Mountaintop Removal Case Study

Pine Creek No. 1 Surface Mine
Logan County, West Virginia

“The people of Appalachia shouldn’t have to choose between a clean, healthy environment in which to raise their families and the jobs they need to support them. That’s why EPA is providing even greater clarity on the direction the agency is taking to confront pollution from mountain top removal” – EPA Administrator Lisa Jackson, April 1, 2010

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ABBREVIATIONS

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<tr>
<td>μS/cm</td>
<td>micro-Siemens per centimeter</td>
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<td>CWA</td>
<td>Clean Water Act</td>
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<td>ECP</td>
<td>Enhanced Coordination Procedures</td>
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<td>GIS</td>
<td>geographic information systems</td>
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<td>IBR</td>
<td>incidental boundary revision</td>
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<td>MOU</td>
<td>Memorandum of Understanding</td>
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<td>MSHA</td>
<td>Mine Safety and Health Administration</td>
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<td>MTR</td>
<td>mountaintop removal</td>
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<td>OSMRE</td>
<td>Office of Surface Mining, Reclamation and Enforcement</td>
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<td>SMCRA</td>
<td>Surface Mining Control and Reclamation Act</td>
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<td>USACE</td>
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SUGGESTED REFERENCE

1. ENVIRONMENTAL PROTECTION AGENCY GUIDANCE ON THE PERMITTING OF SURFACE MINES AND VALLEY FILLS

1.1 Background

On April 1, 2010, the United States Environmental Protection Agency (USEPA) published their guidelines for the permitting of surface coal mining operations—particularly mountaintop removal (MTR) operations—and associated valley fills in Appalachia. According to the USEPA press release, the guidelines set “clear benchmarks for preventing significant and irreversible damage to Appalachian watersheds at risk from mining activity” (USEPA, 2010a). The purpose of the guidelines are to clarify for stakeholders the existing requirements of Section 402 and 404 Clean Water Act (CWA) permitting programs that apply to water pollution resulting from surface coal mining, as well as USEPA’s application of those programs to mining permits. The other two stated intentions of USEPA in their press release are to apply sound science in USEPA review of any mining permit, and to provide for increased transparency in any such review process. While USEPA is soliciting public comments on the proposed guidelines, the guidelines took effect on April 1.

The goal of the guidance itself, as stated by USEPA, is to prevent harmful public health, water quality, and other environmental impacts associated with Appalachian surface coal mining. In order to do so, the guidance “clarifies how Clean Water Act requirements apply to the disposal of mining overburden in streams to reduce the size and number of valley fills, to limit water quality contamination of streams near mining operations, and to prevent significant environmental degradation of streams and wetlands” (USEPA, 2010a).

Further, the stated responsibilities entrusted to USEPA include:

2. Preserving the long-term health and biological integrity of Appalachian watersheds.
3. Assuring human health and environmental protection of vulnerable populations and to increase opportunities for their participation in the permitting process (USEPA, 2010b).

1.2 The guidelines

Water quality and environmental integrity must be protected

USEPA states that no discharge of dredged or fill material may be permitted if it causes or contributes to violations of any applicable state water quality standard or if the nation’s waters would be significantly degraded. In order to ensure against the “significant degradation” to waterways, USEPA recommends a coordinated effort among federal agencies and individual mining operators to ensure conductivity levels remain below 500 micro-Siemens per centimeter (μS/cm). Further, USEPA states that mining projects projected to increase conductivity levels above 300 μS/cm should include permit conditions requiring adaptive remedial action to prevent conductivity levels that exceed 500 μS/cm.

If a proposed permit will exceed the conductivity standard put forth by USEPA, USEPA guidance requires that the permit “should clearly demonstrate how the permit is consistent with the 404(b)(1) Guidelines” (USEPA, 2010c, p. 7). The guidance further protects against cumulative impacts to watersheds by requiring, in the permit, data on water quality and discharges from adjacent or similar projects to be submitted and evaluated, along with other associated water quality and discharge data from Surface Mining Control and Reclamation Act (SMCRA) or CWA Section 404 permit applications.
Mining projects must avoid and minimize environmental impacts
The USEPA guidance requires that mining companies “must avoid and minimize their direct, indirect, and cumulative adverse environmental impacts to streams, wetlands, watersheds, and other aquatic resources” (USEPA, 2010d, p. 4). As stated by USEPA, permits which eliminate or significantly reduce the number and size of valley fills associated with their projects, or more specifically, projects with no or few valley fills, are expected to have a greater chance of receiving a permit. Conversely, projects with multiple fills “will generally raise serious questions about their compliance with CWA regulations and may require permit objection” (USEPA, 2010d, p. 4).

To ensure that permitted valley fills adhere to this guideline, USEPA recommends that the permitting of valley fills be sequenced, meaning that “only one valley fill should be authorized before subsequent fills may go forward, unless site-specific data suggest no potential downstream water quality concerns.” Additionally, USEPA requires that the permit “demonstrate compliance with applicable water quality standards,” and that “there is no significant degradation associated with the first valley fill before the permittee may begin construction of subsequent fills” (USEPA, 2010d, p. 5).

Mining impacts must be effectively mitigated
In relation to the mitigation of mining impacts, the USEPA guidance states that “unavoidable mining-related environmental impacts must be effectively mitigated by establishing, restoring, enhancing, or preserving streams and wetlands; improving water quality; addressing drinking water impacts; and reclaiming watersheds when mining is completed” (USEPA, 2010d, p. 5). To ensure effective mitigation, permit applicants should conduct functional stream impact assessments and ensure these assessments are effectively used to quantify the environmental effects of individual mining projects on streams.

Water quality and biological parameters must be monitored
The USEPA guidance requires permits to monitor in-stream water quality and biological health in order to ensure compliance with permit conditions and to inform adaptive remedial action. In order to provide a baseline against which to monitor the water quality and biological impacts of the mining operation, USEPA requires the operator to submit “robust” baseline monitoring data and ensure that genus-based biological assessments are conducted (USEPA, 2010d, p. 5).

Environmental justice considerations
USEPA explicitly recognizes that “Surface coal mining can have adverse environmental and health impacts on neighboring communities,” and notes that federal statutes and regulations require, in the consideration of surface mine permits, “consideration of the full range of potential impacts on the environment, human health, and communities,” particularly low-income or minority populations. USEPA further recognizes that federal laws and regulations “also require that meaningful opportunities be provided for public participation in the permit decision-making process” (USEPA, 2010d, p. 6). In relation to these considerations, USEPA commits to working with other federal permitting agencies and the states to “identify and address the potential adverse human health and environmental effects of proposed projects on low-income and minority populations,” and to “ensure that the decision making process is more transparent, with increased opportunities for meaningful community input and broad access to information” (USEPA, 2010d, p. 6).
2. PINE CREEK NO. 1 SURFACE MINE

2.1 Background

The Pine Creek No. 1 Surface Mine, West Virginia Department of Environmental Protection (WVDEP) permit # S-5006-07 (US Army Corps of Engineers ID: LRH-2008-00830), is an MTR mine to be located in Logan County in southern West Virginia. The mine has been proposed by Phoenix Coal-Mac, Inc., a subsidiary of Arch Coal, Inc. of St. Louis, MO.

The mine was initially approved by the WVDEP on September 5, 2008, but was added to USEPA’s list of Appalachian coal mining permits subject to additional review under the interagency Enhanced Coordination Procedure (ECP), per the June 11, 2009 Memorandum of Understanding (MOU) between USEPA, the Office of Surface Mining, Reclamation and Enforcement (OSMRE), and the United States Army Corps of Engineers (USACE). The stated goal of the ECP is “to ensure more timely, consistent, transparent, and environmentally effective review of permit applications under existing law and regulations” (USEPA, 2009, p. 4).

On June 21, 2010, USEPA submitted their final comments on the Pine Creek permit to USACE, with various recommendations for altering the mining plan so as to ensure the minimization of environmental impacts and the monitoring of water quality coincident with a phased approach to construction of the three proposed valley fills. Following approval of the revised mining plan by USEPA, USACE approved the CWA permit for the Pine Creek No. 1 surface mine on July 27, 2010. The USEPA news release on the permit approval states that changes to the permit were consistent with the Clean Water Act and the April 11 guidance (USEPA, 2010e).

Now that the mining is set to proceed, it is expected that the Pine Creek mine will produce 2.86 million tons annually over the expected five-year life of the mine (USACE, 2008), which amounts to approximately 1.8% of total state coal production in 2008, and 15% of production for Logan County (MSHA, 2010). Total projected coal production over the five years would be 14.3 million tons.

2.2 Historic and projected land impacts for Logan County, individual and cumulative

The current proposed size of the Pine Creek surface mine—following the approval of the incidental boundary revision (IBR)—is 760 acres, or approximately 1.2 square miles (WVDEP, 2010a). This is the equivalent of approximately 575 football fields. Storage of mine spoil from the proposed operation will require the construction of two new valley fills and the use of a third existing valley fill for supplemental storage (USEPA, 2010f).

The area of the proposed Pine Creek mine is immediately surrounded by various other active and retired surface mines operated by Coal-Mac, many of which impact the same sub-watershed as the Pine Creek mine (See Figure 1). In total, there are seven Coal-Mac surface mines in the immediate area of the Pine Creek permit spanning a total of 3,355 acres, or 5.25 square miles. There are a total of thirteen planned or existing valley fills associated with the seven permits.\(^1\) Including the Pine Creek mine, the cumulative land impacts of Coal-Mac’s operations in this particular area would span a total of 4,115 acres, or 6.4 square miles, and would increase the number of valley fills in the area to fifteen total fills (WVDEP, 2010b).

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\(^1\) The number of planned and existing valley fills reflects the permanent elimination of three planned valley fills associated with the nearby Phoenix No. 5 surface mine. Coal-Mac, Inc. agreed to the elimination of the fills as a result of the ECP with USEPA. The previous number of planned or existing valley fills in the Pine Creek watershed was sixteen. The three valley fills would have been constructed in the Left Fork of Pine Creek, whereas those associated with the Pine Creek surface mine will impact streams in the Right Fork.
Figure 1 shows the location of the proposed Pine Creek surface mine in relation to nearby towns, as well as the proximity and extent of other surface mining operations in the surrounding area—the majority of which are Coal-Mac operations. The map also shows the boundary of the Pine Creek sub-watershed and the streams contained within it.

**Figure 1: Map of Pine Creek permit, nearby mining operations, and surrounding communities**

![Map of Pine Creek permit, nearby mining operations, and surrounding communities](image)

Figure 2 shows the extent of all historical surface mining in Logan County, West Virginia, including the proposed extent of the Pine Creek surface mine. Each of these figures will be referenced in the following section on the impacts of surface mining on water quality.
Conducting a geographic information system (GIS) analysis of the cumulative land impacts of surface mining in Logan County, as shown in Figure 2, it was calculated that of the 455 square miles of land in Logan County, approximately 80.8 square miles have been impacted by surface mining and valley fills. In other words, surface coal mining has already impacted approximately 18% of the land area in Logan County, and an even greater percentage of the land within the Pine Creek sub-watershed (Figure 1), a fact that has severe implications for flooding potential.

While the permit boundary is included as part of the “Other permits” in Figure 2, the value for square miles of existing impacts (80.8 square miles) does not include the Spruce Mine No. 1 permit, which is currently awaiting a final decision by USEPA. The Spruce Mine, as proposed, would impact a total of approximately 3.6 square miles of land and streams (WVDEP, 2010c).
2.3 Potential impacts on water quality and quantity, and USEPA’s response

As noted in the USEPA letter regarding the Pine Creek surface mine sent to the Huntington District of USACE and dated June 21, 2010, the mining and associated valley fills will impact 14,530 linear feet (2.75 miles) of stream channel consisting of “good quality” streams that are “providing clean, freshwater dilution to the Left Fork of Pine Creek” (USEPA, 2010f, p. 1). However, the mine—with all valley fills now approved—will effectively eliminate nearly all of the streams lying within the Left Fork of Pine Creek that have yet to be impacted by valley fills, along with their diluting effect on the Left Fork. The associated valley fills and mine runoff are likely to contribute additional contamination to the Pine Creek sub-watershed.

As a way to avoid and minimize potential impacts to streams, USEPA has required, in accordance with their April 1 guidance, that the three proposed valley fills be constructed sequentially, “with earlier fills fully constructed and monitored prior to initial construction of subsequent fills to ensure predicted water quality outcomes are achieved” (USEPA, 2010f, p. 2). Therefore, it is not certain that all stream segments within the Left Fork will be impacted, nor the full diluting effect of those streams eliminated. However, should conductivity levels below the first fill meet the 500 μS/cm standard proposed by USEPA, then Coal-Mac would be able to proceed with construction of the second valley fill, thereby increasing the potential impact on streams in the Left Fork. Additionally, the impact on 14,530 linear feet of stream channel is likely to reduce the available load capacity of the local stream system. In other words, there will be nearly three miles of streams lost, and therefore, three miles of channels lost for transporting rainwater runoff from the mine site and valley fills. This could have severe implications for flooding potential in downstream communities.

However, in response, USEPA notes that “The applicant has proposed on-site stream restoration and creation of 40,000+ linear feet of stream” in order to mitigate the stream loss (USEPA, 2010f, p. 4). Pre-empting concerns and questions about its own guidance from April 1, USEPA further notes that Coal-Mac’s plan for mitigation includes biological, chemical, and physical benchmarks of success for the mitigation, and that “USEPA believes the proposed mitigation is consistent with CWA regulations and the considerations provided in the April 1 SCM Guidance document” (USEPA, 2010f, p. 4).

Finally, in addressing cumulative impacts, USEPA notes that Coal-Mac is eliminating, or rather, deed restricting the areas for three proposed valley fills associated with the nearby Phoenix No. 5 surface mine. This means that the areas will not be filled at any time. According to USEPA, this will avoid impacts to 3,900 feet (approximately 0.7 miles) of stream channel, effectively representing “a 39.5% reduction of impacts within the Pine Creek watershed” (USEPA, 2010f, p. 4). However, through this statement, USEPA is ignoring the fact that the net impact to streams in the Pine Creek watershed would be a positive, rather than a net reduction. Once the Pine Creek mine is completed, the net cumulative impact to streams in the watershed will exceed the impacts that existed before the mining occurred. Therefore, this representation by USEPA provides a false picture of the net cumulative impact of proposed and existing mine operations.

Also in relation to potential cumulative impacts of the Pine Creek mine, GIS analysis of data represented in Figure 1 shows that approximately 2.2 miles of stream channel within the watershed will be impacted, and that another 1.9 miles of streams within the watershed—all within the Right Fork of Pine Creek—have been or will be impacted by past and/or existing surface mining activities. Should the mining proceed, the total direct impact to streams within the Pine Creek watershed will total approximately 4.1 miles. Total length of stream in the sub-watershed represented by the GIS data amounts to 11.2 miles. Therefore, according to our GIS analysis, the proportion of streams in the Pine Creek stream system impacted by surface mining will increase from 17% to 37%, more than doubling the total direct impact to the watershed.
Additionally, USEPA’s comments also ignore cumulative impacts of surface mining over a broader area, which is important given that the Pine Creek watershed is merely a sub-watershed of the Island Creek watershed, which is itself a sub-watershed of the Guyandotte River watershed, and so on. As shown in Figure 2, a significant portion of the land and streams in Logan County have been impacted by surface mining—particularly the middle section of the county where the proposed Pine Creek mine is located. Analysis of the impacts represented in Figure 2 shows that approximately 150 total miles of streams in Logan County have been directly impacted by surface mining, out of a total 976 miles of streams within the county. Therefore, according to a basic analysis of the GIS data, approximately 15% of streams in the county have been mined through or filled as a result of surface mining activities.

Finally, an additional consideration missing from the USEPA letter—which should have been addressed as part of their consideration of cumulative stream impacts of the proposed mining—is downstream contamination. The runoff from the mine site could be expected to impact the water quality of Island Creek—into which Pine Creek flows—and eventually the Guyandotte River downstream. As noted in the study on cumulative impacts of MTR and valley fills published as part of USEPA’s 2003 Draft Programmatic Environmental Impact Statement on Mountaintop Mining and Valley Fills, “Indirect impacts from filling include impacts that affect the ecological process in the stream system downstream from the filled area. These impacts largely result from direct changes in the stream system’s flow regime, thermal regime, water chemistry or sediment load from mining. A cascading series of indirect effects may result from changes to any one ecological process” (USEPA, 2003, p. 70).

2.4 Human impacts

The closest existing town to the proposed mine is Oilville, just southeast of the mine, and at a distance of 0.4 miles from the nearest portion of the Pine Creek Mine (See Figure 1). The next closest is Barnabus directly to the east, at a distance of 1.7 miles. The town of Omar, just north of Barnabus, is 2.4 miles northeast from the mining boundary, and the town of Ragland to the southwest of the mine lies at a distance of 3.6 miles from the mine. The town of Pine Creek, shown nearby to the mine in Figure 1, is listed as a populated town in the 2000 Census. However, personal accounts and an examination of current aerial imagery (2010) suggest that the town has since been depopulated.

While no communities will be directly impacted by the mining operations, Census block data show that approximately 750 residents lived immediately downstream of the proposed Pine Creek surface mine (to the town of Chauncey along Island Creek just northeast of Omar), or in the immediate area of the Pine Creek watershed in the year 2000. This is significant given that the mining, the associated conversion of forestland to mined land, and associated stream loss and sediment build-up in the remaining streams, are all likely to increase the likelihood and severity of flooding beyond that which has resulted from past mining activities in the Pine Creek and Island Creek watersheds. In fact, in both 1996 and 2004, Island Creek communities were impacted by heavy floods that some residents have attributed to surface mining and logging in the area.

As written by local resident Moss Burgess,

“We, citizens on Island Creek in Logan County, have been actively involved in flood prevention and stream restoration. We were devastated by floods in May 1996 and Memorial Day, 2004. These two floods have been the highest, we believe, due to strip mining and clearcutting – many of us have lived here over 50 years. We know that flooding is due to various factors, but the clearcutting and strip mining are definitely major factors in the height of the flood” (Burgess, 2005).

The floods prompted the late Senator Robert C. Byrd to request funding from the Obama Administration for flood control along Island Creek, noting that the area had been impacted by six major floods over the span of thirty years, and that the floods had resulted in “significant loss of life and property damage” (Office of US Senator Robert C. Byrd, 2009).
CONCLUSIONS: IS USEPA FOLLOWING ITS OWN GUIDANCE IN RELATION TO THE PINE CREEK SURFACE MINE PERMIT?

The June 21 letter from USEPA to USACE concludes with “EPA believes that a permit decision may move forward consistent with the application as modified by the Supplemental Monitoring and Adaptive Management Plan and as further modified by this letter” (USEPA, 2010f, p. 4). This suggested that USEPA is asserting that its recommendations are consistent with their guidelines as published on April 1, 2010. Indeed, their press release on the approval of the CWA permit for the Pine Creek No. 1 surface mine explicitly confirmed that belief. However, an examination of the impact to the quantity and quality of streams within and downstream of the Pine Creek watershed raises some serious concerns with USEPA’s assertion.

Water quality and environmental integrity must be protected

For achieving the protection of water quality and environmental integrity, USEPA states that mining projects projected to increase conductivity levels above 300 μS/cm should include permit conditions requiring adaptive remedial action to prevent conductivity levels that exceed 500 μS/cm. In relation to this guideline, USEPA makes no mention of baseline conductivity levels in either the Right or Left Fork of Pine Creek. The only mention of existing conductivity levels are those measured in the streams below the three proposed valley fill areas associated with the Phoenix No. 5 permit that are being deed restricted for the purpose of mitigating the stream impacts from the Pine Creek permit.

Additionally, the lack of pre-mining water quality data and assessments, or, the lack of mention of such data and assessments in USEPA’s letter, suggests a failure by Coal-Mac to “clearly demonstrate how the permit is consistent with the 404(b)(1) Guidelines” as required in the USEPA guidance (USEPA, 2010c, p. 7). Further, the requirement for Coal-Mac to sequence valley fills, while consistent with the guidelines, provides no assurance that impacts from the first valley fill will achieve the intentions outlined within the guidelines.

Finally, and perhaps most importantly, the USEPA letter does not provide the public any indication that USEPA, in order to protect against cumulative impacts to watersheds, has required Coal-Mac to submit data and water quality and discharges from all “adjacent or similar projects” or their associated SMCRA and Section 404 permits. This is significant given the scale of existing impacts to the Pine Creek and other surrounding watersheds from past mining, most of which has been conducted by Coal-Mac.

Mining projects must avoid and minimize environmental impacts

As noted in Section 2.3, the USEPA guidance requires that mining companies “must avoid and minimize their direct, indirect, and cumulative adverse environmental impacts to streams, wetlands, watersheds, and other aquatic resources” (USEPA, 2010d, p. 4). In addressing cumulative impacts, USEPA notes in both their June 21 letter and July 27 press release that Coal-Mac is eliminating three proposed valley fills planned for the nearby Phoenix No. 5 surface mine. According to USEPA, the permanent elimination of these fills will avoid impacts to 3,900 linear feet of stream channel, effectively representing “a 39.5% reduction of impacts within the watershed” beyond what would have occurred.

However, the elimination of three valley fills—that have yet to be constructed—while still approving one, and potentially two or three new valley fills and their associated sediment ponds, does not achieve the stated intent of this guideline. There are still existing impacts from multiple valley fills that have been previously constructed in the Pine Creek watershed, and any new valley fills will add to those impacts. Additionally, there is no mention of the potential indirect impacts that are likely to occur downstream of the surface mine.
In essence, USEPA, by falsely claiming a reduction in cumulative impacts, is ignoring or distracting from the fact that the net impact to streams in the Pine Creek watershed from the Pine Creek surface mine will still be positive, not negative. Once the Pine Creek mining operation is completed, the net cumulative impact to streams in the watershed will exceed the impacts that existed before the mining occurred. Therefore, this representation by USEPA provides a false picture of the net cumulative impact of proposed and existing mine operations. According to the USEPA guidance, the fact that the new valley fills will in fact add to the cumulative impacts of surface mining operations in the Pine Creek watershed should “raise serious questions about their compliance with CWA regulations and may require permit objection” (USEPA, 2010d, p. 4).

**Mining impacts must be effectively mitigated**

USEPA guidance requires that unavoidable mining-related environmental impacts must be mitigated by “establishing, restoring, enhancing, or preserving streams and wetlands (and) improving water quality” (USEPA, 2010d, p. 5). To ensure the success of such mitigation, the guidance further requires applicants to “conduct functional stream impact assessments and ensure these assessments are effectively used to quantify the environmental effects of individual mining projects on streams.”

In relation to the mitigation of stream loss associated with the Pine Creek surface mine, USEPA notes that Coal-Mac proposed on-site stream restoration and creation of 40,000+ linear feet of stream in order to mitigate the stream loss, and notes that Coal-Mac’s plan for mitigation includes “biological, chemical, and physical benchmarks of success” for the mitigation.

However, contrary to USEPA’s claim that Coal-Mac’s plan for mitigation follows the April 1 guidance, there is no scientific evidence that mitigation of stream loss results in successful restoration of stream habitat and function. In fact, the peer-reviewed study, “Mountaintop Mining Consequences,” published January 8, 2010, concludes that existing mitigation techniques aimed at compensating for lost stream habitat and functions fail to do so, and that, through mitigation, the degradation of water quality is neither prevented nor corrected (Palmer, et al, 2010). Therefore, it is apparent that the approval of the Pine Creek surface mine and the associated mitigation plan contradicts claims by the USEPA that science will guide their review of CWA permits for surface mines and valley fills.

**Water quality and biological parameters must be monitored**

The April 1 guidance document requires operators to monitor in-stream water quality and biological health in order to ensure compliance with permit conditions and to inform adaptive remedial action. In order to provide a baseline against which to measure the water quality and biological impacts of the mining operation, USEPA further requires the operator to submit “robust” baseline monitoring data and ensure that genus-based biological assessments are conducted. However, in neither their June 21 letter nor the July 21 press release does USEPA provide any indication that it has required Coal-Mac to submit any baseline monitoring data at all, nor details on how Coal-Mac is to ensure that genus-based biological assessments are conducted. This baseline data is vital for determining the existing impacts to the Pine Creek watershed from past and current mining activities.

**Environmental justice considerations**

As noted in the guidance document, federal statutes and regulations require, in the consideration of surface mine permits, “consideration of the full range of potential impacts on the environment, human health, and communities,” particularly low-income or minority populations (USEPA, 2010d, p. 6). Such potential impacts include the potential for mining operations to contribute to the severity and frequency of flooding. In their determination of both potential and cumulative impacts, USEPA seems to have neglected the fact that communities downstream of the proposed mining operation have experienced frequent and severe flooding which may have been the result of, or exacerbated by, previous surface mining and clear-cutting activities. These events and their associated impacts on the low-income communities of the Pine Creek and Island Creek watersheds do not seem to have been considered in the review of the Pine Creek surface mine permit.
Additionally, as also noted in the guidance, federal laws and regulations “require that meaningful opportunities be provided for public participation in the permit decision-making process” and that USEPA would “ensure that the decision making process is more transparent, with increased opportunities for meaningful community input and broad access to information” (USEPA, 2010d, p. 6). However, throughout the permitting process, neither the potentially impacted communities nor the broader public were provided access to Coal-Mac’s revised mining permit. Further, they were not directly made aware of nor allowed to provide comments on the revised permit before determinations on the permit were made by either USEPA or USACE. Given the issues and concerns with the permit as outlined throughout this document, but particularly within this section, the communities and the general public—in accordance with the April 1 guidance document—should have been provided greater access to information, and greater opportunity to participate in the review of the permit and in the decision-making process.

Other comments
USEPA should provide more detail on the “predicted water quality outcomes” in their letter, so that the public can make a better determination as to the success of the implementation of USEPA’s guidance on the Pine Creek permit. Additionally, USEPA has not made public the Adaptive Management Plan submitted by Coal-Mac. Finally, USEPA has not made public more specific details on the proposed mitigation activities; therefore, the public is unable to make any determination as to whether the plan adheres to USEPA science. USEPA should provide a better explanation of why they have determined that the mitigation plan is consistent with their guidelines. Most importantly, USEPA should have made all correspondence and permit documents available to the public before making their determination. This is the only way to ensure full transparency in the permitting process.
REFERENCES


