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In re: Docket ID: OSM-2010-0018
Comments on Proposed Stream Protection Rule

The Center for Coalfield Justice was founded in 1994 by individuals organizing against the destruction caused by longwall coal mining. Over the last 21 years, we have expanded our mission to work on issues related to extractive industries generally in Washington and Greene counties in Pennsylvania. CCJ's mission is "to improve policy and regulations for the oversight of fossil fuel extraction and use; to educate, empower and organize coalfield citizens; and to protect public and environmental health." We have nearly two thousand members and supporters, most of whom live in Washington and Greene counties and live with the daily impacts of coal mining, particularly longwall coal mining. Our comments below address the proposed Stream Protection Rule as published in the Federal Register (80 Fed Reg 44,435) on July 27, 2015 by the Office of Surface Mining Reclamation and Enforcement.

I. Impacts of longwall mining in southwestern Pennsylvania under current state and federal regulations

Reports prepared in accordance with Act 54, the state law that regulates bituminous coal mining in Pennsylvania, have revealed the devastating effects of underground coal mining, particularly longwall mining. The most recent report found that the 46 bituminous coal mines operating in the state undermined a total of 31,343 surface acres between 2008 and 2013 with both longwall and room-and-pillar mining methods. Tonsor ET AL., Univ. of Pitt., Act 54 Report on the Impacts of Underground Coal Mining (2008-2013), § IX, at 3 (2015).¹ Approximately 40% of that undermined

¹ <http://www.portal.state.pa.us/portal/server.pt?open=514&objID=1149978&mode=2>

acreage is within Greene County, and 19% in Washington County. *Id.* § III, at 29.² During that same time, nearly 100 miles of streams were undermined. Of these, 50.59 miles of streams were undermined by longwall mining methods, while 45.04 miles were undermined by room-and-pillar methods. *Id.* § VII, at 15. About 77% of the total miles of streams undermined by longwall techniques, 39.2 of the 50.59 miles, experienced flow loss, pooling, or both. Thus, only 23% of the total miles of streams undermined by longwall techniques did not experience mining-induced flow loss or pooling. *Id.* § VII, at 20. Maximum post-mining flow loss lengths in the dry season ranged from 936-ft to 10,883-ft and 96-ft to 8,106-ft in the wet season. Maximum flow losses across all streams totaled 52.2 miles of undermined streams in the dry season and 23.7 miles in the wet season. *Id.* § VII, at 22.

The report detailed the variety of adverse effects on the entire stream ecosystem that can result from disturbances in stream flow and chemistry, including excessive stream vegetation growth, increases in undesirable insect species, reduced aquatic insect diversity, reductions in fish populations, habitat space reduction, higher water temperatures, and lower oxygen levels. *Id.* § I, at 16. Mining-induced flow loss and pooling in streams were found to have adverse effects on stream biological communities and health. The report found a greater than 12% reduction in a stream's Total Biological Score (TBS) pre-mining average after mining-induced flow loss occurred. *Id.* § VII, at 31. On average, mining induced flow loss reduced a stream's TBS by 9 points and mining-induced pooling reduced TBS by 7 points. It is notable that these changes can only be detected when all of the necessary data exists and is submitted in accordance with reporting policies, which was identified as a major issue facing Pennsylvania Department of Environmental Protection ("DEP"). *See Id.* Executive Summary at 3-4 and § XI at 9-10.

The report found "[t]he surface areas undermined by the longwall mines reduced 31% from the 3rd to 4th assessment period. Since longwall mining produces the highest numbers of subsidence related impacts, the amount of reported effects was

² Greene County has a total area of 368,640 acres and 12,637.1 acres were undermined between 2008-2013. Washington County has a total area of 548,480 acres and 5,942.7 acres were undermined 2008-2013. Tonsor ET AL., Univ. of Pitt., Act 54 Report on the Impacts of Underground Coal Mining (2008-2013), § III, at 29 (2015). As of 2014 in Greene County, 242,282 acres have already been mined, are actively being mined or permitted to be mined, representing 65.50% of the acreage of the county. In Washington County, 313,712 acres have already been mined, are actively being mined or permitted to be mined, representing 56.89% of the acreage of the county.

Hoch & Ctr. for Coalfield Justice, *Community Indicators of Environmental Justice: A Baseline Report Focusing on Greene and Washington Counties, Pennsylvania*, at 47 (2013), coalfieldjustice.org/files/Community-Indicators-Environmental-Justice-2014.pdf.

expected to decrease. However, this is not the case....” *Id.* § III, at 29. Indeed, the number of reported subsidence-related effects increased slightly from 1,247 up to 1,350 despite the decrease in acres undermined by longwall mining. *Id.* § IV, at 3. As subsidence rises to rates beyond what would be anticipated for individual mining projects, it is increasingly clear that permits cannot be issued in a vacuum without considering the synergistic effects of subsidence from other mines, the topography, and geology of southwestern Pennsylvania,³ particularly as longwall panels increase in width.⁴

The report also found that as mining permit revisions are submitted over time, baseline hydrological information became less detailed, more concise, and failed to reflect hydrological changes that occurred over the life of the project, or since the last revision. This piecemeal revision system allows environmental impacts to evade review by failing to account for changes over time. This practice is against Pennsylvania law and regulations, and exacerbates the extensive, lasting consequences of mining. And yet, it is business as usual for DEP to issue permit revisions based on scant data and information.

The report also found extensive damage to streams, aquatic life, wetlands, domestic water supplies, homes, and other buildings. The report revealed a myriad of problems with the DEP’s collection, storage, and organization of data; lack of enforcement actions; and concerns about investigations related to time, quality of data relied upon, and operating procedures. This report and the on-the-ground reality in southwestern Pennsylvania call out for more stringent standards for underground coal mining and with the current state political climate, it seems unlikely those desperately-needed regulatory changes will occur on the state level. *See Id.* Executive Summary.

In light of the years of devastating impacts to southwestern Pennsylvania, it is possible to look at the proposed Stream Protection Rule and declare it “too little, too late.” However, we want to share historic and current impacts to illustrate the

³ See Bruce Hebblewhite & Richard Gray, *Non-conventional Surface Ground Behavior Induced by Underground Mining in Pennsylvania* (2014), http://www.marshall.edu/cegas/geohazards/2014pdf/presentations/S2/4_NonConventional_Surface_Ground_Behavior_Induced_by_Underground_Mining.pdf

⁴ “The average panel size is 238.1-acres with a standard deviation of 121.6 acres. The largest panels are over 400-acres in size. The average panel width is now 1,290-ft with many of the newest panels approaching 1,500-ft. The average panel length is 8,536-ft.” Tonsor ET AL., Univ. of Pitt., Act 54 Report on the Impacts of Underground Coal Mining (2008-2013), § III, at 14 (2015); “Clearly, the width of longwall panels is expected to continue to increase.” *Id.* §III, at 27.

importance of this rule, considering the ways that existing state and federal regulatory schemes and enforcement activities are failing local residents. It is a grim picture, but we have hope that this proposed rule will bring improvements to help protect the precious remaining streams, ponds, aquifers, lakes, groundwater, aquatic life, wildlife, plants, land, and homes which make up the beautiful landscape of this region.

OSMRE has broad rule-making authority to protect the environment from mining impacts, both from surface mining and underground mining. 30 U.S.C. § 1211 (2006). The specific performance standards in the Surface Mining Conservation and Reclamation Act (“SMCRA”) authorize more restrictive rules than those rules adopted now. The existing rules are not preventing serious, persistent, and unmitigated environmental harm from occurring. OSMRE needs to improve many aspects of its mining regulations. Below is a discussion of our foremost comments and concerns as the proposed rule relates to relevant Pennsylvania state laws and the realities faced by coalfield communities.

II. How the protections provided under the Pennsylvania Clean Streams Law compare to the proposed Stream Protection Rule

We support several provisions of the proposed stream protection rule (“SPR”), including more extensive water monitoring, baseline data collection, and bonding requirements that exceed the protections under existing state-level regulations in Pennsylvania.

A. Definition of “material damage to the hydrologic balance outside the permit area” provides much-needed clarity and strength

We support OSMRE’s decision to define the term “material damage to the hydrologic balance outside the permit area.” 80 Fed. Reg. 44,474. Pursuant to § 510(b)(3) of the SMCRA, the regulatory authority must find that the proposed mining operation has been designed to prevent “material damage to the hydrologic balance outside the permit area” before issuing a mining permit. However, neither the SMCRA nor any other existing regulations define this term.

This regulatory change will better protect streams by requiring the consideration of adverse subsidence impacts on perennial, intermittent, and ephemeral streams in the analysis of the probable hydrologic consequences of the mining operation. It is imperative to extend protection to intermittent and ephemeral streams because these streams contribute significantly to downstream waters and constitute around

53 percent of the total stream miles in the United States, according to the Environmental Protection Agency (“EPA”). 80 Fed. Reg. 44,440.

Pennsylvania regulations define the term “material damage” as it relates to damage to land and structures due to subsidence from underground coal mining, 25 Pa. Code § 89.5, but fails to define “material damage” as it relates to damage to surface or groundwater. Applicable Pennsylvania regulations also do not define the term “material damage to the hydrologic balance outside the permit area.” Yet, Pennsylvania requires the DEP to find that a proposed mining operation has been designed to prevent material damage to the hydrologic balance outside the proposed permit area. 25 Pa. Code § 86.37(a)(4). Mine operators are also required to design their operations to prevent material damage to perennial streams. 25 Pa. Code § 89.141(d)(12). Without defining these terms and clarifying the point at which material damage to the hydrologic balance outside the permit area occurs, the Department and local residents cannot be certain that a mining operation is appropriately designed to protect the hydrologic balance or perennial streams. As a result, Pennsylvania law is unable to adequately address the effects of mining operations on perennial streams and water resources outside of the permit area.

Defining the term “material damage to the hydrologic balance outside the permit area” in the SPR provides much-needed clarity and protection for streams outside the permit area, which may be impacted by mining inside of the permit area. Existing regulations do not provide enough protection from longwall mining because such operations continue to adversely impact the quality and quantity of surface and groundwater outside of the permit area, as confirmed by the most recent Act 54 report discussed above. *See also* DEIS at 4-49.

Under the Clean Streams Law, the Department has legal authority to issue orders to prevent the pollution of the “waters of the Commonwealth”, which includes “any and all rivers, streams, creeks, rivulets...ponds and springs” regardless if and how they flow. 35 P.S. § 691.1. The term “pollution” includes “contamination by alteration of the physical, chemical or biological properties of such waters,” *id.*, which encompasses diminution or deviation of flow. 35 P.S. 691.1; *see also UMCO Energy, Inc. v. DEP and Citizens for Pennsylvania’s Future, Intervenor, 2006 WL 2679893, *50, EHB Docket No. 2004-245-L (Pa. Env. Hrg. Bd. Sept. 5, 2006)*. “Mine subsidence can cause deleterious changes in the physical and biological integrity of streams,” and therefore “[s]ubsidence impacts can clearly cause pollution.” *UMCO Energy, Inc. v. Commw. of Pa., Dep’t of Env’tl Protection and Citizens for Pa’s Future E.H.B. NO. 2004245 (Sep. 5, 2006)*. Accordingly, the Department has the authority

under the Clean Streams Law and 25 Pa. Code Chapters 86 and 89 to regulate the impacts of subsidence on the waters of the Commonwealth. *Id.*

Despite the Department's authority to regulate subsidence impacts of underground mining on streams, Pennsylvania regulations do not adequately consider the subsidence impacts on intermittent and ephemeral streams. Adverse subsidence impacts on intermittent and ephemeral streams are not considered in a mine operator's subsidence control plan. 25 Pa. Code § 89.141(b)(2). For example, an applicant is only required to include a description of the average annual flow of perennial streams in its subsidence control plan, while a description of the average annual flow of intermittent and ephemeral streams is not required. 25 Pa. Code § 89.141(b)(2).

Moreover, a Technical Guidance Document prepared by DEP is the only Pennsylvania authority that specifically requires consideration of adverse subsidence impacts on both perennial and intermittent streams. Pa. Dep't of Env'tl Protection, TGD No. 563-2000-655 at 6 (October, 8, 2005) ("TGD"). The stated principle of the TGD is that "underground mining shall not result in the destruction of a stream use." Pa. Dep't of Env'tl Protection, TGD No. 563-2000-655 at 1 (October, 8, 2005). However, the TGD is a guidance document with the concomitant degree of flexibility in its application. DEP has not conducted a formal rulemaking process to convert the contents of the TGD into a rule, which can be strictly enforced in a binding manner, and consequently the TGD has been under attack by mine operators. *See Consol Pennsylvania Coal Company LLC v. Commonwealth of Pennsylvania* E.H.B. No. 2014027 (March, 21, 2014). Therefore, greater protection for streams from coal mining operations provided by federal regulatory authority is imperative particularly because intermittent streams are "critical to maintaining the ecological health and productivity of downstream waters." 80 Fed. Reg. 44,439.

We support OSMRE's statement that "mining should not be permitted at all if reclamation cannot feasibly protect water uses." 80 Fed. Reg. 44,474. Pennsylvania regulations require "[u]nderground mining operations...be planned and conducted in a manner which maintains the value and reasonably foreseeable uses of perennial streams." 25 Pa. Code § 89.142a(h)(1). In other words, longwall mining activities must be designed to prevent subsidence damage to perennial streams. The SPR goes further and would require the regulatory authority to consider subsidence damage to both perennial and intermittent streams in and around the proposed permit area in the analysis of the probable hydrologic consequences. If underground mining operations, including subsidence impacts, would preclude attainment or maintenance of an existing, reasonably foreseeable, or designated use of surface or

groundwater, it will be defined as “material damage to the hydrologic balance outside the permit area.” The permit must specifically define the point at which adverse impacts will reach an unacceptable level and therefore cause material damage to the hydrologic balance outside the permit area. 80 Fed. Reg. 44,479. This regulatory requirement will actually implement Pennsylvania law, which requires underground mining activities to be designed to protect the existing and designated uses of intermittent and perennial streams.

Additionally, under the proposed rule, adverse impacts on ephemeral streams would be evaluated during the permitting process as part of the analysis of the probable hydrologic consequences. 80 Fed. Reg. 44,452. We support this requirement, as ephemeral streams are an “important component of headwater streams.” 80 Fed. Reg. 44,451. Headwater streams are critical to providing flow downstream and maintaining downstream water quality. *Id.* at 44,440. About 117 million Americans, over one third of the United States, rely on intermittent, ephemeral or headwater streams for their drinking water, according to the EPA.⁵

B. OSMRE should prohibit stream dewatering and destruction of existing uses caused by longwall mining

We support specifically prohibiting the DEP from “approv[ing] any proposed operation that is predicted to cause subsidence that would result in the dewatering of perennial or intermittent streams, or that is predicted to result in other adverse impacts that would cause the stream to no longer be capable of supporting existing or reasonably foreseeable uses.” 80 Fed. Reg. 44,525.

This regulatory requirement is in accordance with Pennsylvania law. Under the Clean Streams Law, the Department has the authority to prohibit an operation that is predicted to diminish or dewater the flow of a stream. 35 P.S. § 691.610. Under applicable Pennsylvania regulations, the Department must find that an underground mining operation “has demonstrated that there is no presumptive evidence of pollution of the waters of [the] Commonwealth.” 25 Pa. Code § 86.37(a)(3). In other words, the DEP is prohibited from approving a permit for full extraction longwall mining where the operation is predicted to cause dewatering or diminution of flow of a stream. *See also Umco Energy, Inc. v. Dep’t. of Env’tl. Protection*, 938 A.2d 530 (Pa. Commw. Ct. 2007) (upholding the prohibition of longwall mining beneath a stream after previous longwall mining dewatered two other similar streams). However,

⁵ U.S. Env’tl. Protection Agency, *Water: Wetlands* (2015), http://water.epa.gov/lawsregs/guidance/wetlands/surface_drinking_water_index.cfm.

DEP still issues full extraction longwall mining permits for operations where the mine operator openly predicts flow diminution and loss as a result of mining activities under streams. We are currently appealing one such permit based on the predicted damage to streams. *See Ctr for Coalfield Justice v. Commw. of Pa.* E.H.B. No. 2014072 (May 30, 2014).

As with the TGD, the SPR specifically requires the regulatory authority to determine whether mining operations will diminish or dewater both perennial and intermittent streams before issuing a permit. If adopted in its current state, the SPR will actually implement applicable Pennsylvania law, as the diminishing and dewatering of a stream constitutes a disruption of the hydrologic balance and does not protect fish, wildlife, and other related values. 25 Pa. Code §§ 89.36 and 89.142a(h). Perhaps implementation of these protections on a federal level will provide the necessary push for DEP to undertake improved and consistent compliance with similar state regulations.

C. OSMRE should require more extensive baseline data collection and monitoring of flow and chemical parameters of streams

We support requiring more extensive baseline data collection and monitoring of flow and chemical parameters of streams impacted by mining. Baseline data documents the pre-mining conditions of streams, which can be compared to changes in water quality and quantity throughout the mining process. 80 Fed. Reg. 44,438-44,439. Proper monitoring of streams will determine when adverse impacts to streams occur, and allow for necessary changes to be implemented to prevent further damage. 80 Fed. Reg. 44,439. OSMRE's more extensive baseline data collection and monitoring of chemical parameters of streams and stream flow is more protective than current Pennsylvania regulations.

Applicable Pennsylvania law requires baseline information on the quantity of groundwater and the qualitative and quantitative seasonal flow conditions of surface water. 25 Pa. Code § 89.34. It also requires monitoring of groundwater levels, when underground mining may affect groundwater systems, and monitoring of surface water flow. 25 Pa. Code § 89.59. The TGD requires more extensive monitoring of streams when underground mining operations have a potential to result in flow loss or pooling. For example, the TGD requires weekly flow measurements six months prior to mining for perennial and intermittent streams. Pa. Dep't of Env'tl Protection, TGD No. 563-2000-655 at 12 (October, 8, 2005). Additionally, it requires daily flow measurements of perennial and intermittent streams, until flow loss becomes negligible, for longwall mining that continues until

the longwall face progresses a distance equal to the cover thickness beyond the area of concern. *Id.*

Similar to the TGD, the SPR “would require that the description [of baseline information] include seepage-run sampling determinations, if the application proposes to deploy a longwall panel beneath a perennial or intermittent stream or employ other types of full-extraction mining methods beneath a perennial or intermittent stream.” 80 Fed. Reg. 44,525. We support this requirement to take in-stream flow measurements to determine the discharge rate of the stream at various points because it will more accurately determine the impacts a longwall mining operation has on stream flow, as minor to moderate loss of stream flow often is not noticeable by visual observation. 80 Fed. Reg. 44,525.

Pennsylvania law states that an application must include baseline information on acidity for ground and surface water. 25 Pa. Code § 89.34. However, it also states that baseline acidity information for surface water shall be provided if acid neutralization is anticipated for the proposed operation, therefore making it unclear whether acidity information must always be provided for surface water. 25 Pa. Code § 89.34(2)(i). The proposed SPR makes clear that the collection of baseline information on acidity is required in all cases for groundwater and surface water. 80 Fed. Reg. 44,497-44,498. This data will help the Department determine if adverse impacts to “pollution-sensitive species of aquatic insects and fish” will occur. 80 Fed. Reg. 44,441.

Pennsylvania law does not require the collection of baseline information for ammonia, arsenic, cadmium, copper, nitrogen, selenium, or zinc for ground or surface water. The SPR would require the collection of baseline information for all of those constituents for both ground and surface water. 80 Fed. Reg. 44,497.

Pennsylvania law does not require baseline information or monitoring of all major anions, major cations, or the cation-anion balance, and only requires baseline information of sulfates and manganese. 25 Pa. Code § 89.34. The SPR would require baseline information and monitoring “of major anions (including, at a minimum, bicarbonate, chloride, and sulfates), major cations (including, at a minimum, calcium, magnesium, potassium, and sodium), and the cation-anion balance.” 80 Fed. Reg. 44,505. Such information is needed to predict and understand the adverse impacts of proposed mining operations.

Additionally, Pennsylvania law only requires baseline information of either total dissolved solids or specific conductance. 25 Pa. Code §§ 89.34 and 89.59. The SPR would require baseline data of both total dissolved solids and specific conductance

for groundwater and surface water. 80 Fed. Reg. 44,497 and 44,498. This change will better determine the adverse impacts a mining operation could have on aquatic life in streams.

D. OSMRE should require more extensive monitoring of the “biological condition” of streams

We support OSMRE’s requirements for more extensive baseline data collection and monitoring of the biological condition of streams. These regulatory requirements will allow for early detection of adverse impacts to aquatic life in streams. 80 Fed. Reg. 44,439. Changes to mining operations will be implemented if monitoring shows that adverse impacts to the biological condition of a stream are occurring. *Id.* The more extensive requirements for baseline data collection and biological monitoring reflected in the proposed SPR are more protective than current Pennsylvania regulations.

The Department’s TGD requires baseline data on fish and macroinvertebrate communities. The TGD uses a biological score to assess the biological integrity of streams. The term “total biological score” is defined as “[a] number representing the overall biological integrity of a stream...that is used to determine the aquatic life use attainment status of a stream reach.” Pa. Dep’t of Env’tl Protection, TGD No. 563-2000-655 at 4 (October, 8, 2005). Pre-mining biological scores are required for a variety of streams and stream reaches in the permit area, as determined by agency staff, before a mining permit is issued. Post-mining biological scores are later required to inform stream restoration work. Applicable Pennsylvania regulations do not define the term “total biological score.” Only site-specific resource information for certain species or habitats is required when the proposed permit area or adjacent area is likely to include: (1) listed endangered or threatened species of plants or animals, (2) their critical habitats under the Endangered Species Act or habitats protected by State law (3) habitats of unusually high value for fish and wildlife, and (4) other species or habitats identified through agency consultation as requiring special protection under state or federal law. 25 Pa. Code § 89.74. As a result, Pennsylvania regulations do not ensure that a permit will include pre-mining or post-mining data on the biological condition of every stream within the proposed permit and adjacent areas. The DEP relies solely on the TGD to collect that data from mine operators on a case-by-case basis. Therefore, it is challenging to properly evaluate and address adverse impacts to aquatic life in streams. A federal regulatory requirement of monitoring the biological conditions of streams is necessary to detect adverse impacts to aquatic life and implement the changes in mining plans and methods that can attempt to preserve the ecological health of streams.

We support OSMRE's requirement for operators to assess the "biological condition of each perennial and intermittent stream within the permit area and adjacent areas as well as an assessment of the biological condition of a representative sample of ephemeral streams within those areas." 80 Fed. Reg. 44,499. Biological monitoring under the SPR would require the use of a multimetric bioassessment protocol, which would result in a calculation index to determine whether mining is causing harm to streams. 80 Fed. Reg. 44,506-44,507. The calculation index score would measure whether the change in the biological condition of a stream would constitute material damage to the hydrologic balance outside the permit area. 80 Fed. Reg. 44,475. This will help protect streams by measuring the biological condition of all perennial and intermittent streams within the permit area and adjacent areas, better evaluating the impacts of an operation on aquatic life in streams and allowing timely implementation of corrective measures.

We also support OSMRE's requirement to monitor benthic macroinvertebrates to the genus level. Under portions of Pennsylvania law, a "perennial stream" is defined by the ability to support benthic macroinvertebrates composed of two or more recognizable taxonomic groups of organisms, and does not specifically require macroinvertebrates to be monitored to the genus level. 25 Pa. Code § 89.5. The SPR's monitoring requirement will allow for better assessment of the biological condition of streams by "differentiating between pollution-tolerant and pollution-intolerant genera within the same family." 80 Fed. Reg. 44,507.

Combined with more comprehensive baseline data, OSMRE's improved biological monitoring requirements will better identify how a mining operation is impacting a stream's ecological health and ability to support aquatic life. 80 Fed. Reg. 44,443. Without adequate baseline information on surface water and groundwater quality and quantity described above, as well as baseline data on the biological communities in streams, the Department cannot prepare a cumulative hydrologic impact assessment or determine whether the proposed mining operation has been designed to prevent material damage to the hydrologic balance outside the permit area. The full picture of a stream's chemical, physical, and biological characteristics is critical to comply with applicable standards for permitting. The SPR's baseline data requirements will finally implement Pennsylvania law meant to minimize disturbances and adverse impacts on aquatic life, but currently lacking the regulatory requirements, including baseline data collection and monitoring of streams' ecological health, necessary to do so. 25 Pa. Code § 89.65.

E. Including site-specific criteria in the Cumulative Hydrologic Impact Analysis will allow for more effective implementation of regulations

We support section 780.21 of the SPR that would require the DEP, and other state agencies, to prepare a Cumulative Hydrological Impact Analysis (“CHIA”) containing enforceable, site-specific criteria based on a number system before issuing a mining permit.

Applicable Pennsylvania law requires the Department to assess the probable cumulative impacts of all anticipated mining in the general area on the hydrologic balance. 25 Pa. Code § 86.37(a)(4). However, the law does not require site-specific, numerical, material damage criteria for each issue of concern to be included in the cumulative impact analysis. Therefore, mining operations may not be properly designed to prevent material damage to the hydrologic balance.

Under the SPR, CHIAs would include enforceable, site-specific criteria based on a number system for each issue of concern. 80 Fed. Reg. 44,502. For example, the regulatory authority will identify the pH level at which the pH would adversely impact ground or surface water to the extent of causing material damage to the hydrologic balance outside the permit area. This approach will better ensure that the mining operation will prevent “material damage” to surface and ground water outside the permit area as well as minimize “material damage” within the permit area.

F. OSMRE should require financial assurances from mine operators for the treatment of long-term pollution discharges

We support OSMRE’s changes to bonding policies to require financial assurances rather than bonds to ensure the treatment of long-term pollution discharges. 80 Fed. Reg. 44,532. Bonds only “provide a one-time lump sum payout rather than the income stream needed to fund treatment of long-term discharges.” 80 Fed. Reg. 44,533. Our concerns about financial support for remediation and reclamation from coal mining activities are well founded. Pennsylvania is home to 250,000 acres of abandoned mine lands, representing one-third of all of the abandoned mine lands in the country and more than any other state. Dep’t of Env’tl. Protection, “PA’s Mining Legacy and AML,” https://www.portal.state.pa.us/portal/server.pt/community/aml_program_information/21360/pa%E2%80%99s_mining_legacy_and_aml/1463284. Drainage from thousands of abandoned coal mines has contaminated more than 3,000 miles of streams and associated ground waters in Pennsylvania and is the most extensive water-pollution problem affecting the four major river basins in

the Commonwealth. U.S. Geological Survey, “Coal-Mine-Drainage Projects in Pennsylvania” <http://pa.water.usgs.gov/projects/energy/amd/>.

Pennsylvania law does not require financial assurances for the treatment of long-term pollution discharges. Under applicable state regulations, a permit cannot be issued if there is evidence of a potential for post-mining pollution discharge, as it would constitute unlawful pollution of the waters of the Commonwealth. 25 Pa. Code § 86.37(a)(3). As a result, the cost for treatment of post-mining mine drainage is not taken into account when calculating the initial bond amount. Many mining companies today are struggling financially as the price and market for coal declines, leading to concerns about their viability and ability to cover reclamation costs should they shut down operations. There is always the possibility that the burden of the costs of post-mining discharge cleanup will be left to the state. Although the DEP recognizes that bonds are not the ideal financial instruments for ensuring the long-term treatment of post-mining discharge, they do not forbid the use of bonds. Dep’t of Env’tl. Protection, https://www.portal.state.pa.us/portal/server.pt/community/treatment_trust_funds/20767. Therefore, a federal regulatory requirement for financial assurances to treat long-term pollution discharge in Pennsylvania is necessary.

The SPR would require financial assurances for the treatment of long-term pollution discharges, which includes acid and toxic mine drainage. 80 Fed. Reg. 44,532. Financial assurances would consist of trust funds or annuities, and under certain circumstances collateral bonds. 80 Fed. Reg. 44,543. This requirement will meaningfully implement Pennsylvania regulations that require the operator to treat post-mining discharge for as long as the discharge exists. 25 Pa Code § 86.151(j).

We also support OSMRE requiring the consideration of the biological condition of perennial and intermittent streams within the permit area when establishing bond amounts, and requiring the amount of bond necessary to restore stream function be specifically identified. 80 Fed. Reg. 44,536. These requirements will help ensure bonds amounts are sufficient to pay for the cost of damage to streams.

G. Improved restoration requirements seem promising, but stream restoration remains unproven and unreliable

We agree that mining should not be permitted at all if restoration cannot feasibly protect a stream’s existing, reasonably foreseeable, or designated uses. 80 Fed. Reg. 44,474. There is no data that demonstrates that stream restoration successfully and adequately restores streams. Indeed, the most recent Act 54 report studied stream

restoration activities in Pennsylvania after streams were damaged by longwall and room-and-pillar mining techniques and questioned whether stream restoration could be effective at all. The report stated that “while mining companies are generally either able to repair, replace, or financially compensate for damages to structures, the ability to repair damage to streams remains largely unknown.” Tonsor ET AL., Univ. of Pitt., Act 54 Report on the Impacts of Underground Coal Mining (2008-2013), § I, at 7 (2015). Accordingly, we remain concerned about the success of stream restoration activities on a long-term basis after a stream has experienced severe adverse impacts from subsidence due to mining operations.

The SPR would require mine operators to “restore both the physical form and the ecological function of affected streams.” 80 Fed. Reg. 44,451. Additionally, the SPR would require the restored stream to “have a biological condition that is adequate to support the uses that existed before mining and that would not preclude attainment of the designated uses of the original stream segment under section 101(a) or 303(c) of the Clean Water Act before mining.” 80 Fed. Reg. 44,553. While OSMRE claims the SPR will reduce destruction of streams due to these improved restoration requirements, this claim is otherwise unsubstantiated by OSMRE and the most recent Act 54 assessment calls into question the effectiveness of stream restoration in Pennsylvania.

The Act 54 report assessed the effectiveness of stream mitigation techniques and concluded that “water quality does not recover over time and pH and conductivity at flow loss sites remain elevated following mitigation.” Tonsor ET AL., Univ. of Pitt., Act 54 Report on the Impacts of Underground Coal Mining (2008-2013), § VII, at 76 (2015). During the assessment, the University attempted to investigate whether mitigation techniques could restore the health of macroinvertebrate communities because “it is unknown if the mitigation measures (i.e. augmentation, grouting, liners, gate cuts) utilized by mining companies are effective in restoring the communities.” *Id.* § VII, at 59. However, insufficient data precluded analysis of this aspect of stream recovery.

The report found that “95 streams had augmentation discharges installed along their channel and augmentation was active at 74 of these streams to maintain flow during or after mining.” *Id.* § VII, at 76. The reliance on augmentation is troubling. Even though it seems that augmentation can keep aquatic life in a stream alive for a while, augmentation cannot be relied on permanently. For example, augmentation in one undermined stream was turned off in early 2011 to evaluate natural stream flow conditions. During the time augmentation was paused, the two most upstream surface water monitoring stations experienced zero flows. Although it was the dry

season, precipitation was well above average during that time. Ultimately, DEP determined that “the stream, post-mining, does not flow to the same degree after similar precipitation amounts as it did pre-mining”. *Id.* §VIII, at 7-8.

Two other concerns about augmentation involve water quality and water sources. The quality of water has a significant impact on a stream’s ability to support aquatic life and its existing and designated uses, yet there are no standards for the water quality of the water used in the augmentation stream mitigation method. There is also potential for augmentation efforts to disrupt the hydrologic balance if water is being pumped from an aquifer to augment a stream at a rate that exceeds its recharge rate, or water is being taken from another stream beyond what may be necessary to maintain that stream’s existing use and account for natural variability. These are issues that could occur in the same watershed or a different watershed, which could further complicate the situation.

The DEP recognizes that the broad range of mitigation measures used on streams affected by mining may not be successful in restoring those streams. Pa. Dep’t of Env’tl Protection, TGD No. 563-2000-655 at 17 (October, 8, 2005). The Act 54 report’s analysis of DEP stream investigations demonstrates that mitigation measures have failed. The report found that seven stream investigations had a final resolution status of “Not recoverable: compensatory mitigation required.” This means that all other mitigation efforts failed and the company will have to compensate Pennsylvania monetarily for the loss of these natural resources. In total, eight cases represent stream impacts that have not recovered from mining-induced flow loss. Tonsor ET AL., Univ. of Pitt., Act 54 Report on the Impacts of Underground Coal Mining (2008-2013), § VIII, at 5 (2015).

OSMRE’s stated primary purpose is to protect streams and aquatic ecosystems, yet OSMRE relies on the unsupported assumption that restoration measures can achieve full restoration of streams and aquatic life. Instead, to ensure streams are protected, OSMRE should follow a preventative approach and must not allow damage to streams without proven mitigation and restoration measures that provide some assurance of success.

III. Community impacts of longwall mining in southwestern Pennsylvania

A. Subsidence impacts to land, homes, and domestic water supplies

We support OSMRE’s statement that although the Secretary has an obligation to consider the distinct difference between surface and underground coal mining when

promulgating regulations, that is not a justification for allowing underground mining operations to dewater or degrade streams to the point of jeopardizing their existing, reasonably foreseeable, or designated use(s). 80 Fed. Reg. at 44476.

We were pleased to hear about the expansion of a mine's "affected area" as it relates to damage from subsidence. As a grassroots organization, we have a close relationship to the community we serve and we are in a unique position to share stories from people living with the impacts of longwall mining and how OSMRE and state mining regulations affect their homes and their lives.

One of the biggest impacts of longwall mining on the local community is depopulation due to mining and the effects of population loss on the tax base, school districts, and local economy. Under current Pennsylvania laws, longwall mine operators are legally permitted to damage structures, including homes, and disrupt water supplies to homes and livestock. Mining companies are required to pay for repairs to homes and to replace water supplies when they cause damage, but frequently residents find themselves embroiled in exhausting, lengthy battles with these companies to get basic necessities like a temporary water supply.

Very often, companies simply offer to buy a homeowner's property before undermining it when there is a risk of damage, or after mining has caused significant damage. This practice has resulted in systematic depopulation of areas where longwall mining will occur or has occurred; entire towns have been bought by mining companies and sit abandoned. For example, Holbrook, Pennsylvania was formerly a small town and is down to one resident who was the only landowner who refused to sell their property to the mining company planning to mine in that area.

Homeowners whose homes are or will be affected by mining often move out of the region. If they want to stay in the area, they have two options: (1) purchase another home in the area that could be undermined in the future, and potentially repeat the process again or (2) purchase a home that was undermined years ago, which may have lingering issues and/or future subsidence-related problems. Both of those options are complicated by the fact that houses in the area rarely go up for sale and coal companies already own a large portion of homes and properties, meaning they are permanently off the market because we have never seen a company repair the damage to a home or its water supply and put a house up for sale.

Greene County's population has declined by -4.88% over the 60 years between 1950 and 2010. Hoch & Ctr. for Coalfield Justice, *Community Indicators of Environmental*

Justice: A Baseline Report Focusing on Greene and Washington Counties, Pennsylvania, at 11 (2013). From 45,394 in 1950 to 38,686 people in 2010 and the estimated population in 2014 was about 37,843 people. Population Estimates, United States Census Bureau (2014), <http://www.census.gov/popest/data/cities/totals/2014/SUB-EST2014.html>. Data on vacant housing in Greene County also demonstrates the dire situation with 8% of the average total housing units sitting vacant between 2007-2011 (this figure does not include homes used occasionally or seasonally). Hoch & Ctr. for Coalfield Justice, *Community Indicators of Environmental Justice: A Baseline Report Focusing on Greene and Washington Counties, Pennsylvania*, at 23 (2013).

The impacts of population loss in Greene County, Pennsylvania range from loss of tax base, to rising taxes for those who stay, to declining enrollment in schools, to the closure of local businesses due to relocation of owners or lack of customers. The Center for Coalfield Justice recently completed its Coalfield Listening Project, interviewing residents of Greene and Washington counties to hear about their experiences living around the coal mining industry, their feelings about positive attributes and problems in their communities, as well as their visions for the future. Several participants were deeply troubled by the number of people leaving the region, in many cases, after the coal industry purchased their properties. This problem is especially severe in western Greene County, where a majority of our participants lived. One participant told the story of when the mine passed under her property. She lost the water from her well and ultimately sold her home to the company. In describing what happened she said,

We lost our water...It was a spring and you could run a car wash off of it, but I was totally blown away by the fact that the [mining machine] went through at approximately 3:00 and at 3:30 our water was gone. Nothing. Yeah it was totally gone...I did a lot of hiking in the areas behind our house and nothing. No water anywhere. The streams were totally gone. And I was like, wow, the devastation is just incredible.

Luckily, she was able to purchase another property nearby and stay in the area. One participant said that her cousins moved out of state after the company bought their property because there were no other properties available. She described local real estate issues,

Around here property's either really really expensive because people want the prices that the coal company offers, or the coal company owns it...[After you've been bought out] it's hard to find someplace to stay around here that you can

afford without spending everything you just got. And especially with land for a farm. It's really hard.

The loss of population has eroded the tax base in the area. In many cases, the coal companies demolish the homes on the properties they buy to reduce the property taxes they pay on those properties. One participant put it this way, "[The coal company] comes in, buys up everything, takes what it wants, then leaves the scene and just leaves these houses to be burned down and taken off the tax rolls."

Today, the West Greene School District cannot maintain the type of programming it once did for its students with a smaller tax base and fewer students. One man described how much things had changed since he was in high school in the 1960s,

At one time, when I was a student at West Greene...there was somewhere around 1,100-1,200 kids in the school system. Right now, I don't think there's even 700 or 800. So, they've lost almost half their kids. They're down now to where they're graduating about 50 kids a year...When you get down into a school system that's only putting 50-60 kids out a year, there's no variety to the subjects you can take and you can't afford to bring in a full, major certified teacher to teach.

With all of these stories in mind, it is understandable why we are pleased to see that the proposed SPR improves protection of land, homes and other buildings from the adverse impacts of coal mining subsidence by expanding the definition of a mine's "affected area." This change will require applicants for underground mining permits to provide pre-mining information about more land area and buildings than the current rules require.

Instead of requiring pre-mining monitoring and information only for the area where adverse impacts of coal mining subsidence are *almost certain to occur*, the proposed rule requires information for land areas and buildings *wherever adverse impacts are reasonably possible*. This is an important improvement in OSMRE's rules that has potential to assist property owners in establishing that coal mining has caused damage to their land, home and/or additional buildings.

The proposed rule also requires significantly more information for preparation of subsidence control plans than the existing rules. In addition to the geologic information now required, the proposed rule would require extensive information on surface water resources which are critical to predicting the impacts of longwall mining on stream flow and the potential viability of stream restoration efforts. The new information requirements are another important improvement to OSMRE's

existing rules that will hopefully better protect land, buildings, and water resources from adverse impacts caused by longwall mines.

B. Impacts of longwall mining on state parks and recreational opportunities in Greene County, Pennsylvania

One of the most poignant stories of how coal mining has impacted southwestern Pennsylvania involves Ryerson Station State Park, one of the few public parks in Greene County and the only state park in the area. For years, the jewel of the park was Duke Lake, a 62-acre lake that was a major attraction for people across the county and the region. The recreational opportunities at the lake: fishing, boating, and swimming, were some of the few features that drew people to the area and generated economic activity outside of the coal industry. The park, free to the public, was one of the only places where people could go in Greene County to enjoy the area's natural beauty with family and friends. The fact that the activities at the park were free is important because Greene County has consistently ranked as one of the poorest counties in the state, with high numbers of people eligible for and collecting public assistance. See Hoch & Ctr. for Coalfield Justice, *Community Indicators of Environmental Justice: A Baseline Report Focusing on Greene and Washington Counties, Pennsylvania*, at 30, 33, 34, 36-41 (2013), coalfieldjustice.org/files/Community-Indicators-Environmental-Justice-2014.pdf. The entire western side of the county is designated an Environmental Justice Area by both the DEP and EPA, making it the largest geographic Environmental Justice Area in the state.

On July 28, 2005, Duke Lake was drained by the Pennsylvania Department of Conservation and Natural Resources (DCNR) because of safety issues due to cracks in the dam that formed the picturesque lake. Five years later in 2010, DCNR and DEP initiated proceedings against Consol Energy to repair and restore the dam after a DEP investigation determined that the cracks resulted from Consol's longwall mining activities at its nearby Bailey Mine. In April 2011, CCJ intervened in the case on behalf of our membership and the community to ensure that this generation of southwestern Pennsylvanians had the opportunity to experience the beauty of Duke Lake in Ryerson Station State Park.

In Spring 2013, Consol settled the case with DCNR and DEP. We were pleased that there seemed to be a path towards restoration of Duke Lake. We were quite disappointed, however, that Consol admitted no responsibility for the damage they inflicted on the dam. The company agreed to pay for restoration of the lake through a \$36 million settlement payment which was not a fine or penalty. DCNR agreed to

convey coal and mining rights for 548,000 tons of coal inside the park's boundary to Consol and leased the state's Marcellus shale gas interests within the park's boundary to Consol's natural gas branch, CNX. In return, Consol conveyed eight surface properties proximate to the park to DCNR to be added to Ryerson as parkland. *Pa. Dep't. of Conservation & Natural Res. & Dep't. of Env'tl Protection v. Consol Energy, Inc. & Consol Pa Coal Co., LLC*, Settlement Agreement and Release (March 8, 2013),

http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_20026958.pdf. Following this resolution, we have continued to hold our annual DRYerson Festival, marking each year the community has spent without Duke Lake. This year, 2015, marked 10 years without the lake. At the time of the settlement, it was projected that the dam would be restored in 2017. In the fall of 2014, DCNR began dredging out the old lakebed.

After destroying Duke Lake at Ryerson Station Park, Consol expanded the Bailey Mine in May 2014 to extract coal from underneath the park per the rights granted to them in the settlement agreement with DCNR and DEP. The Bailey Mine complex is already the largest underground coal mine complex in the world. Consol Energy, *Historical Moments* (2015), <http://www.consolenergy.com/about-us/our-history/historical-moments.aspx>. Their 3,175 acre mine expansion threatens to destroy streams which would have fed the restored Duke Lake, but now are the last natural water resources in the park. In total, 14 streams will be affected by this expansion. The permit application predicted several years of stream disruption and damage, so severe that "flow loss would most likely reduce, if not eliminate fishing opportunities" in Ryerson Station State Park for at least three years. After the loss of the lake, the only fishing opportunities in the park today are in those streams. We are currently appealing the Coal Mining Activity Permit revision for this expansion based on the predicted damage to streams. See *Ctr for Coalfield Justice v. Commw. of Pa.* E.H.B. No. 2014072 (May 30, 2014).

In February of 2015, Consol submitted an application to add 2,142 acres to the Bailey Mine for development mining. This expansion along the southeastern part of Ryerson Station State Park will undermine the remainder of the park and its streams, as well as surrounding areas. It is currently unclear when Consol will submit the permit for full extraction longwall mining of this southeastern expansion.

On July 24, 2015, DCNR announced that the ground under the park near the dam was moving due to ongoing subsidence. It is unclear whether the mining near the park 10 years ago or Consol's current mining near the park is causing this continued movement. DCNR stated it could not predict if and when it would stop and whether

mining in the new expansion, discussed above which will eventually undermine park land, would cause additional subsidence. Accordingly, the ground was not stable enough for DEP to issue DCNR a dam safety permit for reconstruction of the dam. Ctr. for Coalfield Justice, *Sad news about Duke Lake* (2015), <http://coalfieldjustice.org/blog/sad-news-about-duke-lake/2159/>. DCNR has committed to spending what remains of the \$36 million settlement payment on the park, after the dredging of the lakebed and an expert opinion on the continued subsidence and potential stability of a reconstructed dam. So here is where we find ourselves, in a situation that does not make sense. While DCNR pledges to invest millions of dollars into the park, DEP has permitted full extraction longwall mining under the park, which threatens potential projects undertaken by DCNR to enhance the park.

Recreation opportunities are important for communities in southwestern Pennsylvania as they make it a more attractive place to live and spend time. Duke Lake was also the only economic driver in an area where the local economy is dominated by extraction industries, coal mining and now shale gas drilling. The continued loss of streams will further cripple this area, which is already suffering, and destroy its future potential.

Once all of the coal is mined out of this area, the people who remain will need a healthy, vibrant environment to serve as the foundation for their community and future local economy. If stronger regulations are not put in place as soon as possible, all that this community will be left with is dry streambeds, memories of once abundant springs, coal refuse and slurry valley fills, mine water discharges, and abandoned houses with cracked foundations and without domestic water supplies. During our Coalfield Listening Project, one farmer described the lasting impact of mining on local farms, "There's no putting that water table back. There's no putting these damaged streams back...I have been on farms where the water's been lost and that really ends once and for all the future use of that land." Another farmer whose farm is in the footprint of a proposed mine described the importance of the abundant natural springs throughout her property that provide water for her cattle, saying "water is life." It would be impossible to restore these springs once lost and replacement water sources would have to be distributed extensively over acres in order to match the distribution and abundance of water provided by the springs. A study performed in our region in 2009 examined monthly discharge data for 77 springs across mine subsidence events. By evaluating data from the 12 months before the subsidence event and data 12 months after the subsidence event affecting each spring, the study identified significant mining-induced impacts to the undermined springs and found that 40% of the springs were significantly impaired

by mining. Joshua M. Silvis, W. Va. Univ., *Quantitative evaluation of mining-induced changes to spring discharge above a mine in the northern Appalachian coal field* (2009), <http://search.proquest.com/docview/305017606>.

IV. How the proposed SPR must be improved to provide better protections for land, streams, and aquatic life

There are ways in which the Stream Protection Rule can be clarified or amended to more effectively protect human health and the environment from the adverse impacts of underground coal mining.

OSMRE's standard for protecting streams from material damage is based on the principle that material damage occurs when mining impacts "preclude any designated surface-water use under sections 101(a) and 303(c) of the Clean Water Act ("CWA") or any existing or reasonably foreseeable use of surface water or groundwater outside the permit area." 80 Fed. Reg. at 44,474. However, neither section 101(a) nor section 303(c) of the CWA mentions, "precluding" a use. OSMRE does not provide a definition for preclusion of a surface water's use(s). In order to clarify this section of the proposed rule and make it consistent with the CWA, OSMRE should replace "preclude" with "partially or completely eliminate or significantly degrade" or explicitly define "preclude" to mean "partially or completely eliminate or significantly degrade" an existing, foreseeable, or designated use. In its Water Quality Standards Handbook, EPA states that maintenance and protection of existing uses is "the absolute floor of water quality in all waters of the United States." Handbook, § 4.4. As currently written, the rule provides a loophole where a stream may lose flow, partially eliminating the stream's ability to uphold its designated use and yet, if its use is not wholly "precluded" (generally defined as "to make impossible") it would not qualify as material damage.

OSMRE should clarify that coal mining operations must comply with water quality standards to end the routine issuance of NPDES permits that allow mining companies to evade compliance with water quality standards. Proposed § 816.42(a) retains the language in current § 816.42 that requires compliance with "applicable water quality laws and regulations." 80 Fed. Reg. at 44,549, 44,652. OSMRE approved the existing rule containing that requirement in 1982. 30 C.F.R. § 816.42, *approved*, 47 Fed. Reg. 47,216 (Oct. 22, 1982). At that time, OSMRE stated that this rule provides "that discharges must comply with all State and Federal water quality

laws and regulations. This includes applicable water quality standards.” *Id.* at 47220. OSMRE should confirm that this same interpretation applies to the new rule.

Specifically, OSMRE should confirm that coal mining permittees must comply with *both* the effluent limitations in their NPDES permits *and* all water quality standards. Effluent limitations from NPDES permits must be met at the outfall and those point source discharges should not jeopardize instream water quality standards after mixing with the receiving stream.

OSMRE should also make it clear that the requirement for coal companies to comply with water quality standards is a performance standard directly enforceable by citizens under SMCRA. NPDES permits should not be used as shields when operations violate water quality standards. Allowing a state-issued NPDES permit to supersede the federal floor (maintenance of existing uses according to water quality standards) effectively turns our regulatory system on its head and results in a state essentially setting less stringent standards than what SMCRA and CWA mandate on a federal level. To this end, OSMRE should clarify that the word “applicable” with regard to water quality standards means those standards that have been approved by EPA and are therefore federally enforceable under the CWA.

A clear path for citizen suit enforcement actions is particularly important in states where regulatory agencies consistently fail to undertake enforcement actions against companies, preferring to rely on voluntary compliance. OSMRE should therefore confirm in its final SPR that SMCRA’s savings clause allows direct enforcement of water quality standards under SMCRA.

OSMRE should replace the term “existing uses” in the SPR with “pre-mining uses.” OSMRE defines “existing uses” as “those uses in existence at the time of the preparation of the permit application.” 80 Fed. Reg. at 44,475. Hundreds of miles of streams have been listed as impaired due to pollution from coal mining and related operations. For these streams, preserving “existing uses” would only protect the existing impairment caused by earlier mining in the same watershed. As of 2014, about 5,584 miles of streams in Pennsylvania are impaired for their designated uses for aquatic life and water supply due to abandoned mine drainage, 301 miles due to subsurface mining, and 117 miles due to surface mining. Pa. Dep’t of Env’tl. Protection, *2014 Pennsylvania Integrated Water Quality monitoring and Assessment Report* (2014), http://files.dep.state.pa.us/Water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/2014%20Integrated%20List/2014_Pennsylvania_Integrated_Water_Quality_Monitoring_and_Assessment_Report.pdf.

Regulatory agencies should be looking at the condition of the streams before mining occurred in the area. A “premining uses” standard would establish a baseline for stream preservation and restoration that can ensure affected streams are as unimpaired as possible. Adjusting the rule in this manner would also be in accordance with OSMRE’s proposal that previously degraded stream segments must be improved “to the fullest extent possible” as part of new stream restorations, “not just restored to the condition that existed before the current mining operation.” 80 Fed. Reg. at 44,554.

OSM’s preferred methods for protecting streams from “material damage”—stream restoration and re-creation—are unproven and undocumented. As the damaged streams in the UMCO decision and the most recent Act 54 report illustrate, stream restoration efforts often fail to repair stream dewatering caused by coal mining. *See UMCO Energy, Inc. v. Dep’t of Env’tl. Prot.*, 938 A.2d 530 (Pa. Commw. Ct. 2007). As discussed above on pages 13-15, significant issues with stream restoration activities in Pennsylvania have been identified and remain a serious concern. Indeed, after analyzing the findings of the most recent Act 54 Report, the Citizens Advisory Council to the PA DEP made its recommendations to the DEP on how to improve enforcement of the law and the first recommendation was:

An independent, technical committee should be convened through an Executive Order of the Governor to study whether a water supply impacted by underground coal mining can be restored to pre-mining conditions in both water quality chemistry and biological characteristics. The findings of that study should be assembled into a final report to be presented to the Governor and the General Assembly and should recommend, if appropriate, amendments to the Bituminous Mine Subsidence and Land Conservation Act (commonly referred to as Act 54) to increase the efficacy of the legislation in preventing or restoring damage from mining subsidence impacts to waters of the Commonwealth of Pennsylvania (Commonwealth). With this recommendation, the CAC notes that 8 of the 55 streams determined to be affected in the previous report (2003- 2008) have yet to recover to pre-mining conditions.

OSMRE should amend the proposed rule to establish a reasonable maximum time period within which a regulatory authority may delay enforcement action to allow restoration of a damaged stream. In Pennsylvania, DEP has a five-year timeline by which stream restoration must be completed for streams where flow loss impacts are reported. Pa. Dep’t of Env’tl Protection, TGD No. 563-2000-655 (October, 8, 2005). If the stream’s flow and biology fail to match its pre-mining conditions or those of an approved control stream after five years, then the operator may be required to perform compensatory mitigation. Compensatory mitigation generally

refers to “restoration or enhancement of an equivalent length of another stream in the same watershed or a nearby watershed.” Pa. Dep’t of Env’tl Protection, TGD No. 563-2000-655 (October, 8, 2005). The DEP’s time requirement and compensatory mitigation requirements apply only to streams suffering from flow loss, not pooling impacts, reductions in aquatic life, or pollution from mining. Additionally, a number of stream restoration efforts in Greene County have been ongoing for more than seven years without success. Tonsor ET AL., Univ. of Pitt., Act 54 Report on the Impacts of Underground Coal Mining (2008-2013), § VIII, at 2 (2015). Ten cases of streams damaged by underground coal mining between 2003-2008 took over five years to resolve, and eight of the ten cases involve streams that DEP ruled have not recovered from mining. Seven of those cases required compensatory mitigation and the other was resolved due to a federal court settlement. *Id.* § VIII, at 5.



As an example, the photo above shows a portion of the 600-foot no flow section of Polly Hollow, a stream in Greene County, in March 2012, seven years after mining occurred. There must be an established point in time set forth by federal regulatory authority when DEP should find that restoration is not technologically feasible for streams that experience flow loss, pooling and other mining-induced impacts and issue a written citation to the operator for failing to prevent material damage to the hydrologic balance. Then DEP could pursue appropriate mitigation and affected landowners could pursue other legal remedies for the damage.

The proposed rule should also contain more protections for prime farmland. Washington and Greene counties have a combined total of 36,134 acres of prime

farmland. Protecting the hydrologic balance outside permit area is a good start, but more protections are needed to ensure the productivity of prime farmland is safeguarded from the adverse impacts of subsidence from longwall mining. Topographical and hydrological changes caused by mine subsidence have serious potential to negatively impact prime farmland productivity. We ask that OSMRE revise the definition of “material damage” (from subsidence) in section 701.5 to make it clear that reduction in the productivity of prime farmland from longwall subsidence constitutes material damage. Additionally, section 784.30(a) should be revised to incorporate a requirement to identify prime farmland in the survey of the permit and adjacent area as well as a narrative describing the adverse impacts that could be caused by subsidence in the pre-subsidence survey.

OSMRE proposes to eliminate the stream buffer zone provision that protects stream channels from direct damage. This is a provision of the current regulations (adopted in 1983) that prohibits mining disturbances within a buffer zone that extends 100 feet on either side of any intermittent or perennial stream, if the disturbance will adversely affect the environmental resources of the stream. 30 C.F.R. § 816.57(a)(1) (1983). OSMRE’s proposal would allow mining disturbances within the buffer zone regardless of the extent of direct damage to the stream’s environmental resources. See proposed 30 C.F.R. § 816.57 & 816.71. Streams that are mined through must be “restored” under the proposal, but streams buried under valley fills need not be, regardless of how many miles of streams are buried. *Id.*

The stream buffer zone is critical to protecting streams in southwestern Pennsylvania where coal refuse disposal areas (CRDAs) fill valleys with coarse coal refuse and slurry from coal processing plants. There are a total of 29 existing CRDAs in Washington and Greene Counties and applications for three more are currently under review by DEP. The six CRDAs operated by one company alone span 1,861 acres, and yet, they are seeking to build two more which will impact 1,736 acres including permanent impacts to 83,822 linear feet of streams and 23.24 acres of wetlands.⁶ In the final rule, OSMRE must change course and restore the buffer zone protection. OSMRE should also make clear that it is also a performance standard directly enforceable by citizens.

Thank you for the opportunity to provide these comments. We look forward to adoption of the final rule and the protections it will extend to our region.

⁶ Letter to Colonel Bernard R. Lindstrom, District Engineer U.S. Army Corps of Engineers from Lora L. Zimmerman, Field Office Supervisor, Fish and Wildlife Service, U.S. Department of the Interior, April 3, 2015.