EARTHJUSTICE

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

May 7, 2013

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Nancy K. Stoner
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Re: Final Petition for Rulemaking to Set Water Quality Standards to Protect Appalachian Waters from Mining Waste and Harmful Levels of Conductivity

Dear Mr. Perciasepe and Ms. Stoner:

Enclosed please find the final petition for rulemaking to set water quality standards for conductivity. We appreciate your attention to this matter, and respectfully request EPA's careful consideration and prompt response.

Also enclosed is a CD containing electronic copies of the petition and sources cited.

Please replace any prior copies that you have received with the enclosed.

We would welcome the opportunity to discuss this petition with EPA after you have had the opportunity to review it. Please feel free to contact me at 202-745-5208 with any questions or for additional information.

Sincerely,

Jennifer C. Chavez
Enclosures

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PETITION TO THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Petition for Rulemaking to Set Water Quality Standards to Protect Appalachian Waters from Mining Waste and Harmful Levels of Conductivity	))))	*Submitted May 6, 2013 to the Administrator and Assistant Administrator of the Office of Water, U.S. Environmental Protection Agency*

The undersigned groups hereby petition the Administrator of the U.S. Environmental Protection Agency ("EPA") for a rulemaking under 33 U.S.C. § 1313(c)(4) establishing numeric water quality standards to limit conductivity pollution in the Appalachian states of Kentucky, Ohio, Pennsylvania, Tennessee, Virginia and West Virginia. A federally-promulgated water quality standard limiting conductivity pollution in Appalachian waterways is necessary to meet the requirements of the Clean Water Act. Petitioners are local and national community and conservation groups with tens of thousands of members in Appalachian states who are facing harm from the severe decline of water quality in Central Appalachian streams. Petitioners request EPA's response to this petition within 180 days of the date of this petition.

SUMMARY

EPA must finally exercise its full authority under section 303(c)(4) of the Clean Water Act to set a water quality standard to reduce harmful levels of conductivity in Appalachian streams. Appalachian waterways have already suffered too much biological impairment caused by elevated conductivity from the dumping of mining waste. EPA should act promptly to promulgate a federal standard because:

- Numerous scientific studies identify a causal relationship between elevated conductivity in Appalachian mountain streams and biological impairment of those streams.
- Biological impairment related to conductivity has been documented in streams in Central Appalachia, where it threatens the health of regional watersheds.
- Scientific analysis has demonstrated a strong association between the prevalence of surface coal mining activity in a watershed, downstream conductivity, and impairment.
- No Appalachian states have adopted or applied state water quality standards to protect streams and rivers adequately from conductivity-induced impairments. Some Appalachian state regulators and legislators have taken affirmative steps to prohibit state permit writers from interpreting and applying existing standards so as to protect streams from elevated conductivity.

- If EPA does not take immediate action under section 303(c)(4), uncontrolled increases in conductivity will cause direct and cumulative irreversible harm to Appalachian waters and communities.

EPA must act promptly to promulgate water quality standards that will protect communities from high levels of conductivity, which is at the heart of the environmental problem caused by mountaintop removal mining.[1] The states have repeatedly declined to address the problem of conductivity pollution, notwithstanding their authority to do so by adopting appropriate water quality standards, establishing total maximum daily loads to attain those standards where they are not met, and including point-source effluent limits in discharge permits. In fact, state legislators and regulators have taken affirmative steps to avoid regulating conductivity. While the states have ignored relevant science and failed to fulfill Clean Water Act requirements at every step, waters and communities have suffered.

Conductivity caused by mining waste adds to a longstanding problem of environmental injustice. In the Appalachian region, local communities with high rates of poverty and low incomes bear the brunt of this environmental damage, particularly in Southern West Virginia, Eastern Kentucky, and Southwest Virginia. Although many coal companies make a profit from this type of mining, the Appalachian communities that are most deeply affected by surface coal mining remain some of the poorest in the nation.[2] "Appalachia has long been characterized by social inequalities and health disparities," but even when compared to other parts of Appalachia, residents living near coal mining operations tend to have "poor socioeconomic conditions

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[1] *See, e.g.*, Gregory J. Pond, Margaret E. Passmore, Frank A. Borsuk, Lou Reynolds, Carole J. Rose, *Downstream effects of mountaintop coal mining: comparing biological conditions using family- and genus-level macroinvertebrate bioassessment tools*, J. N. AM. BENTHOL. SOC'Y. 27(3): 717–737 (July 2008); Bernhardt and Palmer, *The environmental costs of mountaintop mining valley fill operations for aquatic ecosystems of the Central Appalachians*, Ann. N.Y. Acad. Sci. 1223: 39-57, at 47-48 (2011); EPA Office of Research & Development Final Report: A Field-based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams (May 27, 2011).

[2] *See* Population Reference Bureau, *The Appalachian Region: A Data Overview from the 2006-2010 American Community Survey* at 37, 39 (February 2012), http://www.prb.org/pdf12/PRB-AppalachiaDataOverview-2012.pdf; Appalachian Voices, Poverty Rates and Surface Mining in Appalachia (2000), http://www.flickr.com/photos/nationalmemorialforthemountains/284917378/.

including higher levels of poverty and lower education rates."[3] People living near mountaintop removal mining sites also suffer from more birth defects, higher cancer rates, and early mortality.[4] Degradation of the natural resources in these communities, including by conductivity pollution, adds to the cumulative insults suffered by communities in mining areas, and shows the need for EPA to take this environmental problem seriously.

The time has come for EPA to act before the last healthy waterways of Appalachia are gone for good. Appalachian communities and citizens concerned about clean water across the United States call on EPA to promulgate water quality standards to protect our waters from elevated conductivity caused by large-scale surface mining without delay. EPA scientists documented the serious problem of conductivity in a 2008 study by Pond *et al.*[5] In 2011 scientific reports and guidance, EPA recognized the full weight of this problem and

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[3] Michael Hendryx, *Mortality Rates in Appalachian Coal Mining Counties: 24 Years Behind the Nation*, ENVTL. JUSTICE, Vol. 1, No. 1 (2008), pp. 5-11, at 5. Similarly, a recent study on the economics of coal in Kentucky, with analogies to southern West Virginia, found that "Kentucky's coal-producing counties are among the poorest in the United States." MOUNTAIN ASSOCIATION FOR COMMUNITY ECONOMIC DEVELOPMENT, THE ECONOMICS OF COAL IN KENTUCKY: CURRENT IMPACTS AND FUTURE PROSPECTS at 1 (June 2009), *available at* http://www.maced.org/coal.

[4] EPA, Final Determination of the U.S. Environmental Protection Agency Pursuant to § 404(c) of the Clean Water Act Concerning the Spruce No. 1 Mine, Logan County, West Virginia at 96 (Jan. 13, 2011) ("Spruce Determination"); *see, e.g.*, Hitt & Hendryx, *Ecological Integrity of Streams Related to Human Cancer*, ECOHEALTH, Ex. 14 (2010); Zullig & Hendryx, *Health-Related Quality of Life Among Central Appalachian Residents in Mountaintop Mining Counties*, 101-5 AMERICAN JOURNAL OF PUBLIC HEALTH 848, Ex. 15 (2011); Ahern et al., *The Association between mountaintop mining and birth defects among live births in central Appalachia, 1996-2003*, ENVIRONMENTAL RESOURCES (May 2011); Esch & Hendryx, *Chronic Cardiovascular Disease Mortality in Mountaintop Mining Areas of Central Appalachian States*, JOURNAL OF RURAL HEALTH (2011); Ahern & Hendryx, *Cancer Mortality Rates in Appalachian Mountaintop Mining Areas*, JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL SCIENCE (in press).

[5] *See supra* n.1.

recommended a benchmark range that would address it.[6] Years since this peer-reviewed science, communities are still waiting for EPA to act. Only a federally-promulgated numeric water quality standard will finally resolve this problem and bring long-needed protection to Appalachian waterways and the communities that depend on them. EPA must promulgate a water quality standard without further delay.

I. FACTUAL BACKGROUND

A. Increased Conductivity Caused by Mining Impairs Waters and Harms Aquatic Life in Appalachia.

Conductivity is a measure of the ability of water to conduct an electrical current. It is an indicator of the presence of ions in water, including dissolved metals, salt, and other waste, and so is sometimes also described as ionic toxicity. The higher the level of conductivity, the more toxic the affected waterways are to native macroinvertebrates and other wildlife that normally thrive in Appalachian waterways. When waterways lose native macroinvertebrates, they lose the foundational building blocks of entire aquatic ecosystems. By protecting waters from high levels of conductivity, EPA would address one of the most serious water quality problems created by mountaintop removal mining in Appalachia.

A robust body of science demonstrates a causal relationship between elevated conductivity resulting from mining waste and biological impairment of streams in Appalachian states, which has already caused serious harm inconsistent with the essential purpose of the Clean Water Act.[7] EPA has documented extensive environmental harm to waters caused by mountaintop removal and other large-scale surface mining and has recognized that once this

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[6] As EPA noted, the endpoint the scientific study used to determine the benchmark "is consistent with the endpoint typically selected by EPA when deriving numeric aquatic life criteria under section 304(a)." EPA, *Final Memorandum: Improving EPA Review of Appalachian Surface Coal Mining Operations Under the Clean Water Act, National Environmental Policy Act, and the Environmental Justice Executive Order* at 16 (July 2011). EPA recommended applying the benchmark immediately in the West Virginia and Kentucky study areas, and stated that it would engage in additional research to validate that benchmark in other Appalachian states (*i.e.* Pennsylvania, Tennessee and Ohio). July 2011 Guidance at 5. EPA should use the results of its additional validation studies as a basis for promulgating standards for all Appalachian states.

[7] *See* Brief of the United States of America, *Nat'l Mining Ass'n v. Jackson* at , (D.C. Cir. No. 12-5310) (March 5, 2013)

damage is done, it cannot be undone, or even adequately mitigated.[8] This science shows that federal standards are needed to "provide[] for the protection and propagation of fish, shellfish and wildlife" in Appalachia, as required by §§ 101 and 303 of the Act.[9] For example:

- In its March 23, 2009 letter to the U.S. Army Corps of Engineers concerning the Highland Reylas surface mine in West Virginia, EPA Region 3 summarized the impacts of surface mining on water quality. EPA noted that mountaintop removal mining and valley fills are "strongly correlated to downstream aquatic life use impairment, as indicated by raw taxonomic data, individual metrics that represent important components of the macroinvertebrate assemblage, or when multi-metric indices are considered (Pond et al 2008)."[10] The letter noted that "mountaintop mining impacts to aquatic life are strongly correlated with ionic strength in the Central Appalachians," citing a study that revealed "[d]ownstream of mine sites, specific conductance and component ions can be elevated twenty to thirty times over the background levels observed at un-mined sites."[11] The letter reiterated the stark consequences of ionic pollution: "This increase in conductivity impairs aquatic life use and is persistent over time. This impact can not be easily mitigated or removed from stream channels."[12] Region 3 also recognized that "[t]he severity of the biological impairment... rises to the level of a violation of water quality standards," citing West Virginia's narrative standard prohibiting "adverse impact to the chemical, physical, hydrologic, or biological components of aquatic ecosystems."[13] This impairment also

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[8] *See, e.g.*, Spruce Determination at 49, 73 (discussing unacceptable adverse impacts), 83, 90 (discussing inability of known mitigation techniques to mitigate adverse impacts), 98-99 (summarizing impacts and inadequate mitigation); Memo. from Nancy Stoner, Acting Assistant Adm'r for Water to EPA Regions III, IV, V, Improving EPA Review of Appalachian Surface Coal Mining Operations Under the Clean Water Act, National Environmental Policy Act, and the Environmental Justice Executive Order at 4 (July 21, 2011) ("The environmental legacy of mining operations in the Appalachian region is far-reaching.")(discussing deforestation and adverse impacts on aquatic ecosystems) ("July 2011 Guidance"); EPA Office of Research & Development Final Report: The Effects of Mountaintop Mines and Valley Fills on Aquatic Ecosystems of the Central Appalachian Coalfields (May 27, 2011), *available at*: http://water.epa.gov/lawsregs/guidance/wetlands/mining.cfm#ORD.

[9] 33 U.S.C. § 1251, 1313.

[10] Letter from EPA Region III to U.S. Army Corps of Engineers Huntington District regarding "PN 2007-000099-GUY; Highland Mining Company, Reylas Surface Mine" at 3 (March 23, 2009).

[11] *Id.* (citation omitted).

[12] *Id.*

[13] *Id.* (citing W. Va. Code St. R. § 47-2-3.2).

constitutes "significant degradation of waters of the United States and a violation of the antidegradation policy," according to the Region.[14]

- EPA further recognized and discussed the type of aquatic harm caused by conductivity in its Final Determination on the Spruce No. 1 Mine in 2011.[15] As EPA found: "Construction of valley fills and other discharges of dredged or fill material authorized by the DA Permit into Pigeonroost Branch and Oldhouse Branch will impact the native macroinvertebrate community downstream of the fill due to adverse changes in water quality. These adverse changes, such as increased . . . conductivity, will result in subsequent changes in the aquatic community. Sensitive species of mayflies, stoneflies, and caddisflies currently inhabiting downstream waters will be extirpated following increasing chemical loading of contaminants. . . . Vertebrates dependent upon macroinvertebrates as a food source, including salamanders, fish, birds and bats, will be subsequently affected, not only by the bioaccumulation of selenium, but also by the reduction in prey availability. Additionally, shifts in macroinvertebrate communities will likely affect important stream ecosystem functions, including organic matter breakdown (Fritz et al. 2010)."[16]

- In 2011, EPA published two peer-reviewed scientific reports documenting the harm caused by conductivity and mountaintop removal mining valley fills.[17] This research showed that a significant percent of aquatic life is extirpated when conductivity reaches 300 microsiemens per centimeter (µS/cm).[18] While EPA's 2011 guidance based on that research has been nullified by a district court for procedural reasons, that case is on appeal, and the court did not question the underlying science which remains valid.

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[14] *Id.*

[15] Spruce Determination at 60-73 & App. 1, 2.

[16] Spruce Determination at 60-61.

[17] EPA Office of Research & Development Final Report: A Field-based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams (May 27, 2011); Science Advisory Board Final Report, Review of Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams; EPA Office of Research & Development Final Report: The Effects of Mountaintop Mines and Valley Fills on Aquatic Ecosystems of the Central Appalachian Coalfields (May 27, 2011); Science Advisory Board Final Report, Review of EPA's Draft Report on Aquatic Ecosystem Effects of Mountaintop Mining and Valley Fills, *all available at*: http://water.epa.gov/lawsregs/guidance/wetlands/mining.cfm#ORD.

[18] July 2011 Guidance at 16 (citing EPA Office of Research & Development Final Report: A Field-based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams (May 27, 2011)).

- In 2013, scientists from EPA published a set of peer-reviewed studies in the journal of the Society of Environmental Toxicology and Chemistry (SETAC) that further support the science discussed in the 2011 guidance. These studies explain the methodology and results of a scientific investigation of the relationship among surface coal mining, increased conductivity, and downstream biological impairment.[19]

In an editorial accompanying the publication of its 2013 studies, the SETAC journal stated that "[t]he U.S. EPA's initial application [of field data to generate water quality criteria], a benchmark value for dissolved ions measured as specific conductance, has withstood a series of intense reviews and has guided environmental decisions."[20] On the causation issue, "the authors found that a mixture containing the ions Ca^{+}, Mg^{+}, HCO^{-}_{3}, and SO^{-}_{4}, as measured by conductivity, is a common cause of extirpation of aquatic macroinvertebrates in Appalachia where surface coal mining is prevalent. The mixture of ions is implicated as the cause rather than any individual constituent of the mixture."[21] Regarding EPA's recommended benchmark, the abstract for one of the 2013 SETAC studies states:

> Because increased ionic strength has caused deleterious ecological changes in freshwater streams, thresholds for effects are needed to inform resource-management decisions. In particular, effluents from surface coal mining raise the ionic strength of receiving streams. The authors developed an aquatic life benchmark for specific conductance as a measure of ionic strength that is expected to prevent the local extirpation of 95% of species from neutral to alkaline waters containing a mixture of dissolved ions in which the mass of SO^{2-}_{4} + $HCO^{-}_{3} \geq Cl^{-}$. Extirpation concentrations of specific conductance were estimated from the presence and absence of benthic invertebrate genera from 2,210 stream samples in West Virginia. The extirpation concentration is the 95th percentile of the distribution of the probability of occurrence of a genus with respect to specific conductance. In a region with a background of 116 µS/cm, the 5th percentile of

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[19] Cormier SM, Suter GW II, *A method for deriving water quality benchmarks using field data.* Environ. Toxicol. Chem. 32:255–262 (2013); Cormier SM, Suter GW II, Zheng L., *Derivation of a benchmarkfor freshwater ionic strength.* Environ. Toxicol. Chem. 32:263–271 (2013); Cormier S, Suter GWII, *A method for assessing causation of field exposure-response relationships.* Environ. Toxicol. Chem. 32:272–276 (2013); Cormier SM, Suter GW II, Pond GJ, Zheng L., *Assessing causation of the extirpation of stream macroinvertebrates by a mixture of ions.* Environ. Toxicol. Chem. 32:277–287 (2013); Suter GW II, Cormier SM., *A method for assessing the potential for confounding applied to ionic strength in Central Appalachian streams.* Environ. Toxicol. Chem. 32:288–295 (2013).

[20] Cormier SM, and Suter GW II. *Sources of Data for Water Quality Criteria,* Environ. Toxicol. Chem.. 32:254 (2013).

[21] Cormier SM, Suter GW II, Pond GJ, Zheng L., *Assessing causation of the extirpation of stream macroinvertebrates by a mixture of ions.* Environ. Toxicol. Chem. 32:277 (2013).

> the species sensitivity distribution of extirpation concentrations for 163 genera is 300 µS/cm. Because the benchmark is not protective of all genera and protects against extirpation rather than reduction in abundance, this level may not fully protect sensitive species or higher-quality, exceptional waters.[22]

Thus, these studies provide a strong scientific foundation supporting EPA regulation of conductivity in Appalachian streams.

Other independent, peer-reviewed scientific research has also confirmed EPA's research. In July 2012, a group of prominent scientists published a peer-reviewed paper analyzing 30 years of stream data in a 390-square-mile region in southwestern West Virginia.[23] This study concluded that the extent of surface coal mining in that region is highly correlated with elevated conductivity and harm to the ecosystem. Using the same water quality data used by EPA, but a different statistical method for analyzing that data, they independently derived a threshold of 308 µS/cm for biological impairment related to increased conductivity. That value is essentially the same as the 300 µS/cm lower value in the range cited in EPA's 2011 guidance and derived in 2012 by Cormier *et al.* The July 2012 Bernhardt *et al.* study also found that devastating impacts to aquatic life can occur when as little as 2.2% of a watershed is mined.[24] These data show that some areas, particularly in West Virginia and Kentucky, have reached or are close to a level of harm that is extremely dangerous for native macroinvertebrates that drive the health of the local aquatic ecosystems.

EPA's sister agency recognizes that elevated conductivity is also a serious direct threat to fish species.[25] The threatened blackside dace (*Chrosomus cumberlandensis*) is a rare freshwater minnow native to small tributaries in the upper Cumberland River system in Kentucky and

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[22] Cormier SM, Suter GW II, Zheng L., *Derivation of a benchmarkfor freshwater ionic strength.* Environ. Toxicol. Chem. 32:263–271 (2013).

[23] Bernhardt *et al.*, *How Many Mountains Can We Mine? Assessing the Regional Degradation of Central Appalachian Rivers by Surface Coal Mining*, J. Envtl. Sci. Tech. 46(15), 8115-22 at 8120 (2012) (estimating that "the majority of catchments with >5.4% of their area in surface mines will have WVSCI scores below 68, indicating impairment. Approximately 2,834 km of the ~13,128 river kilometers in the study area drain catchments with at least 5.4% of the catchment area occupied by surface coal mines. . . [W]e found that significant reductions in the diversity of intolerant macroinvertebrates likely result once 2.2% of a stream's catchment area is converted to surface mines").

[24] *Id.*

[25] *See* Defenders of Wildlife, *et al.*, 16 U.S.C. § 1540(g) Notice of Violations of the Endangered Species Act in Connection with the Permitting and Operation of Surface Coal Mines in Tennessee available at: http://tcwn.org/sites/tcwn.org/files/Defenders%20of%20Wildlife%20et%20al.%20-%20Notice%20of%20ESA%20Violations%20in%20Connection%20with%20Surface%20Coal%20Mines%20in%20Tenn.%20-%20January%2029,%202013_0.pdf.

Tennessee.[26] The U.S. Fish and Wildlife Service (FWS) recognizes that the "best available info[rmation]" for the blackside dace indicates that adverse effects occur at concentrations of 240 µS/cm conductivity.[27] FWS also recognizes that "large surface coal mine operations in Campbell and Scott Counties, Tennessee, are a potential threat to the Cumberland darter," an endangered freshwater fish native to small tributaries in the upper Cumberland River system.[28] Finally, the Kentucky arrow darter (*Etheostoma sagitta spilotum*), a federal candidate species in the same genus as the Cumberland darter, is sensitive to elevated conductivity within the same range.[29] Surveys for this species found that "89 percent of streams supporting Kentucky arrow darters had conductivity values below 200 µS," and only a single population is known to occur where conductivity exceeds 250 µS/cm."[30]

Appalachian states' own reports under CWA § 303(d) further illustrate the longstanding and widespread water-quality impairment caused by conductivity and mining-related pollutants. For example:

- Of the streams and rivers assessed by Kentucky as of 2010, half were impaired or not meeting their designated uses.[31] The state identified about 1,570 miles of

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[26] Tyler R. Black & Hayden T. Mattingly, *Conservation Status of the Threatened Blackside Dace in Selected Cumberland River Streams, Final Project Report* at 1-3 (2007) (unpublished report submitted to U.S. Fish & Wildlife Serv., Cookeville, Tenn. & Frankfort, Ky. Field Offices); Anthony L. Velasco, *et al., KY – Contributors to Specific Conductance: An Investigation of Fishery Decline in Eastern Coalfield Streams* at 2 (July 1, 2010) (research proposal submitted to the Field Supervisor, U.S. Fish & Wildlife Serv., Frankfort, Ky. Field Office). Petitioners will provide future updates on evidence of harm to the blackside cace as it develops and is subjected to peer review.

[27] Email from Mary E. Jennings, Field Supervisor, U.S. Fish & Wildlife Serv., Cookeville, Tenn. Field Office to Lee Andrews, Field Supervisor, U.S. Fish & Wildlife Serv., Frankfort, Ky. Field Office (Mar. 4, 2010, 07:51 EST) (stating that "the best available info indicates that anything over 240 can be adverse to [blackside dace]").

[28] *See* U.S. Fish & Wildlife Serv., Designation of Critical Habitat for the Cumberland Darter, Rush Darter, Yellowcheek Darter, Chucky Madtom, and Laurel Dace, 77 Fed. Reg. 63604, 63614 (October 16, 2012); U.S. Fish & Wildlife Serv., Endangered Status for the Cumberland Darter, Rush Darter, Yellowcheek Darter, Chucky Madtom, and Laurel Dace, 76 Fed. Reg. 48722, 48724-25 (Aug. 9, 2011).

[29] U.S. Fish & Wildlife Serv., Species Assessment for Kentucky Arrow Darter, 8–9 (April 16, 2012), available at http://ecos.fws.gov/docs/candidate/assessments/2013/r4/E0BF_V01.pdf.

[30] Velasco *et al., supra* note 28 at 2-3; U.S. Fish & Wildlife Serv., *supra* note 31 at 9.

[31] KY Energy & Envt. Cabinet, Division of Water, Integrated Report to Congress on the Condition of Water Resources in Kentucky Vol. I, 2010 at 66 (Apr. 2010), http://water.ky.gov/waterquality/Integrated%20Reports/2010IntegratedReportFinal.pdf.

streams impaired by "specific conductance," or "total dissolved solids" (associated with high levels of conductivity).[32] Kentucky identified a similar number, about 1,983 miles, as impaired by mining.[33]

- In its 2012 draft report, West Virginia identified 1,176 stream segments, covering approximately 6,027 stream miles, as biologically impaired and awaiting calculation of a total maximum daily load (TMDL).[34] In addition, the state has recognized that another 6,562 miles of streams with TMDLs remain impaired.[35] Together, the state's own report shows that at least 41% of all of the state's approximately 30,000 stream miles are impaired.[36] WVDEP has recognized that one of the "most common impairments of West Virginia waters" is "[b]iological impairment."[37] Mining causes elevated conductivity which in turn causes biological impairment, so even though the state has not recognized mining as a cause of biological impairment, some of the biologically impaired streams indicate harm from mining waste.

- Further, West Virginia's 2012 total does not include additional streams that became biologically impaired, such as due to elevated conductivity, since the 2010 report.[38] On March 25, 2013, EPA announced that it is partially disapproving West Virginia's § 303(d) list, because at least 255 additional stream segments must be added to the list, and it will be taking public comment on this issue in spring 2013.[39] As EPA explained: "Recognizing WVDEP's view that it is unable to carry out the requirement set forth in 40 CFR 130.7(b)(5) to assemble and evaluate all existing and readily available water quality information, EPA has

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[32] *Id.* Vol. I at 74 tbl. 3.3.1-3.

[33] *Id.* Vol. I at 75-76 tbl. 3.3.1-4.

[34] WV DEP, Draft 2012 West Virginia Integrated Water Quality Monitoring and Assessment Report at 18-19 (summarizing results), http://www.dep.wv.gov/WWE/watershed/IR/Pages/303d_305b.aspx.

[35] *Id.* at 19 tbl. 6 (listing Category 4a waters); *id.* at 4 tbl.1 (defining Category 4a waters as "waters that already have an approved TMDL but are still not meeting standards").

[36] *Id.* at 19 tbl. 6 (listing Category 4a waters at 21% and Category 5 waters at 20%).

[37] *Id.* at 19.

[38] *Id.* at 15 (relying on Senate Bill 562 to avoid listing streams newly impaired due to biological harm).

[39] Letter from Shawn Garvin, Regional Administrator, EPA Region III, to Randy Huffman, WVDEP (Mar. 25, 2013) (partially disapproving state's § 303(d) list due to failure to include waters that had become biologically impaired since the last submission), http://www.epa.gov/reg3wapd/pdf/pdf_tmdl/WV303d/2012WV303dList_Ltr-3-25-13.pdf; Enclosures 1-3 (including list of streams); http://www.epa.gov/reg3wapd/tmdl/303list.html.

an obligation to take action to ensure that the federal requirement is satisfied. Since the state law, in this case SB 562, does not override the federal requirement, EPA is taking action to partially disapprove West Virginia's 2012 Section 303(d) list to the extent that it omits water quality segments for which biological data were not evaluated by WVDEP."[40] Citizen groups, including some undersigned petitioners, have submitted comments showing that 546 West Virginia stream segments should be added to the list for biological impairment.[41]

Despite documentation of this widespread and serious stream impairment, as further explained in Part III, below, Appalachian states have refused to take appropriate action to regulate or control conductivity, such as by setting effluent limits in § 402 permits. In fact, the states have taken affirmative steps to avoid addressing conductivity pollution entirely.

West Virginia and Kentucky sued EPA to block it from using its 2011 guidance. West Virginia has found that many streams are biologically impaired because of ionic stress but refused to place those streams on its list for TMDL development. West Virginia has issued state guidance on its narrative standards that rejects controls on conductivity. In its accompanying justification, West Virginia claimed that there is a "loose and questionable causal relationship between conductivity and stream impairment," and stated, contrary to the best available science, that "regulation solely via an indicator such as specific conductance is not the best way to protect against excursions from narrative standards."[42] In March 2012, the West Virginia legislature enacted Senate Bill 562, which purports to modify West Virginia's narrative standard to protect streams only if their "holistic health," including fish populations, is impaired.[43] The purpose of this weakening is to preclude reliance on a reduction in benthic macroinvertebrates due to elevated conductivity in determining stream impairment. WVDEP has also fought two decisions

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[40] EPA Region III WV Disapproval Enclosure 1, at 14, http://www.epa.gov/reg3wapd/pdf/pdf_tmdl/WV303d/2012WV303dList-Encl1-3-25-13.pdf.

[41] Appalachian Mountain Advocates, Amy Dawson, Comments on the West Virginia Draft 2012 Section 303(d) List at 1-2.

[42] WVDEP, Justification and Background for Permitting Guidance for Surface Coal Mining Operations to Protect West Virginia's Narrative Water Quality Standards, 47 C.S.R. 2 §§ 3.2.e and 3.2.i, pp. 6, 8 (August 12, 2010).

[43] Senate Bill 562 (2012), http://www.legis.state.wv.us/Bill_Text_HTML/2012_SESSIONS/RS/pdf_bills/SB562%20SUB1%20enr%20PRINTED.pdf (amending W. Va. Code 22-11-7b).

by the West Virginia Environmental Quality Board that directed it to impose permit limits on conductivity for a surface coal mine.[44]

Kentucky has also resisted controls on conductivity. First the state proposed to issue individual National Pollutant Discharge Elimination System ("NPDES") permits for surface coal mines without limits on conductivity pollution. Then, after EPA objected to that omission, Kentucky allowed permit applicants to withdraw their requests for individual permits and seek authorization for some of the same proposed discharges under a general NPDES permit.[45] The effect of this highly irregular procedure was to evade EPA's authority to object to the lack of conductivity effluent limits in individual NPDES permits.

Finally, Tennessee has refused even to recognize that conductivity from surface mining is a source of stream impairment, and does not include effluent limitations in NPDES permits to prevent conductivity-related biological impacts. The state does not recognize conductivity as a source of stream impairment in Tennessee Ecoregion 69, where coal mining is concentrated. Yet 17% of assessed streams in the region are not meeting fish and aquatic life criteria,[46] and blackside dace have likely been extirpated from multiple Tennessee streams, including Straight

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[44] See Sierra Club v. Clarke, Appeal No. 10-34-EQB (W. Va. Envtl. Quality Bd., July 30, 2012) (reviewing WVDEP's issuance of Patriot Mining Company's New Hill West permit WV1017535), appealed, Patriot Mining Co. v. Sierra Club, Nos. 12-AA-102 and 12-AA-104 (consolidated) (Kanawha Co. Cir. Ct., Stucky, Feb. 13, 2013)., appealed to W. Va. Sup. Ct. (Mar. 11, 2013), available at http://www.wveqb.org/finalorders/10-34-eqb%20-%20supplemental%20final%20order.pdf.

[45] For example: on Sept. 28, 2011, EPA objected to nineteen draft Kentucky NPDES permits. *See* EPA Region 4, Notice of Specific Objections – 19 Draft Permits Listed in Enclosure 1, available at: http://www.epa.gov/region4/kycoalminehearings/documents/Specific-Objection-for-19-KY-coal-mine-permits-9-28-11.pdf. Since then, KYDEP has authorized certain discharges from some of these same operations under general permits, including:

(1) authorization granted on Dec. 29, 2011, for Laurel Mountain Resources, Agency Interest No. 96732 (KPDES No. KY0109100):
http://dep.gateway.ky.gov/eSearch/Search_AI_Detail.aspx?AgencyID=96732;

(2) authorization granted on July 9, 2012, for Mine Rite Coal Co., Agency Interest No. 107199 (KPDES No. KY0108821):
http://dep.gateway.ky.gov/eSearch/Search_AI_Detail.aspx?AgencyID=107199;

(3) authorization granted on Jan. 27, 2012, for Sidney Coal Co., Agency Interest No. 108157 (KPDES No. KY0108782): http://dep.gateway.ky.gov/eSearch/Search_AI_Detail.aspx?AgencyID=108157.

[46] Tenn. Dep't of Env't and Conserv. (TDEC0. undated powerpoint, at 13-14 (copy on file with petitioners).

Creek, below coal mining operations.[47] Tennessee has also refused to establish limits on conductivity in its NPDES permits. Instead, Tennessee has recently included requirements for an undefined adaptive management plan to be implemented only at new outfalls and only *after* the conductivity of discharges exceeds 500 µs/cm multiple times *and* biological impairment is documented *and* that impairment is shown to be caused by elevated conductivity.[48] Of course, these provisions are ineffective at preventing conductivity-related impairment since biological impairment must actually occur and be documented before permit conditions for conductivity apply.[49] Moreover, these permit conditions fall far short of protecting blackside dace from conductivity above the level of 240 µs/cm at which adverse effects begin to occur.[50]

II. LEGAL STANDARD

A. EPA Has Authority Under Section 303(c)(4) to Promulgate Water Quality Standards for Conductivity.

Congress enacted the Clean Water Act in 1972 "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[51] EPA is the Administrator of the Act.[52] The Act codified "the national goal that the discharge of pollutants into the navigable waters be eliminated," and "an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water."[53] The Act further established "the national policy that the discharge of toxic pollutants in toxic

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[47] *See* Black and Mattingly, *supra* note 28 at 9; Tenn. Wildlife Res. Agency, Region IV, Warm Water Stream Fisheries Report for 2007, Report No. 08-02 at 65 (April 2008), http://twra4streams.homestead.com/2007_FISHERIES_REPORT.pdf.

[48] TDEC, NPDES Permit No. TN0076376 for National Coal Mine 7 (Sept.12, 2012), at 4 and NPDES Permit No. TN0069183 for Davis Creek Energy, LLC, Area 5, at 3-4 (Jan. 12, 2012) (copies on file with petitioners).

[49] Letter from James Giattina, Director of the Water Division, EPA Region IV, to Garland Wiggins, Tennessee Department of Environment and Conservation at 5-6 (May 24, 2012) (commenting on draft permit number TN0076376).

[50] *See supra* note 29.

[51] 33 U.S.C. § 1251(a). The Clean Water Act amended the Federal Water Pollution and Control Act, which previously had required states to set water quality standards. *See* Act of June 30, 1948, c.758, 62 Stat. 1155; CWA, Oct. 18, 1972, Pub. L. 92-500, 86 Stat. 816.

[52] 33 U.S.C. § 1251(d).

[53] *Id.* § 1251(a)(1), (2).

amounts be prohibited."[54] The Act defines pollution as "the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water."[55]

To fulfill these objectives, states must set water quality standards which "shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses."[56] The Act further requires that water quality standards "shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter."[57]

Following the language contained in section 303(c)(2)(A), EPA has explained by regulation that to "serve the purposes of the Act,"

> water quality standards should, wherever attainable, provide water quality for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water and take into consideration their use and value [for] public water supplies, propagation of fish, shellfish, and wildlife, recreation in and on the water, and agricultural, industrial, and other purposes including navigation.[58]

Specifically, water quality standards must contain "[w]ater quality criteria sufficient to protect the designated uses."[59] Numeric criteria are generally required, unless they "cannot be established," in which case narrative criteria may be used.[60]

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[54] *Id.* § 1251(a)(3).

[55] *Id.* § 1362(19).

[56] *Id.* § 1313(c)(2)(A); *PUD No. 1 of Jefferson County v. Wash. Dep't of Ecology*, 511 U.S. 700, 714-15 (1994); *see also Arkansas v. Oklahoma*, 503 U.S. 91, 110 (1992) (once approved by EPA, state water quality standards become part of federal law). Although states may set designated uses, these must, at minimum, be the level of use actually being attained. 40 C.F.R. § 131.10(i). And the uses listed in CWA § 101(a)(2) are favored: protection and propagation of fish, shellfish, and wildlife, and protecting the recreational uses of waters as fishable/swimmable. 33 U.S.C. § 1251(a)(2); *see Kan. Nat. Res. Council, Inc. v. Whitman*, 255 F. Supp. 2d 1208, 1209 (D. Kan. 2003); *Idaho Mining Ass'n v. Browner*, 90 F.Supp.2d 1078, 1097-98 (D. Idaho 2000). "In no case shall a State adopt waste transport or waste assimilation as a designated use for any waters of the United States." 40 C.F.R. § 131.10(a).

[57] 33 U.S.C. § 1313(c)(2)(A).

[58] 40 C.F.R. § 131.2.

[59] *Id.* § 131.6(c); *id.* § 131.11(a)(1) ("Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use.").

In Guidance, EPA has further explained that:

> "Serve the purposes of the Act" (as defined in Sections 101(a), 101(a)(2), and 303(c) of the Act) means that water quality standards should (1) include provisions for restoring and maintaining chemical, physical, and biological integrity of State waters; (2) provide, wherever attainable, water quality for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water ("fishable/swimmable"); and (3) consider the use and value of State waters for public water supplies, propagation of fish and wildlife, recreation, agriculture and industrial purposes, and navigation.[61]

In the Clean Water Act, Congress required States to submit their existing or proposed water quality standards to EPA for federal review and approval.[62] If state standards were not "consistent with the applicable requirements" of the Act or were not submitted in a timely manner, the Act gave EPA the authority to notify the State and specify the changes needed to meet the requirements of the Act, and to promulgate the required changes if the state did not correct the problems within the statutorily provided timeframe.[63]

States have an ongoing duty to review their standards "from time to time" but "at least once each three year period."[64] Both the results of that required review, and any revisions to the standards, must be submitted to EPA.[65] Section 303(c)(3) of the Act requires EPA to review the state submission and notify the state if a revised standard is inconsistent with the requirements of the Act. If the state does not fix the standard within 90 days, Section 303(c)(3) requires EPA to promulgate a water quality standard under Section 303(c)(4).

Section 303(c)(4) provides in full:

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[60] 40 C.F.R. § 131.11(b): "Form of criteria: In establishing criteria, States should: (1) Establish numerical values based on: (i) 304(a) Guidance; or (ii) 304(a) Guidance modified to reflect site-specific conditions; or (iii) Other scientifically defensible methods; (2) Establish narrative criteria or criteria based upon biomonitoring methods where numerical criteria cannot be established or to supplement numerical criteria." (emphasis added). *See also* EPA, Ofc. of Water, Technical Support Document for Water Quality-Based Toxics Control, EPA/505/2-90-001, at 31 (Mar. 1991).

[61] EPA, Ofc. of Water, Technical Support Document for Water Quality-Based Toxics Control, EPA/505/2-90-001, at 29 (Mar. 1991).

[62] 33 U.S.C. § 1313(a).

[63] *Id.* § 1313(b).

[64] *Id.* § 1313(c)(1).

[65] *Id.* § 1313(c)(1)-(2)(A).

> The Administrator shall promptly prepare and publish proposed regulations setting forth a revised or new water quality standard for the navigable waters involved—
>
> > (A) if a revised or new water quality standard submitted by [a] State under paragraph (3) of this subsection for such waters is determined by the Administrator not to be consistent with the applicable requirements of this chapter, or
> >
> > (B) in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of this chapter.
>
> The Administrator shall promulgate any revised or new standard under this paragraph not later than ninety days after he publishes such proposed standards, unless prior to such promulgation, such State has adopted a revised or new water quality standard which the Administrator determines to be in accordance with this chapter.[66]

EPA thus has authority to set a federally-promulgated water quality standard both under section 303(c)(4)(A), if a State submits a revised or new standard that is not consistent with the CWA, and also under section 303(c)(4)(B) "in any case" where a revised or new standard "is necessary to meet the requirements" of the CWA.[67] EPA's regulations confirm this authority to act in either circumstance, stating:

> (a) If the State does not adopt the changes specified by the Regional Administrator within 90 days after notification of the Regional Administrator's disapproval, the Administrator shall promptly propose and promulgate such standard.
>
> (b) The Administrator may also propose and promulgate a regulation, applicable to one or more States, setting forth a new or revised standard upon determining such a standard is necessary to meet the requirements of the Act. . . .[68]

Multiple court decisions have similarly recognized that EPA may act under § 303(c)(4)(A) or § 303(c)(4)(B).[69]

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[66] *Id.* § 1313(c)(4) (emphasis added). EPA also has similar authority and must set initial water quality standards where a state has failed to do so, or has failed to set standards that are consistent with the CWA, under § 303(b). 33 U.S.C. § 1313(b).

[67] *Id.* § 1313(c)(4)(B).

[68] 40 C.F.R. § 131.22 (emphasis added).

B. EPA's 303(c)(4) Authority Is Not Conditioned On First Publishing Recommended Criteria Under Section 304.

Section 303(c)(4) gives EPA authority to set water quality standards if state standards are not consistent with the Act (under 303(c)(4)(A)) or if a federal standard is needed to achieve the requirements of the Act (under 303(c)(4)(B)).[70] Although a different section of the Act — section 304(a) — directs EPA to develop and publish "information and guidelines" in the form of criteria to guide state permitting programs,[71] nothing in the Act conditions EPA's section 303(c)(4) authority on action under section 304(a). Section 303(c)(4) does not mention section 304(a); section 304(a) makes no mention of section 303(c)(4). The Act simply cannot be read to require that EPA issue recommended criteria before issuing federally-promulgated water quality standards. To the contrary, the Act imposes a mandatory duty on EPA to propose a new or revised water quality standard "promptly," and promulgate final standards within 90 days of the proposal, whenever the requirements of section 303(c)(4) are met.[72]

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[69] *See Mississippi Comm'n on Natural Res. v. Costle*, 625 F.2d 1269, 1275 (5th Cir. 1980) (observing that in order to "promulgate a water quality standard, [EPA] must determine that the state's standard 'is not consistent with the applicable requirements of [the CWA]' or that 'a revised or new standard is necessary to meet the requirements of [the CWA]'") (quoting 33 U.S.C. § 1313(c)(3), (c)(4)(B)) (emphasis added); *Am. Paper Inst., Inc. v. U.S. EPA*, 996 F.2d 346, 349 (D.C. Cir. 1993) (explaining that EPA "may act only where (1) it determines that a state's proposed new or revised standard does not measure up to CWA requirements and the state refuses to accept EPA-proposed revisions to the standard or (2) a state does not act to promulgate or update a standard but, in the EPA's view, a new or revised standard is necessary to meet CWA muster") (citing 33 U.S.C. § 1313(c)(3)–(4)) (first emphasis in original; second emphasis added); *Envtl. Def. Fund, Inc. v. Costle*, 657 F.2d 275, 293 & n.53 (D.C. Cir. 1981) (noting that the plaintiff's claim that EPA failed to act must be grounded in 303(c)(4)(B), not (c)(4)(A) because the state had not submitted any revised or new standards); *Idaho Conservation League v. Browner*, 968 F. Supp. 546, 547 (W.D. Wash. 1997) (stating that under § 303(c), EPA has the authority to promulgate water quality standards applicable to states when it rejects new or revised state-promulgated standards or "regardless of whether state-promulgated standards are new or revised, if it determines that 'a new standard is necessary to meet the requirements of' the CWA") (quoting 33 U.S.C. § 1313 (c)(4)(B)); *Raymond Proffitt Found. v. EPA*, 930 F. Supp. 1088, 1091 (E.D. Pa. 1996) (observing that EPA may promulgate water quality standards applicable to states "when 'the Administrator determines that a revised or new standard is necessary to meet the requirements' of the Act" or "[i]f the state fails to adopt the changes specified by [EPA]" upon the agency's disapproval of a new or revised state-promulgated standard) (quoting 33 U.S.C. § 1313(c)(4)(B)).

[70] *See* 33 U.S.C. § 1313(c)(4).

[71] *Id.* § 1314(a). *See also* 40 C.F.R. § 131.11(b) and 40 C.F.R. § 122.44(d)(1)(vi)(A)-(C).

[72] *Id.* § 1313(c)(4).

Section 304(a) does direct EPA to develop criteria before taking certain other steps under the Act.[73] But promulgating water quality standards applicable to states under section 303(c)(4) is *not* among them. These provisions show that Congress knew how to require EPA to issue criteria before taking other action when it wanted to. "The absence of such a reference must be given effect."[74]

III. EPA MUST EXERCISE ITS AUTHORITY TO PROMULGATE STANDARDS FOR CONDUCTIVITY IN APPALACHIAN STATES.

EPA has an obligation to administer the Clean Water Act consistent with the Act's overriding purpose: "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[75] In view of the environmental harm already inflicted on Appalachia's people and waters by mining and resulting conductivity pollution, the undersigned groups call on EPA to exercise its authority under Section 303(c)(4) to promulgate a numeric water quality standard for conductivity and fulfill its responsibility to protect Appalachian streams. A federally-promulgated water quality standard is necessary to meet the requirements of the Clean Water Act because existing state standards have proven inadequate to protect waters, a numeric standard is legally required, and states have made very clear that they are unable and unwilling to implement their narrative standards consistently with the requirements of the Act. EPA also has independent authority to promulgate a federal standard because states' revised standards are inconsistent with Clean Water Act requirements.

In view of the environmental harm at stake, EPA must establish a water quality standard to protect Appalachian streams and aquatic life from elevated conductivity to meet the requirements of the Clean Water Act. Under these circumstances, the only reasonable exercise of EPA's authority under the Act is to promulgate a final standard.

A. A Federal Standard is Necessary to Meet the Requirements of the Clean Water Act.

Section 303(c)(4)(B) directs EPA to issue a standard where necessary to meet the requirements of the Act.[76] Based on the scientific evidence of aquatic harm, the chronic failure of Appalachian states to protect their waters from that harm, and the states' professed resistance to

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[73] *Id.* §§ 1314(a)(5)(A) (concerning request for modification under § 301(g)), 1314(a)(5)(B) (request for modification under § 301(h)). 1314(a)(7) (concerning guidance to states required by § 304(l)(1), on control strategies for toxic pollutants).

[74] *New York v. E.P.A.*, 413 F.3d 3, 40 (D.C. Cir. 2005).

[75] 33 U.S.C. § 1251(a).

[76] 33 U.S.C. 1313(c)(4)(B). *See also* 40 C.F.R. § 131.22.

imposing any limits on conductivity pollution, EPA should find that there is a need for a federal standard to protect the use of Appalachian waterways to sustain aquatic life.[77] Existing narrative standards have failed to protect waters, as illustrated by the serious, cumulative biological impairment from mining-caused conductivity notwithstanding the existence of such narrative standards. This evidence demonstrates that it is necessary for EPA to step in and set federal numeric standards.

First, as detailed above and as EPA has acknowledged, conductivity pollution is causing significant and widespread harm to Appalachian water quality and the aquatic and other wildlife that depends on it. Elevated levels of conductivity from mountaintop removal mining are having an extreme ecological effect on Appalachian waters and streams. Kentucky has classified 1,983 miles of streams in that state as impaired by mining. West Virginia acknowledges that more than 12,000 miles of its streams (about 41% of the state's total stream-miles) are biologically impaired, even while denying the science linking mining, conductivity, and biological impairment. According to EPA, the biota affected by conductivity are "critical to the ecological health of the affected streams."[78]

This widespread harm to waters is contrary to the requirements of the Clean Water Act. Section 303(c)(2)(A) requires that water quality standards "serve the purposes of [the Clean Water Act," namely, "to restore and maintain the chemical . . . and biological integrity of the Nation's waters."[79] It further requires that water quality standards be set to "enhance the quality of water," taking into account "their use and value [of waters] for . . . propagation of fish and wildlife."[80] And EPA's implementing regulations require that water quality standards be "sufficient to protect the designated uses," including aquatic life uses.[81] Existing water quality standards are plainly failing to meet these requirements of the Act. But once EPA sets a water quality standard for conductivity, the relevant permitting agencies will be required to apply that in their permitting decisions under CWA §§ 402 and 404,[82] and thus finally prevent the harm to aquatic life caused by conductivity.

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[77] At a minimum, standards must "reflect existing uses, *i.e.* those uses which are actually being attained." *Idaho Mining Ass'n, Inc. v. Browner*, 90 F. Supp. 2d 1078, 1081 (D. Idaho 2000); 40 C.F.R. § 131.10(i); *see also* 33 U.S.C. § 1251(a)(2).

[78] *E.g.*, Buffalo Mountain Specific Objection Letter at 3 (Jan. 20, 2012).

[79] 33 U.S.C. § 1251(a).

[80] 33 U.S.C. § 1313(c)(2)(A).

[81] 40 C.F.R. § 131.6(c), 131.11(a)(1).

[82] 33 U.S.C. §§ 1311, 1341, 1342, 1344.

Most Appalachian states have no numeric water quality standard for conductivity, and none have numeric standards that even roughly correspond to what the science shows is necessary to protect waters (as acknowledged by EPA's conductivity benchmark).[83] EPA's regulations provide that numeric criteria are required under the Act unless they "cannot be established."[84] Numeric criteria can now be established, as illustrated by EPA's scientific report on conductivity and the 2011 Guidance.[85] These documents identified a numeric benchmark above which aquatic life would be harmed.[86] The states have nonetheless failed to develop scientifically sound numeric standards. This is yet another reason why a federal standard is necessary to meet the requirements of the Act — states refuse to set numeric standards based on current science, even though they are required by law.

Although states generally have narrative standards that purport to protect aquatic life, those standards have not prevented dramatic harm to aquatic life, and will not prevent further harm in the future.[87] The cumulative harm to Appalachian ecosystems and waterways described above occurred in great part because state permitting agencies have continued to authorize the dumping and discharge of mining waste that causes elevated conductivity. States have failed or refused to follow basic Clean Water Act requirements, such as the requirement to perform a reasonable potential analysis before issuing a permit, and the requirement to set effluent limits in CWA § 402 NPDES permits to implement all applicable water quality standards including narrative standards.[88] EPA documented these repeated failures in its 2010 Permit Quality Review Report on the CWA § 402 permitting programs in the Appalachian states.[89] The report found that "none of the State permits reviewed incorporated provisions that would implement the relevant narrative water quality standards relating to discharges that increase the levels of conductivity, total dissolved solids, and sulfates."[90] This was because states have refused to adopt science-based numeric limits for conductivity in permits even though existing requirements, *e.g.*, 40

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[83] *See* July 2011 Guidance at 16.

[84] 40 C.F.R. § 131.11(b)(2).

[85] EPA Office of Research & Development Final Report: A Field-based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams (May 27, 2011).

[86] July 2011 Guidance at 16, 18.

[87] *See* July 2011 Guidance at App. 3, ix-x (listing Appalachian state narrative criteria).

[88] 40 C.F.R. §§ 122.4(a), (d), 122.44(d); 33 U.S.C. § 1311(b)(1)(C).

[89] EPA, Water Permits Division, Office of Wastewater Management, Review of Clean Water Act § 402 Permitting for Surface Coal Mines by Appalachian States: Findings & Recommendations (July 13, 2010).

[90] *Id.* at 15.

C.F.R. § 122.44(d)(1), direct them to translate applicable state narrative standards into permit limits.[91]

As a result, in recent years, EPA has submitted dozens of objections under CWA § 402(d) to state permits. For example, in 2010-11, EPA objected to 36 Kentucky NPDES permits after finding in each instance that:

> KDOW had provided an incomplete analysis as to whether or not the proposed discharges had a reasonable potential to cause or contribute to a violation of Kentucky's water quality standards. These incomplete analyses support EPA's conclusion that the KDOW was not able to demonstrate that the permits contained effluent limits necessary to ensure that the proposed discharges would not cause or contribute to violations of Kentucky's water quality standards. NPDES permitting authorities like KDOW are required to do this for all permits in accordance with the CWA at 33 U.S.C. § 1311(b)(1)(C) and EPA's regulations at 40 CFR § 122.44(d) and 40 CFR § 122.4((a) and (d)).[92]

Unfortunately, EPA's objections, to date, have not been successful in protecting waters. Many of the KY NPDES permits were withdrawn and the same discharges authorized instead under Kentucky's general permit thereby evading EPA's objections.[93] The status of many others remains unclear after EPA held a public hearing in 2012.

In addition to its own review, EPA has received citizen petitions under CWA § 402(c) that provide additional, detailed documentation of the broad failures of the States of West Virginia and Kentucky to fulfill their fundamental responsibilities as CWA § 402 permitting

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[91] *See* July 2011 Guidance at App. 3, ix-x (listing applicable Appalachian state water quality standards). While the state of Ohio does have a numeric standard for conductivity, it is 2400 microsiemens per centimeter (µS/cm), 8 times the level (300 µS/cm) that science now shows entire genera of aquatic life are extirpated.

[92] EPA Region 4: Kentucky Coal Mine Permits Hearings (2012), http://www.epa.gov/region4/kycoalminehearings/index.html; *see also* http://www.epa.gov/region4/kycoalminehearings/resources.html#letters (EPA's specific objection letters).

[93] See note 49, *supra*.

agencies by protecting waters from impairment and degradation.[94] Both states have applicable narrative standards in place that should be applied to protect water quality.[95] But for years neither state has applied those standards to prevent mining permits from causing elevated conductivity and resulting harm to aquatic life.[96] The states have also failed to set total maximum daily loads to address high levels of conductivity or the related parameters of ionic toxicity, sulfates, or total dissolved solids.[97] To date, EPA has not responded to these petitions, which are again incorporated into this petition, and further prove the need for EPA to adopt enforceable federal standards for conductivity.

The state § 401 certification process provides yet another reason why the absence of a numeric water quality standard for conductivity is undermining the requirements of the Clean Water Act. Section 401 certifications are regularly issued without regard to likely increases in conductivity. The U.S. Army Corps of Engineers then interprets its regulations[98] as requiring it, unless EPA advises otherwise, to defer *conclusively* to these incomplete and unreliable state determinations in issuing § 404 permits, compounding the states' failure to take conductivity seriously. The absence of numeric water quality standards for conductivity then taints the process under section 404 of the Act, leading to violations of the requirement that fill discharges

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[94] Appal. Ctr. for the Econ. & Envt. (now Appalachian Mountain Advocates), Sierra Club, Public Justice and Kentuckians for the Commonwealth, Petition for Withdrawal of the National Pollutant Discharge Elimination System Program Delegation from the State of Kentucky (Mar. 15, 2010); Appal. Ctr. *et al.*, Supplement to KY NPDES Withdrawal Petition (May 3, 2010); Sierra Club, West Virginia Highlands Conservancy, Coal River Mountain Watch, and Ohio Valley Environmental Coalition, Petition for Withdrawal of the National Pollutant Discharge Elimination System Program Delegation from the State of West Virginia (June 17, 2009); 33 U.S.C. § 1342(c)(3); 40 C.F.R. § 123.64(b).

[95] The Kentucky standard provides that: "[t]otal dissolved solids or specific conductance shall not be changed to the extent that the indigenous aquatic community is adversely affected." 401 K.A.R. 10:031, § 4(f). The West Virginia standard provides that: "[T]he following general conditions are not to be allowed in any waters of the state: . . . . 3.2.e. Materials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life; . . . . 3.2.i. Any other condition, including radiological exposure, which adversely alters the integrity of the waters of the State including wetlands; no significant adverse impact to the chemical, physical, hydrologic, or biological components of aquatic ecosystems shall be allowed." W. Va. Code St. R. § 47-2-3.2.

[96] *See* KY NPDES Petition, *supra* note 98, at 9-11; KY NPDES Petition Supplement, *supra* note 98, at 1-9.

[97] *See, e.g.*, WV NPDES Petition, *supra* note 98, at 21-22; KY NPDES Petition, *supra* note 98, at 3, 22.

[98] *See* 33 C.F.R. § 320.4(d) ("Certification of compliance with applicable effluent limitations and water quality standards required under provisions of section 401 of the Clean Water Act will be considered conclusive with respect to water quality considerations unless the Regional Administrator, Environmental Protection Agency (EPA), advises of other water quality aspects to be taken into consideration.").

authorized under section 404 not "cause or contribute to significant degradation of the waters of the United States," or impairment of water quality.[99]

For years, existing state narrative standards have not done the job of protecting waters and wildlife, eliminating the discharge of pollutants generally, prohibiting the discharge of toxic pollutants in toxic amounts, or ensuring protection of beneficial uses.[100] There are many miles of streams awaiting TMDLs, and many more miles of streams threatened by mining waste, as shown by the states' § 303(d) reports and peer-reviewed science. EPA must set a federal standard not only to restore and protect waters already impaired, but to ensure protection for Appalachian waters not yet harmed from becoming impaired. For both reasons, a federal standard is necessary to meet the requirements and fulfill the purposes of the Act.[101]

In addition to the evidence showing the dire state of Appalachian waterways due in part to EPA's and the Appalachian states' longstanding failures, the states' litigation against EPA's 2011 Guidance and Spruce No. 1 Mine veto further illustrates that they have no intention of protecting waters from harmful impacts of conductivity unless forced to do so.[102] They have refused to recognize clear scientific evidence and the growing consensus that mining causes elevated conductivity and serious biological impairment. As a result, EPA has had to object to CWA § 402 permits on a case-by-case basis.[103] Even when West Virginia's own Environmental Quality Board has twice disapproved a state permit due to the lack of effluent limits for conductivity and other constituents, based on the science and existing Clean Water Act requirements, the state has fought these decisions.[104] The States of West Virginia and Kentucky are not engaged in just passive neglect of the Clean Water Act, but an active revolt against the law and the science on conductivity.

Should they experience an unlikely change of heart, these states will have ample opportunity to bring their water quality standards into compliance with the requirements of the Clean Water Act after EPA determines that a federal standard is necessary. Although the Act

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[99] 40 C.F.R. § 230.10(b)-(c).

[100] 33 U.S.C. § 1251(a)(1)-(3); *see Fla. Wildlife Fed'n, Inc. v. Jackson*, 853 F.Supp.2d 1138, 1157 (N.D. Fla. 2012) (finding that where the nutrient pollution problem had "persisted for many years," this alone showed that "the narrative criterion was not getting the job done," and holding that "[t]he Clean Water Act allows the Administrator to conclude that when this level of pollution has endured, a new water-quality criterion is needed").

[101] 33 U.S.C. § 1251(a).

[102] The court similarly found state opposition to addressing water pollution problem to be relevant in upholding EPA's necessity determination in *Florida Wildlife Federation*, 853 F. Supp. 2d at 1158 n.17.

[103] *See supra* note 49, and accompanying text.

[104] *See supra* note 48.

requires EPA to act "promptly" to prepare and propose the federal standard.[105] Appalachian states will have a chance to fix their own standards. Moreover, the Act permits EPA to give states 90 additional days after proposal of the federal standard to revise their state standards in accordance with the requirements of the Act.[106]

Both because Appalachian states have repeatedly shown themselves unwilling to update their water quality standards, and because they will have additional opportunities to do so *after* EPA determines that a federal standard is necessary, there is no reason for EPA to delay in making that determination.

B. Existing State Standards Are Not Consistent With The Applicable Requirements of the Clean Water Act.

EPA has independent grounds under section 303(c)(4)(A) to set water quality standards for conductivity for the State of West Virginia. Given the well-established relationship between conductivity and adverse impacts to aquatic life, EPA must determine that recent legislative action by the state is inconsistent with the requirements of the Act and promptly propose and promulgate final water quality standards under § 303(c)(4)(A).

In 2012, West Virginia issued a revised water quality standard and new guidance without submitting these to EPA for approval.[107] The state has since used the revised standard and guidance as a basis to avoid adopting limits on conductivity in DEP's regulatory and permitting activities. In particular, the legislature directed the West Virginia Department of Environmental Protection ("DEP") to "propose rules measuring compliance with the biologic component of West Virginia's narrative water quality standard" by focusing – not on objective factors like EPA's conductivity benchmark – but on the "holistic health of the aquatic ecosystem," using vague and subjective factors such as whether a stream "[s]upports a balanced aquatic community that is diverse in species composition," and whether "the aquatic community is composed of benthic invertebrate assemblages sufficient to perform the biological functions necessary to support fish communities."[108] DEP had previously published a "Permitting Guidance… to assist [DEP] permit writers in developing site-specific… permit conditions for surface coal mining

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[105] 33 U.S.C. § 1313(c)(4).

[106] *Id.*

[107] Senate Bill 562 (2012), § 22-11-7b(f), http://www.legis.state.wv.us/Bill_Text_HTML/2012_SESSIONS/RS/pdf_bills/SB562%20SUB1%20enr%20PRINTED.pdf (amending W. Va. Code 22-11-7b).

[108] *Id.*

operations using a holistic watershed management approach."[109] The guidance does not incorporate any particular conductivity benchmark, and does not otherwise address conductivity other than to mention that DEP requires prospective permittees to submit conductivity analyses.[110] DEP has since relied on the legislation and guidance as justification for not setting state permit limits necessary to prevent adverse water quality impacts,[111] and as reason not to add hundreds of additional streams with biological impairment to the state's § 303(d) list of impaired waters.[112]

In other words, West Virginia's legislation and guidance had the effect of amending the state's narrative water quality standards in a manner that precludes state authorities from adopting adequate limitations on conductivity. As a result of this change, West Virginia's narrative standards *do not* prevent adverse impacts of conductivity, and thus they do not meet the requirements of the Act. EPA must therefore determine that the state's standards are not consistent with the requirements of the Act, and promptly promulgate a standard under § 303(c)(4)(A).

IV. PUBLIC POLICY CONCERNS AND PRINCIPLES OF GOOD GOVERNMENT SUPPORT EPA SETTING A FEDERAL STANDARD WITHOUT DELAY.

A. EPA's Recent Guidance and Permit-By-Permit Approach Have Proved Insufficient.

EPA has tried to give states relevant scientific information and time to incorporate current science into their water quality standards and permitting actions, as shown in part by EPA's 2010 permit quality review report and its 2011 Guidance provided to its staff reviewing state permits. But that strategy has not successfully protected Appalachian waters. Now an EPA rule promulgating water quality standards, not just a permit-by-permit approach, is needed.

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[109] W. Va. Dep't of Envtl. Prot., Permitting Guidance for Surface Coal Mining Operations to Protect West Virginia's Narrative Water Quality Standards, 47 C.S.R. 2 §§ 3.2.e and 3.2.i at 1 (released Aug. 12, 2010, amended May 11, 2012), http://www.dep.wv.gov/pio/Documents/2011-05-11%20%20Narrative%20Standards%20Permitting%20Guidance%20%28Rev%20%202%29.pdf.

[110] *Id.* at 3, 7.

[111] *See, e.g., Patriot Mining Co. v. Sierra Club*, 12-AA-102 and 12-AA-104 (consolidated), at 8 (finding WV Environmental Quality Board erred by considering EPA's July 2011 Guidance instead of deferring to the state's interpretation of its water quality standards and the state's 2010 narrative guidance).

[112] "In response to the legislation, DEP is not adding new biological impairments to the 2012 Section 303(d) list." WV DEP, Draft 2012 West Virginia Integrated Water Quality Monitoring and Assessment Report at 15 (discussing the requirements of § 303(d) and 305(b) of the Act for July 2009-June 2011). As a result, EPA has partially disapproved WVDEP's § 303(d) list and is proposing to add hundreds of waters to the impaired list due to biological impairment. *See* note 40, *supra*.

In recent years, EPA has submitted objections to numerous state NPDES permits based, in part, on the well-established science on conductivity below coal mines and the states' failure to set proper permit limits. Not all of those objections are yet resolved. But in many instances the section 402 individual permit applications in Kentucky were withdrawn and the state allowed them to be resubmitted under the general permit, thereby evading the state's authority to apply individual permit limits to prevent elevated conductivity.[113] In others, it does not appear that EPA's approach has had any impact beyond the specific permit at hand. It is not workable or efficient for affected communities to have to rely on EPA's objections to individual permits as their only protection from conductivity-induced water quality degradation. It also takes more resources and time from EPA to have to raise the same objections, over and over, based on science that is clear and should simply be implemented without delay through numeric water quality standards and corresponding permit limits.

Even West Virginia's own Environmental Quality Board – after hearing extensive scientific testimony on one Clean Water Act permit in 2010 – determined that one particular surface coal mine will cause increased downstream conductivity and harm to aquatic life.[114] The Board required the West Virginia Department of Environmental Protection to impose permit limits on conductivity, sulfate and total dissolved solids in the permit for that mine in order to prevent violations of narrative water quality standards and protect West Virginia streams. But that ruling was overturned in state court, in part because of the lack of a numeric water quality standard for conductivity.[115] Even if the Board's original ruling prevails in the pending appeal of that decision, West Virginia will still lack a numeric limit on conductivity that would prevent the state from again trying to avoid setting permit limits adequate to protect waters in that state. The Board's ruling, if upheld, would not apply to any other states. It is not reliable or efficient for EPA staff or the state administrative review board in each state to have to take extraordinary measures to stop each unlawful permit from issuing. The science on conductivity is clear and must be incorporated in a federally-promulgated standard that states cannot ignore or delay implementing.

In January 2011, EPA vetoed the 404 permit for the Spruce No. 1 Mine, based in part on its recognition that the mine's valley fills would cause increased downstream conductivity and extirpate sensitive aquatic life at the base of the food chain.[116] But this conductivity problem is widespread, not limited to a few mines. Further, EPA has not finalized a similar veto

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[113] See note 49, *supra*.

[114] *See Patriot Mining Co. v. Sierra Club*, 12-AA-102 and 12-AA-104 (consolidated) at 8 (Kanawha Co. Cir. Ct., Stucky, Feb. 13, 2013) at 8.

[115] *See id.* (finding WV Environmental Quality Board erred by considering EPA's July 2011 Guidance).

[116] Spruce Determination at 58-68, 73, 98-99.

determination since that time for any other § 404 discharge. Communities should not have to wait for this problem to be solved in only a piecemeal, permit-by-permit approach that relies on EPA finalizing a rare § 404(c) veto determination. This problem demands that EPA promulgate conductivity water quality standard.

EPA criteria under section 304(a)(1) of the Act would be insufficient for the same reason that EPA's 2011 Guidance on conductivity has failed to protect waters. Even if EPA were to establish such criteria, states would likely delay or avoid addressing the criteria. Based on the Appalachian states' history of recalcitrance, there is no assurance that states would actually implement those criteria in state permits before further harm to aquatic life occurs.

Importantly, in setting aside the 2011 Guidance, the district court reconfirmed that EPA has authority to address conductivity through a rule under section 303(c)(4), as the industry plaintiffs have also argued is an appropriate avenue for EPA action.[117] Whatever the result of litigation on EPA's Guidance, only federally promulgated water quality standards rulemaking would solve this problem by setting a definitive standard that states and permittees would be required to meet, because § 301 of the Act requires all § 402 permits to include discharge limits necessary to satisfy water quality standards.[118]

B. Setting a Water Quality Standard to Address Conductivity Would Be Consistent With EPA's Past Approach to Issuing Standards.

EPA should set a water quality standard here just as it has done in the past when state submissions have failed to satisfy the Act, or when there is evidence that the lack of an effective state water quality standard is harming U.S. waters.

EPA has adopted water quality standards multiple times under section 303(c)(4), including those listed at 40 C.F.R. §§ 131.31-131.43, as well as other standards that were eventually withdrawn after states took corrective action to set appropriate state standards.[119] In at least five instances, EPA relied on its authority under section 303(c)(4)(B):

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[117] *NMA v. Jackson*, 880 F.2d 119 at 137-38 ("All parties agree that the EPA does have the authority to promulgate section 303 water quality standards in certain instances").

[118] 33 U.S.C. § 1311(b)(1)(C); *Am. Paper Inst.*, 996 F.3d at 350 ("On its face, section 301 imposes this strict requirement as to all standards— *i.e.*, permits must incorporate limitations necessary to meet standards that rely on narrative criteria to protect a designated use as well as standards that contain specific numeric criteria for particular chemicals.").

[119] *See, e.g.*, EPA, Final Rule, Final Withdrawal of Certain Federal Aquatic Life Water Quality Criteria Applicable to Wisconsin, 76 Fed. Reg. 57,646 (Sept. 16, 2011); EPA, Final Rule, Withdrawal of Certain Federal Human Health and Aquatic Life Water Quality Criteria Applicable to Rhode Island, Vermont, the District of Columbia, Kansas and Idaho, 65 Fed. Reg. 19,659 (Apr. 12, 2000) (withdrawing application of

1. Numeric nutrient standards for phosphorus and nitrogen in Florida (2013).[120]
2. Standards for the Mississippi River in the St. Louis, Missouri area (2009).[121]
3. Numeric standards for toxic pollutants in California (2000).[122]
4. A suite of water quality standards for the Colville Indian Reservation (1989).[123]
5. Numeric standard for chloride in Kentucky (1987).[124]

In at least three instances, EPA relied on its authority under both section 303(c)(4)(A) and (B).[125] In numerous instances, EPA cited its authority under both parts of section 303(c)(4).

National Toxics Rule to Rhode Island, Vermont, the District of Columbia, Kansas and Idaho after they adopted state standards that were not less stringent than the federal standards).

[120] EPA, Final Rule, Water Quality Standards for the State of Florida's Lakes and Flowing Waters, 75 Fed. Reg. 75,762, 75,763, 75,771 (Dec. 6, 2010) (promulgating § 131.43 (Florida nutrient standards).

[121] As noted by the court in a FOIA case, *Metro. St. Louis Sewer Dist. v. U.S. EPA*, No. 4:10–CV–2103 (CEJ), 2012 WL 685334, at *2 (E.D. Mo. Mar. 2, 2012): "In 2004, the EPA entered into a consent decree and settlement agreement with the Missouri Coalition for the Environment. Under the terms of the agreement, the EPA agreed to make determinations under § 303(c)(4)(B) regarding the water quality standards for a specific portion of the Mississippi River unless the Missouri Department of Natural Resources adopted and submitted acceptable standards to the EPA. In a series of actions beginning in October 2006, the EPA determined that new standards were necessary for separate segments of the Mississippi River. On October 29, 2009, the EPA addressed the final item required by the settlement agreement and determined that new standards were necessary for the 28.6–mile segment of the Mississippi River that includes the St. Louis area."

[122] EPA, Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 65 Fed. Reg. 31,682, 31,687 (May 18, 2000) (promulgating § 131.38 (adopting numeric aquatic life criteria for 23 priority toxic pollutants; numeric human health criteria for 57 priority toxic pollutants; and setting compliance schedule, where only narrative, not numeric standard had existed, after state court overturned state water quality control plan)).

[123] EPA, Final Rule, Water Quality Standards for the Colville Indian Reservation in the State of Washington, 54 Fed. Reg. 28,622, 28,624 (July 6, 1989) (promulgating 40 C.F.R. § 131.35 (Colville Confederate Tribes)).

[124] EPA, Final Rule, Water Quality Standards for the Surface Waters of the Commonwealth of Kentucky, 52 Fed. Reg. 9102, 9102-03 (Mar. 20, 1987) (promulgating federal standard for chloride in Kentucky, after state standard was enjoined and consent decree entered into by the state did not satisfy federal requirements).

[125] EPA, Proposed Rule, 68 Fed. Reg. 58,758, 58,762 (Oct. 10, 2003) (proposing standards in Oregon after court ordered EPA to disapprove parts of Oregon's standards to protect salmonid); EPA, Final Rule, Water Quality Standards for Kansas, 68 Fed. Reg. 40,428, 40,429-30 (July 7, 2003) (promulgating § 131.34 (Kansas)); EPA, Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance, 57 Fed. Reg. 60,848, 60,855, 60,857 (Dec. 22, 1992) (promulgating § 131.36, known as the National Toxics Rule, including toxics standards for 14 states).

or under § 303(c)(4)(A) specifically, when issuing a standard to replace an unacceptable state standard that it had disapproved pursuant to section 303(c)(3).[126]

EPA has also previously issued federal regulations under parallel CWA provisions, requiring states to set water quality standards by a given deadline, or face federal standards, including the Colorado River salinity rule and certain Great Lakes rules on water quality.[127] As EPA stated in its Colorado River salinity rule, "Section 303 of the Federal Water Pollution Control Act provides for promulgation by EPA where the States fail to adopt standards requested by the Administrator, or where the Administrator determines Federal promulgation is necessary to carry out the purposes of the Act. EPA's responsibility to promulgate standards if the States fail to do so is thus expressed in the statute itself."[128] EPA exercised its similar authority under CWA § 303(i)(2) to set standards for bacteria in certain Great Lakes states.[129] In issuing proposed water quality standards for the Great Lakes System pursuant to its authority under CWA § 118(c)(2), EPA followed a similar path.[130]

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[126] *See, e.g.*, EPA, Water Quality Standards for Puerto Rico, Final Rule, 72 Fed. Reg. 70,517, 70,518 (Dec. 12, 2007) (promulgating § 131.42 (Puerto Rico – antidegradation standards), issued pursuant to Court order in *Coralations*, 477 F.Supp.2d 413, 417 (D.P.R. 2007), under § 303(c)(4), after EPA found state standards inconsistent with the CWA or nonexistent); *see also* EPA, Water Quality Standards for Puerto Rico, Final Rule, 69 Fed. Reg. 3514 (Jan. 26, 2004) (promulgating § 131.40 (Puerto Rico – use designations)); EPA, Proposed Rule, Water Quality Standards for Kentucky, 67 Fed. Reg. 68,971 (Nov. 14, 2002) (proposing antidegradation standards for high-quality waters in Kentucky after disapproving KY standards); EPA, Final Rule, Water Quality Standards for Idaho, 62 Fed. Reg. 41,162 (July 31, 1997) (promulgating § 313.33 (Idaho) (issued pursuant to court order in *Idaho Conservation League v. Browner* (W.D. Wash.))); EPA, Final Rule, Water Quality Standards for Pennsylvania, 61 Fed. Reg. 64,816, 64,817 (December 9, 1996) (promulgating 40 C.F.R. § 131.32 (Pennsylvania) (issued per court order in *Raymond Proffitt*)); EPA, Final Rule, Water Quality Standards for Surface Waters of the Sacramento River, San Joaquin River, and San Francisco Bay and Delta of the State of California, 60 Fed. Reg. 4664, 4668 (Jan. 24, 1995) (promulgating § 131.37 (California)); EPA, Final Rule, Water Quality Standards, Navigable Waters of the State of Mississippi, 44 Fed. Reg. 25,223 (April 30, 1979) (issued after the state of Mississippi failed to set a proper standard for dissolved oxygen, and affirmed by *Miss. Comm'n on Natural Resources v. Costle*, 625 F.2d 1269 (5th Cir. 1980)).

[127] EPA, Final Rule, Colorado River System; Salinity Control Policy and Standards Procedures, Final Rule, 39 Fed. Reg. 43,721 (Dec. 18, 1974) (promulgating 40 C.F.R. §§ 120 *et seq.* (1974)); EPA, Proposed Rule, 39 Fed. Reg. 20,703 (June 13, 1974); *see Envtl. Def. Fund, Inc. v. Costle*, 657 F.2d 275 (D.C. Cir. 1981) (affirming EPA's decision not to set federal standards because states had set applicable state water quality standards by the deadline established in EPA's salinity regulation).

[128] Colorado River Final Rule, 39 Fed. Reg. at 43,722.

[129] EPA, Final Rule, Water Quality Standards for Coastal and Great Lakes Recreation Waters, 69 Fed. Reg. 67,218 (Nov. 16, 2004).

[130] 33 U.S.C. § 1268(c)(2); EPA, Proposed Rule, Proposed Water Quality Guidance for the Great Lakes System, 58 Fed. Reg. 20,802 (Apr. 16, 1993) (specifying numeric criteria for selected pollutants to protect

C. A Majority of the Public Nationwide and in Appalachia Supports EPA Action to Protect Waters from Mountaintop Removal Mining.

Public support for this rulemaking is tremendous. In 2010, EPA received 60,000 public comments on the April 2010 interim guidance and the majority of comments supported EPA's recognition of the need to protect waters from conductivity.[131] Since February 2013, alone, EPA has received more than 90,300 public comments urging EPA to set water quality standards from petitioners' members and supporters.

In general, the public tide has turned against allowing mining companies to continue mountaintop removal mining unchecked by environmental protection. In a national survey conducted by CNN/ORC International in August 2011, 57% of Americans surveyed said they oppose mountaintop removal mining, compared with 36% who support the process.[132] An August 2011 poll by Lake Research Partners and Bellwether Research & Consulting found that voters also oppose mountaintop removal coal mining by wide margins in all four Appalachian states, and that this opposition exists across party lines.[133] In West Virginia, Kentucky, Tennessee, and Virginia, 57 percent oppose mountaintop removal, and with noticeable intensity (42% strongly oppose).[134]

D. Only A Federal Standard Would Resolve Concerns About Regulatory Uncertainty in Appalachia.

In litigation challenging EPA's 2011 Guidance, the states have expressed disagreement with EPA on what their responsibilities are to protect water quality and address conductivity through application of their narrative standards, even though existing Clean Water Act regulations are clear.[135] Meanwhile, industry groups, including the National Mining Association, contend that EPA has authority to set a federal standard for conductivity under section 303(c)(4),

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aquatic life, wildlife and human health within the Great Lakes System and methodologies to derive numeric criteria for additional pollutants discharged to these waters).

[131] July 2011 Guidance at 9; Dkt. Id. No. EPA–HQ–OW–2010–0315; *see also, e.g.*, Comments of M.A. Palmer, E.S. Bernhardt, and R.S. King on EPA's interim guidance (Nov. 29, 2010); Comments of Earthjustice *et al.* on EPA's interim guidance (Dec. 1, 2010); Comments of American Rivers and 26 other national and local citizen and environmental organizations on EPA's interim guidance (Dec. 1, 2010).

[132] *See* http://www.cnn.com/2011/US/08/10/west.virginia.coal/index.html.

[133] *See* http://www.lakeresearch.com/news/mtr/MTR%20Slides.pdf.

[134] *Id.*

[135] *See NMA v. Jackson*, 880 F.2d at 140 n.12 (citing consolidated challenges to the Guidance filed by West Virginia and Kentucky).

but not to issue guidance to its staff.[136] The district court agreed (in a decision now on appeal).[137] Establishing that very rule would respond to all stakeholders' concerns about the need for certainty on what standards apply and end the delay in protecting waters that ongoing litigation has caused.

CONCLUSION: EPA MUST ACT WITHOUT DELAY.

EPA has no reasonable excuse for delay. President Obama emphasized in his 2013 Inaugural Address that he would protect all children, including those in "the hills of Appalachia" from harm. As then-EPA Administrator Lisa Jackson stated, in announcing the interim guidance on conductivity in 2010: "Coal communities should not have to sacrifice their environment, or their health, or their economic future to mountaintop mining. They deserve the full protection of our Clean Water laws."[138] Yet, to date, EPA has issued no enforceable regulatory change at all to protect communities from the devastation caused by mountaintop removal mining under the Clean Water Act. In June 2009, EPA, the Corps, and Department of Interior joined in a memorandum of understanding that recognized the need to strengthen protection from mountaintop removal mining and "significantly reduce the harmful environmental consequences of Appalachian surface coal mining operations, while ensuring that future mining remains consistent with federal law."[139] Nearly four years later, the Administration must follow through on this commitment by issuing a water quality standard without further delay.

As described above, EPA has already established the scientific foundation for setting water quality standards for conductivity for Appalachian states. The science has been clear for years. EPA has received supportive peer review on the conductivity benchmark discussed in its 2011 report and July 2011 Guidance and received extensive public comment in support of the benchmark.

In the time since EPA has taken these steps, the need for federal leadership has only become more urgent and essential. Even in the face of definitive science, in the states most affected by past mountaintop removal mining—West Virginia and Kentucky—existing state water quality standards have proven inadequate to protect local waters from conductivity

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[136] *See Id.* at 126.

[137] *Nat'l Mining Ass'n v. Jackson*, 880 F. Supp. 2d at 139-40.

[138] Administrator Lisa P. Jackson, Statement on the Issuance of Further Guidance on Mountaintop Mining, As Prepared (Apr. 1, 2010), http://yosemite.epa.gov/opa/admpress.nsf/8d49f7ad4bbcf4ef852573590040b7f6/7bcedbd7dd6e34ec852576f800630fcf!OpenDocument.

[139] Memorandum of Understanding Among the U.S. Dep't of the Army, U.S. Dep't of the Interior, and U.S. Envtl. Prot. Agency Implementing the Interagency Action Plan on Appalachian Surface Coal Mining at 1-2 (June 11, 2009).

pollution. Given the compelling scientific evidence of ecological harm and the inadequacy of existing state standards, EPA has a responsibility to protect the waters and communities of Appalachia from conductivity pollution, through a federal rulemaking, without delay.

For the above reasons, Petitioners urge EPA to perform a rulemaking to set water quality standards to address the problem of conductivity in Appalachian states affected by mountaintop removal mining. Petitioners request that EPA act on this petition within 180 days. For more information, please contact: Emma Cheuse or Jennifer Chavez, 202-667-4500.

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