

# Protecting Pennsylvania's Cleanest Streams: An Examination of PA's Antidegradation Policies and Programs



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# Road Map

- What is the Delaware Riverkeeper Network?
- Purpose
- Issue Background
- Status of Antidegradation in PA
- Opportunity for Policy
- Recommendations for Improvements

# Delaware Riverkeeper Network ("DRN")

DRN is the only advocacy organization working throughout the entire Delaware River Watershed, which includes the Schuylkill River.

The Delaware Riverkeeper is assisted by seasoned professionals and a network of members, volunteers and supporters. DRN is committed to ensuring the watershed's natural balance where it still exists and restoring it where it has been lost.



# Purpose



Our rivers, tributaries and habitats are precious members of our communities. Once they are lost, they cannot be replaced. Future generations will suffer because of this.

Legislators have recognized the importance of the waters through state and federal regulation, but efforts to weaken this protection continue.

In recognition of the value of clean waterways, federal regulations require every state to put forward policies and implement programs to keep our cleanest waters clean. This is the antidegradation program.

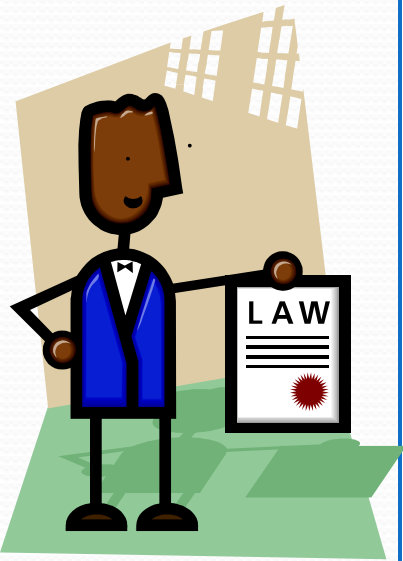
# Issue Background

Federal Protections

Pennsylvania Antidegradation Policy

# Issue Background: Federal Protections

- Clean Water Act (“CWA”)
  - Protects only the waters with “a significant nexus to navigable waters of the US”
  - Attempts to keep, or help these waters attain, a quality that allows recreation in and around the water
  - The Act also attempted to eliminate the pollution discharges into these waters by the year 1985



# Issue Background: Federal Protections

- What that means
  - Each state must develop a policy in line with the CWA for keeping its waters clean, including when pollution is discharged into a stream
  - The state must ensure that those clean streams are not degraded
  - States may adopt guidelines that are more stringent than the Federal Guidelines, but are not less so



# Issue Background: Federal Protections

- Three Tiers of Federal Protection
  - Tier 1 (PA: “Existing Use Protection Waters”)
    - Base or minimum level of protection
    - Existing uses must be maintained or protected
  - Tier 2 (PA: “High Quality Waters” or “HQ”)
    - Applies to surface waters where water quality is better than Tier 1
    - More stringent protections
  - Tier 3 (PA: “Exceptional Value Waters” or “EV”)
    - Applies to surface waters that represent an outstanding natural resource
    - These waters are not to be degraded

## Issue Background: Federal Protections

- Antidegradation policies are to be incorporated into or referenced by a state's water quality standards
  - It must be more than policy alone; it must include implementation procedures that ensure that each Tier receives the appropriate level of protection
- EPA must approve a state's antidegradation program
  - PA originally submitted the plan in the 1990s, but it was not fully approved until 2007 after adjusting to several legal challenges.

# Issue Background: PA Policy and Procedure

- PA's Antidegradation Program
  - Administered by the Department of Environmental Protection ("DEP")
  - Like federal law requires: 3 tiers
    - Existing Use Protection Waters
    - High Quality Waters
    - Exceptional Value Waters



# Issue Background: PA Policy and Procedure

- A Closer Look at the 3 Tiers: Existing Use Protection
  - Under this protection, no *permitted activity* may cause a body of water to deteriorate to a degree that it would no longer support its *current use designation*
    - Permitted activity: an effluent discharge under a National Pollution Discharge Elimination System (“NPDES”) permit
    - Current use designation: regulations provide five categories of uses: Aquatic Life, Water Supply, Recreation and Fish Consumption, Special Protection and Other, including navigation

# Issue Background: PA Policy and Procedure

- Under Existing Use Protection, Water Quality is “locked in” and should never be reduced.
  - If the stream has attained uses with more stringent water quality than its designated uses, those attained uses are to be protected
    - This means that the existing use of the stream may not be the same as the designated uses that DEP has for a stream

# Issue Background: PA Policy and Procedure

- A Closer Look at the 3 Tiers: High Quality Water Protection
  - Requires maintenance and protection of water quality unless degradation is necessary for Social or Economic Justification (“SEJ”)
  - A minimal degradation of water quality may be allowed to accommodate SEJ, but both existing and designated uses must be maintained
  - Approximately 27% of PA’s streams.

# Issue Background: PA Policy and Procedure

- A Closer Look at the 3 Tiers: Exceptional Value Protection
  - Most stringent
  - Absolutely no degradation is permitted
  - Proposals for new or expanded discharges to EV streams must preserve water quality
    - They will likely require a high level of treatment
  - Approximately 4% of PA's streams

# Issue Background: PA Policy and Procedure

- How does the DEP assign protections?
  - Existing Use: Default Protection
  - High Quality
    - Candidate waters must meet or exceed certain chemical and/or biological data
  - Exceptional Value
    - Must meet or exceed the values for High Quality Protection and one or more certain requirements
      - E.g. location in a National Wildlife Refuge or State Game Propagation and Protection Area, or be a surface water of exceptional recreational significance.



# Issue Background: PA Policy and Procedure

- How does the DEP monitor the quality of the waters?
  - Evaluation is focused primarily on biological assessment methods
    - Recognizes that the conditions of the water can be characterized by the aquatic organisms living in the water
  - Follows EPA's Rapid Bioassessment Protocols
    - However, DEP is currently looking to replace this with Instream Comprehensive Evaluations ("ICE")
      - Instream Comprehensive Evaluations rely not only on biological assessment methods, but also chemical assessments of the river.
      - The protocol consists of biological sampling, lab processing and data analysis guidance

# Issue Background: PA Policy and Procedure

- What happens when the DEP makes a decision?
  - DEP makes a recommendation to the Environmental Quality Board (“EQB”)
    - Made up of 20 members from various state agencies, citizens council and legislators that adopts all of DEP’s regulations
  - If approved by the EQB, any upgraded designation will be made official through rulemaking.
  - Redesignation procedures can be requested at any time by any person, agency, group, organization, municipality, or industry

# Issue Background: PA Policy and Procedure

- What happens when someone wants to discharge to a stream?
  - Discharges that existed prior to the HQ or EV designation are grandfathered in
  - Everyone else:
    - Pre-permit analysis – “Nondischarge alternatives analysis”
      - Identifying what non-discharge alternatives to point source discharges
        - When cost-effective and environmentally-sound alternatives are available, they must be used
        - Inability to identify alternatives does not mean the application will be denied

# Issue Background: PA Policy and Procedure

- Pre-Permit Analysis
  - Second Step
  - Antidegradation Best Available Combination of Technologies (“ABACT”)
    - When no cost-effective, environmentally-sound alternatives can be identified
    - E.g. land disposal, pollution prevention, and wastewater reuse technologies
    - A stream discharge will result, but a discharge that employs more stringent limits is intended to protect the water.
    - A non-degrading discharge will be permitted as long as it is compliance with antidegradation policy

# Issue Background: PA Policy and Procedure

- Pre-Permit Analysis
  - Third Step: Ultimately, DEP may allow a reduction in HQ water quality if there is a *Social or Economic Justification* (“SEJ”)
- Social or Economic Justification (“SEJ”)
  - Balances the proposed benefits of the discharge with the degree of water quality degradation
  - Discharge that would degrade water quality may be allowed if the discharger can show that the stream will continue to support all existing and designated uses other than the HQ designation
  - If approved under SEJ, permit issued to attempt to ensure amount of degradation is minimized

# Issue Background: PA Policy and Procedure

- What does this mean?
  - This means that permitted discharges to streams are constantly being considered and approved
  - DEP attempts to ensure that these are non-degrading to the water quality
    - but that is dependent upon monitoring the water quality of the individual streams to determine if these discharges of pollution are actually degrading the stream

# Status of Pennsylvania's Antidegradation Implementation Program

Delaware Riverkeeper Network reviewed PA's Antidegradation Implementation Program by focusing on the applications for point source discharges of pollution.

DRN attempted to review Social and Economic Justification files, but found there were none.

# Status of PA Antidegradation Implementation

- Three Guiding Principles to PA Antideg Policy
  - Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected,
  - The water quality of High Quality waters shall be maintained and protected, except as necessary to accommodate important economic or social development in the area in which the waters are located, AND
  - The water quality of Exceptional Value waters shall be maintained and protected



# Status of PA Antideg Implementation

- DRN focused on the following types of applications for new, additional, or increased point source discharges to HQ or EV surface waters of Pennsylvania:
  - Applications for New or Expanded Facility Permits, Renewal of Major Permits and EPA Nonwaived Permit Applications,
  - NPDES Individual Permit Applications for Discharges of Stormwater Associated with Construction Activities, and
  - Coal and Noncoal Mining Activity Applications that included an National Pollution Discharge Elimination System (“NPDES”) permit.

# Status of PA Antideg Implementation

DRN didn't look at:

Renewal applications for any discharges, assuming that discharge renewals to HQ or EV surface waters were grandfathered discharges

NPDES permitting associated with concentrated animal feeding operations/factory farms



# Status of PA Antideg Implementation

- What DRN found
  - New or Expanded Facility Permits, Renewal of Major Permits and EPA Nonwaived Permit Applications
    - 36 Applications proposed to impact HQ or EV
      - 32 were approved for a rate of 90%
      - Only two impact EV waters, which have not yet been permitted at the time of the writing
  - 30-day comment period begins upon publication of the a notice in the Pennsylvania Bulletin
  - DRN only looked at permits that had been completed

# Status of PA Antideg Implementation

- NPDES Individual Permit Applications for Discharges of Stormwater Associated with Construction Activities
  - 330 applications
  - 204 were approved during the review period for an approval rate of 62%
  - Date of application notice and the date of the permit notice averaged 169 days
  - Less than 25% proposed to impact EV waters



# Status of PA Antideg Implementation

- Coal and Noncoal Mining Activity Applications
  - 28 applications
  - 16 approved, rate of 57%
  - Interval between the date of the application notice and the date of the permit notice is the longest of all the application types renewed
  - Coalmining permits constituted roughly 65% of all active mining applications during the review period
  - Only one application proposed to impact EV and was a renewal of a previous discharge application

# Status of PA Antideg Implementation

- DRN tried to review the SEJ rulings, but found that no centralized file of SEJ reviews is maintained
  - Few SEJs are even done for proposed sewage treatment or industrial discharges
  - Centralized file is required under DEP ruling
- Why this is a problem
  - No documents regarding the application of SEJ rulings
  - No examples of review procedures
  - No roadmap for DEP staff to follow
  - No assurance of consistency over time and across offices

# Status of PA Antideg Implementation

- Without SEJ files, DRN turned to DEP staff and permit files
- SEJ Review Procedures
  - Statewide Review team
    - Selected to ensure the following program areas are represented:
      - Surface water quality monitoring
      - Groundwater protection
      - Wastewater management
      - Antidegradation Program Policy and Procedures



# Status of PA Antideg Implementation

- SEJ Review Procedures
  - DEP staff told DRN that SEJ is not required to review as all permits are considered to be non-degrading if
    - They have first conducted the non-discharge alternatives analysis AND
    - Have worked with the applicant to utilize Antidegradation Best Available Control Technology (“ABACT”)
- BUT, *Water Quality Antidegradation Implementation Guidance* dictates
  - Two-part process to determine if discharge is non-degrading
    - Modeling
    - Subjective factors



# Status of PA Antideg Implementation

- Process for the Review of Stream Designations
  - Petitions to both lower and upgrade a stream's designation
  - Some reviewed by DEP, but most downgrade petitions submitted by regulated community
    - E.g. mining interests, sewage treatment authorities
  - Backlog of petitions
    - Some date from 2000
    - DEP acknowledges the backlog and has pointed to staffing limitations, as well as a greater need for partnerships in the local communities

# Status of PA Antideg Implementation

Is this really “maintaining and protecting”?

- Cannot be answered due to lack of data
  - Stroud Water Research Center study
- DEP has proposed a pilot monitoring program to track the health of HQ and EV waters
  - DEP would collaborate with citizen watershed organizations to undertake monitoring
  - DRN has taken part: monitoring Crum Creek
    - There is some evidence that water quality may be going down



# Policy Opportunity

The PA Antideg policies and procedures are inadequate to maintain and protect existing use designations under the CWA.

# Recommendations for Improvement

1. Improve opportunities for meaningful public participation
2. Improve monitoring to ensure HQ and EV waters are getting the protection that the law requires
3. Protect drinking water supplies under antidegradation policies
4. Bring Pennsylvania designation of HQ waters into compliance with federal policy

# Recommendations for Improvement

5. Bring DEP permitting practice into compliance with its own guidance for SEJ
6. Protect HQ streams from rollback of protections proposed under revisions
7. Improve protection for HQ and EV streams from dam impacts
8. Maximize benefits of post-mining restoration

# 1. Improve opportunities for public participation

- Federal antideg policy: full satisfaction of public participation in state antideg programs
- PA's current policy: "Interested person may provide the Department with additional information ... regarding existing use protection for surface water"
- DEP publishes information regarding applications for National Pollution Discharge Elimination System ("NPDES") in the *Pennsylvania Bulletin*.  
[www.pabulletin.com](http://www.pabulletin.com)

# 1. Improve opportunities for public participation

- DRN's two-year review of *Pennsylvania Bulletin* revealed inaccuracies, inconsistencies and omissions
  - E.g.
    - Same number assigned to multiple applications
    - Changes in receiving stream or changes from notice of application to notice of action with no notice for an opportunity to comment.
    - Chapter 93 lists incomplete

# 1. Improve opportunities for public participation

- DRN suggests:
  - Inaccuracies in applications need to be corrected in order for interested persons to provide meaningful comment
  - Existing Use lists must contain complete and accurate stream designations information for HQ and EV to receive the protection they deserve
  - Listing stream designation in the application should be standard practice
  - DEP should provide for online posting of information and provide a medium for wider access



## 2. Improve monitoring to ensure HQ and EV waters are protected

- EPA encourages state agencies to perform a comprehensive monitoring of all waters over a five-year cycle or less
  - Search of available DEP records showed that it has monitored few HQ or EV waters in the Schuylkill Basin
  - DEP suggested that it will conduct probabilistic monitoring on a five-year schedule.
    - Probabilistic monitoring is the most cost-efficient method

## 2. Improve monitoring to ensure HQ and EV waters are protected

- DRN recommends DEP undertake a comparison study of probabilistic monitoring in comparison to targeted long-term monitoring of HQ or EV stream
- DRN recommends that HQ and EV streams in watersheds where land use is experiencing rapid changes be identified and be monitored for decreases in water quality
- Expand Healthy Waters Initiative

# 3. Protect drinking water supplies under antideg policies

- Three out of four Pennsylvanians get their drinking water from rivers or streams
  - All waters in PA are designated for use as *Potable Water Supply*
    - *Potable water supply* is that water which, after conventional treatment, can be suitable for use as a drinking water supply
  - But, the designation as “Potable Water Supply” does not protect drinking water sources from discharges of pollution

### 3. Protect drinking water supplies

- Is this working?
  - New York Times analysis of federal drinking water revealed drinking water provided to 49 million people has contained illegal concentrations of chemicals like arsenic and uranium, as well as dangerous bacteria found in sewage
  - Safe Drinking Water Act regulates 91 pollutants, but more than 60,000 chemicals are used within the US
    - Water providers are reluctant to spend money to add the chemicals when the risk of exposure is low or the affect of the chemicals has not been analyzed
  - Private water companies have no motivation to encourage water conservation and may look to reduce costs by performing only the minimum level of monitoring required

### 3. Protect drinking water supplies

- Delaware Riverkeeper Network recommends that any surface water that provides drinking water to more than 100,000 people would be considered an outstanding local resource water
  - NJ already does this



# 4. Bring PA designations into compliance with federal policy

- Switch the burden of proof to applicant
  - The applicant should prove that the water quality does not exceed levels necessary to support fishable and swimmable uses



# 5. DEP's permitting practices must be brought into compliance with its guidance for SEJ

- Centralized files must be maintained to provide statewide consistency and ensure compliance with antidegradation policy
- All SEJ reviews should utilize the statewide SEJ review team as specified in PA's Antidegradation Implementation Guidance

## 5. DEP's permitting practices must be brought into compliance with its guidance for SEJ

- DEP should have minimum standards for documentation to ensure assertions are well-founded
- DEP should randomly select and check issued permits to discern the quality of the discharger's analysis
  - This review should be compared to other states like Iowa to explore how other states do this process



## 6. Protect HQ streams from rollback of protections proposed under Chapter 102 revisions

- Preserve individual permits for storm water impacts to HQ waters
- Ensure that public participation opportunities are being provided in accordance with federal antidegradation policies

## 6. Protect HQ streams from rollback of protections proposed under Chapter 102 revisions

- Require post-construction monitoring of special protection watersheds to prove that no harm is occurring
- Prohibit stormwater discharges to EV waters
  - Already happening in Massachusetts

# 7. Improve Protection for EV and HQ streams for dam impacts

- Prohibit construction of dams on EV waters
- Require that DEP undertake an environmental assessment on any dams proposed on HQ waters and prohibiting construction on dams on EV waters

# 7. Improve Protection for EV and HQ streams for dam impacts

- Some examples of the effects dams have to waters:
  - Blue Marsh Lake changed from Trout Stocking Fishery to Warm Water Fishery after damming
  - Clarion River changed from Cold Water Fishery to Warm Water Fishery after damming
  - Lake Luxembourg changed from Cold Water Fishery/Migratory Fishery to Trout Stocking Fishery/Migratory Fishery after damming

## 8. Maximize benefits of post-mining revegetation

- Reforestation should be required for post mining land cover areas where HQ or EV streams are impacted by mining operations
- Mandatory reforestation of post mining areas would benefit water quality and the maintenance and protection of HQ or EV waters

# Questions?

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