in the long term.

Would you be comfortable knowing that the water your child or loved one is drinking, cooking with, and bathing in could cause cancer?

The callous handling and destruction of our environment due to lax environmental laws and ineffective regulation by corrupted or inept officials will eventually lead to the destruction of ourselves.

Please protect our streams, rivers, aquifers and other sources of water by not permitting the water quality standards to be lowered, ignored or forgotten.

Sincerely,

Garth and Caira Bongers

Trostle, Sharon F. - DEP Original: 2366

From: Macknight.Evelyn@epamail.epa.gov
Sent: Wednesday, December 17, 2003 11:23 AM
To: RegComments@state.pa.us
Cc: Hakowski.Denise@epamail.epa.gov; Atkinson.Cheryl@epamail.epa.gov; ebrezina@state.pa.us; cayoung@state.pa.us; Lueckenhoff.Dominique@epamail.epa.gov; Day.Christopher@epamail.epa.gov; Capacasa.Jon@epamail.epa.gov
Subject: EPA's Comments on Chapter 93/Triennial Review of WQS [33 Pa.B. 5190]

December 17, 2003

Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477

Dear Sir or Madam:

The U.S. Environmental Protection Agency (EPA), Region III, has reviewed the proposed amendments to Chapter 93 of the Commonwealth's environmental regulation. This proposal, which was announced for public review and comment in the Pennsylvania Bulletin on October 18, 2003, constitutes Pennsylvania's current triennial review of its water quality standards, as required by the Clean Water Act (CWA) Section 303(c)(1). The purpose of this letter is to provide EPA's comments on the proposal. Please note that the comments and recommendations contained in this letter are strictly for the Environmental Quality Board's (EQB) consideration and are not a determination by the EPA Administrator under CWA Section 303(c)(4)(B) that a revised or new standard is necessary to meet the requirements of the Clean Water Act.

EPA fully supports Pennsylvania's proposal to modify the Scope of the water quality standards regulation found in §93.2. Water quality standards identify the uses of a waterbody and the criteria necessary to support those uses. Attainment of those uses and criteria can be impacted by many factors that should not be assumed to be limited to point source discharges. By eliminating the phrase "pertaining to the Department's regulation of discharges," EPA believes it will clearly indicate that the condition of a water body can be impacted by many sources, including nonpoint sources, atmospheric deposition, as well as point sources. EPA echoes the Pennsylvania Department of Environmental Protection's (PADEP) position that the water quality standards in Chapter 93 are to be used whenever the environmental statutes authorize PADEP to make decisions or approvals relating to stream quality protection.

EPA also supports Pennsylvania's proposed modification to the dissolved oxygen criteria for the protection of the Cold Water Fishes use, but we do have several issues related to this modification that we would like addressed. First, PADEP needs to provide details as to how these criteria will be applied in its 303(d) listing methodology for lakes. Second, PADEP needs to specify how they will implement the narrative water quality criteria to protect the hypolimnion in a stratified lake. Third, PADEP needs to define hypolimnion and expand the definition of epilimnion to address temporal and spatial concerns. Finally, EPA would like to reiterate our position that for those lakes that are Warm Water Fishes that have been classified as Cold Water Fishes, we would support a redesignation to Warm Water Fishes use if accompanied by a use attainability analysis (UAA) as required by 40 CFR 131.10(j)(2).

EPA is requesting that Pennsylvania reconsider during this triennial review the adoption of EPA's recommendation of using E.coli or enterococci as an indicator of bacterial contamination in surface water. In the document Ambient Water Quality Criteria for Bacteria - 1986, EPA recommended that states and tribes use E.coli or enterococci to protect bathers from gastrointestinal illness in recreational waters. That document was produced in part due to the criticism of EPA's bacteria criteria recommendations that used fecal coliform as an indicator. The results of the studies performed for the development of the document indicated that fecal coliforms showed a very weak correlation to gastroenteritis both in marine and fresh water, whereas E.coli and enterococci showed strong correlation. EPA recognizes that Pennsylvania's Department of Health has proposed to monitor for E.coli to provide enhanced public health protection to individuals who bathe and swim in public bathing beaches. However, even when this provision is finalized, it will only apply to protected beaches. With few exceptions, all surface waters of the Commonwealth are designated for water contact recreation.

Further, Pennsylvania leads the nation in Combined Sewer Overflow (CSO) permitted outfalls and communities. Pennsylvania's CSO communities are in the process of developing Long Term Control Plans (LTCPs) to meet water quality standards, including those for bacteria, in CSO-impacted waters. Over 70% of the Commonwealth's CSO communities do not yet have an approved LTCP, and it is PADEP's responsibility to ensure that the most scientifically defensible endpoint for bacteria is available to these communities for LTCP development and implementation.

EPA recognizes the PADEP had previously identified concerns with adopting E.coli or enterococci at this time, essentially that implementation guidance has not yet been finalized and that the analytical procedures for bacteria indicators in ambient waters and effluents were not yet approved by EPA. However, the ambient waters method approval was finalized in July 2003 and EPA's Implementation Guidance for Ambient Water Quality Criteria for Bacteria is nearing completion and should be final prior to PADEP's conclusion of this triennial review. EPA is still in the process of putting the analytical method for effluents in place. However, based upon our experience with other states, EPA would be able to provide assistance to PADEP in identifying methods use to issue effluent limits based on E.coli or enterococci criteria for National Pollutant Discharge Elimination System (NPDES) permits.

Finally, the Commonwealth must recognize that the Beaches Environmental Assessment and Coastal Health Act of 2000, also known as the BEACH Act, requires coastal and Great Lakes states, by April 2004, to adopt EPA's recommendations or water quality criteria and standards for pathogens and pathogen indicators that are as protective as EPA's recommended criteria. The BEACH Act further directs EPA to propose and promulgate such standards for states that fail to do so.

One additional topic EPA would like the EQB to consider for inclusion during this triennial review is the adoption of regulations that would allow the Commonwealth to grant variances. Currently, Pennsylvania's Wastewater Treatment Requirements at §95.4 allow for extensions of time to achieve water quality-based effluent limitations. However, these time extensions are done without the opportunity for public participation or notice that the applicable limits are not achieving water quality standards. EPA believes that this extension of time is more appropriately addressed as a variance to a water quality standard that would need to meet EPA requirements as described in 40 CFR 131.10, which include public participation. To utilize a variance, Pennsylvania would need to adopt regulations in Chapter 93 that provide the authority to do so and submit those variances to EPA for review and approval.

Thank you for this opportunity to provide comment on Pennsylvania's triennial review of its water quality standards regulation. EPA would be happy to assist the Commonwealth as necessary to complete this triennial review. EPA has also provided to PADEP comments on the proposed modifications to Chapter 16, the Water Quality Toxics Management Strategy - Statement of Policy. If you have any comments concerning this letter, please contact me at (215)814-5717 or Denise Hakowski of my staff at (215)814-5726.

Sincerely,

Evelyn S. MacKnight, Chief
PA/DE/WV Branch (3WP11)
Office of Watersheds
U.S. Environmental Protection Agency Region III
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Phone: (215-814-5717)
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Trostle, Sharon F. - DEP

From: Bill Gerlach - ext. 219 [BGerlach@cbf.org]
Sent: Wednesday, December 17, 2003 3:42 PM
To: mhoughton@state.pa.us; RegComments@state.pa.us
Cc: Matt Ehrhart - ext. 202
Subject: Ch. 93/Ch 16 comments

Original: 2366

Attached please find the comments of the Chesapeake Bay Foundation on: (1) EQB's proposed revisions to Chapter 93 (Triennial Review of Water Quality standards); and (2) DEP's proposed revisions to Chapter 16 (Water Quality Toxics Management Strategy). Thank you for the opportunity to comment.

Respectfully submitted,

<<CBFPATR03commF.doc>>

William J. Gerlach, CBF

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CHESAPEAKE BAY FOUNDATION

Resource Protection
Environmental Education

December 17, 2003

CHESAPEAKE BAY FOUNDATION COMMENTS ON THE TRIENNIAL REVIEW OF WATER QUALITY STANDARDS AND AMENDMENTS TO THE WATER QUALITY TOXICS MANAGEMENT STRATEGY

Environmental Quality Board
15th Floor, Rachel Carson State Office Building
400 Market Street
P.O. Box 8477
Harrisburg, PA 17105-8477

Ms. Mary Houghton
Division of Water Quality Assessment and Standards
Bureau of Water Supply and Wastewater Management
Pennsylvania Department of Environmental Protection
11th Floor, Rachel Carson State Office Building
P.O. Box 8467
Harrisburg, PA 17105-8467

Dear Ms. Houghton/EQB:

On behalf of the Chesapeake Bay Foundation (CBF), please accept the following comments on the Department's proposed amendments to the Water Quality Toxics Management Strategy that were published in the Pennsylvania Bulletin on October 18, 2003 (33 Pa.B. 5202), and the Environmental Quality Board's proposed Triennial Review of Water Quality Standards that were published for comment in the Bulletin on the same day at 33 Pa.B. 5190.

The Chesapeake Bay Foundation is the largest non-profit organization dedicated to the protection and restoration of the Chesapeake Bay, its tributaries, and its resources. With the support of over 116,000 members, including over 11,000 in Pennsylvania, our staff of scientists, attorneys, educators and policy specialists work to ensure that changes in policy, regulation, and legislation are protective of the quality of the Chesapeake Bay and its watershed.

CBF supports the comments on these proposals that were prepared and submitted by the Pennsylvania Clean Water Campaign and its undersigned organizations, including

Pennsylvania Office: The Old WaterWorks Building, 614 N. Front Street, Harrisburg, Pennsylvania 17101, 717.234-5550, fax 717.234-9632
Headquarters Office: Philip Merrill Environmental Center, 6 Herndon Avenue, Annapolis, Maryland 21403, 410.268.8816, fax 410.268.6687
Maryland Office: Philip Merrill Environmental Center, 6 Herndon Avenue, Annapolis, Maryland 21403, 410.268.8833, fax 410.280.3513
Virginia Office: 1108 E. Main Street, Suite 1600, Richmond, Virginia 23219, 804.780.1392, fax 804.648.4011
www.savethebay.cbf.org

CBF. Because of some slight differences in language and enhancements on a few comments, we are also submitting our own comments to DEP and the EQB for consideration.

We support the proposal to clarify the scope of the water quality standards in § 93.2(a); state and federal law and regulations, and case law, along with longstanding agency practice, support the application of water quality standards not only to discharges, but also to other activities that may impact surface waters of the Commonwealth, including wetlands.

Next, we believe that the water quality criteria portion of the proposal is deficient in numerous respects. For example the proposal fails to include nutrient criteria that Pennsylvania must have in place to assure the protection of downstream waters, such as the Chesapeake Bay, from excess nutrients. These criteria are needed to help stop the nutrient onslaught from the Commonwealth that has resulted in the Bay being listed on the nation's list of dirtiest waters. In addition, the proposal fails to include *e coli* or *enterococci* Bacteria criteria; these indicators are more accurate than the current fecal coliform criteria that are currently in place, and EPA commented on DEP's last Triennial Review update in August, 2001 that these criteria should be included in Pennsylvania's water quality standards. Also, no biocriteria are included in the proposal, leaving Pennsylvania as one of a dwindling number of states without such criteria. Moreover, the proposal fails to include the human health criterion for Methylmercury recommended by EPA.

The proposal also fails to address problems with water uses in Pennsylvania's standards. The proposal fails to address existing problems in the Warm Water Fishes (WWF) and Cold Water Fishes (CWF) use definitions; these definitions need to be subdivided to accurately reflect the flora and fauna that they contain so that activities such as subsidence caused by underground mining cannot impair a use and then face no consequences because the use is one of many in the WWF or CWF universe. The uses also need to be reworked to ensure that they protect existing uses; procedures must be developed to ascertain when such uses are impaired. Also, a use definition for "cool water fishes" or "transitional fishes" needs to be added to the standards to protect those fisheries that do not fit into either the WWF or CWF uses.

Finally, we are troubled by the proposal to eliminate the applicability of dissolved oxygen criteria to bottom waters in lakes and impoundments; the language of the proposal fails to reflect the science of limnology, includes no definition of "stratification," and gives DEP boundless discretion on how a lake or impoundment is to be classified.

Our specific comments are set forth in more detail below.

1. The Proposal to Amend Section 93.2(a) Clarifies the Scope of Chapter 93 and is Consistent with Both the Pennsylvania Clean Streams Law and the Federal Clean Water Act.

CBF supports the proposed amendment to Section 93.2(a). That amendment clarifies the scope of Chapter 93 by eliminating the potentially confusing language "and will be considered by the Department in its regulation of discharges."

The potential for confusion over this language manifested itself when the Environmental Hearing Board (EHB) issued an opinion in the case of *Consol Pennsylvania Coal Company v. DEP et al.,* EHB Docket No. 2002-112 (December 31, 2002). In ruling on motions for summary judgment, the EHB erroneously concluded that the scope of Chapter 93 was limited to only point source discharges, relying on the phrase quoted above. The EHB has since granted petitions for reconsideration and has withdrawn its erroneous opinion. The Board's proposed amendment to Section 93.2(a) will avoid this kind of misunderstanding.

As pointed out in the preamble to this proposed rulemaking, it has been DEP's "longstanding position" that the Chapter 93 water quality standards apply "whenever the environmental statutes authorize the Department to make decisions or approvals relating to stream quality protection." Accordingly, this proposed amendment does not broaden DEP's authority under Chapter 93. Rather, it merely clarifies the scope of DEP's existing authority in a way that should prevent future misinterpretations.

DEP's "longstanding position" that it may apply Chapter 93 to non-discharge activities and non-point sources of pollution as well as point source discharges is more than good policy; it is required by both the state Clean Streams Law and the federal Clean Water Act.

In *Oley Township v. DEP and Wissahickon Spring Water, Inc.*, 1996 EHB 1098, the EHB held that Pennsylvania's Clean Streams Law and the state's antidegradation regulations under Chapter 93 authorize DEP to prevent water withdrawals where those withdrawals would dewater nearby wetlands, thereby adversely affecting existing physical and biological conditions of those wetlands.

Likewise, any narrower interpretation of Chapter 93 would violate the federal Clean Water Act, and would threaten to undermine federal approval of Pennsylvania's Water Quality Standards. The United States Supreme Court itself has spoken on this issue, and it has made clear that the Clean Water Act governs not only discharges, but also the loss of water quantity where that loss results in violation of state Water Quality Standards. *See PUD No. 1 of Jefferson County v. Washington Department of Ecology*, 511 U.S. 700 (1994). Justice O'Connor, writing for the 7-2 majority, explained:

> Petitioners also assert more generally that the Clean Water Act is only concerned with water 'quality,' and does not allow the regulation of water 'quantity.' **This is an artificial distinction. In many cases, water quantity is closely related to water quality**; a sufficient lowering of the water quantity in a body of water could destroy all of its designated uses, be it for drinking water, recreation, navigation or, as here, as a fishery. In any event, **there is recognition in the Clean Water Act itself that reduced stream flow, i.e., diminishment of water quantity, can constitute water pollution.**
> *PUD No. 1*, 511 U.S. at 719.

2. The EQB Should Propose the Addition of Biological Criteria to the Specific Water Quality Criteria Set Forth in Chapter 93.

Conspicuously absent from the proposed changes to Chapter 93 are any specific narrative or numeric biological criteria (also known as "biocriteria"). Presently, all specific water quality criteria established in Section 93.7 are based on either chemical or physical (i.e., temperature) parameters. There are no specific water quality criteria based on the biological condition of waterbodies. Biocriteria that are protective of aquatic life uses should be added to this proposed rulemaking.

Despite the lack of biocriteria in Chapter 93, DEP does recognize the importance of biological communities in assessing water quality and stream health. DEP's stream assessment program for determining whether waters of the Commonwealth are impaired relies on a protocol that utilizes biological surveys of instream macroinvertebrate communities (the "Modified Rapid Bioassessment Protocol"). DEP uses a bioassessment approach because it gives a fast and accurate gauge of stream health that captures the impacts of all factors that may be affecting the stream's aquatic life use.

This disconnect between the established water quality criteria and the methodology for assessing stream impairment results in the following paradox: a stream that meets all applicable water quality criteria in Section 93.7 can be assessed as impaired for failing to meet its designated aquatic life use. Big Spring Creek in Cumberland County was classified as severely impaired even though the identified source of the impairment, the discharge from the Pennsylvania Fish and Boat Commission (PFBC) Big Spring Fish Culture Station, regularly met effluent limits that had been modeled to satisfy the instream criteria set forth in Section 93.7(a). Although not as severely impaired, the same situation exists for the receiving streams below the PFBC Fish Culture Stations at Bellefonte, Benner Spring, Huntsdale, Oswayo, Pleasant Gap and Tylersville.

In all of these situations, the effluent limit modeling geared to the Section 93.7 criteria failed to prevent impairment of the aquatic life use that was detected using biological assessment tools. The narrative, general water quality criteria in Section 93.6 also failed to prevent these impairments from occurring. Establishment of biocriteria would provide clear standards for directly assessing the condition of the aquatic communities in the receiving streams. Particularly where other water quality criteria are satisfied, the existence of specific biocriteria would provide a clear basis for enforcement actions, adjustment of permit limits, or other measures to eliminate the causes of impairment. Coupled with regular instream monitoring, biocriteria also would facilitate the detection of stream degradation before it impairs an existing or designated aquatic life use.

EPA has made it a priority to support and encourage states to develop biocriteria and incorporate them into specific water quality standards. In 1988, EPA established its Bioassessment and Biocriteria Program to achieve the establishment of "[q]uantifiable biocritera . . . in all state/tribal water quality standards to protect aquatic life uses." EPA recognizes that, among other uses, biocriteria can be utilized to "evaluate the effectiveness of NPDES permit requirements and detect previously unmeasured point and nonpoint source water quality problems."

In December 2002, EPA issued a report that inventoried the status of state, tribal and interstate commission bioassessment and biocriteria programs throughout the United States. The report revealed that, as of 2001, 29 states, tribes and interstate commissions had developed narrative biocriteria, and 11 additional entities had narrative biocriteria under development. Four entities (including the Delaware River Basin Commission and the state of Ohio) had adopted numeric biocriteria, while 11 entities were in the process of developing numeric criteria. Pennsylvania was not among the states listed as having developed or developing narrative or numeric criteria. This Triennial Review would leave Pennsylvania as one of the dwindling handful of states that lag behind the times by failing to include any biocriteria in their water quality standards.

Presently, Section 93.6(a) (relating to General Water Quality Criteria) states that "[w]ater may not contain substances attributable to point or nonpoint source discharges in concentration or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life." However, EPA's Biocriteria Report pointed out that cursory statements such as these fail to qualify as even "narrative" biocriteria, because they fail to describe the biological integrity of aquatic communities inhabiting waters of a designated aquatic life use, and do not clarify how the criteria are operationally defined in the water quality standards. Moreover, as the examples of stream impairment cited above make clear, Section 93.6(a) has been ineffective at filling gaps left by Section 93.7's specific criteria and thereby preventing impairments to aquatic life uses. Without numeric or even narrative biocriteria protecting aquatic life uses, the biota of Pennsylvania streams may continue to suffer irrespective of whether the chemical and physical parameters established in Section 93.7 are met.

EPA's review of a state's Triennial Review submission must include a determination whether the State has adopted criteria that protect the designated uses. Pennsylvania's current criteria do not satisfy this standard. To qualify for EPA approval, this Triennial Review must correct that deficiency by including biocriteria that more fully protect the designated uses of Pennsylvania waters.

3. The Warm Water Fishes (WWF) and Cold Water Fishes (CWF) Use Definitions Fail To Protect Their Existing Uses.

The definitions of Warm Water Fishes (WWF) and Cold Water Fishes (CWF) in § 93.3 fail to protect the existing uses of the Commonwealth's waterways by allowing warmwater and cold water communities to be drastically altered by activities such as subsidence from underground mining, and yet be considered to still be within the WWF or CWF use. The current WWF and CWF use definitions fail to protect all flora and fauna in existing warm water and cold water communities.

The EPA has provided guidance on when an existing use is impaired in its Water Quality Standards Handbook (1994), stating in Chapter 4 that:

> No activity is allowable under the antidegradation policy which would partially or completely eliminate any existing use whether or not that use is designated in a State's water quality standards...Non-aberrational resident species must be

> protected, even if not prevalent in number or importance. Water quality should be such that it results in no mortality and no significant growth or reproductive impairment of resident species. Any lowering of water quality below this full level of protection is not allowed...An existing aquatic community composed entirely of invertebrates and plants, such as may be found in a pristine alpine tributary stream, should still be protected whether or not such a stream supports a fishery.

When viewed within the context of the EPA Guidance, the WWF and CWF uses are underprotective in numerous situations. A prime example is the impact of subsidence from underground mining. In some streams, subsidence from underground mining has altered the hydrology from a riffle/run habitat to a pool/glide habitat, resulting in drastic changes in the fish and aquatic life in the stream. Other situations where the use is underprotective include where a dam on a stream eliminates a species, such as darters or mussels, but still supports a warm water or cold water fishery, even though the species composition has changed. An activity which introduces a large amount of sedimentation into a stream may eliminate species such as darters, which are very sensitive to sediment, and result in the presence of species such as green sunfish, which tolerate sediment. Finally, a water withdrawal project may eliminate much of the flow in a stream, and substantially reduces biomass, yet species still remain, albeit at stressed levels in small populations.

In all these situations, an activity that significantly impairs flora and fauna in a warm water or cold water environment results in the replacement of that flora and fauna with others that are tolerant of pollution. The WWF and CWF definitions in § 93.3 fail to protect the prior-existing warm water and cold water flora and fauna by allowing their destruction while providing the legal imprimatur of a WWF or CWF use for the replacement community. The existing uses of the prior-existing warm water and cold water flora and fauna are not protected because DEP allows for its destruction and replacement by other warm water or cold water flora and fauna.

In order to address this problem, DEP must clarify that existing use protection would be violated if an activity eliminates a species of fish, mussel, or aquatic insect from a reach of stream.

DEP should also establish procedures for determining when existing use protection has been violated as a result of reduced numbers or biomass of a particular species of fish. The studies for the development of IBI's (Index of Biotic Integrity) for the different regions of Pennsylvania should be completed so that the procedures can be put in place. IBI will help determine when an activity has impaired the fish community to the extent that the existing use has been eliminated. DEP must develop a methodology for determining when existing uses have been so impacted that they can be said to have been impaired.

DEP must also redefine and/or subdivide the WWF and CWF uses to accurately include the flora and fauna that compose these uses. DEP needs to ensure that it provides and implements existing use protection for all non-aberrational warm water flora and fauna from activities that may impact the flora and fauna. DEP cannot allow the elimination and replacement of one type of flora and fauna by another. To do so fails to protect and maintain the stream's existing use.

4. DEP Lacks A Specified Level of Protection or Procedures in Its Water Quality Standards to Ascertain When Uses Are Impaired

DEP is legally prohibited from issuing permits or approvals for an activity that will fail to meet water quality standards. Despite this prohibition, DEP lacks tools to actually determine, in many cases, when an activity will impact an existing use. DEP must develop tools to determine when an activity will impact an existing use and include them in its water quality standards.

In the context of water withdrawals, DEP began work on a document that proposed standards for examining how much water could be withdrawn from a headwater stream while still protecting various stream uses. The proposal, titled Proposed Technical Guidance 392-2130-013 - Policy for Protecting Aquatic Resources And Related Stream Uses in Processing Approvals for Water Rights Acquisitions in Certain Waters of the Commonwealth, appeared for public comment in August of 2001 but was never finalized. DEP should finalize this document, after incorporating changes suggested by the environmental community in comments. This would provide a threshold for determining whether uses are impaired by water withdrawals.

In addition, DEP should perform studies and develop procedures and thresholds for the impacts of activities such as subsidence caused by underground mining; the construction and operation of dams, and activities that cause excessive sedimentation. These thresholds should then be incorporated into the Department's water quality standards.

Finally, as noted above, DEP should complete development of its IBI which will help determine when an aquatic community has been impaired. Currently, DEP is unable to accurately determine when an existing warm water or cold water community has been severely impacted because it has not established thresholds and measures.

5. DEP Should Develop a "Cool Water Fishes" or "Transitional Fishes" Use.

In general, the DEP classifies a stream as WWF (Warm Water Fishes) if species such as white suckers, creek chubs and blacknose dace dominate the fish community. These species are not fully protected by this designation, as a result of their thermal requirements. In the past, the DEP has attempted to "downgrade" a stream from CWF to WWF when the fish community was dominated by those species.

In response to a downgrade petition in 1992, PFBC reviewed the literature and determined that of Pennsylvania's three major aquatic life designated uses, Cold Water Fishes, Trout Stocking, and Warm Water Fishes, only Cold Water Fishes would protect all life stages of the three species. PFBC, supported by USFWS and EPA, has repeatedly argued against downgrading of CWF streams to WWF where cooler water fish are present and a WWF classification would fail to support these species.

We recommend that DEP develop temperature criteria for "cool water" or "transitional" streams that fully protect the aquatic life that typically dominate the fish community of such streams.

6. Pennsylvania Must Move Expeditiously To Adopt Water Quality Standards For Total Nitrogen and Phosphorous That Protect Pennsylvania Waters And Downstream Waters Such as the Chesapeake Bay

Currently, Pennsylvania contributes approximately 40% of the loading of nutrients (nitrogen and phosphorous) to the Chesapeake Bay. Nutrient pollution has resulted in the Chesapeake Bay and its tidal tributaries being placed on EPA's § 303(d) list of impaired waters. Despite the severe impact of Pennsylvania nutrients on the health and water quality of the Bay, the Commonwealth has no water quality standards in place that are designed to restrict the amount of nitrogen and phosphorous in Pennsylvania waters that drain into the Bay. While some phosphorous standards are in place to protect local water quality in Pennsylvania, no comprehensive nitrogen and phosphorous standards are in place to protect downstream waters. The failure of Pennsylvania to have comprehensive nitrogen and phosphorous water quality standards that assure the protection of downstream waters is an express violation of federal regulations adopted under the Clean Water Act (CWA).

The federal regulation at 40 CFR § 131.10(b) specifically provides that "in designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and *shall ensure that the water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters*."(emphasis added). The lack of such standards is a compelling reason for EPA disapproval and federal promulgation of Pennsylvania nutrient water quality standards that are protective of downstream waters such as the Chesapeake Bay.

DEP's draft "Nutrient Criteria Development Plan" (8/22/02), which has been submitted to and reviewed by EPA, contains no component for developing nitrogen criteria for rivers and streams in the Commonwealth. Indeed, DEP admits in the Plan that it fails to meet the requirements of the CWA and its regulations when it states that "nitrogen criteria will <u>not</u> be developed for use within Pennsylvania waters." (emphasis added). This is a clear derogation of the Commonwealth's duty to adopt water quality standards that protect downstream waters.

In the draft Plan, DEP states that "for downstream waters such as the Chesapeake Bay and the Gulf of Mexico where nitrogen is identified as the nutrient that must be controlled, Pennsylvania will protect these waters through the management of load allocations to major tributaries". This mechanism fails to satisfy CWA requirements because DEP has <u>not</u> committed to adopt the load allocations into its water quality standards. These load allocations, which arise out of Pennsylvania's participation in EPA's Chesapeake Bay program, are not binding, as water quality standards are, but instead are merely goals that need only be <u>voluntarily</u> addressed. Moreover, since DEP's submission of the Plan to EPA, Governor Rendell agreed with other Bay watershed Governors on March 21, 2003 to reduce nitrogen loadings in the Bay watershed by 110 million pounds/year. Accordingly, any load allocation contemplated in the 8/02 Plan is not only voluntary, but it is also outdated. Finally, DEP's attempts to develop tributary strategies to address the Governor's commitments by April, 2004 are seriously deficient and behind schedule.

DEP must adopt nitrogen and phosphorous criteria that assures the protection of not only local Pennsylvania waters, but also downstream waters such as the Chesapeake Bay. Pennsylvania must include binding requirements for nutrient reductions in its water quality standards, whether in the form of adequate, enforceable water quality standards for nitrogen and phosphorous that are protective of the Bay, and/or binding load allocations, and/or a total maximum daily load (TMDL) for nutrients.

7. Pennsylvania Should Adopt Criteria for *E. coli* and/or *enterococci* as Indicators for Human Health Risks from Recreational Contact.

Since 1986, EPA has been recommending that states use E. coli and/or enterococci as the water quality criteria for protection of primary contact freshwaters. This recommendation is based on epidemiological studies conducted by EPA and others that demonstrated that E. coli and enterococci are better predictors of acute gastrointestinal illness than fecal coliform. Therefore, EPA's position is that E. Coli and enterococci are more appropriate indicator parameters to determine human health risks from recreational contact.

EPA issued draft "Guidance for Ambient Water Quality for Bacteria" in June 2002 (final expected Dec. 2003) that reiterated this recommendation. EPA's draft guidance also allows states to include both fecal coliforms and E. Coli/enterococci in their water quality standards for a limited period of time. This will help states to assure consistency and continuity in their regulatory programs, while they collect data on these indicators in order to incorporate the new criteria into their water quality programs. Furthermore, in EPA's letter (August 2, 2001) approving Pennsylvania's last triennial review of water quality standards, EPA expressed concern that Pennsylvania continues to use fecal coliform criteria. In particular the letter states that PA is required to adopt the bacteria criteria under the Beach Act Amendment to the Clean Water Act by 2004 because it has coastal and Great Lakes waters. In addition EPA stated that there is a need for "current, defensible" criteria due to the development of bacteria-based TMDLs and the implementation of long-term control plans to address combined sewer overflows.

DEP should adopt E. Coli and/or enterococci water quality criteria as recommended by EPA:

--E. coli: geometric mean of 126 cfu/100 ml
single sample maximum allowable density 235 cfu/100ml

--Enterococci: geometric mean of 33 cfu/100 ml
single sample maximum allowable density of 62 cfu/100 ml

8. Pennsylvania Should Not Eliminate Protections for Bottom Waters In Lakes and Impoundments

The EQB proposes to amend Table 3 to eliminate the numerical dissolved oxygen (D.O.) criteria for the hypolimnion (bottom area) of stratified lakes, ponds and impoundments, including waters that are classified as High-Quality (HQ) waters. Pennsylvania's proposed standards for D.O. outline new standards considering the

"natural process of stratification in lakes, ponds, and impoundments." The EQB proposal would apply the narrative water quality criteria outlined in § 93.6 to the hypolimnion in a stratified lake and a new proposed D.O. criteria outlined in § 93.7 to the epilimnion for a nonstratified lake.

As a general matter, we recognize that lakes can naturally stratify creating depressed D.O. levels at the lower levels due to isolation from the effects of wind mixing and from the lack of light needed for photosynthesis. The study of water quality in lake systems is a complex science requiring the consideration of a host of inputs that contributes to the overall health of a naturally occurring lake system.

Dissolved oxygen is critical to the survival of fish and other aquatic life. The proposed change attempts to mimic natural processes of stratification in these waters throughout a year, but fails to do so. In essence, the change provides DEP with a stealth way of eliminating protection for aquatic species in some of the Commonwealth's best lakes, ponds, and other impoundments without any requirement for public notice and comment.

The language of the proposal is so vague that there is no definition or any standard or parameter delineating what is considered "stratified". There is also no requirement to consider the seasonality and variability of stratification; this requirement is important because D.O. varies seasonally and even diurnally. Under the proposal, DEP has the boundless discretion to declare a waterbody "stratified." Also, there is no language specifying how the determination of what is "stratified" will be implemented by the Department in permit actions it reviews. Moreover, there is no language describing how the antidegradation requirements of Chapter 93 will come into play. Finally, there is not even a requirement that a study or evaluation be performed. At a minimum, a study of the waterbody should be required before DEP declares it to be "stratified," and thus without D.O. protection for fish and aquatic life.

As a practical matter, the change means that dischargers could propose a discharge into the bottom areas of stratified lakes, ponds, or impoundments and not be subject to any requirement to protect the dissolved oxygen content of the waterbody from the discharge; only narrative, general water quality criteria would apply. Also, if the proposal is enacted, DEP can remove lakes, ponds, and impoundments from DEP's list of impaired waters solely on the basis of a DEP biologist's finding, without any criteria, sideboards, or parameters for the public to review the determination against, that a waterbody is "stratified". There are already mechanisms in the Department's regulations for addressing water uses that do not attain a water quality criterion; these Use Attainability Analyses (UAAs) must proceed through a publicly accountable regulatory revision process, unlike the proposal.

Moreover, the proposal should not apply to "impoundments". By definition, impoundments are not natural occurrences and should not be characterized alongside the "natural" phenomenon of thermal stratification in lakes and ponds. The physiochemical and biological impacts of impoundments vary widely and create lentic conditions such as cold and sometimes oxygen-depleted water. These are not natural conditions for the stream segment that has been impounded, and more importantly,

those natural conditions can be restored through improved operation of a hydropower or water supply dam or through dam removal.

The inclusion of "impoundments" in the new standard will create a barrier to possible improve-ments. Over the past 10 years, hundreds of dams nationwide have been improved, or modernized, improving water quality conditions and the overall health of the rivers system. By making operational changes in hydroelectric facilities, dam owners have been able to restore more natural river flows, minimize fluctuations of reservoir levels, restore habitat for river wildlife and better maintain appropriate water quality parameters such as temperature and oxygen levels in a river. These operational changes have been made by modifying "peaking" operations that can switch flows between raging torrents and mere trickles within minutes. The changes can also include minimizing the fluctuation of reservoir levels. Water quality impacts from impoundments can be traced to the amount and timing of the water quality from the reservoir as well as the depth at which the water is drawn from. Lastly, through demonstrated use of improved technology, dam operators can improve temperature and dissolved oxygen levels using improve technology. All of the changes we mention above have occurred without the removal of a dam and, on average, result in an average loss 1.6% of a dam's energy generation.

Because dams are built to last an average of 50 years, these impoundments should be considered temporary landscape features that have the potential to revert to free-flowing stream and river stretches once the uses of a dam are no longer required and the dam is breached or removed. The proposed standards should recognize this potential and not exempt these impounded areas from future D.O. standards.

The proposed change is unnecessary and eliminates D.O. protections for certain waters and aquatic species in some of the best lakes, ponds, and impoundments in the Commonwealth. It fails to accurately reflect the principles of limnology, and gives the Department boundless discretion to categorize a lake or impoundment as "stratified," without the need or requirement for any study, or without any definition of "stratification," or consideration of seasonality or variability. As drafted, DEP could potentially use the provision to eliminate a lake from the § 303(d) list of impaired waters through a stealth process undertaken without any opportunity or requirement for public input or notice. A UAA process for changing use designations already exists, and includes an opportunity for public input. Also, there is no language on how antidegradation requirements, such as existing use protections, in Chapter 93 would apply, and how the new language would be implemented in permit decisions. Finally, the proposal inappropriately extends to "impoundments". By doing so, Pennsylvania writes off any potential future use of the impounded surface water as a stream.

9. The Department Should Adopt EPA's Standard for Methylmercury.

In 2001, EPA adopted a human health criterion of 0.3 mg/kg for this substance based on concentrations in fish and shellfish tissue. DEP should incorporate EPA's criterion.

In sum, we support the proposal to clarify that the scope of water quality standards iis not limited to discharges. In addition, we believe the proposal is deficient, and should be reworked, to include: (1) nutrient criteria that protect downstream waters; (2) e coli or entrerococci bacteria criteria; (3) biocriteria; and (4) Methylmercury human health criteria. Also, the use definitions in Chapter 93 should be reworked to; (1) subdivide WWF and CWF uses to accurately reflect flora and fauna that is present, and ensure that they protect existing uses; and (2) include a "cool water" or "transitional fishes" use; Finally, the proposal to eliminate the applicability of dissolved oxygen criteria to bottom waters in lakes and impoundments should either be abandoned or substantially revised to accurately reflect limnology and eliminate the vagueness, ambiguity, and boundless DEP discretion present in the proposal

Thank you for the opportunity to comment. If you have any questions regarding our comments, or need further clarification, please contact me at (717)-234-5550.

Sincerely,

William J. Gerlach, Pennsylvania Attorney

To Department of Environmental Protection
Environmental Quality Board
POB 8477 Harrisburg, PA, 17105-8477

Dec. 12, 03

Original: 2366

To DEP:

I am concerned about current legislation that will eliminate runoff from mining, farming & logging from current ~~cont~~ restrictions as I know that they represent a major source of water pollution. I believe that this is a mistake & will oppose any such ~~legis~~ change - regulations. ~~it is suf~~

Sincerely,

Susha Golomb
2055 Willow Brook Dr.
Huntingdon Valley PA 19006

IRRC

From: JNadle@aol.com
Sent: Wednesday, December 10, 2003 12:00 AM
To: RegComments@state.pa.us
Cc: irrc@irrc.state.pa.us.
Subject: Comment on PA Review of Water Quality Standards

Secretary Kathleen McGinty, Chair
Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477

Dear Secretary McGinty:

Below are comments on PA's Triennial Review of Water Quality Standards, as published in the October 2003 Pennsylvania Bulletin. Please make a copy of these comments available to the full Environmental Quality Board:

It's become clear that "nonpoint source" discharges are a major source of water pollution in PA. This pollution is inherently harder to address and regulate than "point source" water pollution, but we can update regulations and standards to do a better job of protecting one of our most valuable natural resources.

1. I support the proposed language change to Chapter 93.2. Water Quality Standards apply to "activities" not just "discharges." This is necessary to comply with state and Federal law.

2. I oppose the change to the dissolved oxygen criterion. DEP has not adequately stated how it will protect the hypolimnion of lakes. DEP should also adopt the higher EPA values for dissolved oxygen.

3. DEP needs to protect "existing uses," that is, all the biological species that are in the stream. It is not enough to simply evaluate activities for their potential to change water chemistry or temperature. Use the EPA guidance language to do so.

4. DEP has said in the past that it was going to work on a) biological criteria, b) a "cool-water fishes" designated use, and c) language protecting instream flow and habitat. It has not reported to the public on these issues, even though some are over ten years old. It is past time to implement, at least partially, all three.

5. Pennsylvania needs both a "mixing zone policy" and a "variance" procedure in its standards if it is going to allow them (which it does). It would be better to eliminate mixing zones, but a good first step would be a policy that allows the public to participate and provide input. Currently, for each discharge, DEP does not provide information in public notices on the size or extent of mixing zones, nor on the number of "time extensions" it may be granting to dischargers.

Thank you for reviewing my comments and entering them into the official comment record.

Sincerely,

Jonathan Nadle
4221 Winterburn Ave
Pittsburgh, PA 15207
jnadle@aol.com, 412-521-2678

IRRC

From: Mark Hersh [markhersh@msn.com]
Sent: Tuesday, December 16, 2003 10:02 AM
To: RegComments@state.pa.us
Cc: IRRC; Joe Turner
Subject: Triennial review comments

The Raymond Proffitt Foundation submits the following comments on Pennsylvania's triennial review of water quality standards.

I. PROPOSED CHANGES

A. Chapter 93.2. Clarifying the Scope of Chapter 93

DEP proposes to delete a few words from this section, which refer to discharges. The new section would read "This chapter sets forth water quality standards for surface waters of this Commonwealth, including wetlands. These standards are based upon water uses which are to be protected."

The proposed amendment does not broaden DEP's authority; it merely clarifies the scope of DEP's existing authority, which is to regulate **activities** that could cause pollution. In fact, any narrower reading of DEP's authority under Chapter 93 would strip DEP of important tools to prevent water pollution in Pennsylvania, and would violate both the Pennsylvania Clean Streams Law and the federal Clean Water Act. The United States Supreme Court itself has spoken on this issue, and it has made clear that the Clean Water Act governs not only discharges, but also the loss of water quantity where that loss results in violation of state water quality standards. See PUD No. 1 of Jefferson County v. Washington Department of Ecology, 511 U.S. 700 (1994).

We support this proposal.

B. Chapter 93.7(a), Table 3. Reducing Protection for Bottom Waters In "Stratified" Lakes

DEP proposes to amend Table 3 to eliminate the numerical dissolved oxygen (D.O.) criteria for the hypolimnion (bottom part of the water column) of stratified lakes, ponds, and impoundments, including waters that are classified as High-Quality (HQ) waters. Dissolved oxygen, critical to the survival of aquatic life.

The language of the proposal is so vague that there is no definition or any standard or parameter delineating what is considered "stratified." Also, if the proposal is enacted, DEP can remove lakes, ponds, and impoundments from DEP's list of impaired waters, without any parameters for the public to review the determination against, that a waterbody is "stratified."

The change is not well thought out, and eliminates D.O. protections for certain waters and aquatic species in some of the best lakes, ponds, and impoundments in the Commonwealth. **We oppose this change.**

Related to this issue with dissolved oxygen is the fact that the PA Fish and Boat Commission (PFBC) pointed out to DEP years ago that EPA actually recommended higher DO numbers than Pennsylvania had in its standards. DEP said it evaluated the criterion using "Pennsylvania-specific" data, although they didn't make the data public. Trout and other aquatic life in Pennsylvania don't need less oxygen than their out of state cousins. **DEP should adopt the EPA numbers for dissolved oxygen.**

II. CHANGES THAT ARE NEEDED

In the past, resource agencies, conservation groups and the public have pointed out to DEP various shortcomings in their standards. Many of these suggestions would help move the water quality standards beyond the realm of point source discharges, and create a regulation that would be equipped to meet the numerous threats.

DEP has not been open to new ideas, but they usually respond that they will "study" or "review" or "evaluate" the suggestions, and put something in a future triennial review. DEP has not adopted most of those suggestions made over the last few triennial reviews (the last was in 2000, the previous one, 1994), and has not bothered to report on the results of its numerous reviews and evaluations, and there is no indication that any study or evaluation has even occurred.

A. Biological Criteria -

DEP has not proposed any new water quality criteria based on biological indicators (i.e., macroinvertebrate or fish populations). This despite the fact that DEP utilizes biological assessment surveys when it determines whether a waterbody is impaired for purposes of listing on the 303(d) List of Impaired Waterbodies, a requirement of the Clean Water Act. DEP needs biological criteria because the Clean Water Act says that the biological integrity must be protected. So many activities can affect our streams without having a direct change on water chemistry parameters. **DEP said in the past it was going to work on this issue, but it made no report this year. DEP needs to adopt biological criteria.**

B. Protection of Existing Uses -

While DEP gives broad definitions of "Warm Water Fishes," "Cold Water Fishes," and so on in Chapter 93, DEP has not stated how much biological integrity can be compromised and yet have the "existing uses" be maintained. This is important because the antidegradation policy does not allow existing uses to be eliminated. Elimination of uses is "pollution" and that isn't allowed.

The EPA has provided guidance on existing use protection in its Water Quality Standards Handbook (1994). It simply says that all resident species (except those that are clearly "aberrational) must be protected, except in "mixing zones" and when a Section 404 permit is issued (for something like a wetland fill).

In contrast, DEP has said that it will protect existing uses only by evaluating an activity's potential to change the numeric water quality criteria (see Chapter 2 of DEP's "Water Quality Antidegradation Implementation Guidance" [http://www.dep.state.pa.us/dep/deputate/watermgt/wqp/wqstandards/wqstandards.htm]

By this definition of protection, DEP could allow subsidence from underground mining to alter the morphology of a stream from a riffle/run habitat to a pool/glide habitat, resulting in drastic changes in the fish and aquatic life in the stream. DEP's definition might allow a dam on a stream to eliminate a flowing water species. A third situation is where an activity introduces a large amount of sedimentation into a stream. This may eliminate species such as darters, which are very sensitive to sediment, and result in the presence of species such as green sunfish, which tolerate sediment. A fourth situation is where a water withdrawal project eliminates much of the flow in a stream, and substantially reduces biomass, yet species still remain, albeit at stressed levels in small populations.

DEP's stream biologists often make the call, however, that a discharge or activity has (or will) unduly affect biological integrity. DEP uses these calls to either force a discharger to make changes, or to deny or modify a permit. So why won't DEP publish some sort of guideline or standard on this? Good question; let's ask them!

DEP cannot allow the elimination and replacement of one type of flora and fauna by another without recognizing that an existing use has been impacted. **DEP needs to ensure that it provides and implements existing use protection for all non-aberational flora and fauna from activities that may impact the flora and fauna (similar to the EPA language).**

C. "Cool Water Fishes" Designated Use -

Many Pennsylvania streams contain species such as white suckers, creek chubs and blacknose dace. In the past, the DEP has attempted to "downgrade" a stream from CWF to WWF when the fish community was dominated by those species. These species are not fully protected by a WWF designation.

In 1992, a tire manufacturer asked that three streams be redesignated to "Warm Water Fishes," which would require less stringent temperature and dissolved oxygen criteria (and legalize their pollution). The DEP complied and recommended WWF designations for the streams to the Environmental Quality Board. But the PA Fish and

Boat Commission objected, saying that the temperatures allowed in WWF would not protect the species there. The U.S. Fish and Wildlife Service (FWS), and the EPA supported the PFBC's report and conclusion.

DEP backpedaled. They called the PFBC report "convincing," withdrew their earlier recommendation and said they would work with the PFBC to develop a new "designated use" that would protect these "cool water fish." The PFBC promptly supplied DEP with the data and information.

However, in 1994, DEP again recommended WWF designations for two additional streams, which would not protect the resident species (existing uses)--blacknose dace, creek chub, and white sucker. The PFBC, the FWS, and EPA said "there you go again." As a result, the DEP changed their recommendations for both streams. Also at this time, the Independent Regulatory Review Commission noted, *"...no progress has been made on implementing the results and recommendations of the PFBC study"* and recommended that DEP work to develop the new designated use.

Some people never learn. A Special Protection for Tohickon Creek prepared in 1997 by DEP repeated the error (as an aside, DEP has yet to finalize a recommendation for the Tohickon Creek watershed; the petition for an Exceptional Value designation was submitted in May, 1995!). It has been eleven years since the first PFBC letter to DEP, showing that neither the WWF nor the trout stocking (TSF) designations will protect many of Pennsylvania's most common fish species. **DEP needs to adopt a "cool water fishes" use.**

D. Language Protecting Flow and Habitat -

In 1998, the public and resource agencies recommended protecting aquatic habitat and instream flow (Governor Ridge's 21st Century Environmental Commission did as well). DEP responded that they were working on this issue with the PFBC. There's no evidence of any work. **DEP owes the public a report in this triennial review of the progress of this effort, and should adopt language protecting flow and habitat into the standards.**

E. Mixing Zones and Variances -

EPA has repeatedly asked DEP to develop mixing zone (areas downstream of discharges that do NOT have to meet water quality criteria) and variance (allowing dischargers out of meeting standards altogether) policies. DEP has steadfastly refused to do so, and continues to permit mixing zones for almost every discharger in the state (it is not known how many dischargers get a "time extension," DEP's backdoor variance). The problem is that the public is shut out of the process. According to EPA, there are many areas where mixing zones are NOT appropriate, such as important recreational areas, important fish or wildlife areas, or a when a tributary joins with the receiving water. **DEP needs mixing zone and variance policies, or else should simply stop allowing these loopholes.**

Thank you.

C. Mark Hersh

Raymond Proffitt Foundation

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pennsylvania Field Office
Suite 322
315 South Allen Street
State College, Pennsylvania 16801

December 16, 2003

Ms. Kathleen A. McGinty, Chairperson
Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477

Original: 2366

Re: Proposed Rulemaking, 25 Pa. Code, Chapter 93 (Water Quality Standards)

Dear Ms. McGinty:

The Fish and Wildlife Service has reviewed the Proposed Rulemaking on Pennsylvania's water quality standards, published in the October 18, 2003, *Pennsylvania Bulletin*. Because any amendments to Pennsylvania's water quality standards will not become effective until reviewed and approved by the U.S. Environmental Protection Agency (EPA), our comments are submitted (and copied to EPA) pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (hereinafter, "ESA") to ensure the protection of endangered and threatened species. Before taking action on Pennsylvania's standards, EPA is required by Section 7(a)(2) of the ESA to consult with the Service, to ensure that the action will not jeopardize the continued existence of any federally-listed species, or result in the destruction or adverse modification of habitat that has been designated as critical for the species. During the Section 7 consultation process, it is incumbent upon EPA to analyze the effects of the proposed action on federally listed species, and present that effects analysis to the Service for review and concurrence. This letter is not a complete effects analysis by the Service, and is not a substitute for a complete effects analysis by EPA.

Our comments are also provided pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), which authorizes the Service to provide assistance to, and cooperate with, other Federal, State, and public and private agencies in the conservation of all fish and wildlife resources and their habitats.

The last triennial review was first published as proposed rulemaking in 1998, and after two rounds of public comments, was finalized in 2000. We recognize the efforts the Pennsylvania Department of Environmental Protection (Department) has put into the water quality program in recent years. The State-Wide Surface Waters Assessment Program has assessed a majority of the Commonwealth's surface waters over the last few years. The Growing Greener program, in conjunction with other restoration programs such as the Service's Partners for Fish and Wildlife Program, has made substantial progress in restoring degraded habitats. These initiatives

recognize that threats to the chemical, physical, and biological integrity of our surface waters, and the fish and wildlife resources that depend on them, come from many directions, not simply from point source discharges. Pennsylvania's water quality standards, which are a lynchpin in implementing the Commonwealth's Clean Streams Law and the Federal Clean Water Act, need to stay relevant and responsive to these threats if our waters are going to be protected and restored.

SPECIFIC DEPARTMENT PROPOSALS

General comments

The section of the preamble entitled "D. Background and Purpose of the Amendment" identifies that Pennsylvania's water quality standards "are codified in Chapter 93 and portions of Chapter 92." This statement omits the fact that specific provisions of the water quality standards applicable to wetlands are codified in portions of Chapter 105. The 1994 triennial review added wetlands to the scope of waters afforded protection by the water quality standards, and also incorporated portions of Chapter 105 into the Commonwealth's water quality standards. While a good start, those measures do not mean that no further work is needed to refine the water quality standards for wetlands. We are concerned that the lack of mention of Chapter 105 in the preamble indicates that in this triennial review, the Department did not sufficiently review and assess the water quality standards program as it applies to wetlands.

Section 93.2 Scope

The Department proposes to amend subsection (a) by deleting the words "and will be considered by the Department in its regulation of discharges," thus clarifying the Department's intention that Chapter 93 is not limited to "discharges" or "point sources," but applies to any Departmental decision or approval relating to stream quality protection. We note that other sections of Chapter 93 refer to the applicability of those sections to activities (including, but not limited to, point source discharges) that may affect surface waters. For instance, there are provisions in the antidegradation policy (Section 93.4a) that refer to either activities or nonpoint sources. Section 93.6(a) (general water quality criteria) prohibits point *and* nonpoint sources discharges of substances in concentrations or amounts inimical to protected uses or fish and wildlife. Furthermore, EPA's guidance refers to the applicability of water quality standards to activities (USEPA 1994). We support the proposed change, and commend the Department for taking this action to prevent misinterpretation of this important point.

Section 93.7 Dissolved oxygen

The Department proposes to change the dissolved oxygen (DO) criterion for stratified lakes by applying the criterion only to the epilimnion. We agree with EPA's analysis in its October 27, 1998, letter (Evelyn S. MacKnight to the Department's' James Seif) that application of the current DO criterion may cause some lakes to be listed inappropriately on the Section 303(d) list of impaired waters. The proposed changes are more reflective of natural conditions in lakes, although it is not clear to which lakes, ponds and impoundments the Department will apply the new criterion, and which ones it will not. Does plan to maintain a list of "stratified" lakes?

We are concerned that protection for the hypolimnion is not clearly articulated. When reviewing a permit or other activity that may affect a lake, the Department needs to ensure that discharges or other activities do not unduly accelerate oxygen depletion in the hypolimnion, and make a clear finding that all existing and designated uses of the entire lake are protected, including the hypolimnion, even if no DO criterion applies to it. We suggest delaying this rulemaking until a corresponding guidance document can be prepared.

We believe that Pennsylvania's aquatic resources would benefit from a more expanded review of statewide DO standards. Specifically, we note that EPA's "Goldbook" DO values (USEPA 1986) associated with "slight" or "no" reproductive impairment would be more protective of fish and other aquatic life than Pennsylvania's current criterion. Similar comments were made by the Pennsylvania Fish and Boat Commission (PFBC) in the 2000 triennial review, and the Department responded "the criteria were developed considering Pennsylvania-specific data and are, therefore, protective of the uses. During the next Triennial Review of Water Quality Standards, the Department will examine the criteria and consider if changes are necessary." In the 2003 triennial review, the Department should have made public the "Pennsylvania-specific data" and its promised examination of the criteria.

The Goldbook discusses various levels of DO, with corresponding levels of protection. The Department's current minimum for CWF waters is 5.0 mg/L, with a minimum daily average of 6.0 mg/L. For cold water streams, the Goldbook describes 6.0 mg/L as the "limit to avoid acute mortality" for embryo and larval life stages. We do not believe that Pennsylvania's dissolved oxygen criterion should be set simply to avoid acute mortality to the early life stages of salmonids. Instead, we recommend the Goldbook values of 9.0 mg/L or 11.0 mg/L as the minimum limit, the former number associated with "slight production impairment," the latter, associated with "no production impairment."

Similarly, for waters designated as WWF, the current Pennsylvania minimum DO is 4.0 mg/L, with a minimum daily average of 5.0 mg/L. The Goldbook lists 5.5 mg/L as the level associated with slight reproductive impairment and 6.5 mg/L as associated with no reproductive impairment in warm water fishes. We believe that at least the 5.5 mg/L concentration should be adopted as the minimum level in WWF waters that do not contain threatened or endangered species.

Two federally-listed endangered mussels, clubshell (*Pleurobema clava*) and northern riffleshell (*Epioblasma torulosa rangiana*) are known to inhabit a number of streams in northwestern Pennsylvania, while another, dwarf wedgemussel (*Alasmidonta heterodon*) is found in portions of the Delaware River. The Goldbook recommends a DO concentration of 8.0 mg/L to ensure no reproductive impairment of invertebrates. In the absence of a designated use in Pennsylvania's standards designed to protect threatened and endangered species, we recommend that the 8.0 mg/L DO concentration be adopted as a site-specific criterion for waters where listed mussels reside. Relevant waters include the Delaware River in Wayne and Pike Counties; the French Creek watershed in Crawford and Erie Counties; the Allegheny River in Warren, Forest, Clarion, Armstrong, and Venango Counties; and the Shenango River in Mercer County.

ISSUES NOT ADDRESSED

Mixing zones

We repeat here our long-standing concern with mixing zones. There is nothing articulated in Pennsylvania's water quality standards about areas where water quality criteria do not apply, even though the Department uses "criteria compliance times" when establishing NPDES permit limits. The use of criteria compliance times creates areas where numeric water quality criteria are frequently exceeded. In essence, these areas are mixing zones.

According to the Federal regulations at 40 CFR 131.13, states may include in their standards policies (such as mixing zones) affecting the application and implementation of the standards. The preamble language (48 FR 51404) for that regulation states that "General Policies if adopted are to be included in a State's water quality standards and are subject to EPA review and approval." Pennsylvania's allowance for spatial areas where criteria do not have to be met means that it has chosen a general policy allowing mixing zones. It then follows that the policy must be included in the standards and submitted to EPA. EPA made this same argument to the Department (May 24, 2002, letter from Jon M. Capacasa to Christine Martin) as one of many recommendations for this triennial review of water quality standards.

It is clear that mixing zones should not be allocated in certain areas. While the Department's recent antidegradation guidance (DEP 2003) states that for new or expanded permits, mixing zones might be eliminated in areas where threatened or endangered species exist, there are still other situations where mixing zones are not appropriate (USEPA 1995). Pennsylvania needs to clearly articulate a policy regarding its use of "criteria compliance times" in regulation or policy that is subject to public participation and EPA review and approval.

Variances

In its May 24, 2002, letter, EPA noted that the Department's use of Chapter 95.4, "Extension of time limits for permit limits," is essentially a variance provision. We agree with EPA's analysis, and believe that the Department should establish a variance provision in its standards instead of continuing to rely on Chapter 95.4.

Numeric Water Quality Criteria

We believe that the Department should adopt EPA's aquatic life water quality criterion for chloride (USEPA 2002; 53 FR 19028). In the comment/response document for the 1994 triennial review, the Department said that it would collect field data to "determine whether chloride criteria for protection of fish and aquatic life are necessary in Pennsylvania." In the comment/response document for the 2000 triennial review, the Department said it "will consider these criteria after evaluation of the impacts in a future rulemaking." The Department should report to the public on this evaluation. We have made the Department aware of one discharger on the Allegheny River where chloride limits (and mixing zone limitations) should be put into place in order to protect federally-listed endangered mussels.

We also believe that the Department should use Q1-10 (not Q7-10) as the design flow for acute water quality criteria in both guidance (USEPA 1991) and regulation (40 CFR 131.36). The Department's use of Q7-10 will result in less protection for aquatic life than the level envisioned by EPA when it publishes or promulgates criteria. EPA made a similar comment in the 2000 triennial review. The Department's response was:

> DEP conducted flow analyses to determine the relationship of Q7-10 to Q1-10. Small and large streams were included in the analyses, which showed a range of the ratios of Q1/Q7-10 flow ranges from 0.51 to 0.96, with the mean ratio being 0.86. For 49 of the 61 stations examined, the ratio was at least 0.8. These results suggest that in the vast majority of circumstances, there is no substantial difference in the level of protection afforded by using Q7-10 instead of Q1-10 for the application of acute water quality criteria.

We are puzzled by this logic. The Department's data show that one stream had a Q1-10 that was only 51% of the Q7-10. The aquatic life of that stream would certainly receive greater protection if discharge limits were calculated based on Q1-10. It is immaterial that in some circumstances, or even most circumstances if that is the case, the use of Q1-10 will not afford a "substantial difference"in protection. It is enough that use of Q1-10 will afford a greater level of protection in some circumstances. Furthermore, the Department's argument demonstrates that, in "the vast majority of circumstances," there will be "no substantial difference" in effluent limitations developed as a result of using the Q1-10 vs. Q7-10 flow; therefore, the impact of this change on the regulated community would be minimal. The Department has not justified its use of Q7-10. We continue to recommend that Q1-10 be used as the design flow for acute criteria.

Issues Regarding Protection of Existing and Designated Uses

Transitional Fishes Use. Over the last ten years, we have seen numerous situations where the Department has recommended a change in the designated use of a stream based on a use attainability analysis. Often, when a stream that was surveyed did not contain trout, the Department recommended redesignation to WWF. The Service and PFBC pointed out that for many of the common resident fish in these transitional or "cool water" systems (e.g., white sucker, creek chub, blacknose dace), the WWF temperature criterion is not protective. In the 1992 comment/response document on the Stoney Run (Indiana County) redesignation, the Department stated that it was working on developing a new designated use for these transitional waterbodies. We believe that the Department should report on the progress of this effort in this triennial review.

Wildlife Use. In 1998, we submitted comments recommending a minor revision of the "wildlife" use. In the comment/response document, the Department misinterpreted our comment as requesting more numeric (chemical) wildlife water quality criteria. In fact, the purpose of the recommended change was merely to more accurately describe the relationship between wildlife and water quality and provide an additional tool for protecting water quality. Because the Department's decision not to adopt our suggested revision was based on a misunderstanding of the revision's purpose, we resubmit that language here for reconsideration (Appendix A).

Flow and habitat criteria. We resubmit our comments on flow and habitat criteria (suggested language attached as Appendix B). In the 1998 comment/response document, the Department said that it was working with the PFBC to develop such criteria. We believe that the Department should report on the progress of this effort.

Existing uses. Neither Pennsylvania's water quality standards regulations, nor the Department's latest antidegradation guidance (DEP 2003) articulates the relationship between "uses" and the biological condition of a waterbody. We remain concerned that reliance on the broad definition of "Warm Water Fishes," for example, could allow a stream with a smallmouth bass fishery to be degraded to a carp fishery. We do not believe that the intent of the antidegradation policy is to allow such changes.

Another example concerns streams designated as Class A wild trout streams by the PFBC. Because this level of trout biomass is considered sufficient to merit a "High Quality-Cold Water Fishes" protected use, it seems logical that the Department must review activities to ensure that the trout biomass will not fall below the Class A criterion. Otherwise, the use is not being protected. But consider a stream with a Class B wild trout biomass that is designated as CWF, which merits the stream Tier 1 antidegradation protection. That level of biomass, although not the highest, is still considered a "good standing stock of wild trout" by the PFBC (1997) and is indicative of good water quality and habitat conditions. We do not believe that the antidegradation policy would allow the Department to permit an activity that would reduce the brown trout biomass from 35 kg/ha to near zero.

The Department has recently stated that uses are protected through "application of numeric water quality criteria found in Chapter 93 of the Department's regulations and the toxic substances criteria found in Chapter 16..." (DEP 2003). For activities such as water withdrawals, or underground mining that causes pooling of streams and diminution of flow in springs and streams, merely applying the numeric water quality criteria will not adequately protect existing uses. In practice, the Department recognizes this fact; over the years, particular situations have triggered Departmental letters or memos that noted that biological or physical changes of a certain magnitude have resulted (or might result) in impairment or loss of a designated or existing use (examples attached as Appendix C). While some of these situations concerned NPDES dischargers, others did not, and mere application of the numeric water quality criteria did not prevent the impairment.

It follows, then, that the Department should articulate, in either regulation or guidance, how the biological and physical conditions of a surface water relate to the protection of the existing and designated uses. We suggest that the Department use the language found in EPA's Water Quality Standards Handbook (USEPA 1994) as a model:

> Non-aberrational resident species must be protected, even if not prevalent in number or importance. Water quality should be such that it results in no mortality and no significant growth or reproductive impairment of resident species. Any lowering of water quality below this full level of protection is not allowed.

Biological criteria. Biological criteria are essential tools for protecting existing uses. In the 1994 triennial review comment/response document, the Department stated that it would use ecoregion mapping "along with its biological assessment data, to eventually expand and enhance its biological criteria." The biological assessment effort is far along, to the Department's credit. According to the Department (DEP 2002), over 53,000 miles of streams and rivers have been assessed (the Department's web site says that currently, over 60,000 miles have been assessed). All of the waters of the Commonwealth will be assessed within five years. About 16%, or approximately 8,300 miles, are considered to be "impaired." As far as we can gather from information found on the Department's web site, the Department used biological surveys to determine whether streams are supporting their aquatic life uses; water chemistry played a secondary role, if any. We would surmise that most of the impaired streams will have water chemistry that meet the numeric chemical criteria in Chapters 16 and 93.

It is crucial to have defensible biological criteria in the standards, because many activities do not directly change water chemistry. Otherwise, Pennsylvania runs the risk of having in place increasingly irrelevant standards that cannot protect our surface waters because they do not provide a biological yardstick against which the effects of proposed activities can be evaluated.

Protection of Threatened and Endangered Species

We are concerned that certain guidance documents or long-standing Department procedures may undermine protection of threatened and endangered species, even when the regulations afford protection. For example, Chapter 93.4c(2), speaking to existing use protection, states that if the Department has confirmed the presence of a listed species, it will "ensure protection of the species." However, the recent antidegradation guidance (DEP 2003) states that, "Prior to making a formal application, the applicant will notify the Department of his or her intent to construct a facility or conduct an activity which needs a **new or expanded** permit or approval action" [our emphasis added].

During the public comment period for the draft guidance, we specifically asked the Department (August 8, 2001, letter from David Densmore to Secretary David Hess) to require permit renewal applicants to conduct PNDI searches and to incorporate Service recommendations into permit renewals as well as new or expanded permits. The Department responded :

> Renewals of permits do not require PNDI searches, as new or expanded discharges do. However, during the public comment period, persons or agencies may bring pertinent information to DEP's attention, and appropriate measures of protection will be incorporated into the permit, as necessary... The draft permit conditions will assure protection of T&E species without specific mention of the natural resource agency's comments.

The Department's response puts the burden on the resource agencies to review draft permit renewals and alert the Department to the species' presence, while at the same time, the Department reserves to itself the role of deciding what measures of protection are "appropriate" or "necessary." Our suggested change would avoid eleventh-hour endangered species issues that could delay permit issuance (for example, in cases where species have been listed as endangered

or threatened after the existing discharge was authorized). We reiterate our recommendation that PNDI searches and coordination with the resource agencies on listed species issues be required for permit renewals as with new or expanded permits.

Thank you for the opportunity to comment. Please contact Cindy Tibbott of my staff at 814-234-4090 if you have any questions.

Sincerely,

David Densmore
Supervisor

Attachments

References

DEP 2002. Pennsylvania Water Quality Assessment, 305(b) Report.

DEP 2003. Water Quality Antidegradation Implementation Guidance. Document No. 391-0300-002, July 28, 2003

PFBC 1997. Management of Trout Fisheries in Pennsylvania Waters. Division of Fisheries Management, Bureau of Fisheries.

USEPA 1986. Quality Criteria for Water 1986, Office of Water, EPA-440/5-86-001.

USEPA 1991. Technical Support Document for Water Quality-based Toxics Control. EPA-505/2-90-001.

USEPA 1994. Water Quality Standards Handbook: Second Edition. Office of Water, EPA-823-B-94-005a.

USEPA 1995. Allocated Impact Zones for Areas of Non-Compliance. Office of Water, EPA-823-R-95-003.

USEPA 2002. National Recommended Water Quality Criteria: 2002. Office of Water, EPA-822-R-02-047

Appendix A

93.1 Definitions

*****

Habitat --The area which provides direct support for a given species, population, or community, including important food, shelter, migratory or overwintering areas, or breeding area for aquatic life and wildlife, due to plant community composition and structure, hydrologic regime, substrate or other characteristics.

*****

Life cycle functions--Includes, but is not limited to, spawning, breeding, incubation, setting, molting, hibernacula, refuge, brooding, nursery, feeding, pupation, territory establishment and defense, and migration for breeding, spawning, temperature regulation, feeding, dispersal, and other life cycle functions.

*****

Wildlife--Birds, mammals, and all other classes of wild animals and all types of vegetation upon which wild animals are dependent.

*****

93.3 Protected water uses.

*****

Table 1

Symbol	*Protected Use*
Aquatic Life **and Wildlife**	
	*****
W	***Wildlife*--Use by wildlife for habitat and life cycle functions.**
	*****
Water Supply	
	*****
[AWS	*Wildlife Water Supply*--Use for waterfowl habitat and for drinking and cleansing by wildlife.]

93.4 Statewide water uses.

*****

TABLE 2

Symbol	*Use*
	Aquatic Life **and Wildlife**
	*****
W	**Wildlife**
	*****

Appendix B

93.1 Definitions

*****

Flow--A hydrologic regime to which aquatic life have naturally adapted.

*****

Hydrologic regime--The regular pattern of occurrence, circulation, and distribution of water in surface waters.

*****

93.6 General water quality criteria

(a) Water may not contain substances attributable to point or nonpoint source discharges in concentration or amounts sufficient to be inimical or harmful to **designated or existing** [the water] uses, **including** [to be protected or to human, animal, plant or] aquatic life **and wildlife**.

*****

(c) Alterations to the natural hydrologic regime, including instream flow, shall not be inimical or harmful to designated or existing uses, including recreation, aquatic life and wildlife. Natural seasonal and daily variations shall be maintained.

(d) Alterations to habitat shall not be inimical or harmful to designated or existing uses, including aquatic life and wildlife.

*****

Appendix C

Memo entitled "P.H. Glatfelter Impacts to Codorus Creek," from Robert J. Schott, DEP, to Leon M. Oberdick, DEP, February 13, 1995.

Letter from Charles A. Duritsa, DEP, to Rick Machak, ORIX Woodmont Deer Creek I Venture, L.P. regarding Permit Application E02-1284, October 12, 2000.

Letter from Leon M. Oberdick, DEP to David Truesdale, PA Fish and Boat Commission regarding NPDES Permit Application Big Spring Hatchery, February 22, 2001.

Pages 1-8, Consent Order and Agreement between DEP and RAG Emerald Resources, L.P, November 27, 2001.

ENVIRONMENTAL RESOURCES
February 13, 1995

SUBJECT: P.H. Glatfelter
Impacts to Codorus Creek

TO: Leon M. Oberdick
Regional Water Management Manager
Southcentral Region

FROM: Robert J. Schott RJS
Water Pollution Biologist
Water Management Program
Southcentral Region

THROUGH: Chief, Compliance and Monitoring Section ZB

Chief, Permits Section

Since the late 1970's the Department has monitored the benthic macroinvertebrate community of Codorus Creek both upstream and downstream from Glatfelter's discharges. This has included sampling at the Department's Water Quality Network Station (WQN 208) from 1975 to 1988 at Martin Road (1.2 miles downstream) and several aquatic biological investigations. The basic conclusion drawn from these investigations has been that the benthic community is impacted by Glatfelter's discharges and becomes dominated by pollution-tolerant and facultative taxa. Over the years it has been the Department's contention that the impact was classic organic pollution due to excessive solids, BOD, and COD. High stream temperatures during the winter months have also been suspected of eliminating certain species of aquatic insects.

Over the same period of time P.H. Glatfelter has contracted Dr. Robert Denoncourt to conduct numerous surveys of Codorus Creek both upstream and downstream from the mill. The data collected in those surveys and many of the statements in the various reports have indicated that Glatfelter's

and consistent" community was found is 5.8 mi. downstream from the discharge. He also failed to mention that even though site diversity had rebounded to some extent the numbers of individuals was still depressed. He went on to say "There has been a "sag point" in water quality, fish species and diversity and macroinvertebrate diversity at Sunnyside (1.8 mi. downstream) and there has been clear evidence of recovery at Graybills and Codorus Creek above PA Route 182 bridge." Again as I stated in my comments about the 316(a) study, even though recovery may have been under way at Graybill there was still evidence of an impact 5.8 mi. downstream from the Glatfelter discharge. The recovery of the creek at the Route 182 bridge is due to the fact that the site is located over 9 mi. downstream from the Glatfelter discharge. It is also located below the confluence with the South Branch of Codorus Creek so one would expect some recovery with the additional flow and dilution.

In 1988 Denoncourt did not sample upstream from the mill dam. Four sites were located between the mill dam and the industrial waste outfall and four additional sites were located downstream from the discharge. This was the first year that Denoncourt used the Hilsenhoff Biotic Index which is used to calculate a score (0 to 10) for the macroinvertebrate community based on the tolerances of the various taxa to organic pollution. The higher the score the more pollution tolerant the community. He stated that "...Hilsenhoff's improved biotic indices suggested organic enrichment..." His calculated values showed poorer conditions downstream from the industrial waste discharge. The list of taxa and numbers of organisms presented in the report show a marked increase in the number of pollution-tolerant species below the discharge.

In 1992 Denoncourt resumed sampling upstream from the mill dam in both Oil Creek and in Codorus Creek upstream from Oil Creek. As in 1988, he utilized the Hilsenhoff Biotic Index but for the 1992 data he modified the scores given to the various taxa "... on the basis of over 25 years experience in the geographic region". Denoncourt's "modified" Hilsenhoff scores were lower indicating improved conditions compared to the 1988 scores but in reality it was due to the fact that he was using his own scoring scheme, not because the stream had improved. Analyzing the 1992 data using the actual Hilsenhoff scoring system still shows that fairly significant organic pollution still existed below the waste discharge in 1992. In assessing the fish community Denoncourt used Karr's Index of Biological Integrity (I.B.I) which scores the fish community in much the same way the Hilsenhoff Index scores the macroinvertebrate community. The I.B.I. scores for the fish

community indicated poor to almost fair conditions for a distance of at least 3 miles downstream from the discharge. Overall the data indicated that conditions below the discharge were poor to fair and yet in his summary Denoncourt stated that "Fair to good conditions for recovery in case of stress were suggested by various indices and my observations." Also stated was "... at stations above and below PHG treated effluent there were fishes representative of trophic levels to be found in a balanced aquatic ecosystem." The only station below the discharge that had a good fish community was below the confluence with the South Branch which is approximately 9.2 miles downstream from the discharge. Sites located 1.8 and 5.8 miles below the discharge had I.B.I. scores of 32 and 34 respectively which indicate a poor fish community dominated by omnivores, tolerant forms and habitat generalists.

In 1988 the Department conducted an investigation of Codorus Creek to determine the effects of Glatfelter's discharge on primary productivity. It was felt that the color of the wastewater was limiting light penetration thus reducing the level of photosynthetic activity of the periphyton community. The results of that study indicated that there was an 11-fold decrease in chlorophyll-a production at a site located 1.2 miles downstream from the discharge. That same year P.H. Glatfelter hired EA Engineering, Science, and Technology, Inc. to conduct a similar study. Their data indicated results very similar to the Department's but they concluded that Codorus Creek in the vicinity of P.H. Glatfelter is a low order stream which is "...typically heterotrophic (consumption of organic matter is greater than production of organic matter) and are highly shaded by streamside vegetation". Basically their consultant was stating that the amount of periphyton production upstream from the discharge was not an important source of energy for a stream of this size and that "normal" periphyton growth was occurring downstream from the Glatfelter outfall. The Department does not agree with their conclusions. As long as the periphyton is present there will be a macroinvertebrate community present to consume it. The reduction of primary productivity due to the Glatfelter discharge constitutes a net reduction in the food supply for the macroinvertebrate community.

Attempting to attribute the impacts on the fish and macroinvertebrate communities on any one constituent in the Glatfelter discharge is difficult to do. There are multiple problems: high total organic carbon and chemical oxygen demand, high solids loading, elevated winter temperatures, and color. For example, composite samples of Codorus Creek taken

on September 9 and 24, 1994 indicated that the concentration of total organic carbon increased 8 to 12-fold downstream from the industrial waste discharge. Total volatile residue which is a measure of organic matter increased by a factor of 2 to 3. These constituents can promote the growth of bacteria which in turn lowers dissolved oxygen in the water column and within the substrate but even more significantly, coats the substrate which renders it uninhabitable for many pollution-sensitive macroinvertebrates. Solids are also a factor in the reduction of habitable substrate and their presence within the substrate below the Glatfelter outfall is obvious. Disturbing the substrate results in the release of this floc material which is most likely a combination of dead bacterial growths and the flocculent material that can be observed in the discharge on any given day. Also in reference to this flocculent material, a bacteriological study of Codorus Creek was conducted in 1975 by a Dr. Roger F. Hatcher from the consulting firm of Dames and Moore. The purpose of the study was to determine if the odors emanating from Codorus Creek are due to the growth of bacteria (Actinomycetes) growing in response to Glatfelter's wastewater. The report stated that Dr. Hatcher observed several inches of "flocculent-like" sediment in dead water areas of the creek. The report went on to say "The exact nature of this sediment is not known, but at least part of it was probably dead and detached Sphaerotilus mats. This conclusion is based on the observation of large, apparently healthy, Sphaerotilus beds at Martins Road Bridge, and smaller Sphaerotilus beds at other stations. The same factors which favor the growth of the Sphaerotilus sp. (i.e. warm organically enriched water), can favor blue green algae and, if precipitated or settled out, favors the growth of actinomycetes. Apparently, Glatfelter's discharge provides these conditions to the West Branch of the Codorus".

In the Department's estimation, the thermal input from the Glatfelter facility has rendered miles of the stream uninhabitable for many species of macroinvertebrates. During the winter months when the temperature of similar streams in the area typically goes below 5°C (41°F) the temperature of Codorus Creek downstream from the industrial waste discharge typically remains above 10°C (50°F). Just recently on January 12, 1995 the temperature of Codorus Creek upstream from the mill dam was 4°C (39.2°F). At a site 1.2 mi. downstream from the industrial waste discharge the temperature was 14°C (57.2°F). Aquatic insects have evolved in streams where winter temperatures may approach freezing and many species rely on these cold temperatures as stimuli for normal egg development and cues for diapause (dormancy) initiation. Also, elevated temperatures prior to normal emergence times

results in premature emergence which exposes the adults to low air temperatures.

The impact to Codorus Creek due to P.H. Glatfelter's discharge has resulted in the stream not attaining its designated uses as stated in Chapter 93. At least 6 mi. of stream are impacted. Glatfelter needs to reduce the organic and solids loading to the creek and conduct another 316(a) demonstration considering the thermal impacts on both fish <u>and</u> macroinvertebrates.

cc: Bob Frey, Water Quality
Tom Barron, Water Quality
Leroy Young, PA Fish and Boat Commission
Mike Kaufmann, PA Fish and Boat Commission
David Heicher, Susquehanna River Basin Commission
P.H. Glatfelter File
Stream File 2.16.0 (Codorus Creek)
t

Pennsylvania Department of Environmental Protection

400 Waterfront Drive
Pittsburgh, Pennsylvania 15222-4745

October 12, 2000

(412) 442-4000
Fax (412) 442-4194

Southwest Regional Office

Via Certified Mail and Facsimile

Rick Machak
Director of Development
ORIX Woodmont Deer Creek I Venture, L.P.
6500 West Freeway, Suite 900
Fort Worth, TX 76116

Re: Permit Application E02-1284

Dear Mr. Machak:

The Department has completed a review of Water Obstruction and Encroachment Permit Application E02-1284 ("Application"), which requests approval for relocating 2,700 feet of Deer Creek, placing fill in 6.05 acres of wetlands, and enclosing 215 feet of the relocated Deer Creek for the purpose of constructing a regional shopping center. The review included your application received on July 30, 1999, and additional information received on August 27, 1999, November 9, 1999, November 16, 1999, February 18, 2000, March 3, 2000, March 18, 2000, June 29, 2000, August 4, 2000, August 31, 2000, and September 11, 2000.

After a careful review of all information submitted by ORIX Woodmont, the Department hereby denies Permit Application E02-1284 because the Application has failed to demonstrate that the proposed project complies with the standards and criteria of Title 25 Chapters 105 and 93, the Dam Safety and Encroachments Act, the Clean Streams Law, the federal Clean Water Act, and Article I Section 27 of the Pennsylvania Constitution.

Specifically, the Department has determined to deny the Permit Application E02-1284 for the following reasons:

1) The proposal fails to demonstrate consistency with State antidegradation requirements contained in Chapter 93. 25 Pa. Code § 105.14(b)(11).

2) The proposal will cause significant adverse environmental impact to existing instream water uses and the level of water quality necessary to protect the existing uses. 25 Pa. Code § 93.4a(b) and 25 Pa. Code § 105.401.

3) The proposal will cause significant adverse environmental impacts on the regimen and ecology of Deer Creek, including its water quality, fish and wildlife, aquatic habitat and instream and downstream uses. 25 Pa. Code § 105.14(b)(4).

4) The proposal is not water dependent and thereby does not require access or proximity to a siting within wetlands or Deer Creek to fulfill the basic purpose of the project. The Application has not sufficiently demonstrated unavailability of any alternative location route or design and the use of location, route or design to avoid or minimize the adverse impact of the water obstruction and encroachment upon the environment. 25 Pa. Code § 105.14(b)(7).

5) The proposal would likely result in adverse environmental secondary impacts associated with, but not the direct result of, the construction of the project or substantial modification of Deer Creek in the area of the project and in areas adjacent thereto and future impacts associated with water obstructions or encroachments, the construction of which would result in the need for additional water obstructions or encroachments to fulfill the project purpose. 25 Pa. Code § 105.14(b)(12).

6) The proposal will result in an adverse impact to the wetlands values and functions. 25 Pa. Code § 105.14(b)(13).

7) After consideration of mitigation measures to Deer Creek, the Department has determined that the Application has not demonstrated that the public benefits of the project outweigh the harm to the environment and public natural resources. 25 Pa. Code § 105.16(a) and (b).

8) The Application has failed to demonstrate that adverse environmental impacts on the wetland will be avoided or reduced to the maximum extent possible. 25 Pa. Code § 105.18a(b)(2).

9) The Application has failed to demonstrate that there is no practicable alternative to the proposed project that would not involve a wetland or that would have less adverse impact on the wetland, and that would not have other significant adverse impacts on the environment. 25 Pa. Code § 105.18a(b)(3).

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. §7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P. O. Box 8457, Harrisburg, Pennsylvania 17105-8457, (717) 787-3483. TDD users may contact the Board through the Pennsylvania Relay Service, (800) 654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in

braille or on audiotape from the Secretary to the Board at (717) 787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

Sincerely,

Joseph W Champa for

Charles A. Duritsa
Regional Director
Southwest Regional Office

cc: Gary Sheffler, Sr.
Pat Gavaghan
PFBC - Ron Tibbott
USFWS - Bonnie Crosby
EPA - O'Malley-Walsh
ACOE - Al Rogalla

909 Elmerton Avenue
Harrisburg, PA 17110-8200
February 22, 2001

Southcentral Regional Office 717-705-4707

Via Panafax & U.S. Mail

Mr. David Truesdale
Pennsylvania Fish and Boat Commission
1225 Shiloh Road
State College, PA 16801-8495

Re: NPDES Permit Application
Big Springs Hatchery

Dear Mr. Truesdale:

In response to the public comments received and additional internal review, the Department is withdrawing the draft NPDES permit for the Big Spring Hatchery.

The Department has preliminarily determined that the existing discharge from the Big Spring Hatchery has resulted in significant degradation of Big Spring Creek. Big Spring Creek is listed on the Commonwealth's Section 303(d) impaired streams listing for siltation, low dissolved oxygen and organic enrichment. The biological community also has elevated levels of PCBs which appear to be caused by the hatchery discharge. In addition, the existing and designated uses of Big Spring Creek, including the Exceptional Value and Cold Water Fishes uses, have not been protected or maintained. The once thriving Heritage Trout Angling water is barely able to maintain a naturally reproducing trout population. Except for a small area above the hatchery discharge, there appears to be no wild brook trout reproduction. In the majority of the creek, the wild brook trout population has been completely eliminated.

The Department has also preliminarily determined that the only certain way to restore Big Spring Creek is for the hatchery to add technology to eliminate the discharge to the creek. Consequently, the Department requests that the PFBC evaluate the technical feasibility of operating the hatchery with a water recirculating system, thus eliminating the need for a discharge to Big Spring Creek. Recirculating hatchery systems have been in operation for many years and they have proved to be both feasible, and when used in commercial operations, profitable. The Department requests that PFBC submit a report, within 60 days, detailing the results of the evaluation.

The Department is concerned about the impact of the existing discharge from the hatchery. Currently, the clarifier is in severe disrepair and is not functioning properly. The hatchery discharge continues to significantly degrade Big Spring Creek. The PFBC needs to take immediate steps to restore clarifier efficiency through repair, modification, adjustment and frequent solids removal.

In addition, the Department believes that it is important to reestablish the naturally reproducing wild brook trout population in Big Spring Creek. Accordingly, the Department requests that the PFBC submit, within 60 days, a plan to reestablish a stream substrate capable of supporting a vigorous naturally reproducing wild brook trout population prior to next year's spawning season.

Full implementation of the cooperative approach outlined above would demonstrate the PFBC's commitment to restoring Big Spring Creek. We understand that PFBC is looking at all options in dealing with the Big Spring Hatchery issues, including discontinuing the use of the hatchery, to avoid negative impacts on the stream. It may, in fact, take discontinuing the discharge entirely to ensure that the existing and designated uses of Big Spring Creek are restored.

As the PFBC is well aware, there is significant public interest in both the permitting of the hatchery and the restoration of Big Spring Creek. The Department supports developing a watershed group as an appropriate way to involve the public in the assessment and restoration of this exceptional value resource. We encourage the PFBC to become an active member of the watershed group.

The Department believes that Big Spring Creek, in its natural state, is truly an exceptional value resource. In the past, it was one of the nation's premier trout streams. The installation of a state of the art recirculating hatchery together with a stream restoration project is needed to restore Big Spring Creek to the national prominence it once enjoyed.

The Department looks forward to working with the PFBC, and with local watershed interests, to restore, maintain and protect Big Spring Creek. Please contact me as soon as possible to arrange a meeting to discuss these issues.

Sincerely,

Leon M. Oberdick
Regional Water Quality Manager

cc: Michael R. Steiner
Martin Sokolow, Jr., Esquire
Dennis Guise, Esquire (via Fax & U.S. Mail)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the matter of:

RAG Emerald Resources, L.P.	:	CMAP No. 30841307
P.O. Box 1020	:	Emerald Mine
Waynesburg, PA 15370	:	Greene County, Franklin Township
	:	Bituminous Mine Subsidence
	:	and Land Conservation Act
	:	Clean Streams Law
	:	Dam Safety and Encroachments Act

CONSENT ORDER AND AGREEMENT

This Consent Order and Agreement is entered into this 27th day of November 2001, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and RAG Emerald Resources, L.P. ("RAG").

The Department has found and determined the following:

A. The Department is the agency with the authority to administer and enforce The Clean Streams Law, Act of June 22, 1937, P.S. 1987, *as amended*, 35 P.S. §§ 691.1-691.1001 ("Clean Streams Law'); the Bituminous Mine Subsidence and Land Conservation Act, Act of April 27, 1966, P.L. 31, *as amended*, 52 P.S. §§ 1406.1-1406.21 ("Mine Subsidence Act"); the Dam Safety and Encroachments Act, Act of November 28, 1978, P.L. 1375, *as amended*, 32 P.S. 693.1-693.26 ("Dam Safety Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L.

177, *as amended*, 71 P.S. § 510-17; and the rules and regulations of the Environmental Quality Board adopted thereunder.

B. RAG Emerald Resources, LP ("RAG") is a limited partnership qualified to do business in Pennsylvania with a mailing address of P.O. Box 1020, Waynesburg, PA 15370. RAG is engaged in the business of mining coal by the underground method in Pennsylvania pursuant to License No. 6543. Pennsylvania Service Corporation is the General Partner of RAG.

C. RAG has been the permittee of CMAP No. 30841307, commonly known as the Emerald No. 1 Mine, where RAG mines the Pittsburgh coal seam. RAG extracts coal at the Emerald No. 1 Mine primarily by the longwall mining method.

D. Laurel Run, is a water of the Commonwealth, pursuant to Section 1 of the Clean Streams Law, 35 P.S. § 691.1. Laurel Run lies above the Emerald No. 1 Mine, specifically above longwall panels 1 North, 3 North, 4 North, 5 North, 6 North, 7 North, 8 North, 9 North and 10 North. Accordingly, Laurel Run is located on adjacent area to the Emerald No. 1 Mine. 25 Pa. Code § 89.5.

E. Laurel Run, a surface water designated as a warm water fishery, must be protected for all statewide water uses. 25 Pa. Code §§ 93.9 and 93.4.

1998 Permit Revision

F. On or about October 8, 1997, RAG (then Cyprus Emerald Resources Company) submitted a permit revision application ("Permit Revision Application")

which, among other things, sought approval to conduct longwall mining operations beneath Laurel Run.

G. The Department reviewed the information RAG submitted in the Permit Revision Application and considered it sufficient to issue the 1998 Permit Revision.

H. On July 23, 1998, the Department issued a permit revision ("1998 Permit Revision") which, among other things, authorized longwall mining beneath Laurel Run.

I. In its Permit Revision Application, RAG did not predict a significant diminution in flow in Laurel Run resulting from the proposed underground mining activities. Consequently, RAG did not describe how it would protect the hydrologic balance of Laurel Run or how it would prevent or minimize adverse hydrologic consequences, or how it would alter its mining operation in response to adverse impacts on the hydrologic balance, including diminution in flow in Laurel Run.

Impacts on Laurel Run

J. Since June, 1999, RAG has mined beneath Laurel Run at the Emerald No. 1 Mine on or about the following dates:

Panel	Date
3 North	October 28, 1999
1 North	March 30, 2000
4 North	September 22, 2000
5 North	February 15 - March 15, 2001
6 North	July 25, 2001

K. Groundwater levels in piezometers located within the 1 North and 4 North panels decreased significantly before and during the undermining of Laurel Run in these panels and adjoining panels.

L. Following RAG's initial undermining of Laurel Run in October, 1999 flow in the undermined portions of Laurel Run was severely diminished.

M. As additional portions of Laurel Run have been undermined, flow in these additional undermined portions of Laurel Run have also been severely diminished.

N. Since October, 1999 flow in over 9,000 feet of Laurel Run has been severely diminished. These conditions have existed in downstream portions of Laurel Run which were not undermined.

O. The flow in Laurel Run described in Paragraphs K-N, above, has been severely diminished on a nearly continuous basis since October, 1999, except for periods of heavy precipitation and surface runoff.

P. The severely diminished flow in Laurel Run described in Paragraphs K-N, above, has damaged aquatic habitats.

Q. The severely diminished flow in Laurel Run described in Paragraphs K-N, above, has impaired the designated and existing uses of Laurel Run.

R. Based upon the observed impacts of RAG's underground mining activities at the Emerald No. 1 Mine on Laurel Run, it appears that the probable hydrologic consequences predicted in RAG's Permit Revision Application were not accurate as required by 25 Pa. Code § 86.37.

S. RAG's Permit Revision Application did not anticipate or predict the impact on the hydrologic balance and adverse hydrologic consequences which occurred as a result of the underground mining activities on Laurel Run. 25 Pa. Code §§ 89.35 and 89.36.

Repair and mitigation efforts.

T. Following the undermining of Panels 3 North and 1 North, in approximately October 1999 and March 2000, RAG, among other things, attempted to mitigate the impairment to Laurel Run by conducting a geophysical study and injecting grout into fractures.

U. On December 4, 2000, the Department issued an Emergency Permit to RAG pursuant to Section 6 of the Dam Safety Act, 32 P.S. § 693.6 and Section 105.64 of the Rules and Regulations, 25 Pa. Code § 105.64. The Department may issue an emergency permit if it finds that immediate remedial action is necessary to alleviate an imminent threat to life, property or the environment. 25 Pa. Code § 105.64. The Emergency Permit authorized, among other things, sealing the stream bottom by injecting grout into the subsurface.

V. RAG's initial attempts to restore flow to Laurel Run as authorized by the Emergency Permit were not ultimately successful. Following the undermining of the next panel, Panel 6 North, stream flow decreased, and Laurel Run again experienced severely diminished flow.

W. In the summer of 2001, RAG performed additional grouting in the vicinity of Laurel Run in an effort to reduce the diminution of flow in the stream. However, these efforts also were not ultimately successful in restoring flow to the undermined portions of Laurel Run and, up to the present, have not remedied the impairment to Laurel Run.

X. In September, 2001 RAG submitted a revised mitigation proposal to the Department to address the impairments to Laurel Run.

Permit Renewal

Y. On or about January 9, 2001, RAG submitted a renewal application for the Emerald No. 1 Mine ("2001 Renewal Application"). The Department has not yet acted upon this application.

Z. The Department may not renew an underground mining permit for any of six reasons, including 1) the terms and conditions of the existing permit are not being met, 2) present mining activities are not in conformance with environmental protection standards, and 3) applicant has not provided revised or updated information required by the Department. 25 Pa. Code § 86.55(g).

AA. The Department cannot issue a renewal permit for the Emerald No. 1 Mine until it is satisfied that RAG's 2001 Renewal Application includes sufficient information on geology and the hydrologic impacts of its mining and bonding, pursuant to, among other things, Sections 89.34 (Hydrology), 89.35 (Prediction of hydrologic consequences) and 89.36 (Protection of hydrologic balance), 25 Pa. Code §§ 89.34, 89.35 and 89.36.

AB. In its review of the 2001 Renewal Application, antidegradation regulations require the Department to evaluate existing use protection for surface waters, including Laurel Run, which may be impacted by the proposed underground mining activities. 25 Pa. Code § 93.4c.

AC. Authorization under the Dam Safety Act and 25 Pa. Code Chapter 105 is required if underground mining is predicted to cause a change to the course, current or cross-section of a stream, such as Laurel Run.

AD. RAG commenced full extraction mining in the 7 North panel at the Emerald No. 1 Mine in September, 2001.

AE. RAG plans to next undermine Laurel Run in November or December, 2001 during its mining of the 7 North panel at the Emerald No. 1 Mine.

Pollution to Laurel Run

AF. Pollution, as defined in Section 1 of The Clean Streams Law, 35 P.S. § 691.1, includes the alteration of the physical or biological properties of waters of the Commonwealth by diminution of flow or quantity, or adversely impacting stream uses.

AG. RAG's underground mining activities beneath Laurel Run at the Emerald No. 1 Mine have caused a diminution of flow in Laurel Run and a loss of stream uses, constituting pollution to Laurel Run since October, 1999.

AH. The diminution of flow and loss of stream uses in Laurel Run described above also constitutes unlawful conduct pursuant to Section 611 of the Clean Streams

Law, 35 P.S. § 691.611, and subjects RAG to civil penalty liability pursuant to Section 605 of the Clean Streams Law, § 691.605.

Recent Activities

AI. At a meeting held on November 9, 2001, RAG committed itself to protecting the portions of Laurel Run which have not been undermined, to restoring portions of Laurel Run which have been adversely affected by its mining, and to supplementing its 2001 Renewal Application to satisfy all relevant regulatory requirements.

AJ. On November 14, 2001, RAG amended its 2001 Renewal Application by submitting additional geologic and hydrologic information, a description of additional measures to protect the hydrologic balance, and revised bonding information which accounts for impacts to Laurel Run.

AK. Following review of the information described in Paragraph AJ above, the Department has requested additional information and clarification from RAG concerning the 2001 Renewal Application, including the November 14, 2001 submission.

AL. The immediate cessation of longwall mining in the Emerald No. 1 Mine would jeopardize the safety of the miners and RAG's longwall mining equipment. The longwall mining equipment could be destroyed, lost, or damaged as a result of immediate cessation of mining.

Original: 2366

Tate, Michele

From: Mark Hersh [markhersh@msn.com]
Sent: Tuesday, December 16, 2003 10:02 AM
To: RegComments@state.pa.us
Cc: irrc@irrc.state.pa.us; Joe Turner
Subject: Triennial review comments

The Raymond Proffitt Foundation submits the following comments on Pennsylvania's triennial review of water quality standards.

I. PROPOSED CHANGES

A. Chapter 93.2. Clarifying the Scope of Chapter 93

DEP proposes to delete a few words from this section, which refer to discharges. The new section would read "This chapter sets forth water quality standards for surface waters of this Commonwealth, including wetlands. These standards are based upon water uses which are to be protected."

The proposed amendment does not broaden DEP's authority; it merely clarifies the scope of DEP's existing authority, which is to regulate **activities** that could cause pollution. In fact, any narrower reading of DEP's authority under Chapter 93 would strip DEP of important tools to prevent water pollution in Pennsylvania, and would violate both the Pennsylvania Clean Streams Law and the federal Clean Water Act. The United States Supreme Court itself has spoken on this issue, and it has made clear that the Clean Water Act governs not only discharges, but also the loss of water quantity where that loss results in violation of state water quality standards. See PUD No. 1 of Jefferson County v. Washington Department of Ecology, 511 U.S. 700 (1994).

We support this proposal.

B. Chapter 93.7(a), Table 3. Reducing Protection for Bottom Waters In "Stratified" Lakes

DEP proposes to amend Table 3 to eliminate the numerical dissolved oxygen (D.O.) criteria for the hypolimnion (bottom part of the water column) of stratified lakes, ponds, and impoundments, including waters that are classified as High-Quality (HQ) waters. Dissolved oxygen, critical to the survival of aquatic life.

The language of the proposal is so vague that there is no definition or any standard or parameter delineating what is considered "stratified." Also, if the proposal is enacted, DEP can remove lakes, ponds, and impoundments from DEP's list of impaired waters, without any parameters for the public to review the determination against, that a waterbody is "stratified."

The change is not well thought out, and eliminates D.O. protections for certain waters and aquatic species in some of the best lakes, ponds, and impoundments in the Commonwealth. **We oppose this change.**

Related to this issue with dissolved oxygen is the fact that the PA Fish and Boat Commission (PFBC) pointed out to DEP years ago that EPA actually recommended higher DO numbers than Pennsylvania had in its standards. DEP said it evaluated the criterion using "Pennsylvania-specific" data, although they didn't make the data public. Trout and other aquatic life in Pennsylvania don't need less oxygen than their out of state cousins. **DEP should adopt the EPA numbers for dissolved oxygen.**

II. CHANGES THAT ARE NEEDED

In the past, resource agencies, conservation groups and the public have pointed out to DEP various shortcomings in their standards. Many of these suggestions would help move the water quality standards beyond the realm of point source discharges, and create a regulation that would be equipped to meet the numerous threats.

DEP has not been open to new ideas, but they usually respond that they will "study" or "review" or "evaluate" the suggestions, and put something in a future triennial review. DEP has not adopted most of those suggestions made over the last few triennial reviews (the last was in 2000, the previous one, 1994), and has not bothered to report on the results of its numerous reviews and evaluations, and there is no indication that any study or evaluation has even occurred.

A. Biological Criteria -

DEP has not proposed any new water quality criteria based on biological indicators (i.e., macroinvertebrate or fish populations). This despite the fact that DEP utilizes biological assessment surveys when it determines whether a waterbody is impaired for purposes of listing on the 303(d) List of Impaired Waterbodies, a requirement of the Clean Water Act. DEP needs biological criteria because the Clean Water Act says that the biological integrity must be protected. So many activities can affect our streams without having a direct change on water chemistry parameters. **DEP said in the past it was going to work on this issue, but it made no report this year. DEP needs to adopt biological criteria.**

B. Protection of Existing Uses -

While DEP gives broad definitions of "Warm Water Fishes," "Cold Water Fishes," and so on in Chapter 93, DEP has not stated how much biological integrity can be compromised and yet have the "existing uses" be maintained. This is important because the antidegradation policy does not allow existing uses to be eliminated. Elimination of uses is "pollution" and that isn't allowed.

The EPA has provided guidance on existing use protection in its Water Quality Standards Handbook (1994). It simply says that all resident species (except those that are clearly "aberrational) must be protected, except in "mixing zones" and when a Section 404 permit is issued (for something like a wetland fill).

In contrast, DEP has said that it will protect existing uses only by evaluating an activity's potential to change the numeric water quality criteria (see Chapter 2 of DEP's "Water Quality Antidegradation Implementation Guidance" [http://www.dep.state.pa.us/dep/deputate/watermgt/wqp/wqstandards/wqstandards.htm]

By this definition of protection, DEP could allow subsidence from underground mining to alter the morphology of a stream from a riffle/run habitat to a pool/glide habitat, resulting in drastic changes in the fish and aquatic life in the stream. DEP's definition might allow a dam on a stream to eliminate a flowing water species. A third situation is where an activity introduces a large amount of sedimentation into a stream. This may eliminate species such as darters, which are very sensitive to sediment, and result in the presence of species such as green sunfish, which tolerate sediment. A fourth situation is where a water withdrawal project eliminates much of the flow in a stream, and substantially reduces biomass, yet species still remain, albeit at stressed levels in small populations.

DEP's stream biologists often make the call, however, that a discharge or activity has (or will) unduly affect biological integrity. DEP uses these calls to either force a discharger to make changes, or to deny or modify a permit. So why won't DEP publish some sort of guideline or standard on this? Good question; let's ask them!

DEP cannot allow the elimination and replacement of one type of flora and fauna by another without recognizing that an existing use has been impacted. **DEP needs to ensure that it provides and implements existing use protection for all non-aberational flora and fauna from activities that may impact the flora and fauna (similar to the EPA language).**

C. "Cool Water Fishes" Designated Use -

Many Pennsylvania streams contain species such as white suckers, creek chubs and blacknose dace. In the past, the DEP has attempted to "downgrade" a stream from CWF to WWF when the fish community was dominated by those species. These species are not fully protected by a WWF designation.

In 1992, a tire manufacturer asked that three streams be redesignated to "Warm Water Fishes," which would require less stringent temperature and dissolved oxygen criteria (and legalize their pollution). The DEP complied and recommended WWF designations for the streams to the Environmental Quality Board. But the PA Fish and

Boat Commission objected, saying that the temperatures allowed in WWF would not protect the species there. The U.S. Fish and Wildlife Service (FWS), and the EPA supported the PFBC's report and conclusion.

DEP backpedaled. They called the PFBC report "convincing," withdrew their earlier recommendation and said they would work with the PFBC to develop a new "designated use" that would protect these "cool water fish." The PFBC promptly supplied DEP with the data and information.

However, in 1994, DEP again recommended WWF designations for two additional streams, which would not protect the resident species (existing uses)--blacknose dace, creek chub, and white sucker. The PFBC, the FWS, and EPA said "there you go again." As a result, the DEP changed their recommendations for both streams. Also at this time, the Independent Regulatory Review Commission noted, *"...no progress has been made on implementing the results and recommendations of the PFBC study"* and recommended that DEP work to develop the new designated use.

Some people never learn. A Special Protection for Tohickon Creek prepared in 1997 by DEP repeated the error (as an aside, DEP has yet to finalize a recommendation for the Tohickon Creek watershed; the petition for an Exceptional Value designation was submitted in May, 1995!). It has been eleven years since the first PFBC letter to DEP, showing that neither the WWF nor the trout stocking (TSF) designations will protect many of Pennsylvania's most common fish species. **DEP needs to adopt a "cool water fishes" use.**

D. Language Protecting Flow and Habitat -

In 1998, the public and resource agencies recommended protecting aquatic habitat and instream flow (Governor Ridge's 21st Century Environmental Commission did as well). DEP responded that they were working on this issue with the PFBC. There's no evidence of any work. **DEP owes the public a report in this triennial review of the progress of this effort, and should adopt language protecting flow and habitat into the standards.**

E. Mixing Zones and Variances -

EPA has repeatedly asked DEP to develop mixing zone (areas downstream of discharges that do NOT have to meet water quality criteria) and variance (allowing dischargers out of meeting standards altogether) policies. DEP has steadfastly refused to do so, and continues to permit mixing zones for almost every discharger in the state (it is not known how many dischargers get a "time extension," DEP's backdoor variance). The problem is that the public is shut out of the process. According to EPA, there are many areas where mixing zones are NOT appropriate, such as important recreational areas, important fish or wildlife areas, or a when a tributary joins with the receiving water. **DEP needs mixing zone and variance policies, or else should simply stop allowing these loopholes.**

Thank you.

C. Mark Hersh

Raymond Proffitt Foundation