

The Abandoned Mine Land Program: Examining Public Participation in Decision-  
Making

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by

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## **DEDICATION**

I would like to dedicate this to my best friends Rebekah, Matt, and Sara for all their support and encouragement for this project. I would also like to dedicate this to my Mom and Dad, my brother Wyatt and sister in law Olivia, and my nephews Wyatt Jr., Wylder, and Wylan. Their love and support kept me going through this project.

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## LIST OF ABBREVIATIONS

Abandoned Mine Land Economic Revitalization Program .....	AMLER
Abandoned Mine Land Inventory System .....	eAMLIS
Abandoned Mine Land Program.....	AML
Acid Mine Drainage.....	AMD
Annual Evaluation Report.....	AER
Appalachian Regional Reforestation Initiative .....	ARRI
Bureau of Land Management.....	BLM
Charleston Field Office.....	CHFO
Collaborative Institutional Training Initiative .....	CITI
Colorado.....	CO
Colorado Inactive Mine Reclamation Program .....	CIMRP
Department of Agriculture Rural Abandoned Mine Program .....	RAMP
Department of the Interior .....	DOI
Department of Natural Resources.....	DNR
Environmental Learning for Kids .....	ELK
Environmental Protection Agency.....	EPA
Field Office Director.....	FOD
Forestry Reclamation Approach .....	FRA
Frequently Asked Questions .....	FAQ
Geographic Information System.....	GIS
Hopi Tribal Housing Authority.....	HUD
Infrastructure Investment and Jobs Act of 2021 .....	IJA
Institutional Review Board .....	IRB
Integrated Catchment Management .....	ICM
Interstate Mining Compact Commission .....	IMCC
Kentucky .....	KY
Kentucky Division of Abandoned Mine Lands .....	KYDAML
Lexington Field Office.....	LFO
Mining and Reclamation Advisory Board .....	MRAB
Mine Land Reclamation Board.....	MLRB
National Association of Abandoned Mine Land Programs .....	NAAML
National Environmental Policy Act.....	NEPA
National Mining Association .....	NMA
Neighborhood-Based Organizations.....	NBO
Office of Surface Reclamation and Enforcement .....	OSMRE/OSM
Ohio River Valley Institute.....	ORVI
Omnibus Reconciliation Act of 1990 .....	OBRA
Pennsylvania .....	PA
Pennsylvania Bureau of Abandoned Mine Reclamation .....	BAMR
Pennsylvania Citizens Advisory Council.....	CAC

Pennsylvania Department of Environmental Protection.....	DEP
Pennsylvania Uniform Planning Regions .....	UPR
Performance Agreement .....	PA
Public Participation.....	PP
State/Tribe Reclamation Plan .....	SRP
Surface Mining Control and Reclamation Act.....	SMCRA
United Mine Workers of America .....	UMWA
United States Department of Agriculture .....	USDA
United States Forest Service .....	USFS
United States Geological Survey .....	USGS
Utah Abandoned Mine Reclamation Program .....	AMRP
Voluntary Cleanup Programs.....	VCP
Western Hardrock Watershed Team.....	WHWT
West Virginia.....	WV
West Virginia Department of Environmental Protection.....	WVDEP

## **ABSTRACT**

### **THE ABANDONED MINE LAND PROGRAM: EXAMINING PUBLIC PARTICIPATION IN DECISION-MAKING**

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For centuries, coal extraction and production provided low-cost energy that powered the American economy and produced damage in its wake, leaving thousands of acres of land unreclaimed, transforming landscapes, and disturbing natural ecology (Dixon & Bilbrey, 2015; Zipper & Skousen, 2021). Currently, an estimated 5.5 million people in the Appalachian region live within one mile of an Abandoned Mine Land (AML) site. These sites can pose serious hazards to public health, safety, and the environment while also offering opportunities for public and community participation in the restoration of damaged lands and economic development on abandoned mine sites (Larson, 2022). No studies have been done to determine how states and tribes in the AML program engage the public in decision-making. We conducted a review of State and Tribal Reclamation Plans and Annual Evaluation Reports from 2015-2019, an in-depth case study analysis of four AML states, and disseminated a survey to community groups in the Appalachian

region. We found that while AML states and tribes heavily rely on traditional methods of public engagement such as public meetings, hearings, and comment periods, many AML states and tribes were also actively engaged in activities within their community. We found two postures towards engagement: reactive, in which the state or tribe provides information after decisions have been made, and proactive, in which states or tribes attempt to integrate public involvement into the AML decision-making structure. Finally, we found that major barriers to public participation include a lack of information and transparency around AML decision-making and the opportunities for public engagement. We recommend increasing the information and opportunities available to nonprofits and community groups in the region to mitigate this barrier to ensuring effective public participation.

## INTRODUCTION

For centuries, coal extraction and production provided low-cost energy that powered the American economy (Dixon & Bilbrey, 2015). However, the centuries of coal mining in the United States produced damage in its wake, leaving thousands of acres of land unreclaimed, transforming landscapes, and disturbing natural ecology (Zipper & Skousen, 2021). Prior to the passage of the Surface Mining Control and Reclamation Act (SMCRA) in 1977, surface and underground coal mine sites were regularly abandoned and unreclaimed, their hazards to local populations and ecosystems left unchecked. At its simplest, reclamation is a process that includes landscape reconstruction, revegetation of the mine-site, and environmental impact mitigation (Zipper & Skousen, 2021, pp. 65-66).

Currently, an estimated 5.5 million people in the Appalachian region live within one mile of an Abandoned Mine Land (AML) site. In West Virginia alone, an estimated 1 in 3 people live within one mile of an AML site (Mayne, 2016). Across the country, there are an estimated 853,393 acres of AML damage remaining (Dixon, 2021).

These sites, left unreclaimed, can pose serious hazards to public health, safety, and the environment (Larson, 2022). Hazards and damage from AML sites include clogged streams, open mine portals, old equipment, hazardous or explosive gasses, vertical openings, underground mine fires, dangerous piles and embankments, and acid

mine drainage, among others (“Hazards,” n.d.). In the Appalachian region in particular, the damage left behind from abandoned mine sites is widespread. A recent report from the Ohio River Valley Institute (2021) found that 84% of the remaining damage from AML sites is concentrated in the seven Appalachian states of Pennsylvania, Ohio, West Virginia, Kentucky, Alabama, Virginia, and Tennessee (Dixon, 2021).

Despite these dangers, reclamation of abandoned mine sites offers opportunities for public and community participation in restoration of damaged lands and economic development on old mine sites. One of the establishing purposes of the Surface Mining Control and Reclamation Act is to “assure that appropriate procedures are provided for the public participation in the development, revision, and enforcement of regulations, standards, reclamation plans, or programs established by the Secretary or any State under this Act” (Public Law 95–87).

The Abandoned Mine Land Economic Revitalization (AMLER) program, established in the Consolidated Appropriations Act of 2016 (Public Law 114-113), makes this connection even more explicit. AMLER program project guidance requires that states and tribes consult with local economic development and community development authorities to “develop eligible projects that demonstrate a nexus with AML land and water reclamation, and economic and community development” (“Guidance for Project Eligibility,” 2021, p.1).

However, the decentralized nature of the AML program and lack of agency requirements regarding public participation has left the exact methods for public and community participation at use within AML states and tribes unexplored. Further, there is

currently no landscape review of or investigation into the public participation methods at use across all AML state and tribal programs. Understanding how states and tribes in the AML program, especially in historically coal-dependent Appalachia, engage local communities, organizations, and citizens will shed light on an under-researched program, increase knowledge sharing for state and tribal programs, and inform continued discussions of how agencies should engage the community in remediation and economic redevelopment goals, just transition issues, and community revitalization.

Reclamation and remediation of former coal sites is frequently identified as a crucial tool in efforts to promote a “just” energy transition as coal production declines and the U.S. promotes and incorporates policies that further shift the economy to one of renewable energy production. The definition of exactly what a “just transition” is and what it includes, varies, but in the United States, reclamation and remediation of abandoned coal sites is seen as an important opportunity for immediate job creation that mitigates layoffs of former coal workers and provides new economic development opportunities (BlueGreen Alliance, 2021; Interagency Working Group on Power Plant and Coal Communities, 2021; Just Transition Fund, 2020). Understanding the existing methods and pathways that states and tribes use in the AML program presents an opportunity for novel research and analysis of this long-standing and vital program.

### **Background**

The Surface Mining Control and Reclamation Act (SMCRA) of 1977 is the principal federal law that regulates coal mining in the United States. It created two programs: one program for regulating active coal mines and another program for

reclaiming abandoned mine lands (Larson, 2020). Title IV of SMCRA created the Abandoned Mine Reclamation Fund, administered by the Office of Surface Mining Reclamation and Enforcement (OSMRE) within the Department of the Interior (DOI). OSMRE was charged with administering both the Title IV AML Fund and Title V of SMCRA, which established a framework for states and the federal government to regulate coal mining operations active after 1977 (Larson, 2020).

#### **Title IV Fund Fee Collection**

The AML Fund, established under Section 401 of SMCRA, provides annual grants to states and tribes with an approved State or Tribal Reclamation Plan (SRP/TRP) for reclamation of mine sites abandoned pre-1977 (Larson, 2022). The purpose of the AML program is stated in section 102 of SMCRA:

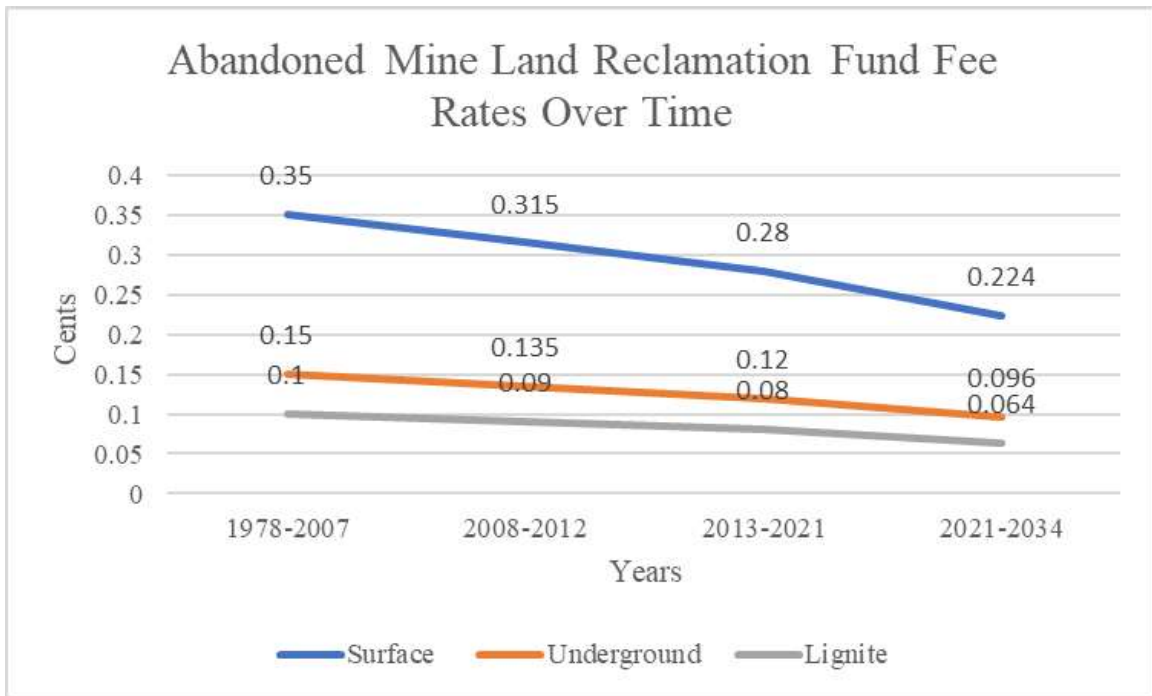
To promote the reclamation of mined areas left without adequate reclamation prior to the enactment of this Act and which continue, in their unreclaimed condition, to substantially degrade the quality of the environment, prevent or damage the beneficial use of land or water resources, or endanger the health or safety of the public. [Public Law 95-87, section 102(h)]

The Fund is funded through a fee assessed for each ton of coal produced by currently producing coal companies. When it was originally enacted, SMCRA section 402(a) established a reclamation fee of 0.35 cents per ton (or 10% of the value of the coal, or whichever was less) for surface mined coal (other than lignite), 0.15 cents per ton (or 10% of the value of the coal, or whichever was less) for underground mined coal (other than lignite), and 0.10 cents per ton for lignite (87 FR 2341).



The Tax Relief and Healthcare Act [Public Law 109-432], extended OSMRE's fee collection authority through September 30, 2021, but decreased the fee amount in a two-stage process. The fee rates were reduced by 10% from original levels between October 1, 2007, to September 30, 2012, then reduced by a further 10% from original levels between October 1, 2021, to September 30, 2021 (87 FR 2341). By October 1, 2021, the deadline to reauthorize the AML program had passed, frustrating community groups and advocates working with the AML program (Appalachian Citizens Law Center, 2021; Appalachian Voices, 2021). On November 15, 2021, President Biden signed into law the Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58) ("President Biden to Sign Bipartisan Infrastructure Investment and Jobs Act Monday," 2021). In addition to extending OSMRE's fee collection authority under section 402 of SMCRA through FY2034, the legislation reduced the fee rate by 20% for all fee collections (Larson, 2022).

Despite this new influx of funding (\$11.293 billion) into the AML fund, reporting from the Ohio River Valley Institute (ORVI) has demonstrated that even this amount of funding may not be enough to cover the cost of reclaiming the remaining AML project sites (Dixon, 2021). This report estimated low, medium, and high scenarios of remaining AML need, based on fee collection scenarios, coal production projections, and construction, design, and administrative costs (Dixon, 2021). The estimated cost to reclaim all remaining AMLs was a range of \$18.2 to \$24.4 billion as of 2020 (low and high scenarios), a range both higher than the funding provided by the IIJA and the \$11 billion in unreclaimed construction costs found in the AML inventory (Dixon, 2021).



**Figure 1. Abandoned Mine Land Reclamation Fee Rates Over Time**  
 (\* fee per ton of coal produced) (Source: Office of Surface Mining Reclamation and Control, 2021)

### **Certified vs. Non-Certified States and Tribes**

In order for a state or tribe to be eligible to receive AML funds for reclamation, they must have (1) an OSMRE-approved state reclamation plan and (2) eligible lands and waters for reclamation [Sec. 402 (g)(A)(i)(ii)]. Section 404 defines eligible lands and waters as those that were:

- (a) Mined for coal or affected by coal mining processes;
- (b) Mined prior to August 3, 1977 and left or abandoned in either an unreclaimed or inadequately reclaimed condition; and

- (c) There is no continuing responsibility for reclamation by the operator, permittee, or agent of the permittee under states of the State or Federal government, or as a result of bond forfeiture.

Section 411 of SMCRA provides OSMRE with the authority to "certify" a state or tribe when it has demonstrated that all priority abandoned coal mining sites have been reclaimed. Currently, five states and three tribes are certified: Crow Tribe, Navajo Nation, Hopi Tribe, Louisiana, Mississippi, Montana, Texas, and Wyoming. Discussed in more detail below, certified states and tribes receive their AML payments from the General Fund instead of the Abandoned Mine Reclamation Fund (Larson, 2022).

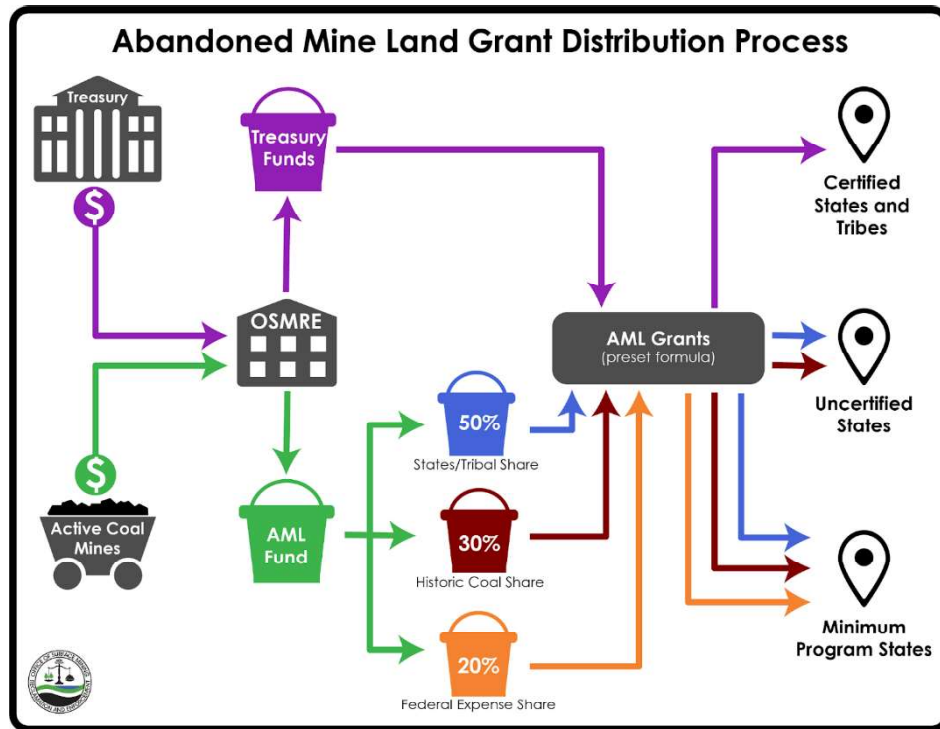
States that have met the conditions set forth in SMCRA but have not yet reclaimed their priority abandoned coal mining sites are classified as "uncertified states." Currently, twenty states are uncertified: Alabama, Alaska, Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Missouri, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, Tennessee, Utah, Virginia, and West Virginia (Larson, 2022).

### **Distribution Formula**

The passage of the Tax Relief and Health Care Act of 2006 mandated the distribution of AML grants so they were no longer subject to the Congressional appropriations process ("Abandoned Mine Land Reclamation Program," n.d.). According to SMCRA, states and tribes meeting the criteria above receive an annual grant that is equal to 50% of the AML reclamation fees collected in that state or tribe during the previous year (Dixon & Bilbrey, 2015). Certified states and tribes receive their funds

from the General Fund of the U.S. Treasury, in an amount that is equal to their "respective share grant totals". These two funding allocations are known as "state and tribal shares" ("Abandoned Mine Land Reclamation Program," n.d.).

Uncertified states and tribes also receive additional funding through the Historic coal share allocation. In order to support states with low current coal production but high amounts of remaining AML need, 30% of the overall AML fees go into the Historic Coal Grants for uncertified states ("Abandoned Mine Land Reclamation Program," n.d.). Finally, the remaining 20% of the AML fees supports the federal expense share, where they are distributed into the Minimum Program Make-up grants to ensure that uncertified states and tribes receive at least \$3 million annually. The remaining amount is used by OSMRE for administrative efforts, emergency projects and other efforts ("Abandoned Mine Land Reclamation Program," n.d.). Figure 2 below provides an overview of the Abandoned Mine Land Grant Distribution Process and Appendix A provides an overview of the most recent (FY21) allocated to states and tribes from the AML Fund.



**Figure 2. Abandoned Mine Land Grant Distribution Process**  
 (Source: "Reclaiming Abandoned Mine Lands," OSMRE)

**Abandoned Mine Land Project Priority Designation**

The Surface Mining Control and Reclamation Act (SMCRA) clearly sets out the priorities for projects funded by the program in Section 403. States and tribes must follow this priority system to determine AML sites for selection for reclamation. Priorities under SMCRA are as follows:

**Table 1. Surface Mining Control and Reclamation Act Section 403 Priorities**

Priority 1	(A) The protection of public health, safety, and property from <i>extreme danger</i> of adverse effects of coal mining practices; (B) The restoration of land and water resources and the environment that - (i) Have been degraded by the adverse effects of coal mining practices; and
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	(ii) Are adjacent to a site that has been or will be remediated under subparagraph (A)
Priority 2	(A) The protection of public health and safety from the <i>adverse effects</i> of coal mining practices; (B) The restoration of land and water resources and the environment that- (i) Have been degraded by the adverse effects of coal mining practices; and (ii) Are adjacent to a site that has been or will be remediated under subparagraph (A); and
Priority 3	The restoration of land and water resources and the environment previously degraded by adverse effects of coal mining practices including measure for the conservation and development of soil, water (excluding channelization), woodland, fish and wildlife, recreation resources, and agricultural productivity

(Source: SMCRA, Section 403)

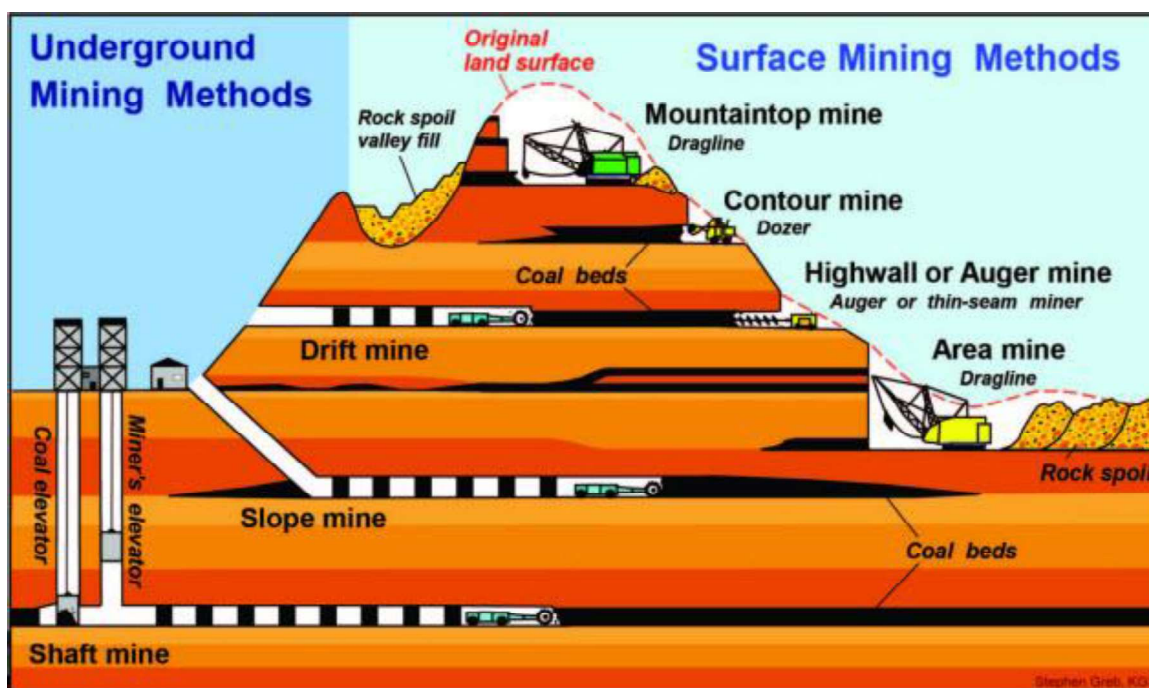
"High" priority sites include sites that qualify as priority 1 and priority 2 from the table above. Generally speaking, states and tribes must reclaim all priority 1 and priority 2 sites before using the AML funding to reclaim priority 3 sites (Dixon & Bilbrey, 2015). Priority 3 sites are those that are environmentally impacted from previous coal mining, but do not pose a high risk to public safety and health (IMCC & NAAML, 2019). However, SMCRA does allow for priority 3 site work to be completed if it is done in "conjunction" with work on a priority 1 or priority 2 site (Dixon & Bilbrey, 2015; 30 U.S.C. §1232(g)(7)).

States and tribes can also potentially reclaim priority 3 sites ahead of priority 1 and 2 sites if that site can also be categorized as an Acid Mine Drainage (AMD) site. AMD is a process in which mining exposes iron sulfides to oxygen and moisture, creating sulfuric acid, dissolved iron, and ferric hydroxide, eventually forming an acidic mix of arsenic, lead, cadmium, and copper. These chemicals then leak into ground,

polluting surface and groundwater (Iatan, 2021). Section 402 of SMCRA allows states and tribes to set aside up to 30% of their annual grants and deposit that funding into an acid mine drainage abatement fund (Larson, 2022).

### **Common AML Problem Types**

As of 2020, the U.S. was producing 535 million short-tons of coal in 22 U.S. states, of which 63% was surface mined ("Coal explained," 2021). In surface coal mining, the soil and rock covering the coal bed is removed and transported away. In central Appalachian coalfields, surface mining can include mountaintop removal, contouring, highwall and auger mining. Once this process is completed, excess material is then disposed of in nearby valleys ("Basic information about surface coal mining in Appalachia," n.d.). Underground mining is utilized in situations where surface mining may not be feasible. In underground mining, the coal is accessed by openings such as shafts, slopes, or drifts. The coal seam is then separated by blocks of coal pillars that are extracted in a particular sequence at a "predetermined" time ("Monitoring and Sampling Approaches to Assess Underground Coal Mine Dust Exposures," 2018). See Figure 3 below for a visualization of these processes.



**Figure 3. Underground and Surface Mining Methods**  
 (Source: Basic Information about Surface Coal Mining in Appalachia, n.d.)

The legacy of pre-1977 coal mining has left numerous “problems” that the AML program works to address through annual grant funding. Some of these problems are related to dangerous infrastructure left behind by former coal operations, while others are the result of coal mining operations’ impact on the land and ecosystem. Below is a detailed chart laying out AML problem types, which vary in their impact on public health, safety, and the environment. Table 2 identifies common AML problem types that fall into priority 1 or priority 2 designation; Table 3 identifies common priority 3 AML problem types.

**Table 2. Common AML Problem Types (Priority 1 and 2)**

Problem Type	Code	Description	Outcome(s)
--------------	------	-------------	------------



Clogged Stream	CS	Filling of a stream bed with AML originated silt and debris carried from surface runoff.	Reduced carrying capacity of the stream; danger to property and human health/safety
Clogged Stream Land	CSL	AML-related surface mining spoil pile, bank, mine waste or earth material which could erode and cause a clogged stream.	Can cause property damage and/or a threat to human health/safety.
Dangerous Highwall	DH	AML-related unprotected highwall close to a populated area.	Close to a populated area, public road, other area of visitation.
Dangerous Impoundment	DI	AML-related large-volume water impoundment like mine waste embankments, sedimentation ponds, or underground water pools.	Weak, unstable, inadequate impounding structure that could cause flooding and destruction.
Dangerous Pile or Embankment	DPE	AML-related waste pile or bank close to a populated area.	Unstable slope or wind-blown dust close to populated areas.
Dangerous Slide	DS	AML-related landslide; mine waste piles, surface mine spoil	Unstable; threaten destruction of property
Gases: Hazardous or Explosive	GHE	AML-related venting of hazardous/explosive gases.	Hazardous; explosive
Hazardous Equipment or Facilities	HEF	AML-related dilapidated equipment or facilities	Located near populated areas.
Hazardous Water Body	HWB	Impounded water	Physical hazard if close to populated area.
Industrial or Residential Waste	IRW	AML-impacted area used illegally for residential/industrial waste disposal	Unsanitary conditions/toxic emissions from burning waste

Portal	P	AML-related surface entrance to drift, tunnel, adit or entry that is not sealed or barricaded	Physical hazard.
Polluted Water (Agricultural or Industrial)	PWAI	Surface or subsurface water that does not meet standards b/c of AML-related impacts	Heavy metal concentrations; acid or alkaline conditions; harmful to aquatic life and human populations
Polluted Water: Human Consumption	PWHC	Surface or subsurface water used for human consumption or recreational waters that do not meet standards b/c of AML-related impacts	Harmful to human populations
Subsidence	S	Surface expression of AML-related subsidence; tension cracks, troughs, sharing faults or caving.	Damages property and poses risk to human safety/health
Surface Burning	SB	AML-related continuous combustion of mine waste material resulting in smoke, haze, heat, venting of gases	Poses a danger to public health when located near populated areas.
Underground Mine Fire	UMF	AML-related continuous smoke, haze, heat, venting of hazardous gases	Poses a danger to public health when located near populated areas.
Vertical Opening	VO	AML-related vertical or steeply-inclined shaft not sealed/barricaded	Poses a danger to public health when located near populated areas

(Source: Pennsylvania Department of Environmental Protection; Bureau of Reclamation, n.d.)

**Table 3. Common AML Problem Types (Priority 3)**

<b>Problem Type</b>	<b>Code</b>	<b>Description</b>
Bench	BE	Ledge that forms where mineral or waste materials are excavated.
Industrial/Residential Waste	DP	AML area used to dispose of industrial/residential waste.

Equipment/Facility	EF	Equipment or materials used to mine, process, transport coal or mineral ores.
Gob	GO	Refuse/waste removed from a mine; mine waste, rock, pyrites, slate
Highwall	H	The face of exposed overburden or bank on the uphill side of contour strip mine excavation.
Haul Road	HR	Road built and used for transport.
Mine Opening	MO	Any surface opening or underground mine opening
Other	O	An AML area causing an environmental impact that does not fit in one of the other definitions.
Pits	PI	Last uncovered cut adjacent to a highwall. May be known as strip pit in surface mining operations
Spoil Area	SA	Overburden material removed
Slurry	SL	Fine particulate materials from coal or mineral processing collected in a pond.
Slump	SP	Surface expressions from caving in of underground mine voids.
Water Problems	WA	Water leaving and causing environmental impacts because of pH, sediments load or other pollutants.
Water Supplies	WS	Water supplies replaced through the repair, replacement, construction or enhancement of facilities.

(Source: "e-AMLIS Priority 3," OSMRE, n.d.)

### **What is Reclamation?**

Reclamation is a process that includes landscape reconstruction, revegetation of the mine-site, and environmental impact mitigation (Zipper & Skousen, 2021, pp. 65-66). Section 401(c)(1) of SMCRA lays out the processes that reclamation and restoration of land and water could include:

Reclamation and restoration of abandoned surface mine areas, abandoned coal processing areas, and abandoned coal refuse disposal areas; sealing and filling abandoned deep mine entries and voids; planting of land adversely affected to prevent erosion and sedimentation; prevention, abatement, treatment and control of water pollution including restoration of stream beds, and construction and operation of water treatment plants; prevention, abatement, control of burning coal refuse disposal areas and burning coal in situ; prevention, abatement and control of coal mine subsidence. (SMCRA, 1977, Section 401)

SMCRA also sets general performance standards for reclamation operations, which requires at a minimum that operations:

Restore the land affected to a condition capable of supporting the uses which it was capable of supporting prior to any mining, grade in order to restore the approximate original contour of the land, stabilize and protect all surface areas...affected...to effectively control erosion and attendant air pollution, restore the topsoil or the best available subsoil which is best able to support vegetation, minimize the disturbances to the prevailing hydrologic balance at the mine-site, stabilize all waste piles, and insure all reclamation efforts proceed in an environmentally sound manner and as contemporaneously as practicable with the surface mining coal operations. (30 U.S. Code § 1265)

The National Mining Association (NMA) describes the reclamation process more straightforward, with the following steps outlined "contouring of the land, placement of topsoil, reseeding with native vegetation, crops and/or trees, and years of careful

monitoring to assure success" ("Reclamation," n.d.). The California Department of Conservation describes reclamation as a combined process where practices include erosion and sedimentation control, slope stabilization, minimizing impacts to wildlife habitat, with the final step of replacing topsoil and vegetation at the site ("What is Mine Reclamation?," n.d.).

Skousen et al., (2019) describe reclamation as "a mining activity that is intended to produce land and water conditions that meet human needs." According to the authors, these needs are met when previously mined lands can support economic enterprises and other community development activities. Examples include agricultural production, forest production, and developed land for building sites (Skousen et al., 2019).

### **The AML Project Site Selection, Design, and Approval Process**

Although the specifics of this process vary by state and tribe, the general process of reclaiming an AML site begins when a potential site is identified, either by landowners or AML program staff, as a potential AML site abandoned pre-1977. Since AML sites are not awarded grants through a competitive program, individuals and organizations cannot apply directly for reclamation (Dixon & Bilbrey, 2015). AML officials will then verify if the site qualifies as an AML site and develop a cost estimate for reclaiming the site.

The specific processes for AML site selection, design, and approval are outlined in detail in the relevant state or tribal Reclamation Plan. Site selection itself is commonly done by a state AML officer or group of AML officials, but landowner interest, the AML priority system, and the cost of reclamation are common factors taken into consideration by AML officials (Dixon & Bilbrey, 2015). Once the site is confirmed as an AML-related

site, cost estimates are completed, an abatement plan is prepared, and then many officials utilize a bidding process to award the project to the "lowest responsive and responsible bidder" (Dixon & Bilbrey, 2015).

### **Abandoned Mine Land Program Structure and Requirements**

#### **AML State and Tribal Reclamation Plans**

States must submit for approval a State Reclamation Plan (SRP) that should contain identification of the areas for reclamation, the purpose for which reclamation is proposed, specific criteria for ranking and identifying projects to be funded, and the legal authority and programmatic capability to perform work in conformance with SMCRA (30 U.S.C. 1258). 30 CFR § 884.13 lays out in full the content requirements for SRPs, including a description of the policies and procedures to be followed by the agency around interagency coordination, land acquisition, rights of entry, reclamation on private land, and public participation in the preparation of the SRP and in the AML program itself.

Most state reclamation plans were approved in the early to mid-1980s and many of them are outdated or awaiting approval from OSMRE for updates. SRP documents are intended to guide the state or tribal agency in the administration of their Title IV and Title V programs, but their approval also signifies that state or tribe's responsibility and authority to implement their responsibilities under SMCRA ("The Pennsylvania Abandoned Mine Reclamation Plan," n.d.).

## **AML Annual Evaluation Reports**

On January 31, 2011, OSMRE released Directive REG-8, outlining how OSMRE conducts oversight of state and tribal AML programs and the guidelines and procedures for submission of annual evaluation reports (AER) for AML states and tribes (OSM REG-8 967, 2011). Annual evaluation reports are prepared by the relevant Field Office Director (FOD) for the state or tribes, in coordination with the state or tribal AML office.

FOD responsibilities are outlined in the directive, and FODs are required to conduct an outreach program within each state or on tribal lands to solicit comments from the public and other parties regarding the oversight of the program, views on topics for the evaluation year, and suggestions for improvements to future annual evaluation. Comments received are then used by OSMRE to guide its review of state and tribal AML programs. As part of this outreach, each FOD is required to announce the opportunity for comments prior to and after the development of the annual evaluation report and post the final evaluation on the OSM website (OSM REG-8 967, 2011).

Among other items, the annual evaluation report must include the public participation and outreach efforts that were undertaken by the state or tribe during the evaluation period. According to the directive, each report must provide a "brief narrative" of public participation that may include the following topics:

- (1) Identify the OSM website and state or tribe website (if available) where the public can find information relating to public comment, the state's or tribe's Performance Agreement, and other documentation;

- (2) Identify the opportunities and information provided by OSM and the state or tribe to the public to provide input into the oversight and state regulatory processes;
- (3) Identify public meetings held and quantify the amount of participation that occurred;
- (4) Identify outreach efforts undertaken by OSM and the state or tribe;
- (5) Characterize any significant involvement of environmental, industry and grassroots organizations;
- (6) Identify any results or impacts to the effectiveness of the program that have occurred due to public participation;
- (7) Identify any highly controversial areas or concerns that have arisen due to public involvement;
- (8) Identify any precedent-setting legal issues decided during the period; and
- (9) Briefly summarize any specific issues or successes identified through OSM evaluations conducted on the state or tribe implementation of the public participation aspects of the program. (OSM REG-8 967, 2011)

"Stakeholders" in public participation outreach are identified through the directive as, "citizenry at large, industry, other Federal, state, or local agencies, and environmental groups." Annual evaluation reports may also include an introduction, an overview of the coal mining industry in the state or tribe, major accomplishments and innovations, success in achieving the purposes of SMCRA, oversight topics, regulatory issues and



problems, and the level of assistance provided by OSM during the evaluation year (OSM REG-8 967, 2011).

### **AML Public Participation Requirements**

One of the establishing purposes of the Surface Mining Control and Reclamation Act is to:

Assure that appropriate procedures are provided for the public participation in the development, revision, and enforcement of regulations, standards, reclamation plans, or programs established by the Secretary or any State under this Act.

[Public Law 95–87].

Guidelines issued originally in June of 1982 and then updated in 2008, 2010, and 2015 outline the required contents for proposed State Reclamation Plans, which include:

**Table 4. Required Contents for State Reclamation Plans**

<b>§ 884.13 guidelines</b>
(3) A description of the policies and procedures to be followed by the designated agency in conducting the reclamation program, including – (i) The purposes of the State reclamation program; (ii) The specific criteria, consistent with section 403 of the Act for ranking and identifying projects to be funded; (iii) The coordination of reclamation work among the State reclamation program, the Rural Abandoned Mine Program administered by the Soil Conservation service, the reclamation programs of any Indian tribes located within the States, and OSM’s reclamation programs; and (iv) Policies and procedures regarding land acquisition, management and disposal under 30 CFR part 879; (v) Policies and procedures regarding reclamation on private land under 30 CFR part 882; (vi) Policies and procedures regarding rights of entry under 30 CFR part 877; and (vii) Public participation and involvement in the preparation of the State reclamation plan and in the State reclamation program.

(Source: 30 U.S.C. 884.13)

Because state and tribal Reclamation Plans must have policies and procedures in place for public participation in state reclamation, many reclamation plans include descriptions of public involvement undertaken during the creation of the Reclamation Plan itself, including public meetings and their locations, comments received, and occasionally full transcripts of questions from local leaders during the development of the plan.

However, public and community involvement in the selection or approval of AML projects submitted through the grant proposal varies from state to state. There is a general lack of specific public participation *requirements* for State Reclamation Programs, so it is unclear the extent to which AML states and tribes engage in public participation and what methods are at use. Most AML programs do not incorporate public input into the site selection or design of AML projects, so many State Reclamation Plans only require public notification of potential projects through local or regional newspapers and will hold a hearing if requested by the public on specific topics (Dixon & Bilbrey, 2015; Authors' investigation).

A 2013 directive issued by OSMRE set forth 6 principles of excellence for states and tribes to implement regarding opportunities for public participation, as well as performance measures for evaluation of their efforts (OSM AML-22 973, 2013). Because these are suggestions only, states and tribes are not required to implement or measure their public participation efforts according to these parameters.

1. Programs should be responsive to public concerns. The State or tribal AML program should effectively address public inquiries concerning the program and

provide requested information. The public must be able to provide input into the project collection process. There also needs to be a demonstrated effort to inform and educate the public of the benefits of the AML program.

Performance measures suggested include:

- 1) Does the program follow the plans process for including citizen input into reclamation project selection?
- 2) Does the program properly implement interagency/intergovernmental coordination?
- 3) Does the program provide requested information to the public in a timely manner? (OSM AML-22 973, 2013)

Providing opportunities for public participation in agency decision-making is a fundamental precept of environmental policymaking in the United States. As I have laid out already in this chapter, providing opportunities for public participation has underpinned the creation and the implementation of the Abandoned Mine Land program. However, the decentralized nature of the AML program and lack of specific agency requirements regarding public participation has left the exact methods for public and community participation at use within AML states and tribes unexplored. Further, there is currently no landscape review of or investigation into the methods at use across all AML state and tribal programs.

## LITERATURE REVIEW

Providing opportunities for public participation in agency decision-making is a fundamental precept of environmental policymaking in the United States. The benefits of public participation include education of the public, the legitimization of decisions, promoting democracy, empowerment of community members, building trust in the community, and improving the quality of decisions. However, providing opportunities for public participation can also delay projects or increase project costs, foster conflict, and does not ultimately guarantee that the public will participate (Solitare, 2005).

As Sherry Arnstein wrote in her seminal article *A Ladder of Citizen Participation*, "there is a critical difference between going through the empty ritual of participation and having the real power needed to affect the outcome of the process" (Arnstein, 1969). This gap between the "ritual" of participation and actually affecting the outcome of a process is evidenced in the volume of scholarly work attempting to measure the success of various public participation efforts.

### **What is Successful Participation?**

The issue of evaluating the "success" of public participation efforts has dominated the public participation literature, with scholars putting forward a variety of criteria (Ashford & Rest, 1999). Charnley and Engelbert (2005) outline three types of public participation evaluations; (1) those that evaluate how successful participation is in democratizing decision-making, (2) those that evaluate how successful participation is in achieving social goals, and (3) those that evaluate specific goal achievements. However,

the main issue with evaluating the success of particular public participation methods comes when we ask what the methods are supposed to accomplish (Beierle, 1998). Are we measuring success in terms of the process of participation or its outcomes?

Process measurements may examine the procedural aspects of participation methods, such as the type of participation method used (hearings, public comment periods, newsletters) and focus on the means of the process rather than the ends (Ashford & Rest, 1999). English et al., (1993) offer procedural criteria such as inclusiveness, adaptability, amenability, resiliency, durability, and generalizability of the process. Another common set of process criteria proposed by Lach and Hixson (1996) include access to the decision-making process, the representative nature of those included, which opportunities are offered for participation, and the identification of concerns. Similar to Peelle et al., (1996), mentioned below, Lach and Hixson (1996) also offer a set of tangible measurements such as availability of materials, number and type of participants, early involvement of stakeholders, and decision maker attendance at meetings.

Other researchers have argued for measuring the success of participation through the outcome or results of the process. Here though, we have to distinguish between for whom the outcome is successful. For an agency, outcome success might mean that their plan was supported, they complied with the required participation methods outlined in their operational plan or facilitated the resolution of conflict between the parties. For the community, outcome success might mean that they were able to thwart project goals that they did not approve of, or felt that their opinion had an impact on the agency decision-making. Lach and Hixson (1996) offer project or decision acceptability, efficiency, and

mutual trust and learning as outcome indicators. Other indicators include improved understanding of the issues (Laird, 1993), the ability to reach consensus (Fiorino, 1990), the influence of participation on decisions made during the process (Fiorino, 1990), and satisfaction of participants with the eventual outcome (Mazmanian & Nienaber, 1979).

Beyond the question of measuring the effects of public participation efforts, many researchers have put forth criteria that should guide successful public participation. These criteria are summarized in the table below:

**Table 5. Criteria for Successful Public Participation**

<b>Criteria Type</b>	<b>Criteria</b>	<b>Source</b>
General PP Criteria	(1) public involvement should be conducted early in the process, (2) public involvement should be conducted throughout the process, (3) input should be representative of impacted groups, (4) involvement should use personal and interactive methods, and (5) input should be used in the development and evaluation of alternative policies.	Blahna and Yonts Shephard, 1989
General PP Criteria	(1) communities should be involved from the beginning of the process, (2) communities should be provided with access to the resources needed to participate effectively, and (3) participation should work to build an effective working relationship between the agency and the community	Ashford and Rest, 1999

Effective PP	(1) that the agency is clear on its public participation goals, stakeholder roles (2) that top management has commitment to a public participation process (3) manager/leader goes beyond legal minimum public participation (4) project manager and technical staff takes ownership of PP (5) Agency responsiveness to stakeholders (6) full consultative public participation strategy (7) two-communication and education (8) interactive, iterative public participation (9) adequate resources and funding (10) provisional trust develops between agency and public stakeholders (11) giving priority to trust building actions and (12) openness of agency.	Peelle et al., 1996
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These factors combined cast participation in the light of a dynamic, iterative, and committed process on both the agency and community side. Indeed, Ashford and Rest (1999) note that community involvement itself should be seen as such, and not something that an agency “does to a community.”

Beierle (1998) notes the need for incorporating social goals into evaluating frameworks, given the inadequacy of institutionalized methods such as formal comment periods and hearings in productively and meaningfully involving the public. These social goals are defined as “those that are valued outcomes of a participatory process but transcend the immediate interests of any party in the process.” In this outcome-based framework, success includes (1) educating and informing the public, (2) incorporating public values into decision making, (3) improving the quality of decisions, (4) increasing trust, (5) reducing conflict, and (6) achieving cost effectiveness. Education and capacity building within the community are essential, with Michels and DeGraaf arguing that

more important than even having “real power” in decision-making, the final aim of public participation should be development of civic skills and the providing of opportunities for citizens to meet and talk through local issues (Michels & DeGraaf, 2010).

Further, what may constitute success in one community may not work in another, which means that a whole-scale method for evaluating the success of public participation is difficult if not impossible. Bellamy (1999) noted this in their review of Integrated Catchment Management (ICM), finding that the effects of a program can vary depending on the socioeconomic context. Definitions of success are complicated, and evaluations of public participation methods difficult given the diversity of goals and perspectives. Success, then, is both relative and specific to the particular site or issue (Ashford & Rest, 1999).

Given the importance of context and place in designing and evaluating public participation efforts, participation can be seen as an essential tool for reaching environmental justice and equity aims (Yakubu, 2018). Importantly, individuals that wish to participate must have the time to do so (Solitare, 2005). Education and income are positively related to an individual’s propensity for participating in the first place (Williams, 2001). In the particularly engaged watershed management realm, a 2008 review of participation in watershed partnerships in Ohio found that most participants were white, had higher levels of education, and reported higher than average incomes (Koehler & Koontz, 2008).

If we view public participation as a method of reaching social goals, building an informed and educated public, and injecting environmental justice and equity into



environmental decision-making, we must ensure that public participation involves those that would not normally participate and includes participants that represent multiple views (Barnes, 1999; Solitare, 2005).

Traditional methods, such as public comment periods and hearings have been criticized for failing to effectively give citizens a meaningful role in decision-making. For example, while public hearings are open to the public, they have been criticized for being reactive and providing inadequate opportunities for discussion and public response (Brown & Eckhold, 2020). Public comment periods have been similarly criticized for their reactive nature, allowing members of the public to respond to decisions that have already been made, without providing avenues to prevent or question these decisions in the first place (Morrell, 2013). In that vein, more recent research in the public participation sphere has emphasized innovative and non-traditional techniques for engagement.

Gallagher (2009) argues that meaningful participation necessitates a reexamination of the citizen/administration relationship and highlights the important role that “champions” can play in getting community-involved projects completed. Champions could be an interested and involved citizen or a member of the agency administering the project, serving as advocates and helping to encourage and increase community involvement (Gallagher, 2009). Bussell et al., (2020) argue for a “bi-directional” learning approach where universities act as facilitators to develop solutions with local communities. Not only can this approach facilitate community education and learning, it can also build community empowerment and citizen power (Bussell et al.,

2020). The existence of local community groups and social networks can also increase participation, as these networks reduce costs of involvement and help recruit community members into participation planning (Laurian, 2004). For example, neighborhood-based organizations (NBOs) can be crucial in determining participation, especially if the NBO already emphasizes civic issues and has existing structures in place to engage the public (Berry et al., 1993; Solitare, 2005; Swindell, 2000).

For agencies, pursuing non-traditional involvement methods may be difficult, requiring additional time, care, and attention (Gallagher, 2009). But researchers have found that more innovative methods, such as champions, door to door campaigns, engagement of faith groups, study circles and citizen juries have promise for creating space for authentic and meaningful engagement (Beierle & Konisky, 2001; Gallagher, 2009).

### **What is Meaningful Participation?**

In the context of reclamation and remediation work, authentically engaging the public can be even more difficult. Mine reclamation or remediation includes the processes by which adverse environmental effects from mining are reduced or minimized, returning ecosystem services and functions (Beckett & Keeling, 2019). The literature around mine reclamation focuses heavily on the technical and engineering aspects of reclamation, with far less attention being given to the role that public participation plays in meeting reclamation goals (Beckett & Keeling, 2019).

Given the danger that unreclaimed sites pose for the public, their potential for economic redevelopment, and the past legacies of mining that have left their mark on the

land, involving the public in reclamation decision-making is both a reasonable and equitable part of the post-mining process.

However, in a review of ten mine closure plans from Northern Canada, Monosky and Keeling (2021) found that the plans generally focused on technical information, ignoring or minimizing the unique social and historical challenges in the planning process. The plans were unclear on the role of community involvement in the closure and remediation of the mines, ignoring the connection between planning, local involvement, and socio-economic impacts. They argue for the inclusion of Indigenous and community expertise to improve the closure process and center planning in local socioeconomic contexts (Monosky & Keeling, 2021).

Beckett and Keeling (2019) go even further, advocating for a whole-scale rethinking of remediation that includes consideration of the political, social, and cultural relationships that shaped the local economies impacted by mining and its legacy. Because reclamation is a process of “healing” the landscape, reclamation can create opportunities for communities to heal as well, and determine their own relationship with post-mining landscapes, addressing past injustices and repairing social relationships and environmental conditions (Beckett & Keeling, 2019).

Mine reclamation processes are still heavily industry and state-guided (Beckett & Keeling, 2019 and Desai, 1989). The performance measures set forth in Directive 973 (AML-22) help to clarify the role that the state AML agency should be playing for the public., a role that is 1) responsive (to public inquiries and public input) 2) informative, and 3) educational. Using these measures, we can begin to assess the public participation

methods employed by state and tribal AML programs. But given the recognition of the need for methods that go beyond traditional comment periods and hearings, these measures alone do not allow for us to review state and tribal AML programs in the context of meaningful public participation.

Drawing on the literature, we offer a second set of measures intended to guide our review of the public participation methods within the AML program. Building on Simon’s (2013) review of state-administered Voluntary Cleanup Programs (VCPs) and Peelle’s set of successful participation factors, we examine program methods through the following lenses: 1) the level of innovation employed by the state agency, 2) agency commitment to public participation goals, and 3) opportunities for community capacity-building. These factors can give a better indication about the extent to which the AML participation process seeks to go beyond what is prescribed in their participation guidelines, whether the agency is taking ownership of the process and seeking to build an iterative, committed process, and if the agency is working to enhance community capacity and learning throughout the process.

**Table 6. Public Participation Measures**

<b>Factor</b>	<b>Performance Measures</b>	<b>Source</b>
Responsiveness	Does the program follow the State Reclamation Plans (SRPs) process for including citizen input into reclamation project selection?  Does the program offer multiple opportunities for public participation?	2013 OSMRE Directive  Simon, 2013

Informative	Does the program provide requested information to the public in a timely manner?	2013 OSMRE Directive
Educational	What methods does the state use: mailings, publications, billboards/postings, telephone contacts, email, internet advertising?  Does the state use one form of communication or more?	2013 OSMRE Directive  Simon, 2013
Innovation	Does the state employ innovative methods for participation or any that go beyond traditional methods?	Gallagher, 2009  Beierle, 1998  Hunt et al., 2019  Koniskjy and Beierle, 2001
Commitment	Is the agency clear on public participation goals?	Peelle et al., 1996
Capacity-Building	Does the state level program offer any workshops or training opportunities to interested public persons?  Does the program allow any decisions to be made solely by public participants?	Rosen and Painter, 2019  Simon, 2013

## **STUDY AIM**

The purpose of this study is to conduct a novel landscape analysis of the extent of, and methods for, public engagement throughout Abandoned Mine Land (AML) states and tribes. Conducting a mixed approach through qualitative analysis of State Reclamation Plans (SRPs) and annual evaluation reports (AERs), we will identify the public participation methods stated in the SRPs and the efforts undertaken in the AERs for the years 2015-2019.

After collecting all state and tribal AERs for the evaluation period of 2015-2019, we will review each Public Participation & Outreach section for the AML program and organize this information into a large spreadsheet. We will then conduct a case-study analysis of four specific AML states to provide deeper insight into their public participation efforts. Finally, we will disseminate a survey to particularly engaged community organizations in the Appalachian region to understand the barriers and opportunities for public engagement.

Data collected by this study can be used to inform both internal and external purposes. Internally, the data will help bridge information gaps across AML states and tribes that may operate in secluded conditions. In addition, the survey responses will provide information to both engaged community organizations and AML staff about their views on public participation processes, barriers that impact public participation, and opportunities for public participation growth on either the community or agency side.

Finally, the data in this study will help to inform continued discussions about how the public has and should be engaged in the work of ecological restoration and reclamation.

## **RESEARCH QUESTIONS**

The main research questions for this study are:

1. How do community organizations, the public, and stakeholders participate in the AML site selection, design, and approval process?
2. What are the barriers and opportunities for public participation faced by AML agency officials and engaged community organizations?



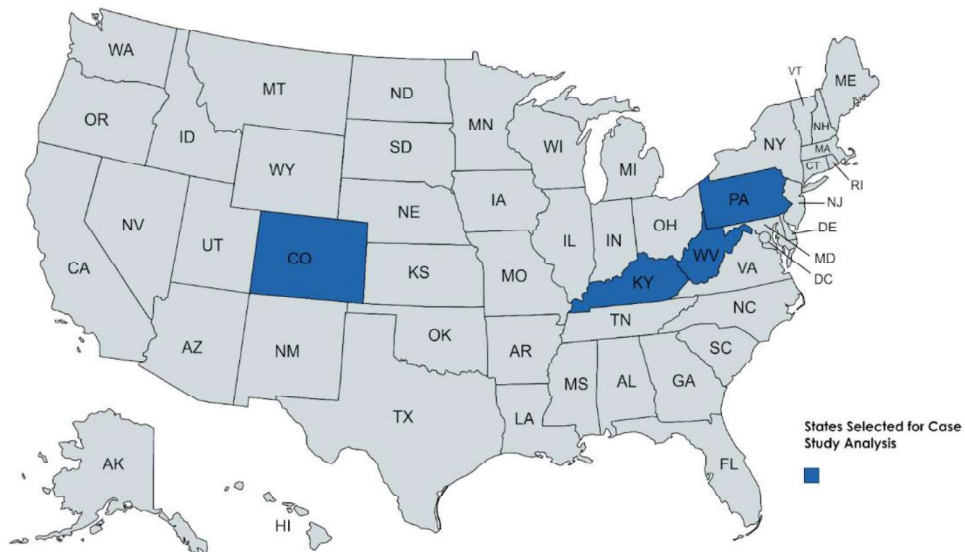
## **METHODOLOGY**

### **Case Study Review**

To provide an in-depth examination of how AML states operate their programs, we conducted a review of four AML states that have a high level of remaining AML project need, determined through the unfunded AML costs in the Abandoned Mine Land Inventory System (e-AMLIS). e-AMLIS is the official inventory of AML sites maintained by OSMRE that stores, manages, and reports on funded, unfunded, and completed AML projects. In addition to information on the location and type of AML problem, e-AMLIS provides information on reclamation costs and reports the total cost of unfunded, funded and completed AML projects by state and tribe ("Abandoned Mine Land Inventory System," n.d.). This reporting system has been criticized for utilizing outdated technology and missing information for billions of dollars of unreclaimed AMLs that exist but can still provide a sense of the currently known remaining AML need in the selected case study states (Dixon & Bilbrey, 2015).

To undertake this in-depth examination, we reviewed State Reclamation Plans, annual evaluation reports during the 2015-2019 period, and state AML websites for information on public participation opportunities. The high-level of remaining AML need was the guiding factor for choosing the AML states, given the belief that a high-level of remaining AML work would necessitate more engaged public participation efforts on the agency and community organization side, and thus provide for a richer analysis of AML agency methods and structures.

The states chosen for this review include Colorado, Pennsylvania, Kentucky, and West Virginia. Kentucky, Pennsylvania, and West Virginia, in addition to being states with high remaining AML-need, represent states with a significant history of coal production and are all based in the Appalachian region. Colorado was chosen for review because of its mention in Dixon and Bilbrey's Abandoned Mine Land Program Policy Analysis (2015), which explicitly notes that the state has developed "perhaps the best model of public input."



**Figure 4. AML States Chosen for Case Study Analysis**

None of the tribes participating in the AML program were selected for review in a case study because all three (Navajo Nation, Crow, and Hopi Tribe) are certified and

have reclaimed all high-priority AML sites. Table 7 below provides information on the chosen states' completed, unfunded, and funded AML problems. See Appendix D for a full review of remaining unfunded AML costs across all states and tribes.

**Table 7. State High Priority (Priority 1, 2, & Adjacent Priority 3) Cost Summary**

<b>State</b>	<b>Completed</b>	<b>Funded</b>	<b>Unfunded</b>	<b>Total</b>
CO	\$59,801,079.21 (45.3%)	\$1,153,130.00 (0.87%)	\$71,129,706.17 (53.9%)	\$132,083,915.38
KY	\$610,442,932.25 (45.2%)	\$61,791,610.00 (4.5%)	\$678,990,739.76 (50.3%)	\$1,351,225,282.01
PA	\$729,900,917.37 (14.8%)	\$222,418,312.14 (4.5%)	\$3,966,230,101.30 (80.6%)	\$4,918,549,330.81
WV	\$766,966,618.25 (36.2%)	\$36,251,208.92 (1.7%)	\$1,315,253,597.22 (62.1%)	\$2,118,471,424.39

### **Landscape Review**

After collecting all state and tribal AERs for the evaluation period, we will organize the information into a spreadsheet divided by state and tribe. Public participation efforts that can be included in these reports is based on the information

outlined in OSMRE Directive AML-22 and encompasses the types of information Field Office Directors (FODs) can include as potential topics in each state and tribal AER.

### **Landscape Review of Public Participation Information**

An important component of this research project is a landscape review of AERs to demonstrate all public participation efforts undertaken by all AML states and tribes throughout the evaluation period. This was accomplished through collection and review of 135 AERs for states and tribes during the evaluation period. The author identified the relevant Public Participation and Outreach section for each AER and organized them by state and tribe in an excel spreadsheet. Please see Appendix B for a copy of this detailed spreadsheet.

Each action was then categorized by type within the spreadsheet. For example, if the state or tribe had information within their AER about where the public could find the AML agency website, this information was categorized as "agency website information." If the state or tribe listed specific public meetings or community events undertaken in that evaluation year, the action was categorized as "EY community event," or "EY public meeting."

All actions identified within the AERs were then organized into a new spreadsheet, divided into two tabs: Information and Public Participation Methods. The "Information" tab contains the information provided to the public within the AER, such as where to find the agency AML website, how to access Performance Evaluations and Annual Evaluation Reports, information about Environmental Assessments, information about the e-AMLIS inventory site, and other pertinent information for citizens and

organizations. Additional information that was captured included: information about any citizen councils or advisory boards, information about stakeholder email contact lists and how to join them, information about AML Directives and Regulatory Guidance, and mentions of partnerships and other community organizations or stakeholders active within the state or tribe.

### **Landscape Review of Public Participation Methods**

The second component of this approach dealt with analysis of public participation methods at use within AERs for the evaluation period. This analysis attempted to capture opportunities available for participation and actual activities undertaken throughout the evaluation year, including press releases, public notices, community events, presentations, or public meetings and hearings held by the AML state or tribe. Some states and tribes listed only the options for public involvement (opportunities to comment, request a meeting or hearing etc.), but others listed actual meetings, hearings, and events undertaken during the year.

This information was captured within the spreadsheet regardless of whether it was an option offered by the state or tribe or an actual effort completed in the evaluation year, but an additional category was included for states and tribes that listed the actual activities undertaken, which was denoted by an "EY" in the author's original analysis (see Appendix C for the detailed spreadsheet). Additional items captured include volunteer or participant counts for events, outreach hours collected by the state/tribe, educational materials created, complaints collected and counted, social media accounts mentioned, and annual outreach completed by OSMRE.

## **Public Participation Surveys**

The final approach used in this study was the dissemination of a survey to members of community organizations in the Appalachian region and Colorado. The survey was meant to be quickly completed, with 24 questions total. These organizations were chosen to provide information on the public participation opportunities and barriers in the AML program from the "community organization" side. Survey questions were formulated in September of 2021 and were reviewed and approved by the author's Graduate Advisor, Dr. Younsung Kim. The author also completed Human Subjects Training through the Collaborative Institutional Training Initiative (CITI) program and received certifications of completion for the following curricula: Social and Behavioral Responsible Conduct of Research and Group 1 Social and Behavioral Research.

In November of 2021, the author received confirmation that the Institutional Review Board (IRB) had reviewed and approved the survey questions and project. The IRB consent form (see Appendix E) was provided to survey participants in email form and was placed at the beginning of the body of the survey questions. This consent form outlines the reason for the survey, the risks and benefits of participants, confirms the confidentiality of the responses, and describes that the respondents' participation is voluntary and that they may participate or withdraw from the survey at any time for any reason. Finally, the consent form provided the identity and contact information of the author Karsyn Kendrick and the academic advisor, Dr. Younsung Kim as well as the IRBNet Number for the research.

In September of 2021, the author compiled the first list of contacts for the survey. To identify potential community organizations working on AML-related issues, the author first did a state by state, tribe by tribe google search of the terms "reclamation," "abandoned mine lands," "community organizations," " non-profits," "environmental organization," with the relevant state or tribe included. For many states and tribes, these search terms yielded no relevant results. The author expanded the search to include terms such as "watershed organization," and "acid mine drainage," to potentially capture a wider set of organizations. Though this effort did yield more organizations, it did not ensure that the organization was engaged in AML issues.

Given these outcomes, the author decided the community organizations survey would be focused on a targeted set of states instead of all states and tribes in the AML program. This decision was made for two reasons. First, while the AML program is long-standing, it is not a particularly well-known program across the country, meaning many environmental or watershed-focused community organizations do not work on AML-related issues. Second, although this decision would result in a smaller set of organizations for survey response, it would potentially ensure a higher quality of feedback and survey response.

The community organization survey was focused then on organizations working in the following states: Colorado, Kentucky, West Virginia, Pennsylvania, and Ohio. The author obtained an initial list of organizations working on AML issues in these states by consulting the AERs where states can list grassroots and community organizations particularly involved in AML issues. This list was expanded through additional google

searches of community organizations, as well as personal outreach conducted by the author to known organizations asking for additional organizations to include. In total, this survey list included email contact information for 140 individuals. For organizations that were identified but did not provide staff contact information, the author submitted requests through information and organization emails.

Once an initial list was formulated, the author began outreach in early November of 2021 notifying individuals that a survey was incoming. In addition, this initial outreach identified the author, her institution and master's program, the aim of the thesis project and survey, a request for the individual to provide contact information for additional organizations and individuals for which the survey would be relevant, and a request for the individual to complete the survey once it was sent out. Finally, this outreach explained that the survey results and respondent information would be reported confidentially and anonymously within the thesis. See Appendix F for an example of this initial email outreach.

Survey questions and email addresses were imported into the free online SurveyMonkey.com tool, which allows users to send out surveys, track responses, and view metrics such as the response rate and volume over time. The initial survey was sent out on November 15, 2021, with a request for completion of the survey by 12/20/21. The survey was sent through SurveyMonkey, as well as through the author's George Mason email to the list of respondents. The George Mason outreach was done minutes before the survey was sent through SurveyMonkey, so that the respondent could be assured of the academic nature of the survey and its usefulness for graduate research. The email



contained the name and contact information of the author and her academic advisor, the institution and master's program the author was involved with, the reason for the survey, an assurance that the survey was not receiving internal or external funding of any kind, an assurance of confidentiality and anonymity, and the IRBNet number and statement that the survey had been reviewed according to George Mason University's procedures governing research on human subjects.

The survey was sent out again on December 6th, 2021, as a reminder. To boost survey response, the deadline for survey completion was extended until January 15th, 2022, and an additional survey reminder sent on December 15th, 2021. The final survey email was sent out on January 12, 2022, and the survey deadline extended once again to January 24th, 2022. The survey was then closed on January 24th, 2022, to responses.

The survey was divided into three subparts: Background Information, Public Participation Questions, and Level of Agreement with Statements, and an additional section with Open Ended Questions to get individuals' views on barriers and opportunities for increased engagement with the AML program. The survey included a Likert-scale of strongly agree to strongly disagree to measure the range of perceptions to AML participation efforts. See Appendix G to review the questions included in each survey.

## STATE CASE STUDIES

To examine the public participation methods at use in the states chosen, we reviewed State Reclamation Plans, annual evaluation reports during the 2015-2019 evaluation period, and state AML websites. This holistic analysis helps to clarify the structures and methods at use within the state AML program, as well as the information readily available to the public. The high-level of remaining AML need was a guiding factor for choosing the AML states, given the belief that a high-level of remaining AML work would necessitate more engaged public participation efforts on the agency and community organization side, and thus provide for a richer analysis of AML agency methods and structures.

The case study review offers an opportunity to examine the public participation methods through the lenses identified within the literature review. The performance measures set forth in Directive 973 (AML-22) clarify the role that the state AML agency should be playing for the public., a role that is 1) responsive (to public inquiries and public input) 2) informative, and 3) educational. Using these measures, we can begin to assess the public participation methods employed by state and tribal AML programs. But given the recognition of the need for methods that go beyond traditional comment periods and hearings, these measures alone do not allow for us to review state and tribal AML programs in the context of meaningful public participation.

Building on Simon's (2013) review of state-administered Voluntary Cleanup Programs (VCPs) and Peelle's set of successful participation factors, we examine

program methods through the following lenses: 1) the level of innovation employed by the state agency, 2) agency commitment to public participation goals, and 3) opportunities for community capacity-building. See Table 5 for additional details. These factors can give a better indication about the extent to which the AML participation process seeks to go beyond traditional public participation methods, whether the agency is taking ownership of the process and seeking to build an iterative, committed process, and if the agency is working to enhance community capacity and learning throughout the process.

**Table 8. Case Study States Summary: Public Participation, AML Need, and NGO Involvement**

<b>States</b>	<b>AML Need</b>	<b>Public Participation in Annual Evaluation Report</b>	<b>Public Participation in SRP</b>	<b>NGO involvement level</b>
<b>PA</b>	\$3.9B	Citizens Advisory Council  Mining and Reclamation Advisory Board  Opportunity for public comment on Performance Agreement/Evaluation Plan	A-95 Clearinghouse  Newspaper notice  Telephone conversations and/or meetings with the concerned parties	PA AML Campaign: 9 local/state/regional groups (not listed in report)
<b>KY</b>	\$678M	Public input in OSMRE/KYDNR Annual Performance Agreement  Solicit public proposals for AML	A-95 Clearinghouse  Local contact; citizens and elected officials	10 local/state/regional groups listed (2019)

		Citizen complaints investigated	Public meeting if needed	
<b>WV</b>	\$1.3B	Annual public comments received for grant  Citizen complaints  AML details posted on website  Non-profit watershed meetings	At least one public meeting announced via news releases and newspaper advertisements	Not included in AERs
<b>CO</b>	\$71M	Ad hoc Inactive Mine Program Advisory Council  Newspaper notices in affected counties  Public meetings  CIMRP staff participate in public watershed or district meetings relevant to AML projects	Inactive Mine Advisory Council  MLRB meetings public notice  Staff contacts local officials, affected landowners, and interested parties 30 days prior to Board action  Public meeting when necessary  Applications submitted to county courthouse/library  Newspaper notice  A-95 Clearinghouse	39 local/state/regional groups listed (2019)

## Colorado's Abandoned Mine Land Program

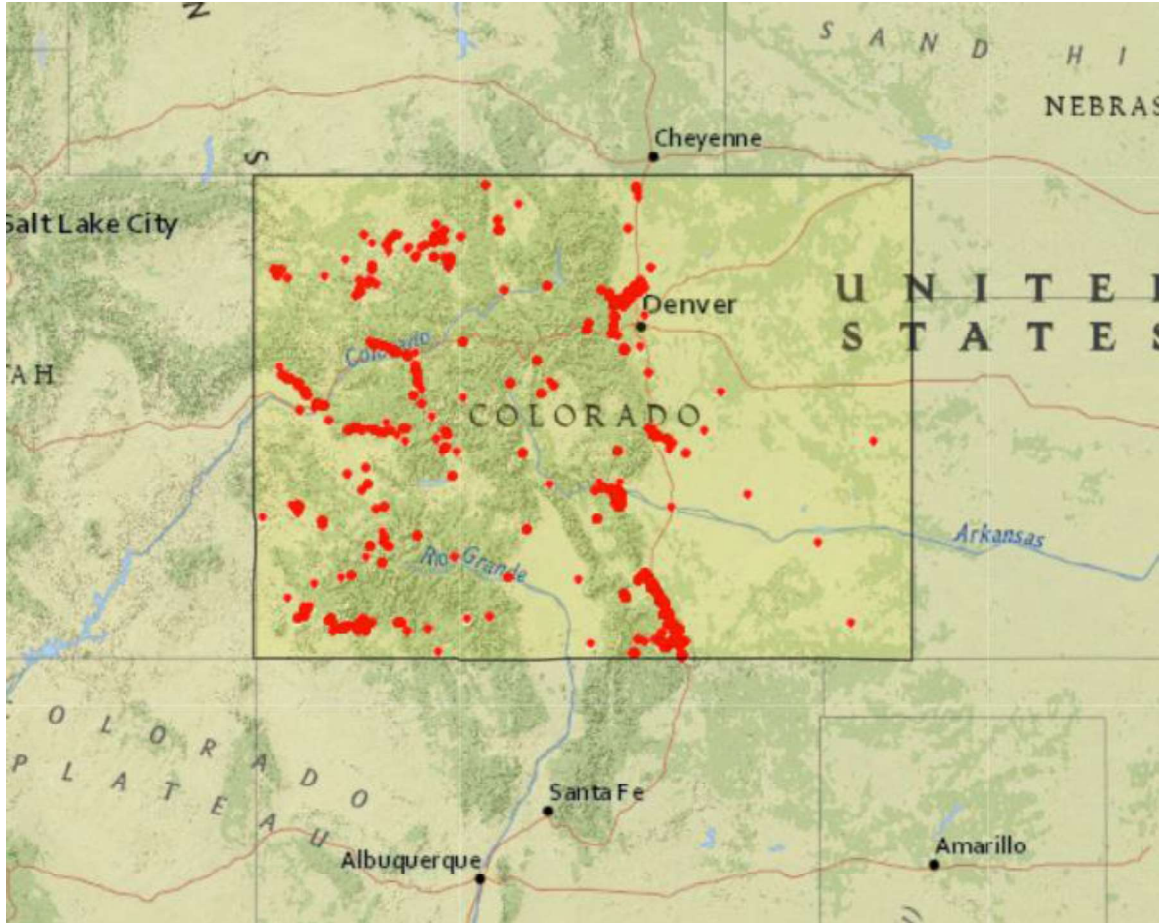


Figure 5. AML problems in Colorado, eAMLIS

Colorado's Abandoned Mine Land Program is administered by the Colorado Inactive Mine Reclamation Program (CIMRP), a part of the Division of Reclamation, Mining, and Safety in the Department of Natural Resources. CIMRP runs the Colorado abandoned mine land program and has the authority to reclaim non-emergency AML problems. According to the Inactive Mine Reclamation website, the Colorado AML

program has reclaimed over 4,000 acres of mined land and addressed 10,500 hazardous openings ("Inactive Mine Reclamation Program", n.d.). Although the website does not contain information specific to the public participation opportunities available through the AML program, it does have a Frequently Asked Questions (FAQ) section that provides the public with information on reporting injuries from AML sites, contacts for subsidence emergencies, resources to find out if a landowner has a mine on their property as well as contact information for reporting the potential AML site ("Inactive Mine Reclamation Program FAQs," n.d.).

In Colorado's State Reclamation Plan, the methods and processes for public participation are described in detail for the grant application and construction grant process. Generally speaking, CO AML officials conduct public meetings in affected areas to incorporate local concerns into project design, distribute copies of the grant application to courthouses and libraries, and post notices asking for public comment in local newspapers. These comments are then incorporated into the review and approval process described below.

For both the administrative and construction grants, local landowner consent for the project is the first step. In the administrative grant process, once the site evaluation and ranking is completed, this information is then forwarded to local residents and officials for comment and opinion. For the construction grant process, a feasibility study and environmental assessment is conducted and then forwarded along to the local residents and officials for their comment.

The SRP also mentions an Inactive Mine Advisory Council made up of stakeholders with a “wide range of expertise and interests,” that would provide guidance to the Mine Land Reclamation Board (MLRB) about AML sites and projects. However, the Colorado website makes no mention of the members or activities of a council, and instead provides information on the MLRB, a “multi-citizen” interest board that establishes the regulations, standards, and policies of the CO AML program. Members serve 4-year terms and are appointed by the Governor and confirmed by the legislature. Currently, there are seven Board members: 2 with conservation experience, 2 with mining experience, 1 with agricultural experience, a representative of the Soil Conservation Board and a representative of the Colorado DNR. Their duties and responsibilities are related to permits for active mining and enforcement of the minerals program ("Mine Land Reclamation Board," n.d.; CO Rev Stat § 34-32-105 (2016)).

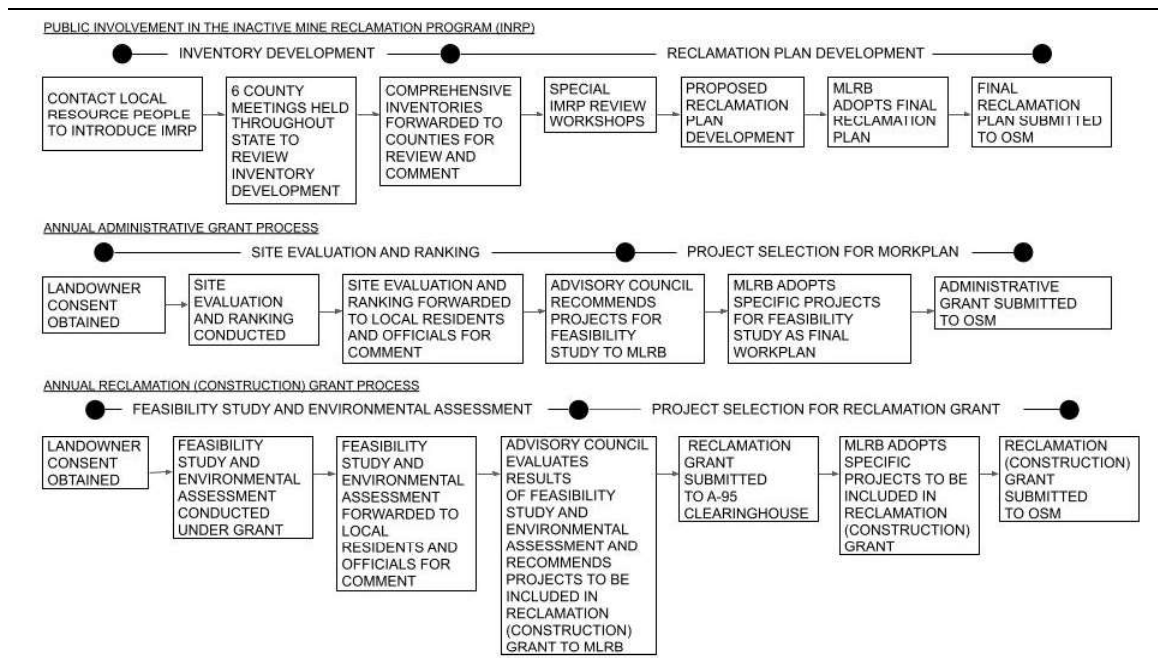
Although not mentioned on the state website, annual evaluation reports describe public participation opportunities including Colorado’s ad hoc Inactive Mine Program Advisory Council, a group representing various industry, environmental, citizen, and State and local government stakeholder groups that are active in the administrative and construction grant application process. This group represents a unique aspect of the Colorado program, the direct involvement of citizens in the AML site selection, design, and approval process.

Specifically, the Council meets twice a year to review both ongoing and proposed reclamation projects and provide guidance for the AML program. In the CO SRP, the Council is responsible for recommending projects to be included in the administrative

and construction grants. Their recommendations are then forwarded along to the MLRB, which has final decision-making authority projects selected. The MLRB is also responsible for appointing the members of the Council and considers the recommendations of the Council before finalizing the grant applications. The Council selects and ranks potential projects for feasibility studies. After the conclusion of feasibility studies, the Council selects projects to include in the construction grant application.

The MLRB then considers the projects submitted from the council, holds a Board meeting, and posts the information about the meeting at least 10 days prior in a general circulation newspaper to provide the public the opportunity to attend and provide comments. The AML staff is also required to contact local officials, affected landowners, and other “interested parties” at least 30 days before the Board finalizes the grant applications. The final requirement of the CO process is the use of regional Clearinghouses to further disseminate grant information to the public and local officials. The AML staff of the Inactive Mine Program are required to submit the applications to the Colorado Division of Local Governments, an A95 Clearinghouse that shares copies of the application to relevant agencies in the project areas.





**Figure 6. Colorado Process for Public Involvement in the AML Program**

## Colorado Annual Evaluation Report Review

We reviewed annual evaluation reports for Colorado’s AML program for the 2015-2019 reporting period. Mentioned above, annual evaluation reports must contain information on the public participation and outreach efforts undertaken during the year. The table below provides a summary of public participation activities in each evaluation year.

**Table 9. Public Participation in Colorado's Annual Evaluation Reports (2015-2019)**

Year	Public Participation Efforts
2015	<ul style="list-style-type: none"> <li>Description of Inactive Mine Program Advisory Council; roles and responsibilities</li> </ul>

	<ul style="list-style-type: none"> <li>• Public notices of proposed AML projects sent before formal MLRB meeting</li> <li>• MLRB monthly agenda posted to DRMS website several weeks before MLRB action</li> <li>• Public meetings in Clear Creek and Boulder Counties held (no information on type or quantity of participation)</li> <li>• CIMRP staff attended public watershed and district meetings in Mineral, Hinsdale, Gunnison, Ouray and San Juan Counties</li> <li>• Ongoing, informal meetings between Project Managers and landowners</li> <li>• 40 regional/areawide/state, local associations/authorities and forums mentioned as part of Colorado’s public participation process listed.</li> </ul>
2016	<ul style="list-style-type: none"> <li>• Description of Inactive Mine Program Advisory Council; roles and responsibilities.</li> <li>• Public notices of proposed AML projects sent before formal MLRB meeting</li> <li>• MLRB monthly agenda posted to DRMS website several weeks before MLRB action</li> <li>• Public meetings in Clear Creek, Boulder, and Summit counties held (no information on type or quantity of participation)</li> <li>• CIMRP staff attended public watershed and district meetings in Mineral, Hinsdale, Lake, Gunnison, Ouray, and San Juan counties</li> <li>• Ongoing, informal meetings between Project Managers and landowners</li> <li>• 39 regional/areawide/state, local associations/authorities and forums mentioned as part of Colorado’s public participation process listed.</li> </ul>
2017	<ul style="list-style-type: none"> <li>• CIMRP released 8 press releases for projects.</li> <li>• CIMRP assumed control of the Mine Subsidence Protection Program and worked to inform people in relevant areas of the program (no information on method used)</li> <li>• Description of Inactive Mine Program Advisory Council; roles and responsibilities.</li> <li>• Public notices of proposed AML projects sent before formal MLRB meeting</li> <li>• MLRB monthly agenda posted to DRMS website several weeks before MLRB action</li> <li>• Public meetings in Boulder, Clear Creek, Delta, Fremont, Garfield, Gilpin, Gunnison, Hinsdale, Lake, La Plata, Moffat, Montezuma, Montrose, Rio Blanco, San Miguel, San Juan, and Teller counties held (no information on type or quantity of participation)</li> <li>• CIMRP staff attended public watershed and district meetings in Mineral, Hinsdale, Lake, Gunnison, Ouray, and San Juan counties</li> <li>• Ongoing, informal meetings between Project Managers and landowners</li> </ul>

	<ul style="list-style-type: none"> <li>• 44 regional/areawide/state, local associations/authorities and forums mentioned as part of Colorado’s public participation process listed.</li> <li>• CIMRP conducted community outreach events at the Colorado Mining Association National Conference, Clear Creek County Watershed Festival and Denver Public School Career Fair.</li> <li>• DRMS supported the Western Hardrock Watershed Team (WHWT), which places volunteers at 4 sites in Colorado.</li> <li>• CIMRP provided one AML learning opportunity for the Environmental Learning for Kids (ELK) nonprofit program.</li> <li>• CIMRP worked with the Colorado Correctional Industries and Colorado Youth Corps Association to complete mine reclamation work., providing technical training and work experience.</li> <li>• Worked with USDA, USFS, BLM, USGS, local watershed associations, private landowners, and stakeholder groups (with funding from EPA and CO Department of Health) to complete problems on abandoned non-coal sites.</li> </ul>
2018	<ul style="list-style-type: none"> <li>• CIMRP issued 15 press releases on projects.</li> <li>• CIMRP assumed control of the Mine Subsidence Protection Program and worked to inform people in relevant areas of the program (no information on method used)</li> <li>• Description of Inactive Mine Program Advisory Council; roles and responsibilities.</li> <li>• Public notices of proposed AML projects sent before formal MLRB meeting</li> <li>• MLRB monthly agenda posted to DRMS website several weeks before MLRB action</li> <li>• Public meetings in Boulder, Clear Creek, Delta, Garfield, Gilpin, Gunnison, Hinsdale, Lake, La Plata, Moffat, Montezuma, Montrose, Rio Blanco, San Miguel, San Juan, and Teller Counties held (no information on type or quantity of participation)</li> <li>• CIMRP staff attended public watershed and district meetings in Mineral, Hinsdale, Lake, Gunnison, Ouray, and San Juan counties</li> <li>• Ongoing, informal meetings between Project Managers and landowners</li> <li>• 45 regional/areawide/state, local associations/authorities and forums mentioned as part of Colorado’s public participation process listed.</li> <li>• CIMRP conducted community outreach events at the Colorado Mining Association National Conference, Clear Creek County Watershed Festival and Denver Public School Career Fair.</li> <li>• DRMS supported the Western Hardrock Watershed Team (WHWT), which places volunteers at 4 sites in Colorado.</li> <li>• CIMRP provided one AML learning opportunity for the Environmental Learning for Kids (ELK) nonprofit program.</li> </ul>

	<ul style="list-style-type: none"> <li>• CIMRP worked with the Colorado Correctional Industries and Colorado Youth Corps Association to complete mine reclamation work., providing technical training and work experience.</li> <li>• Worked with USDA, USFS, BLM, USGS, local watershed associations, private landowners, and stakeholder groups (with funding from EPA and CO Department of Health) to complete problems on abandoned non-coal sites.</li> </ul>
2019	<ul style="list-style-type: none"> <li>• CIMRP issued 22 press releases on projects.</li> <li>• CIMRP assumed control of the Mine Subsidence Protection Program and worked to inform people in relevant areas of the program (no information on method used)</li> <li>• Description of Inactive Mine Program Advisory Council; roles and responsibilities.</li> <li>• Public notices of proposed AML projects sent before formal MLRB meeting</li> <li>• MLRB monthly agenda posted to DRMS website several weeks before MLRB action</li> <li>• Public meetings in Boulder, Gilpin, Gunnison, Hinsdale, San Miguel, San Juan, and Summit Counties; the Cities of Glenwood and Colorado Springs; and the Town of Crested Butte held (no information on type or quantity of participation)</li> <li>• CIMRP staff attended public watershed and district meetings in Hinsdale, Lake, Gunnison, Ouray, San Juan, and Summit counties</li> <li>• Ongoing, informal meetings between Project Managers and landowners</li> <li>• 45 regional/areawide/state, local associations/authorities and forums mentioned as part of Colorado’s public participation process listed.</li> <li>• CIMRP conducted community outreach events at the Colorado Mining Association National Conference, Denver Public School Career Fair, Montrose School District Fair, Colorado State University Geology Program, Western State University, Leadville School District Career Fair, and Arrupe Jesuit High School.</li> <li>• DRMS supported the Western Hardrock Watershed Team (WHWT), which places volunteers at 4 sites in Colorado.</li> <li>• CIMRP provided one AML learning opportunity for the Environmental Learning for Kids (ELK) nonprofit program.</li> <li>• CIMRP worked with the Colorado Correctional Industries and Colorado Youth Corps Association to complete mine reclamation work., providing technical training and work experience.</li> <li>• Worked with USDA, USFS, BLM, USGS, DOE, private mining companies including Freeport-McMoran and Newmont Mining, local watershed associations, private landowners, and stakeholder groups</li> </ul>

	(with funding from EPA and CO Department of Health) to complete problems on abandoned non-coal sites.
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**Table 10. Colorado Analysis Based on Public Participation Measures**

<b>Factor</b>	<b>Performance Measure</b>	<b>How was it measured?</b>	
Responsiveness	<i>Does the program follow the State Reclamation Plans (SRPs) process for including citizen input into reclamation project selection?</i>	Does the structure outlined in the SRP match with the efforts described in the AERs?	Colorado’s annual evaluation reports suggest that the state is following the processes set forth in their SRP. The reports listed each public meeting and the county they were held in, the public notices of AML projects sent out before the MLRB meeting, and the MLRB monthly agenda that is posted to the Colorado AML website weeks before the meeting is held. However, there is no mention in the evaluation report of the A-95 Clearinghouse process and its role in disseminating information to the public.
	<i>Does the state offer specific opportunities for the public to be involved in the planning process?</i>	Are there opportunities for public input before the projects are finalized?	Opportunities for the public to be involved in the planning process include 1) Public meetings in affected areas to incorporate local concerns into project design 2) Site evaluation and ranking is sent to

			local residents and officials for comment 3) Ad hoc Inactive Mine Program Advisory Council selects and ranks potential AML projects, and 4) MLRB meeting information is posted for public to attend and provide comments.
Informative	<i>Does the program provide requested information to the public in a timely manner?</i>	Examination of AERs and SRPs for information provided before meetings	Evaluation reports describe for each year that public notices of AML projects were sent before the MLRB meeting and that the agenda for the MLRB meeting was posted online. Between 2017 and 2019, the Colorado program also released 45 press releases on projects to the public and held public meetings in multiple counties.
Educational	<i>What methods does the state use: mailings, publications, billboards/postings, telephone contacts, email, internet advertising?</i>	Examination of AERs and SRPs	Public notices in newspapers, press releases, MLRB agenda posted on website, A-95 Clearinghouse process, public meetings.
	<i>Does the state use one form of communication or more?</i>	Examination of AERs and SRPs	3 forms of communication: notices, press releases, and A-95 process
Innovation	<i>Does the state employ innovative methods for participation or any</i>	Methods beyond public meetings and posting notices;	Inactive Mine Program Advisory Council's Decision-making authority over the

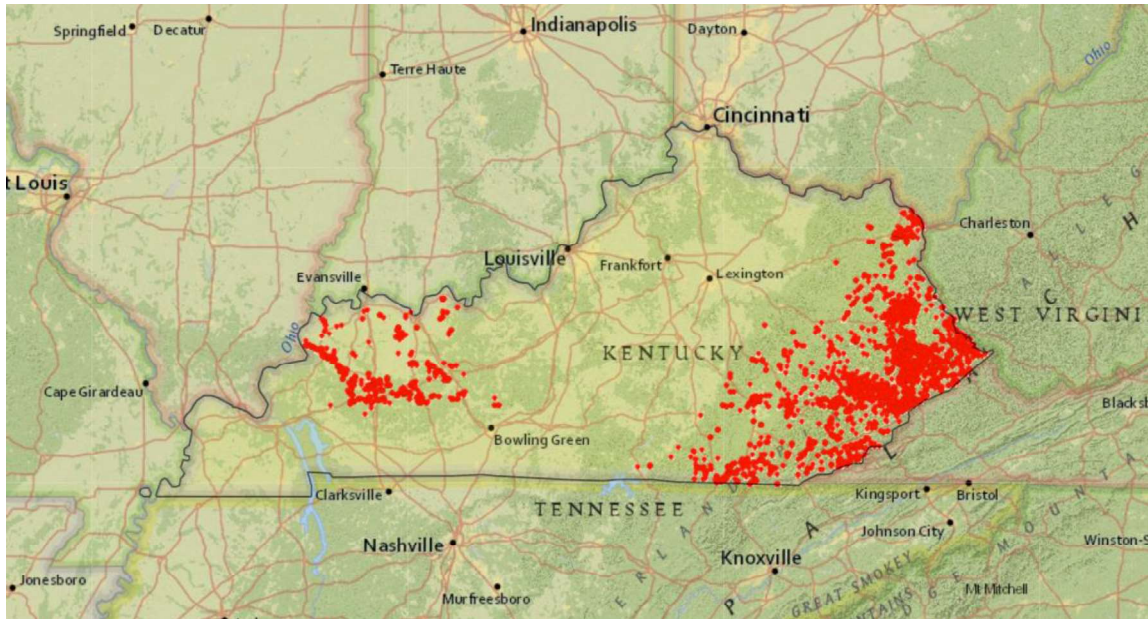
	<i>that go beyond traditional methods?</i>	represent attempts to bridge the citizen-state information gap	<p>projects selected for the annual AML grant application. In this way, Colorado has attempted to integrate the public into their AML processes.</p> <p>A-95 Clearinghouse process to disseminate information on the AML grant application to local agencies and officials. The Colorado program also reports in their annual evaluation reports additional engagement in the community that could be considered beyond traditional, including their community outreach events, AML learning opportunities for the Environmental Learning for Kids program, their work with the Colorado Correctional Industries and Youth Corps Association, and their support of the Western Hardrock Watershed Team. Though these activities are not all focused on increasing public participation, they do represent “going beyond prescribed methods.”</p>
Commitment	<i>Is the agency clear on public participation goals?</i>	Description of the role of public	SRP: “Public participation by local officials, organizations,

		involvement in SRP and mention of pp opportunities on website	<p>and individuals has been an integral part in the development of the Colorado Inactive Mine Reclamation Program. This intensive effort will continue in the Administrative Grant Application and Annual Reclamation (Construction) Grant Application Processes.”</p> <p>Website: No information specific to public participation opportunities in AML; Frequently Asked Questions (FAQ) section that provides the public with information on reporting injuries from AML sites, contacts for subsidence emergencies, resources to find out if a landowner has a mine on their property as well as contact information for reporting the potential AML site.</p>
Capacity Building	<i>Does the state program offer any workshops or training opportunities to interested public persons?</i>	Examination of AERs and SRPs	Annual evaluation report mentions work with the Western Hardrock Watershed Team, which has placed 4 volunteers to train in reclamation work at sites across the state
	<i>Does the program allow any decisions to</i>	Examination of AERs and SRPs	ad hoc Inactive Mine Program Advisory Council includes



	<p><i>be made solely by public participants?</i></p>		<p>industry, environmental, citizens, and other stakeholder groups that have decision-making authority over the projects selected for the annual AML grant application. Colorado was the only state where citizens were included in a body that had final decision-making authority over site selection.</p>
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**Kentucky's Abandoned Mine Land Program**



**Figure 7. AML problems in Kentucky, eAMLIS**

Kentucky's Abandoned Mine Land program is administered by the Kentucky Division of Abandoned Mine Lands (KYDAML) within the Kentucky Department of Natural Resources. KYDAML is also responsible for administering Kentucky's bond forfeiture reclamation program, water supply replacement program, and Abandoned Mine Land Economic and Community Development Pilot program ("Abandoned Mine Lands," n.d.). The website for the KY AML program provides information for the public to get involved with the program.

Specifically, the website provides the public with links and contact information on how to report an environmental emergency, file an environmental complaint, and the locations and contact information for AML field offices ("Regional Offices," n.d.). The website contains information on the AML projects that the Division of Abandoned Mine Lands is currently restoring ("Projects," n.d.), as well as a link to additional resources that includes information on the e-AMLIS inventory system, the National Association of Abandoned Mine Land Programs (NAAML), and an Abandoned Mine Lands portal, a partnership that is, "dedicated to raising awareness about abandoned mine lands" ("Additional Resources," n.d.). The portal, at [AbandonedMines.gov](http://AbandonedMines.gov), contains information on the concentration of AMLs across the country, reclamation success stories, and additional resources ("A Threatening Legacy," n.d.).

Kentucky's State Reclamation Plan (SRP) describes the processes and methods to be used for public participation in the AML program. Initially, AML officials must contact citizens in project areas during the site selection and coordination process. They are also required to reach out to local officials to get information on the local perception

of the AML site to gauge local interest in the proposed project. If the project has interest from the public, a public meeting will be scheduled and notice for the meeting will be posted in local newspapers at least 2 weeks before the meeting. If there is significant controversy or interest, the AML staff may schedule a post design/preconstruction meeting to explain KYDAML decision-making.

Kentucky utilizes citizen complaints to begin their investigation of potential AML sites. Field office staff often perform an initial investigation and evaluate the complaint or the problem identified by a landowner. Then they forward a summary to the Frankfort office for evaluation and confirm if the site is due to an AML problem using known mining records, mine maps, old field notes, and GIS layers. Sites that are eligible are sent to KYAML for project preparation and design and cost estimates.

The SRP mentions the creation of an Environmental Quality Commission, made up of 7 members appointed by the Governor with a broad range of experience. The Commission's purpose is to advise the Governor and DNR on environmental issues and work as a public forum to ensure public participation. The Commission is part of the Kentucky Executive Review Process and is provided with a copy of each annual grant application and encouraged to provide review and comment before submission to OSMRE.

However, as recently as 2017, the Kentucky legislature was attempting to dissolve the Environmental Quality Commission, with a Senate committee voting unanimously to do so. According to Representative Bruce Scott, the Commission had not performed regulation review and annual report compilation for the last 15 years. Additionally, for

many years the State has declined to allocate a budget to the Commission. Representative Scott also stated that the Commission had been holding 4 to 5 public meetings a year, activities that could be accomplished by other state agencies (Bruggers & Loftus, 2017).

The Kentucky AML program also utilizes a Clearinghouse review process to ensure the participation of State, Federal, and local governments in the AML program. The AML program sends along a 2-page summary of the potential project to the relevant area Clearinghouse. The Clearinghouse is then required to send the summary to interested parties that 1) have regulatory authority over the project 2) are concerned with how the project will affect their area of responsibility and operations and 3) are concerned with promoting development in the area. According to the SRP, local citizens can also participate through this method, and the state AML officials will make every attempt to resolve any conflicts in the project proposal.

**Kentucky Annual Evaluation Report Review**

We reviewed annual evaluation reports for Kentucky’s AML program for the 2015-2019 reporting period. Mentioned above, annual evaluation reports must contain information on the public participation and outreach efforts undertaken during the year. The table below provides a summary of public participation activities in each evaluation year.

**Table 11. Public Participation in Kentucky's Annual Evaluation Reports (2015-2019)**

<b>Year</b>	<b>Public Participation Efforts</b>
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2015	<ul style="list-style-type: none"> <li>• Lexington Field Office (LFO) solicits suggestions from citizens and industry groups on oversight topics for the year.</li> <li>• Appalachian Citizens Law Center, Kentucky Waterways Alliance and KYDNR submitted suggestions</li> <li>• Received 963 citizen complaints; 32 deemed eligible</li> </ul>
2016	<ul style="list-style-type: none"> <li>• Lexington Field Office (LFO) solicits suggestions from citizens and industry groups on oversight topics for the year.</li> <li>• Appalachian Citizens Law Center, Kentucky Waterways Alliance and KYDNR submitted suggestions</li> <li>• LFO participates in public meetings, trainings, and other events to encourage interaction and facilitate public participation</li> <li>• LFO has placed all topical reports and performance agreements on LFO website</li> <li>• LFO notifies known stakeholders and media of finished and planned activities and allows public input into the KYDNR Annual Performance Agreement</li> <li>• AML projects submitted for approval are generated from the public, who request investigation of problem areas</li> <li>• Received 400 citizen complaints; 14 deemed eligible</li> <li>• KYAML staff meet with interested parties at an OSMRE hosted meeting, and at the Shaping our Appalachian Region Conference</li> </ul>
2017	<ul style="list-style-type: none"> <li>• Lexington Field Office (LFO) solicits suggestions from citizens and industry groups on oversight topics for the year.</li> <li>• Appalachian Citizens Law Center, Kentucky Waterways Alliance and KYDNR submitted suggestions</li> <li>• LFO participates in public meetings, trainings, and other events to encourage interaction and facilitate public participation</li> <li>• LFO has placed all topical reports and performance agreements on LFO website</li> <li>• LFO notifies known stakeholders and media of finished and planned activities and allows public input into the KYDNR Annual Performance Agreement</li> <li>• AML projects submitted for approval are generated from the public, who request investigation of problem areas</li> <li>• Received 479 citizen complaints; 37 deemed eligible</li> <li>• KYAML staff meet with interested parties at an OSMRE hosted meeting, and at the Shaping our Appalachian Region Conference</li> </ul>
2018	<ul style="list-style-type: none"> <li>• Lexington Field Office (LFO) solicits suggestions from citizens and industry groups on oversight topics for the year.</li> <li>• Appalachian Citizens Law Center, Kentucky Waterways Alliance and KYDNR submitted suggestions</li> </ul>

	<ul style="list-style-type: none"> <li>• LFO participates in public meetings, trainings, and other events to encourage interaction and facilitate public participation</li> <li>• LFO notifies known stakeholders and media of finished and planned activities and allows public input into the KYDNR Annual Performance Agreement</li> <li>• AML projects submitted for approval are generated from the public, who request investigation of problem areas</li> <li>• Received 464 citizen complaints; 47 deemed eligible</li> </ul>
2019	<ul style="list-style-type: none"> <li>• AML projects submitted for approval are generated from the public, who request investigation of problem areas</li> <li>• Received 479 citizen complaints; 37 deemed eligible</li> </ul>

**Table 12. Kentucky Analysis Based on Public Participation Measures**

<b>Factor</b>	<b>Performance Measure</b>	<b>How was it measured?</b>	<b>Kentucky</b>
Responsiveness	<i>Does the program follow the State Reclamation Plans (SRPs) process for including citizen input into reclamation project selection?</i>	Does the structure outlined in the SRP match with the efforts described in the AERs?	State officials are to contact local officials for perception of AML projects and hold public meetings if the project has local interest. The SRP also mentioned the Environmental Quality Commission, a public forum to ensure public participation in AML. AER's report that "LFO participates in public meetings, trainings, and other events," but provides no specifics on the meetings/topics covered.
	<i>Does the state offer specific opportunities for the public to be</i>	Are there opportunities for public input before the	Opportunities for the public to be involved in the planning process include 1) AML officials

	<i>involved in the planning process?</i>	projects are finalized?	contact citizens in the project for feedback during site selection and coordination process, 2) Public meetings held if project has local interest 3) Citizen complaints are utilized to begin AML investigations, and 4) Clearinghouse reviews potential projects and can include citizens and stakeholders.
Informative	<i>Does the program provide requested information to the public in a timely manner?</i>	Examination of AERs and SRPs for information provided before meetings	Evaluation reports describe for each year that the Lexington Field Office (LFO) notified stakeholders of planned activities and allowed public input into the Annual Performance Agreement and posted “topical reports and performance agreements” on their website. There is no mention of specific AML project information that is sent out to the public through newspapers or notices.
Educational	<i>What methods does the state use: mailings, publications, billboards/postings, telephone contacts, email, internet advertising?</i>	Examination of AERs and SRPs	Public notices in newspapers, public meetings, citizen complaints, A-95 Clearinghouse process.
	<i>Does the state use one form of communication or more?</i>	Examination of AERs and SRPs	2 forms of communication: notices and A-95 process.

Innovation	<i>Does the state employ innovative methods for participation or any that go beyond traditional methods?</i>	Methods beyond public meetings and posting notices; represent attempts to bridge the citizen-state information gap	<p>Area Development Districts: The purpose of the ADD Districts is to keep decision making at the local government level, where those making decisions are accessible to the average citizen.</p> <p>Clearinghouse process to ensure public participation, sending along 2-page summaries of projects to relevant stakeholders that include local citizens and officials.</p>
Commitment	<i>Is the agency clear on public participation goals?</i>	Description of the role of public involvement in SRP and mention of pp opportunities on website	<p>SRP: “The State of Kentucky will encourage maximum public participation in the Abandoned Mine Land program.”</p> <p>Website: Provides the public with links and contact information on how to report an environmental emergency, file an environmental complaint, and the locations and contact information for AML field offices.</p>
Capacity Building	<i>Does the state program offer any workshops or training opportunities to interested public persons?</i>	Examination of AERs and SRPs	AERs state that LFO “participates in public meetings, trainings, and other events to encourage interaction and facilitate public participation,” but



			<p>there is no detail on the topics of the training sessions or who participated.</p> <p>Additionally, the report notes that Kentucky staff met with interested parties at OSMRE hosted meetings and the Shaping our Appalachia Region Conference. Kentucky website currently has a 2022 AMLER Grant Workshop available for citizens.</p>
	<p><i>Does the program allow any decisions to be made solely by public participants?</i></p>	<p>Examination of AERs and SRPs</p>	<p>AER mentions that projects submitted for approval are “generated from the public”</p>

**Pennsylvania’s Abandoned Mine Land Program**

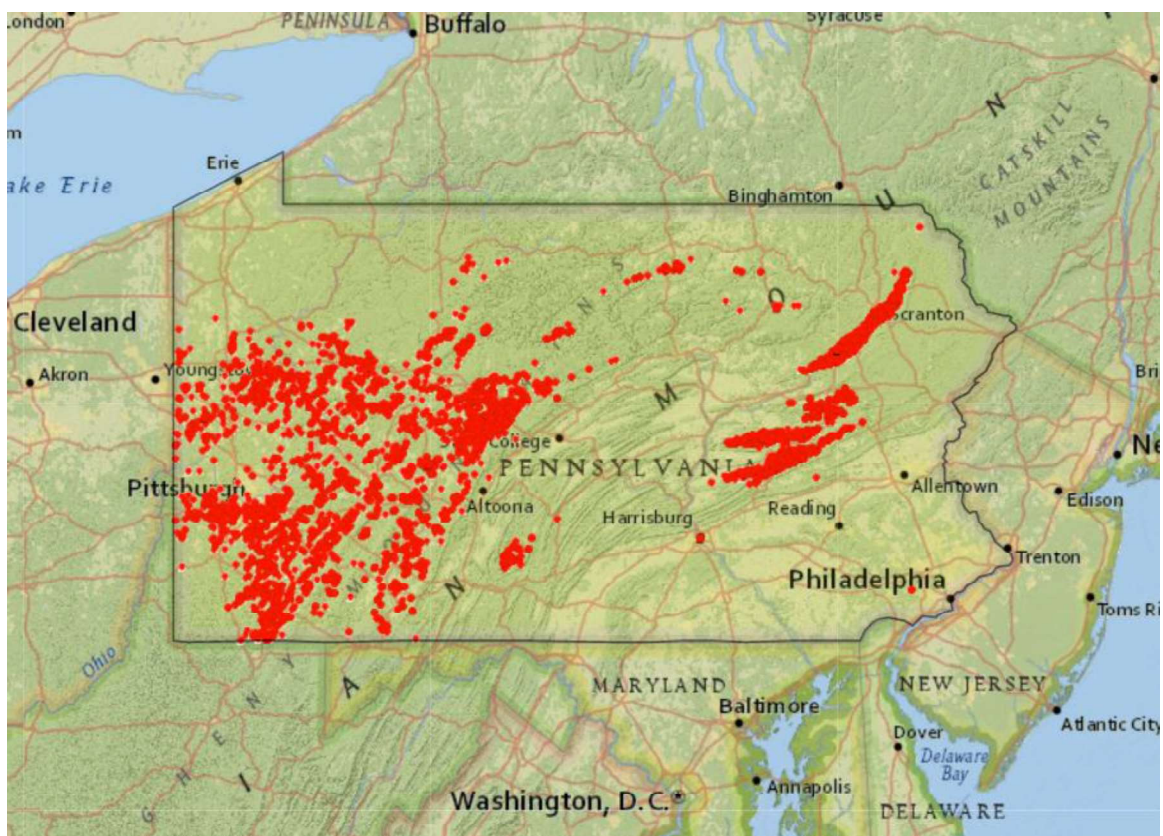


Figure 8. AML problems in Pennsylvania, eAMLIS

Pennsylvania’s Abandoned Mine Land program is administered by the Bureau of Abandoned Mine Reclamation (BAMR) in the Department of Environmental Protection (DEP) ("Bureau of Abandoned Mine Land Reclamation," n.d.). Since 1980, the program has reclaimed over 91,000 acres of AML sites, closed over 1,800 mine shafts and portals, and dealt with 271 miles of dangerous highwalls ("Pennsylvania Abandoned Mine Campaign," 2019). Pennsylvania also has the highest AML need in the selected study states and represents  $\frac{1}{3}$  of AML problems across the country (Rogers, 2022).

Pennsylvania’s Department of Environmental Protection website has an entire page dedicated to opportunities for public participation, though these opportunities

extend beyond just the AML program itself. Through DEP's regulatory and oversight actions, the public can provide feedback in the form of comments on proposed regulations and permits. The website also lists the following boards and committees that the state operates: The Environmental Quality Board, the Citizens Advisory Council (CAC), DEP Advisory Committees, and the Office of Environmental Justice ("Public Participation," n.d.).

The Citizens Advisory Council is made up of 18 appointed citizen volunteers and is charged with reviewing environmental laws of the state and making suggestions, reviewing the work of the DEP, advising the DEP on improvements, and submitting an annual report to the Governor and PA general assembly. 5 of the members of the CAC also serve as representatives on the 20-member Environmental Quality Board, which is charged with adopting DEP regulations. According to CAC bylaws, the Council is responsible for appointing 4 of their own members to serve on the Mining and Reclamation Advisory Board (MRAB) ("Citizens Advisory Council," n.d.).

The MRAB was created through the Pennsylvania Surface Mining Reclamation and Conservation Act and has the responsibility of advising the Secretary of the DEP on all matters relating to reclamation and surface coal mining. This includes reclamation project selection, alternative reclamation methods, reclamation fees, bonding policy, and experimental practices. The Board members must include 2 bituminous surface mine operators, 4 members of the CAC, one member from the Anthracite and Bituminous Licensed Professional Engineers, one from the County Conservation Districts, 4 members

of the PA General Assembly (2 from the Senate and 2 from the House of Representatives) ("Mining and Reclamation Advisory Board," n.d.).

Although the MRAB may advise on the selection of reclamation projects, Pennsylvania utilizes internal review for the annual AML grant application process. To inform the public of the proposed grant application, the SRP requires a notice placed in a newspaper of the affected regions advising residents on the grant application. If public comments are received, the SRP states that they will be resolved through “meetings and/or conversations with concerned parties.”

Similar to Colorado and Kentucky, Pennsylvania’s SRP also outlines a A95 process for involving the public in the AML grant application. Each year, the grant application is referred to Uniform Planning Regions and a notice is placed in a regional newspaper with the project name, township, or county name. The SRP maintains that the A95 process is “a continuing media for informing local interests and other agencies of actions proposed.”

Due to Pennsylvania’s high AML need, there are also many active nonprofit groups engaged in AML work throughout the state. One specific example is the Pennsylvania AML Campaign, a group of almost 150 organizations and individuals that advocate on behalf of the coal-impacted communities in PA. This group includes local, regional, state, and national groups as well as nonprofits, trade associations, townships, county conservation districts and business owners. Some of the larger organizations involved include the Citizens Coal Council, the Eastern Pennsylvania Coalition for Abandoned Mine Reclamation, the Foundation for Pennsylvania Watersheds,

Pennsylvania Association of Conservation Districts, the Pennsylvania Environmental Council, Trout Unlimited, the Western Pennsylvania Coalition for Abandoned Mine Reclamation, and the Western Pennsylvania Conservancy ("About the campaign," n.d.).

One of the unique aspects of Pennsylvania AML work that allows for a high level of involvement from nonprofit groups and associations is partly owed to the Good Samaritan protections provided by the state. Pennsylvania's Good Samaritan provisions provide liability protections for landowners, citizens, watershed associations, and environmental organizations to perform abandoned mine land reclamation and water pollution work. Eligible work includes restoration of mineral extraction lands that have been abandoned and water pollution from abandoned mines and oil and gas wells (Cavazza & Stefanko, 2021). According to the Pennsylvania AML Campaign, the Good Samaritan protections have allowed for the treatment of some 300 acid mine drainage treatment projects ("Pennsylvania Abandoned Mine Land Campaign," 2019).

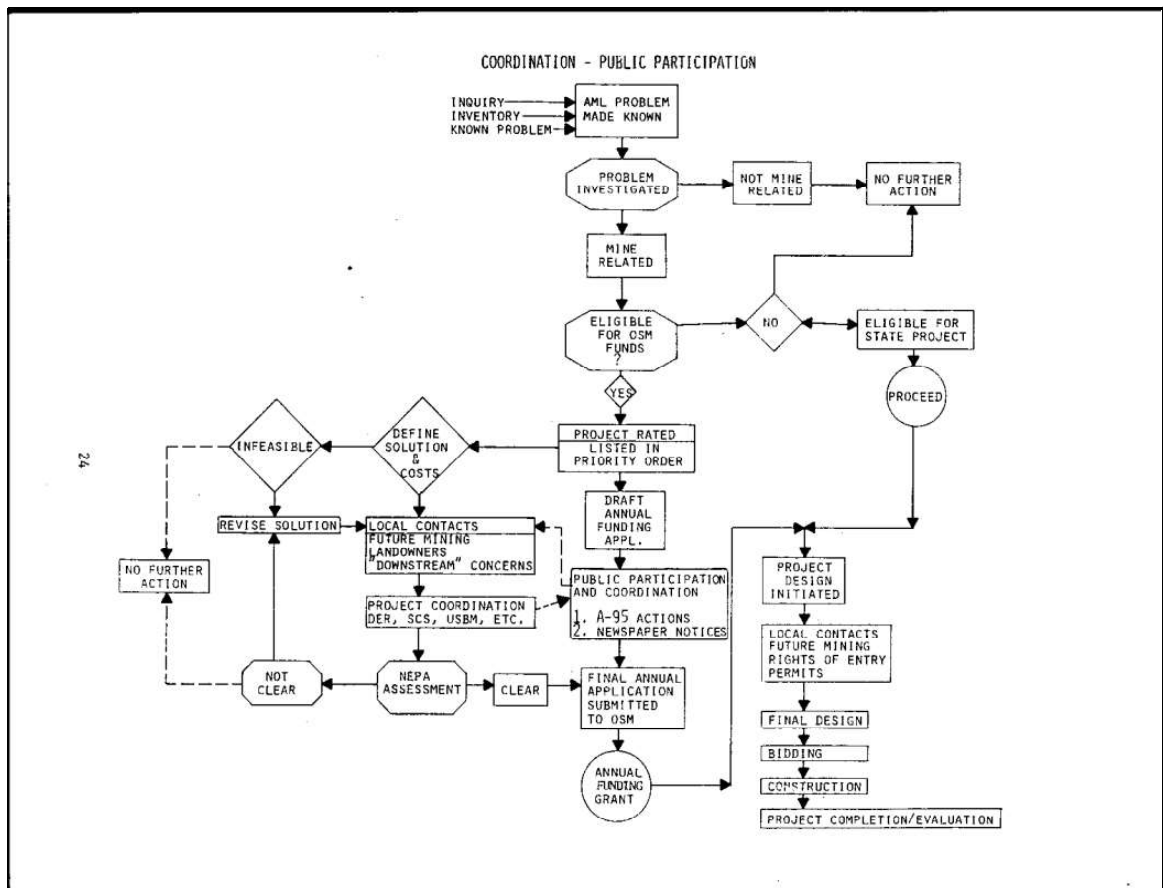


Figure 9. Public Participation in Pennsylvania State Reclamation Plan

### Pennsylvania Annual Evaluation Report Review

We reviewed annual evaluation reports for Pennsylvania’s AML program for the 2015-2019 reporting period. Mentioned above, annual evaluation reports must contain information on the public participation and outreach efforts undertaken during the year. Unfortunately, the annual evaluation reports for Pennsylvania during this period contain little to no information on the public participation opportunities undertaken through the

state AML program. Instead, the reports list only the opportunities available through the Pennsylvania Coal Regulatory Processes.

For the AML program, each evaluation report listed the following:

OSMRE's January 31, 2011, Directive REG-8, Oversight of State and Tribal Regulatory Programs, establishes policies, procedures, and responsibility for OSMRE offices to ensure the states and tribes are effectively administering, implementing, maintaining and enforcing their approved regulatory programs. Outreach and public participation are an essential element of effective oversight and OSMRE continues to maximize opportunities for public participation and make oversight related information more available to the public. (Pennsylvania Annual Evaluation Report, 2015-2019)

This statement suggests that in the PA AML program, opportunities for public participation exist only through the administration of the regulatory and oversight process. Through that process, OSMRE conducts outreach annually to solicit comments from "the public and interested parties" about the oversight process and potential topics for review in the upcoming year. Given the high level of engagement from nonprofit and community organizations in Pennsylvania, it is clear that our review of SRPs and AERs does not allow for a complete understanding of the ways in which organizations and individuals participate in the Pennsylvania AML program.

**Table 13. Pennsylvania Analysis Based on Public Participation Measures**

<b>Factor</b>	<b>Performance Measure</b>	<b>How was it measured?</b>	<b>Pennsylvania</b>
Responsiveness	<i>Does the program follow the State Reclamation Plans (SRPs) process for including citizen input into reclamation project selection?</i>	Does the structure outlined in the SRP match with the efforts described in the AERs?	Due to Pennsylvania’s lack of reporting on AML program public participation opportunities in their evaluation report, it is difficult to measure their annual efforts against the process outlined in their SRP.
	<i>Does the state offer specific opportunities for the public to be involved in the planning process?</i>	Are there opportunities for public input before the projects are finalized?	Opportunities for the public to be involved include 1) Citizens Advisory Council (4 members) on Mining and Reclamation Advisory Board and advise on project selection 2) Notice placed in newspaper for comments on grant application and 3) Grant application placed in regional newspapers through Clearinghouse process.
Informative	<i>Does the program provide requested information to the public in a timely manner?</i>	Examination of AERs and SRPs for information provided before meetings	The lack of detail in evaluation reports makes it difficult to measure the informativeness of the state to the public, though the AML program is required to post notices of the grant application in local newspapers and hold meetings with concerned parties if public comments are received.



Educational	<i>What methods does the state use: mailings, publications, billboards/postings, telephone contacts, email, internet advertising?</i>	Examination of AERs and SRPs	Public notice in newspapers, public meetings, A-95 Clearinghouse process.
	<i>Does the state use one form of communication or more?</i>	Examination of AERs and SRPs	2 forms of communication: notices and A-95 process.
Innovation	<i>Does the state employ innovative methods for participation or any that go beyond traditional methods?</i>	Methods beyond public meetings and posting notices; represent attempts to bridge the citizen-state information gap	<p>Citizens Advisory Council made up of 18 citizen volunteers, of which 4 are appointed to the Mining and Reclamation Advisory Board (MRAB). The MRAB advises AML project selection, but final decision-making authority resides within AML state officials.</p> <p>Good Samaritan protections provided by the state. Because of these liability protections, nonprofit organization involvement in AML site reclamation itself has increased in the state and led to high involvement in AML projects and topics from multiple nonprofit groups and associations.</p>
Commitment	<i>Is the agency clear on public participation goals?</i>	Description of the role of public involvement in SRP and	<p>SRP: No mention of the role in SRP</p> <p>Website: Entire page dedicated to</p>

		mention of pp opportunities on website	opportunities for public participation, though these opportunities extend beyond just the AML program itself. Through DEP's regulatory and oversight actions, the public can provide feedback in the form of comments on proposed regulations and permits. The website also lists the following boards and committees that the state operates: The Environmental Quality Board, the Citizens Advisory Council (CAC), DEP Advisory Committees, and the Office of Environmental Justice.
Capacity Building	<i>Does the state program offer any workshops or training opportunities to interested public persons?</i>	Examination of AERs and SRPs	Not evidenced in analysis.
	<i>Does the program allow any decisions to be made solely by public participants?</i>	Examination of AERs and SRPs	Not evidenced in analysis.

**West Virginia's Abandoned Mine Land Program**

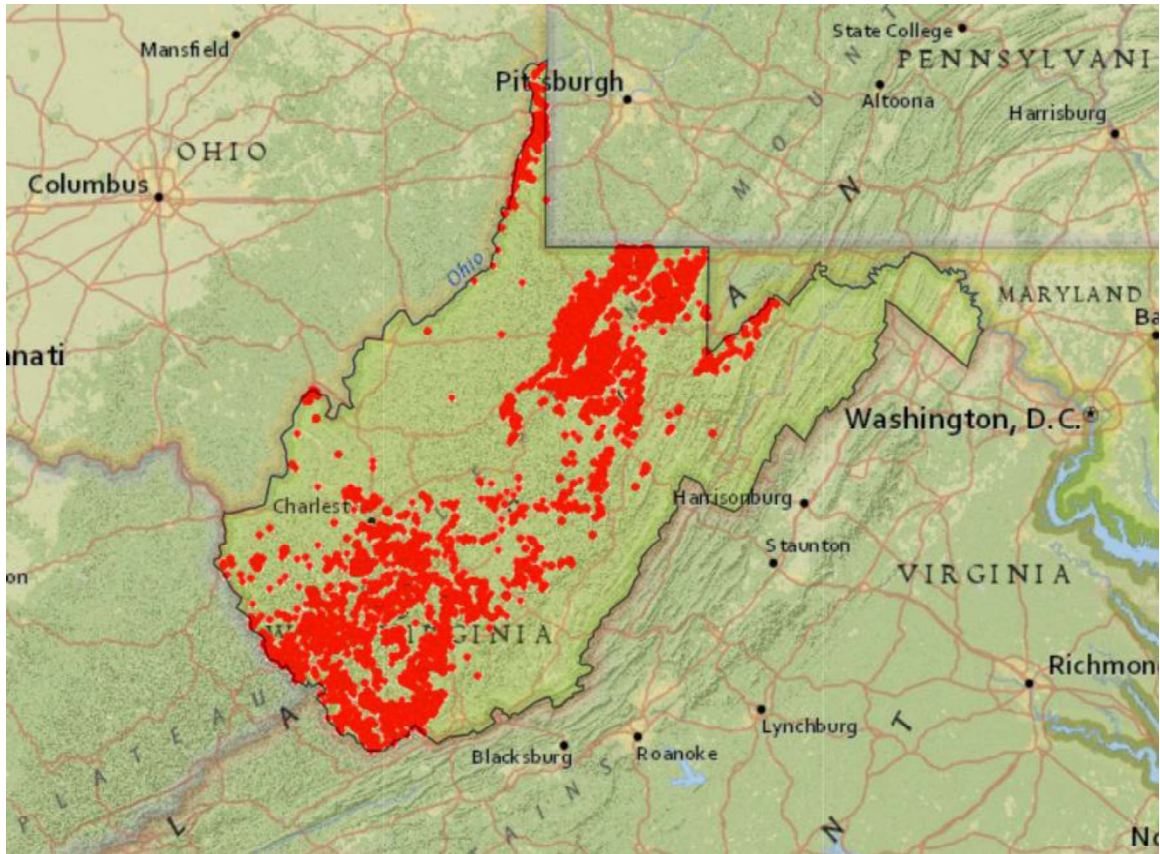


Figure 10. AML problems in West Virginia, eAMLIS

West Virginia's AML program is managed through the Department of Environmental Protection's Office of Abandoned Mine Lands and Reclamation ("Office of Abandoned Mine Lands and Reclamation," n.d). According to a recent report by the Reclaiming Appalachia Coalition, the state has completed reclamation of over 150,000 acres of mine sites, with 400,000 acres remaining ("Restoration and Renewal," 2021). Similar to the other study states we have chosen to review, West Virginia represents some of the highest AML need across the country.

The WV AML portion of the website does not contain a section specific to public participation opportunities, but there is a portal for the public to report AML emergencies and complaints. The website provides information on what constitutes a need to submit a report, including hazards that present threats to public health and safety such as open portals or shafts, land subsidence, coal waste, underground fires, and landslides ("Report an emergency or complaint," n.d.).

The WVDEP's website has a page for citizens to stay involved in their work and provides a link for the public to sign up for weekly notices that include comment periods, permit applications, and public hearing information ("Citizen and Community Services," n.d.). The WVDEP also offers a citizen's guide that contains helpful assistance for citizens interested in filing a Freedom of Information Act request or requesting a public hearing or meeting. Additionally, the guide contains information on the rule making and legislative process, emergency rule making and the various divisions and offices within the WVDEP ("Citizens Guide," 2018). The website also provides information on the location and posting of public notices and how to request a public hearing. However, the opportunities for involvement listed on the website does not include information on the AML program itself ("Citizen and Community Services," n.d.).

West Virginia's State Reclamation Plan (SRP) explains the public participation process undertaken during the development of the plan and outlines the processes for participation the state will use in the operation of the AML program. The processes explained in the W.V. SRP are clear but minimal. For any non-emergency project submitted for the construction, the WVDEP commits to holding at least one public

meeting in Charleston, West Virginia to describe that project, and may hold additional meetings if 1) the project costs over 1 million 2) the project may be “sensitive or controversial” or 3) Local stakeholders request an explanation for the project. These meetings are announced through news releases and legal advertisements placed in newspapers relevant to the project area.

West Virginia also maintains a Special Reclamation Advisory Council made up of 8 members appointed by the Governor and the Senate. The members are representatives include the Secretary of the WVDEP, the Treasurer of the State, the Director of the National Mine Land Reclamation Center at WV University, an actuary/economist, and one member representing each of the following interests: the coal industry, environmental protection organizations, coal miners, and the general public. This Council advises on the “effective, efficient, and financially stable operations” of the Special Reclamation Fund and Special Reclamation Water Trust Fund ("Advisory Council," n.d.). In West Virginia, the WVDEP also houses the Office of Special Reclamation which reclaims and treats water on sites that have bond forfeited coal mining permits post August 1977 ("Office of Special Reclamation," n.d.). It is not clear from the website or West Virginia code that created the Council how much interaction is permitted between the Council and the AML program staff.

### **West Virginia Annual Evaluation Report Review**

We reviewed annual evaluation reports for West Virginia’s AML program for the 2015-2019 reporting period. Mentioned above, annual evaluation reports must contain information on the public participation and outreach efforts undertaken during the year.

The table below provides a summary of public participation activities in each evaluation year. Though the state provides more information relating to public participation efforts than Pennsylvania, the reports still lack specific detail. For example, the report notes that the WVDEP “routinely participated in discussions with the Special Reclamation Advisory Council...” but offers no further detail of either the quantity, quality, or participants of the discussions.

**Table 14. Public Participation in West Virginia's Annual Evaluation Reports (2015-2019)**

<b>Year</b>	<b>Public Participation Efforts</b>
2015	<ul style="list-style-type: none"> <li>• Sent letters and e-mails to citizens and groups advising the annual report was available and offering to meet with groups at any time, even after business hours, to discuss SMCRA issues;</li> <li>• Requested public participation in the State program amendment process through Federal Register announcements and Federal and State agency notification letters;</li> <li>• Posted Annual Reports, work plans, and the complete text of detailed oversight reports on the CHFO website as the reports were completed. The CHFO web site includes a “State” specific page that contains relevant information about the oversight of West Virginia’s Program. The site is accessible on OSMRE’s home page at: <a href="http://www.arcc.osmre.gov/about/states/wv.shtm">http://www.arcc.osmre.gov/about/states/wv.shtm</a>.</li> <li>• Participated and presented at several conferences open to the public and other symposia;</li> <li>• Conducted telephone calls with individuals from special interest groups to discuss oversight topics and other issues of concern. Also, responded to multiple citizen letters and e-mail inquiries related to AML waterline projects;</li> <li>• Participated in numerous meetings with non-profit organizations working on watershed restoration projects;</li> <li>• Responded to Congressional inquiries;</li> <li>• Routinely participated in discussions with the Special Reclamation Fund Advisory Council that represents multiple interests;</li> <li>• Routinely interacted with the State’s Permitting Quality Assurance Quality Control Panel that represents multiple interests; and</li> </ul>

	<ul style="list-style-type: none"> <li>• Routinely interacted with citizens who call or write seeking information about abandoned mine lands or surface coal mining and reclamation activities or requirements.</li> </ul>
2016	<ul style="list-style-type: none"> <li>• Sent letters and e-mails to citizens and groups advising the annual report was available and offering to meet with groups at any time, even after business hours, to discuss SMCRA issues;</li> <li>• Requested public participation in the State program amendment process through Federal Register announcements and Federal and State agency notification letters;</li> <li>• Posted Annual Reports, work plans, and the complete text of detailed oversight reports on the CHFO website as the reports were completed. The CHFO web site includes a "State" specific page that contains relevant information about the oversight of West Virginia's Program. The site is accessible on OSMRE's home page at: <a href="http://www.arcc.osmre.gov/about/states/wv.shtm">http://www.arcc.osmre.gov/about/states/wv.shtm</a>.</li> <li>• Participated and presented at several conferences open to the public and other symposia;</li> <li>• Conducted telephone calls with individuals from special interest groups to discuss oversight topics and other issues of concern. Also, responded to multiple citizen letters and e-mail inquiries related to AML waterline projects;</li> <li>• Participated in numerous meetings with non-profit organizations working on watershed restoration projects;</li> <li>• Responded to Congressional inquiries;</li> <li>• Routinely participated in discussions with the Special Reclamation Fund Advisory Council that represents multiple interests;</li> <li>• Routinely interacted with the State's Permitting Quality Assurance Quality Control Panel that represents multiple interests; and</li> <li>• Routinely interacted with citizens who call or write seeking information about abandoned mine lands or surface coal mining and reclamation activities or requirements.</li> </ul>
2017	<ul style="list-style-type: none"> <li>• Sent letters and e-mails to citizens and groups advising the annual report was available and offering to meet with groups at any time, even after business hours, to discuss SMCRA issues;</li> <li>• Requested public participation in the State program amendment process through Federal Register announcements and Federal and State agency notification letters;</li> <li>• Posted AML NEPA decision for Reclamation Projects, Annual Reports, work plans, and the complete text of detailed oversight reports on the CHFO website as these documents were completed. The CHFO web site includes a "State" specific page that contains relevant information about</li> </ul>

	<p>the oversight of West Virginia’s Program. The site is accessible on OSMRE’s home page at:  <a href="http://www.arcc.osmre.gov/about/states/wv.shtm">http://www.arcc.osmre.gov/about/states/wv.shtm</a>.</p> <ul style="list-style-type: none"> <li>• Participated and presented at several conferences open to the public and other symposia;</li> <li>• Conducted telephone calls with individuals from special interest groups to discuss oversight topics and other issues of concern.</li> <li>• Participated in numerous meetings with non-profit organizations working on watershed restoration projects;</li> <li>• Responded to Congressional inquiries and or Freedom of Information Act requests;</li> <li>• Routinely participated in discussions with the Special Reclamation Fund Advisory Council that represents multiple interests; Routinely interacted with the State’s Permitting Quality Assurance Quality Control Panel that represents multiple interests; and</li> <li>• Routinely interacted with citizens who call or write seeking information about abandoned mine lands or surface coal mining and reclamation activities or requirements.</li> </ul>
2018	<ul style="list-style-type: none"> <li>• Sent letters and e-mails to citizens and groups advising the annual report was available and offering to meet with groups at any time, even after business hours, to discuss SMCRA issues;</li> <li>• Requested public participation in the State program amendment process through Federal Register announcements and Federal and State agency notification letters;</li> <li>• Posted AML NEPA decision for Reclamation Projects, Annual Reports, work plans, and the complete text of detailed oversight reports on the CHFO website as these documents were completed. The CHFO web site includes a “State” specific page that contains relevant information about the oversight of West Virginia’s Program. The site is accessible on OSMRE’s home page at:  <a href="http://www.arcc.osmre.gov/about/states/wv.shtm">http://www.arcc.osmre.gov/about/states/wv.shtm</a>.</li> <li>• Participated and presented at several conferences open to the public and other symposia;</li> <li>• Conducted telephone calls with individuals from special interest groups to discuss oversight topics and other issues of concern.</li> <li>• Participated in numerous meetings with non-profit organizations working on watershed restoration projects;</li> <li>• Responded to Congressional inquiries and or Freedom of Information Act requests;</li> <li>• Routinely participated in discussions with the Special Reclamation Fund Advisory Council that represents multiple interests; Routinely</li> </ul>



	<p>interacted with the State’s Permitting Quality Assurance Quality Control Panel that represents multiple interests; and</p> <ul style="list-style-type: none"> <li>• Routinely interacted with citizens who call or write seeking information about abandoned mine lands or surface coal mining and reclamation activities or requirements.</li> </ul>
2019	<ul style="list-style-type: none"> <li>• Sent letters and e-mails to citizens and groups advising them that the annual report was available and offering to meet with groups at any time, even after business hours, to discuss SMCRA issues;</li> <li>• Requested public participation in the State program amendment process through Federal Register announcements and Federal and State agency notification letters;</li> <li>• Posted AML National Environmental Policy Act decisions for Reclamation Projects, Annual Reports, work plans, and the complete text of detailed oversight reports on the CHFO website as these documents were completed. The CHFO web site includes a State-specific page that contains relevant information about the oversight of West Virginia’s Program. The site is accessible on OSMRE’s home page at: <a href="http://www.arcc.OSM.gov/about/states/wv.shtm">http://www.arcc.OSM.gov/about/states/wv.shtm</a>.</li> <li>• Participated and presented at several conferences open to the public and other symposia;</li> <li>• Conducted telephone calls with individuals from special interest groups to discuss oversight topics and other issues of concern;</li> <li>• Participated in numerous meetings with non-profit organizations working on watershed restoration projects;</li> <li>• Responded to Congressional inquiries and/or Freedom of Information Act requests;</li> <li>• Routinely participated in discussions with the Special Reclamation Fund Advisory Council that represents multiple interests; Routinely interacted with the State’s Permitting Quality Assurance Quality Control Panel that represents multiple interests; and</li> <li>• Routinely interacted with citizens who call or write seeking information about abandoned mine lands, surface coal mining, and reclamation activities or requirements.</li> </ul>

**Table 15. West Virginia Analysis Based on Public Participation Measures**

<b>Factor</b>	<b>Performance Measure</b>	<b>How was it measured?</b>	<b>West Virginia</b>
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Responsiveness	<i>Does the program follow the State Reclamation Plans (SRPs) process for including citizen input into reclamation project selection?</i>	Does the structure outlined in the SRP match with the efforts described in the AERs?	The AML program is charged with holding at least one public meeting to describe projects announced through news releases and legal advertisements. Annual evaluation reports make no mention of public meetings held specific to AML projects. Instead it notes that staff “Routinely interacted with citizens who call or write seeking information about abandoned mine lands or surface coal mining and reclamation activities or requirements.”
	<i>Does the state offer specific opportunities for the public to be involved in the planning process?</i>	Are there opportunities for public input before the projects are finalized?	Opportunities for the public to be involved include 1) Staff hold at least one public meeting to describe projects.
Informative	<i>Does the program provide requested information to the public in a timely manner?</i>	Examination of AERs and SRPs for information provided before meetings	Evaluation reports describe that the WV AML staff sent letters and emails to citizens about the annual report, posted annual reports, work plans, and oversight reports on their website, responded to letters and email inquiries about AML waterline projects, and “routinely” interacted with citizens seeking information about AML issues. Again, there is no further detail on the

			quantity of interaction each year.
Educational	<i>What methods does the state use: mailings, publications, billboards/postings, telephone contacts, email, internet advertising?</i>	Examination of AERs and SRPs	Public notice, Legal advertisements, public meetings
	<i>Does the state use one form of communication or more?</i>	Examination of AERs and SRPs	2 forms of communication: notice and legal advertisements.
Innovation	<i>Does the state employ innovative methods for participation or any that go beyond traditional methods?</i>	Methods beyond public meetings and posting notices; represent attempts to bridge the citizen-state information gap	Special Advisory Council made up of 8 members appointed by the Governor and the Senate. The members are representatives include the Secretary of the DEP, the Treasurer of the State, the Director of the National Mine Land Reclamation Center at WV University, an actuary/economist, and one member representing each of the following interests: the coal industry, environmental protection organizations, coal miners, and the general public. This Council advises on the “effective, efficient, and financially stable operations” of the Special Reclamation Fund and Special Reclamation Water Trust Fund.

			Utilizes public meetings and public notices for public participation, and thus has no examples of nontraditional methods at use in AML.
Commitment	<i>Is the agency clear on public participation goals?</i>	Description of the role of public involvement in SRP and mention of pp opportunities on website	<p>SRP: No mention of the role in SRP</p> <p>Website: The DEP's website has a page for citizens to stay involved in their work and provides a link for the public to sign up for weekly notices that include comment periods, permit applications, and public hearing information. The DEP also offers a citizen's guide that contains helpful assistance for citizens interested in filing a Freedom of Information Act request or requesting a public hearing or meeting. Additionally, the guide contains information on the rule making and legislative process, emergency rule making and the various divisions and offices within the DEP. The website also provides information on the location and posting of public notices and how to request a public hearing. However, the opportunities for involvement listed on the</p>

			website does not include information on the AML program itself.
Capacity Building	<i>Does the state program offer any workshops or training opportunities to interested public persons?</i>	Examination of AERs and SRPs	No mention of trainings or workshops but reports that staff participated in conferences and symposia that were open to the public. However, West Virginia’s citizens guide does provide detailed information to help a member of the public plug into participation opportunities, including how to request a public hearing.
	<i>Does the program allow any decisions to be made solely by public participants?</i>	Examination of AERs and SRPs	Not evidenced analysis.

**Landscape Review of Annual Evaluation Reports**

To further explore public participation actions throughout AML states and tribes, we analyzed state and tribal annual evaluation reports (AERs) from 2015 -2019. A total of 135 reports were analyzed. Mentioned in Chapter 2, annual evaluation reports are prepared by the relevant Field Office Director (FOD) for the state or tribes, in coordination with the state or tribal AML office, and can include information on public participation activities undertaken throughout the evaluation year. Tennessee was omitted from this analysis because their AER information is combined with Georgia’s

information, and Georgia has never created an approved state program under SMCRA (Knoxfield Field Office report, 2015).

### **Landscape Review Information Analysis**

States and tribes were divided into certified and uncertified for the purposes of this analysis. Because certified states and tribes have reclaimed all priority abandoned coal mining sites, their approach and the information conveyed within their AER might differ from an uncertified state (Larson, 2022). There were many commonalities found throughout this review, but it is important to note that while the information within AERs provides a snapshot of public participation efforts undertaken throughout the year, it might be missing information on more informal and ongoing public participation efforts.

If the state or tribe included a statement about public participation or a definition of public stakeholders, this information was captured. These types of statements are important because they speak to the state's commitment to public participation and clarity on the goals and role of public participation. Peelle et al., (1996) identifies these two factors as necessary for effective public participation, signifying agency management support for public participation and ensuring that public participation will be given priority throughout projects (Peelle et al., 1996).

Public participation statements are found in many AERs, and are usually explained as such:

Iowa's AML Program provides opportunities for public participation and interacts with local associations, citizens, environmental organizations, and other groups regarding: Project selection; Grant applications; Consultations under the

National Environmental Policy Act; Obtaining right of entry documents; and Amendments to the State Reclamation Plan. (Iowa Annual Evaluation Report, 2015)

Another example from the Navajo Nation:

The Navajo AML Program provides opportunities for public participation and interacts with the local associations, citizens, environmental organizations and other groups to: Determine areas of concern and receive suggestions relative to AML reclamation, provide timely information about OSMRE activities to interested groups, provide Navajo AML information and accomplishments to the communities, provide technical information to Stakeholders and Partners on new technologies, and provide technical assistance to the impacted communities and chapters.

(Navajo Nation Annual Evaluation Report, 2015)

The definition of public stakeholders was also evidenced in multiple AERs, and usually is stated as follows, “The term “public” includes all stakeholders (i.e., citizenry at large, industry, other federal, state or local agencies, and environmental groups)” (Missouri Annual Evaluation Report, 2015) (Iowa Annual Evaluation Report, 2015 - 2019).

A public participation statement, as explained above, was found in 84.2% of AERs for uncertified states and tribes, and 75% of AERs for certified states and tribes. For uncertified states and tribes, information on where to find the AML agency website was the second most common inclusion, found in 68.4% of AERs. For certified states and

tribes, information on the AML agency website was found in 37.5% of AERs.

Information on how to find and access AERs and Performance Agreements was found in 63.2% of AERs of uncertified state and tribal reports, and in 75% of AERs for certified states and tribes.

A definition of "public" stakeholders was found in 57.9% of AERs for uncertified states and tribes, and in 62.5% of AERS for certified states and tribes. This is not surprising, as this is the exact definition included in OSM regulatory guidance (OSM REG-8 967, 2011), which is the same guidance that outlines procedures for AERs. Finally, information or lists of organizations and partnerships completing or collaborating on AML work within the state was found in 31.5% of AERs for uncertified states and tribes. Overall, the most commonly conveyed information found in this review was a public participation statement, a definition of public stakeholders, information on how to access AERs and Pas, and information on the AML agency website.

We also identified if the state or tribe provided any information on relevant citizen committees or advisory boards, and their role in the AML process. Colorado goes into detail in their AER about the ad hoc Inactive Mine Program Advisory Council, which represents, "various industry, environmental, citizen, and State and local government stakeholder groups to provide public input, guidance, and direction for future reclamation projects" (Colorado Annual Evaluation Report, 2016 -2019). The Colorado AER explains the roles and responsibilities of the Council, including their role in the AML process:



The Council meets twice each year to review proposed and ongoing inactive mine reclamation projects, and provide valuable insight, guidance, and direction to the Program. The purpose of the meetings is to select and rank a number of potential reclamation projects, the results of which are provided to the Mined Land Reclamation Board (MLRB) for their review and approval for submission for the OSMRE annual grant. (Colorado Annual Evaluation Report, 2016 – 2019)

Maryland provides information within their AER about the Land Reclamation Committee, which is composed of “13 members who represent the mining industry, soil conservation districts, two counties, citizens and state agencies,” that “recommends and approves procedures to reclaim, conserve and replant land,” including “the review of mining and reclamation plans, progress reports and final reports” (Maryland Annual Evaluation Report, 2015). Pennsylvania also includes information within their AER about the roles and responsibilities of the Mining and Reclamation Advisory Board, citizens Advisory Council, and Environmental Quality Commission (Pennsylvania Annual Evaluation Report, 2015).

Taken together, the most common inclusion across uncertified and certified states and tribes was the public participation statement, found in 81.5% of reports, followed by information on how to access AERs and Pas, which was found in 66.67% of reports. Almost 60% of uncertified and certified states and tribes included the other two common sets of information: a definition of public stakeholders and where the public can find the AML agency website. The last commonality identified is the inclusion of partnerships and community organizations active in the AML state or tribe, found in 33.33% of

reports. Louisiana and Mississippi, both certified states, include the same types of information in their AER; public participation statement, definition of stakeholders, how to access AERs and Pas, and information on eAMLIS, FONSI, and Eas.

Information on advisory councils or boards, citizen committees, citizen guides to AML or reclamation, and information on stakeholder email lists was not found in any certified state or tribal AER.

Table 16. Information Available in State and Tribe Annual Evaluation Reports (2015-2019)

<i>Uncertified States/Tribes</i>	PP State ment	Definiti on of Public Stakehol ders	AML Agency Websi te Locati on	Descri ption of AML proces ses	How to Access AERs and Pas	Environm ental Assessme nt (EA)	Finding of No Significa nt Impact (FONSI)	eAMLIS	Advisory Board/Co mmission Informati on	Citizens Council/ Board Informat ion	Citizen's Guide	Stakehold er Email List	Partnershi ps/Organiz ations Listed	AML-22 Directive/ REG- Informatio n
Alabama	X				X	X	X	X						
Alaska	X	X	X		X									X
Arkansas	X				X							X		
Colorado	X	X	X	X						X			X	
Illinois	X	X	X		X									
Indiana	X	X	X		X						X		X	
Iowa	X	X	X		X								X	
Kansas	X	X			X									
Kentucky	X			X									X	





## **Landscape Review Methods Analysis**

Many states and tribes make mention of OSMRE outreach, usually explained as follows:

To offer more opportunity for stakeholders to participate in the OSMRE's oversight of the Alabama regulatory and AML program, each year the OSMRE contacts interested parties, including watershed groups, environmental organizations, industry representatives, private citizens, and government agencies to solicit input into the OSMRE's oversight process. (Alabama Annual Evaluation Report, 2015)

In some cases, such as Pennsylvania, this outreach is the only avenue for public participation explained in the AER (Pennsylvania Annual Evaluation Reports, 2016-2019). In other cases, the AML state or tribe mention explicitly that public participation outreach for the AML and Regulatory is a combined approach "In addition to the state activities, the AML program was included in the OSMRE 2015 outreach to stakeholders as discussed under Title V. No AML program comments were received" (Mississippi Annual Evaluation Report, 2015).

Annual OSMRE outreach to known stakeholders was the most commonly mentioned method, found in 73.6% of uncertified state and tribe AERs, and only mentioned in 42.9% of certified state and tribal AERs, demonstrating an interesting gap since this outreach is completed annually regardless of whether or not it is reported in the AER. Public meetings and hearings, either actual or offered, were mentioned in 57.8% of uncertified state and tribe AERs, and 71.4% of certified state and tribe reports, indicating

they are still a commonly utilized public participation opportunity across AML states and tribes. 42% of AERs for uncertified states and tribes mention presentations completed during the year, either to the public or other agency staff, and 36.8% of uncertified AERs mention community outreach or events, and conferences or internal staff meetings participated in.

The level of detail present in these reports varies by state and tribe. Some AERs list repetitive information from year to year, with little detail on actual efforts undertaken during the evaluation. For example, each year, West Virginia mentions they “routinely interacted with citizens who call or write seeking information about abandoned mines,” and “Participated and presented at several conferences open to the public, “ but there is no detailed information on those conferences or interactions (West Virginia Annual Evaluation Reports, 2015-2019). On the other hand, Utah’s annual evaluation reports contain dates, lists, and locations of each community event, presentation, or meeting completed in the evaluation year (Utah Annual Evaluation Reports, 2015-2019). Indiana captures total outreach hours for the year, and the Navajo Nation AERs include participant counts at each event or meeting. This information was calculated by including a category titled "EY Meetings, Hearings, or Events Listed," which is included in 57.9% of uncertified state and tribe AERs.

“Notices in newspapers,” as an avenue for informing the public about potential AML projects, was listed in 7 AERs, representing 36.84% of total annual reports, which included Alabama, Arkansas, Colorado, Kansas, North Dakota, Oklahoma, and Virginia. For example, Kansas’s 2016 AER explains, “Public notices are published in newspapers

local to the proposed project sites that include a description of the proposed projects and an opportunity for the public to review the environmental documents for each project” (Kansas Annual Evaluation Report, 2016). Oklahoma explains in more detail which information can be found in these types of notices, including:

Each public notice of an AML project in Oklahoma includes an invitation for members of the public to provide input on the need for the proposed project, how the proposed project should be carried out, what the post reclamation use of the land should be, and suggestions of other possible coal-related sites in Oklahoma that may be candidates for reclamation. (Oklahoma Annual Evaluation Report, 2017).

Interestingly, notices in newspapers were a more common method mentioned than social media, which was only explicitly included in Utah and the Navajo Nation’s AER. Both of these AML programs are also examples of programs that included a high amount of detail around community outreach events for that year, which may indicate these programs rely more heavily on social media to reach event participants.

There were a few methods mentioned for only one state and tribe in this review of annual evaluation reports. For uncertified states, Utah’s 2017 report explains that “AMRP writes letters to elected officials at every level, from the U.S. Congressional representatives to mayors of the towns nearest the proposed projects “ (Utah Annual Evaluation Report, 2017). The state has also held open houses for AML projects before, explaining in 2015:



An open house was held for the Farnsworth AMRP project on April 15, 2015, at the Tooele City Library. The state advertised this open house through announcements on the Utah website, flyers placed in prominent locations, and announcements sent to stakeholders and interested parties. (Utah Annual Evaluation Report, 2015)

It is important to note that the Crow Tribe explicitly mentions that individual public meetings are not held for each project; instead, projects are reviewed at Tribal Legislative sessions and then individual legislators relay project information along to their respective districts through small town hall-type meetings (Crow Tribe Annual Evaluation Reports, 2015-2019). For this reason, the Crow Tribe is not included in the table analysis below. See Tables 17 below for common methods found throughout this review and see Appendix C for the full spreadsheet.

**Table 17. Public Participation Methods in Uncertified and Certified State and Tribe Annual Evaluation Reports, 2015-2019**

<b>Method</b>	<b>Total in Uncertified AERs</b>	<b>Percentage (Uncertified)( of 19)</b>	<b>Total in certified AERs</b>	<b>Percentage (Certified) (of 7)</b>	<b>Combined Percentage (of 26)</b>
Annual OSMRE Oversight Outreach	14	73.68%	3	42.9%	65.4%
EY Meetings/Hearings/Events Listed	11	57.89%	4	57.1%	57.7%
Public Meetings or Hearings	11	57.89%	5	71.4%	61.5%

Educational Materials Created	8	42.11%	2	28.6%	38.5%
Presentations	8	42.11%	2	28.6%	38.5%
Community Outreach and Events	7	36.84%	2	28.6%	34.6%
Conferences	7	36.84%	2	28.6%	34.6%
Notices in Newspapers	7	36.84%	2	28.6%	34.6%
Informational Booths	5	26.32%	1	14.3%	23.1%
Direct Contact with Landowners	4	21.05%	1	14.3%	19.2%
Participants Counted	3	15.79%	1	14.3%	15.4%
Outreach/Volunteers Hours Collected	3	15.79%	1	14.3%	15.4%
Complaint Collection/Tallying	3	15.79%	1	14.3%	15.4%
Project Proposals in Central Locations (libraries, courthouses)	2	10.52%	1	14.3%	11.5%
Open Houses	1	5.26%	1	14.3%	7.7%
Project Proposals sent to Government Officials	1	5.26%	0	0%	5.26%
Social Media Site Mentioned	1	5.26%	1	14.3%	7.7%
Press Releases	1	5.26%	3	42.9%	15.4%
Project Proposals Posted Near Site	1	5.26%	0	0%	5.26%

## **Combined Methods Table Analysis**

Looking at the results from the combined table above, we can see some patterns emerge. The top two commonly mentioned methods include annual OSMRE outreach and public meetings or hearings. An encouraging number of AML states and tribes (57.7%) are listing the actual community events, hearings, and meetings undertaken for the year. Although the details may vary, this statistic demonstrates the high level of annual community engagement across the AML program. In addition, nearly 40% of total AERs mention presentations, educational materials created, community outreach and events, conferences, and notices in newspapers. However, across all of these methods, certified states and tribes are less engaged in these activities than uncertified.

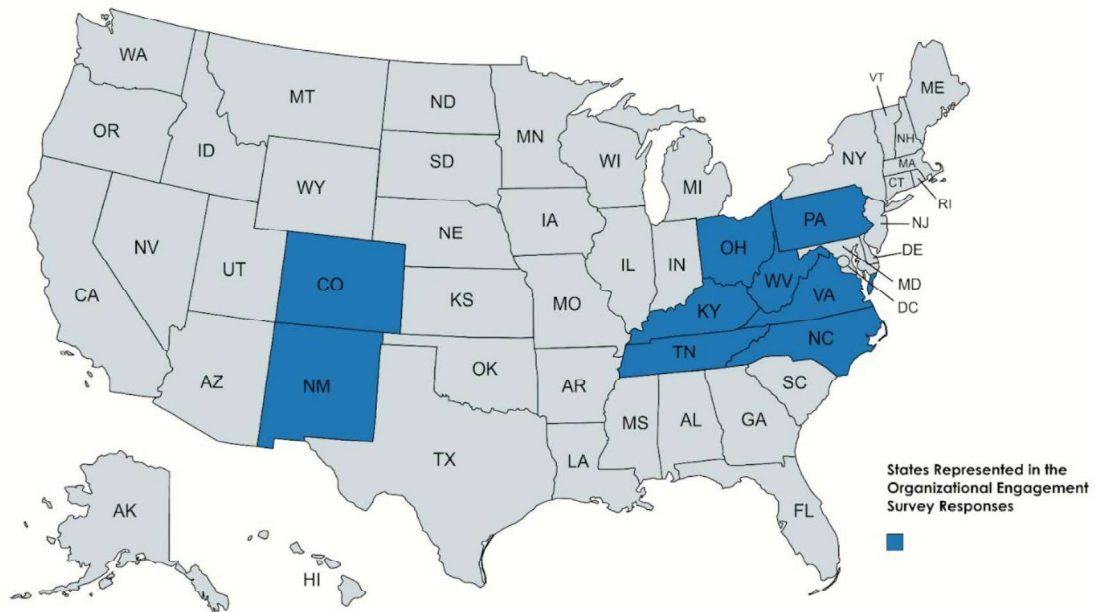
Counting participants, collecting information on outreach hours and volunteers, and collecting and counting citizen complaints was not as common across either certified or uncertified states and tribes, found in 15.8% of uncertified and 14.3% of certified states and tribes. Finally, there were a few methods mentioned by only 1 or 2 states/tribes, such as conducting open houses, sending project proposals to government officials, and posting project information near project sites.

## **SURVEY RESULTS**

The final approach used in this study was the dissemination of a survey to members of community organizations in the Appalachian region and Colorado. The survey was sent to a total of 140 community organization contacts. A total of 30 responses were collected from the community organization contacts, representing a 21.4% response rate.

### **Respondent Information**

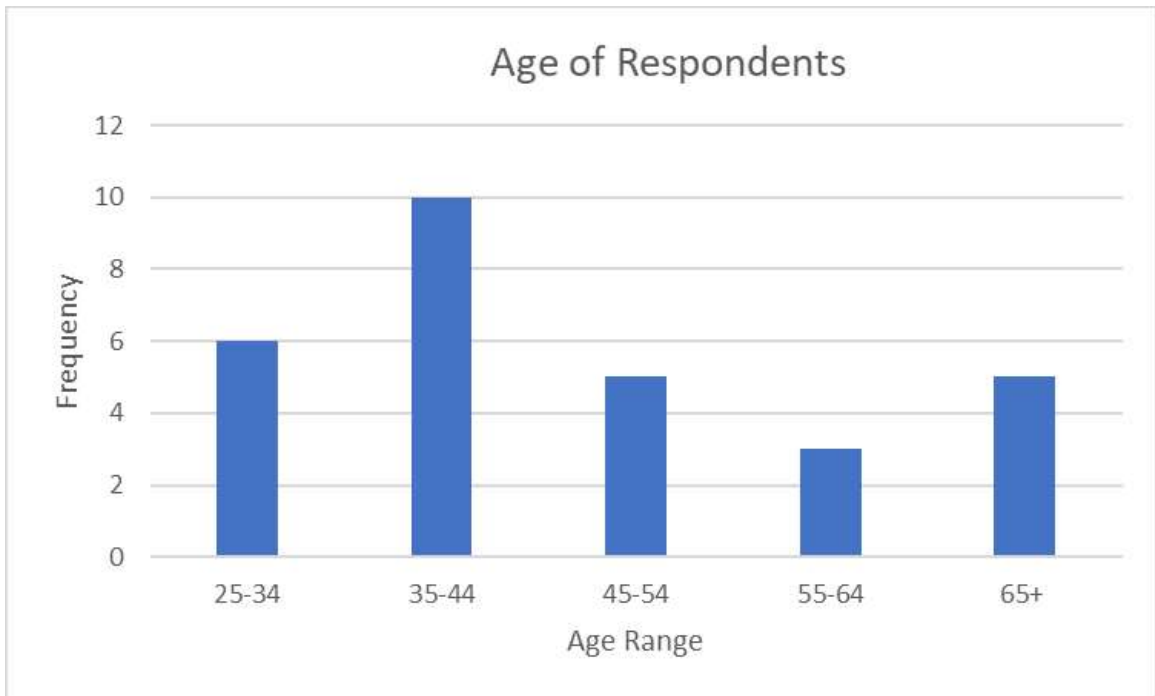
A total of 30 responses were collected from the organizational engagement survey, representing individuals working on AML issues across nine states. The geographic areas represented in the survey responses are pictured in the figure below.



Created with mapchart.net

**Figure 11. States Represented in the Organizational Engagement Survey Responses**

12 of the 29 respondents (41.4%) (1 respondent skipped this answer) were filled out by women, and 17 respondents were filled out by men (58.6%). Survey respondents' ages ranged from 25 - 65 years +, with one respondent skipping this question. Figure 12 below details respondents' ages.

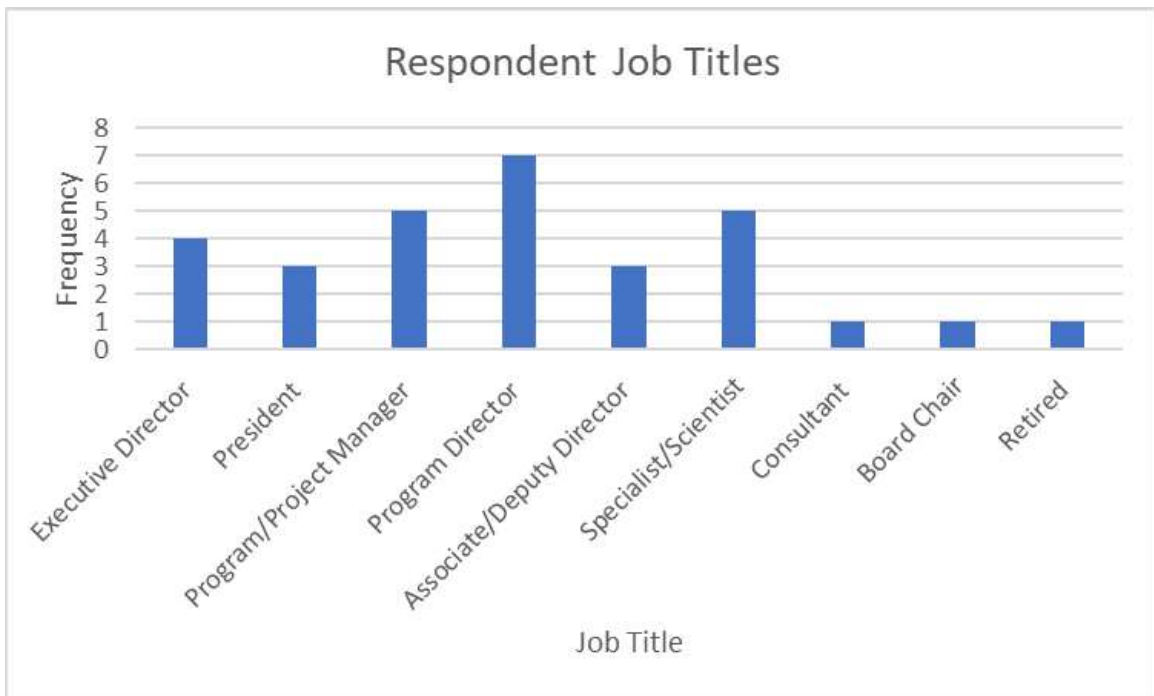


**Figure 12. Age of Survey Respondents**  
(n = 29)

Respondents were represented from a variety of organizational types, including advocacy organizations, consultants, mining associations, environmental agencies, and watershed associations. The most common organizational type was non-profit organizations, representing 73.3% of the responses. Two responses were from research institutions affiliated with higher education, and one response each from a conservation district, department of environmental protection, mining association, consultant organization, and foundation. One response was from an individual that was unaffiliated with an organization.

Respondent job titles varied from Executive Directors, Presidents, program and project managers, and scientists and specialists. The most common job title was program

directors, representing 23.3% of survey responses. This is followed by program or project managers and specialists or scientists, both of which represented 16.67% of respondents. Four respondents identified themselves as Executive Directors, representing 13.3% of respondents. 10% of respondents were Presidents and 10% were associate or deputy directors. Finally, 1 respondent of each represented a retired individual, a board chair, and a consultant.



**Figure 13. Survey Respondent Job Titles**  
(n = 30)

Additional information collected through this survey included a description of respondents' roles and responsibilities as it relates to the AML program. Respondents'

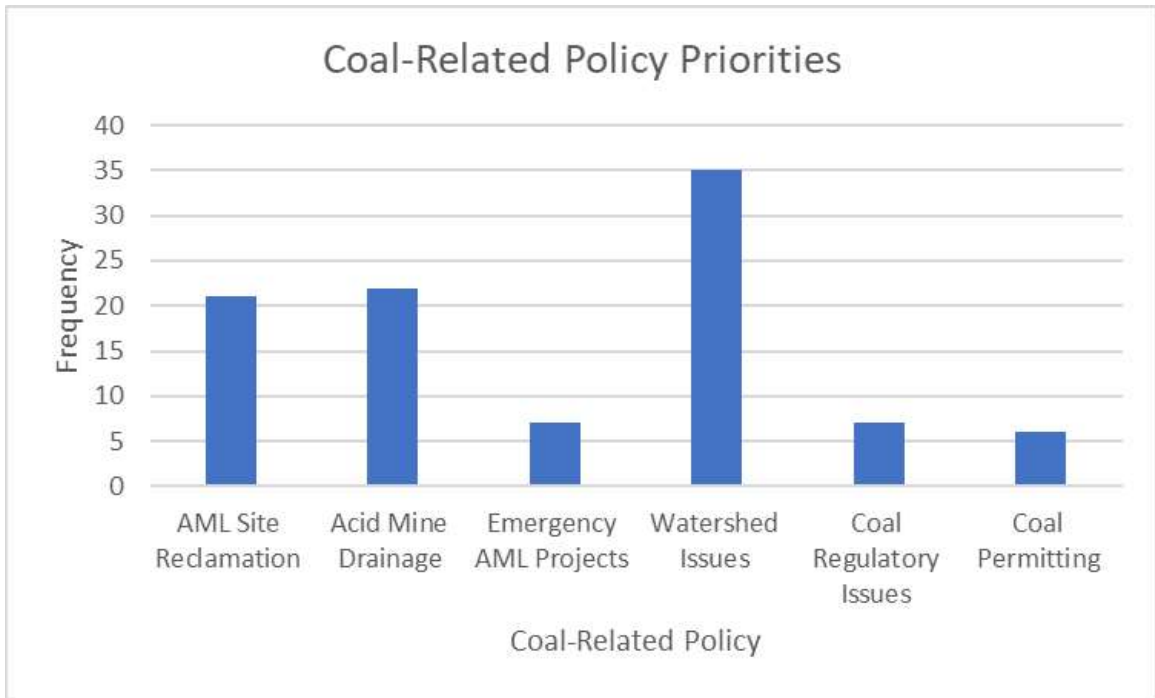
responsibilities ranged from grant writing assistance, project implementation and coordination to AML site identification, and implementation or construction of Acid Mine Drainage treatment sites. Because some respondents included multiple activities related to the AML program, counts in Table 18 below capture all activities mentioned. The most common mentioned was "advocacy" or "advocate" for AML issues, with 8 mentions. Working on reclamation projects was mentioned 5 separate times. Other common mentions include AMD project work, connecting partners and building coalitions, project implementation and oversight, and site identification, each with four mentions. Grant writing, and landowner outreach and advising were each mentioned three times. Finally, volunteering, monitoring and data collection, education, and overseeing contracts were each mentioned only once in this response.

**Table 18. Roles and Responsibilities of Respondents and Organizations**

<b>Roles and Responsibilities</b>	<b>Mentions</b>
Advocacy	8
AMD projects	4
Reclamation Projects/Advising	5
Connecting Partners/Building Coalitions	4
Grant writing	3
Project Implementation/Oversight	4
Site identification	4
Oversee Contractors	1
Landowner outreach/advising	3
Education	1
Monitoring/Data Collection	1
Volunteering	1



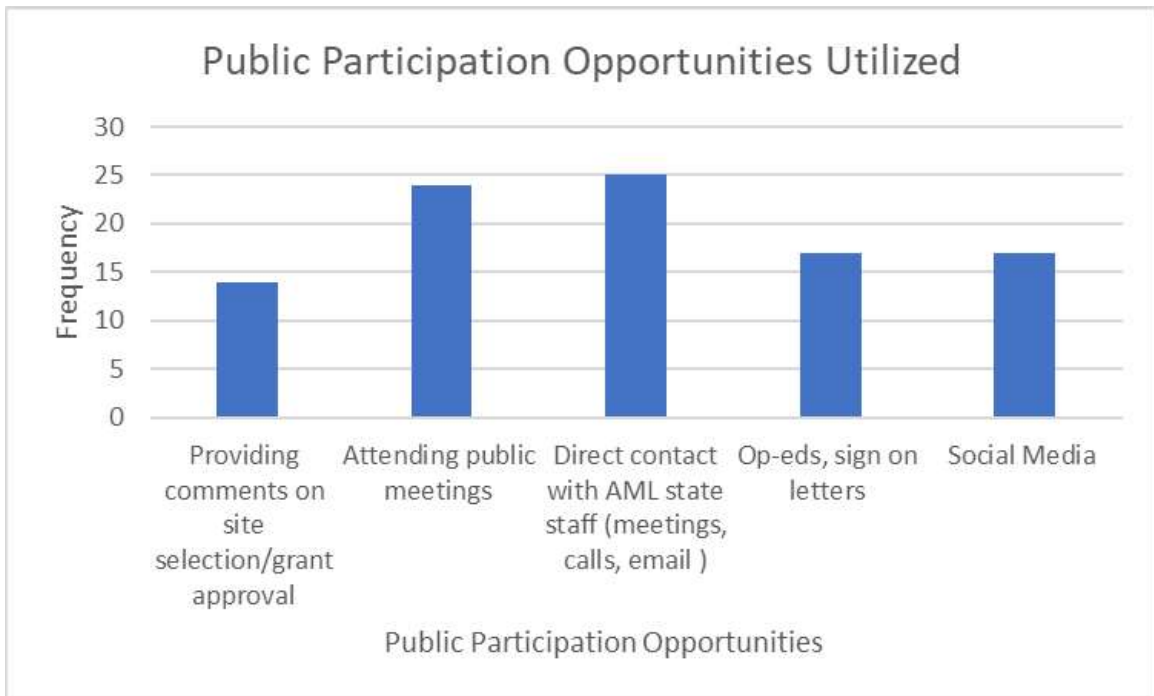
Each survey respondent was also asked what their organization prioritizes as it relates to coal reclamation and policy and were instructed to choose all policies that apply. Figure 14 below illustrates participants' responses.



**Figure 14. Organizational Priorities for Coal Reclamation/Policy (n=98)**

As displayed in Figure 14, watershed issues were the most commonly cited, representing 35.7% of policy priorities that organizations prioritized. This is followed by Acid Mine Drainage projects, which represented 22.4% of priorities identified, and AML Site reclamation, which represented 21.4% of priorities identified. Emergency AML projects and coal regulatory issues were mentioned by 7 respondents, representing 7.1%

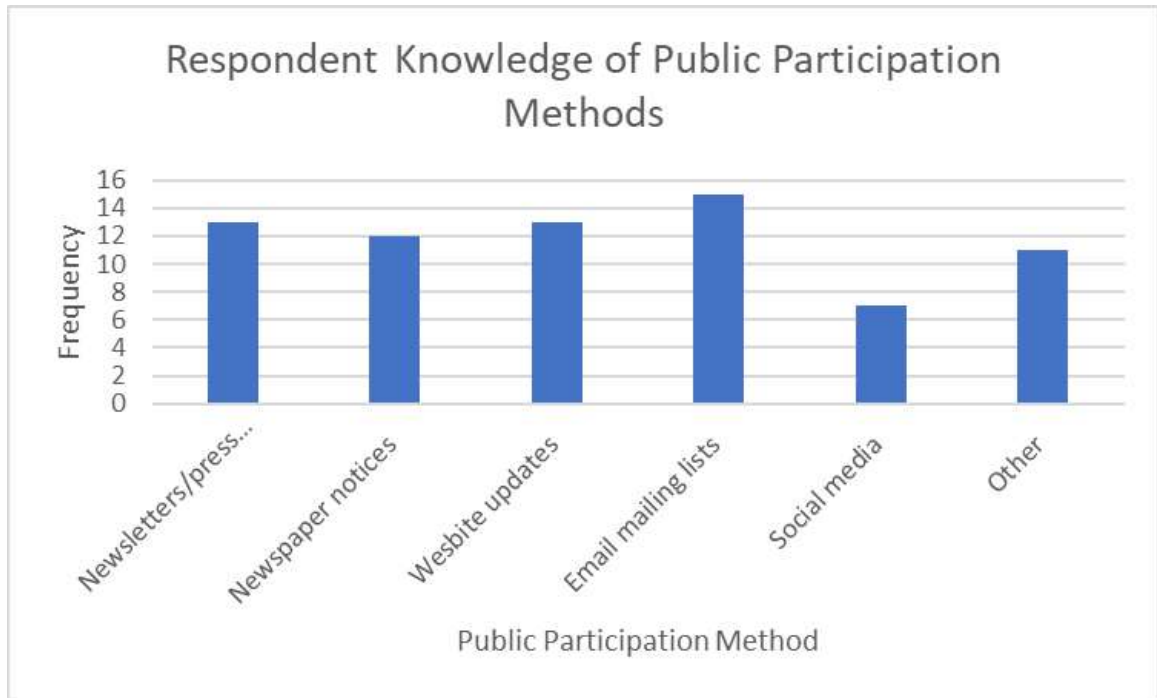
of priorities. Coal permitting was the least mentioned policy priority, mentioned 6 times and representing 6.1% of priorities.



**Figure 15. Public Engagement Methods Utilized (n= 97)**

The most common method utilized by respondents includes direct contact with AML officials, either through meetings, calls or emails. This method represented 25.8% of opportunities utilized, followed by attending public meetings, which represented 24.7% of the opportunities identified. Organizing op-eds and sign on letters, as well as utilizing social media, represented 17.5% of opportunities utilized. Finally, providing comments was the least utilized method, representing 14.4% of opportunities.

Respondents were also asked to gauge their understanding of the participation opportunities that the AML state offered, selecting options from a list of opportunities and instructed to select all that apply. Figure 16 below displays respondents' answers.



**Figure 16. Respondent Knowledge of State Public Participation Methods (n= 71)**

The most common method identified by respondents was email mailing lists, representing 21.1% of answers. Newsletters/press releases and website updates were mentioned in 18.3% of responses, and newspaper notices were mentioned in 17% of responses. The least common mentioned method was social media, representing only 9.8% of responses.

Respondents were also given an option to write in other methods they were aware of, with respondents including partner to partner information sharing, personal contact and discussions with AML officials, and stakeholder email lists. One respondent noted that their state was not soliciting public input because the state has more projects identified than funding to address those projects.

### **Participant Response to Public Participation Statements**

Overall satisfaction with the public participation opportunities offered through the AML program was surveyed with a series of Likert scale statements. A series of ten statements were offered with the options of strongly agree (SA), agree (A), neither agree nor disagree (N), disagree (D), and strongly disagree (SD). Responses to these statements are outlined below. It is worth noting that while these questions were not skipped by respondents, there were a large number of respondents that commonly selected “neither agree nor disagree,” in their responses. This suggests that despite our targeting efforts, many respondents are either not deeply enough engaged in AML work to respond in the affirmative or negative. It may also suggest that while the organization works on AML-related issues, they do not commonly take advantage of the public participation opportunities provided through the AML program.

70% of respondents indicated that the public participation opportunities offered through the AML program helped to create a working relationship between their organization and the AML program, and 60% of the respondents believe that the AML staff value the participation from their organization. Over 73% of respondents agreed that public participation opportunities offered their organization a better understanding of

AML issues, with 36.67% indicating that the materials and information offered to them through the AML program allowed their organization to participate in the annual AML process.

However, only 23.33% of respondents replied that their organization was satisfied with the opportunities offered, and over 40% indicated that they were not satisfied with opportunities offered through the AML program. Interestingly, the question that was most commonly answered with “neither agree nor disagree” was focused on informal opportunities to engage in the AML program, with 46.67% replying neutral to whether or not AML staff engaged in informal methods of soliciting public comment and opinions. This indicates that a majority of respondents are not engaging in informal methods through the AML program, are unaware that this type of engagement is happening, or did not make the connection that “direct emails/calls/meetings” identified in Figure 17 would qualify as an informal method of engagement. Further surveys should make this clarification explicitly. An additional 43.33% of respondents replied “neither agree nor disagree” that public meetings were being held at convenient locations and times for their organizations to engage. This may be due to the impact that COVID-19 has had on in-person meetings and public outreach in general in AML states but could also indicate that respondents do not commonly track or participate in AML- related public meetings.

Another question that received a variety of responses was whether the AML program offered participation opportunities throughout all stages of the AML process, with 33.33% replying in the affirmative, 26.67% in neutral, and 40% disagreeing. This variety of response may be due to the variety of approaches utilized by states to engage

the public in the AML process. Some states and tribes offer opportunities for public participation only once the AML projects for the year have already been selected and approved for submission with the annual grant application. For example, West Virginia only holds a public meeting once the project is already submitted for construction, while Kentucky's SRP requires that citizens in the project area are contacted during the site selection and coordination process.

**Table 19. Participant Response to Public Participation Statements**

<b>Likert Scale Statement</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
AML staff make efforts to involve the public in AML projects throughout all stages in the yearly site selection and approval process	3.33%	30%	26.67%	33.33%	6.67%
AML staff provide multiple opportunities for participation in AML site selection and approval	0	26.67%	40%	26.67%	6.67%
AML staff provide sufficient information and materials to allow my organization to participate in the yearly site selection and approval process.	0	36.67%	33.33%	20%	10%
Public meetings/events are held at convenient times and locations for my organization to engage	3.33%	23.33%	43.33%	26.67%	3.33%
Public participation opportunities allow for a better understanding of AML sites and issues	33.33%	40%	10%	13.33%	3.33%
Public participation opportunities help to create a working relationship between my organization and AML staff	23.33%	46.67%	20%	10%	0

AML staff value the participation and comments from my organization	20%	40%	30%	0	10%
AML staff often use informal methods of soliciting public comments/opinion	3.33%	36.67%	46.67%	10%	3.33%
AML staff offer opportunities to build the awareness of the AML program for the general public. This could include setting up AML tables at local events or hosting webinars or training programs to educate the public on the yearly AML process.	6.67%	26.67%	26.67%	33.33%	6.67%
Overall, my organization is satisfied with public participation opportunities offered in the AML program.	0%	23.33%	30%	36.67%	6.67%

### **Barriers to Public Participation and Opportunities to Increase Effectiveness**

For the last section of the survey, respondents were asked to provide a short answer response to the following open-ended questions:

- 1) What are the main barriers to achieving effective public participation in the yearly AML program for your organization?
- 2) What practices or methods, in your opinion, would increase the effectiveness of public participation in the AML program?
- 3) Any general feedback on the AML program and public participation?

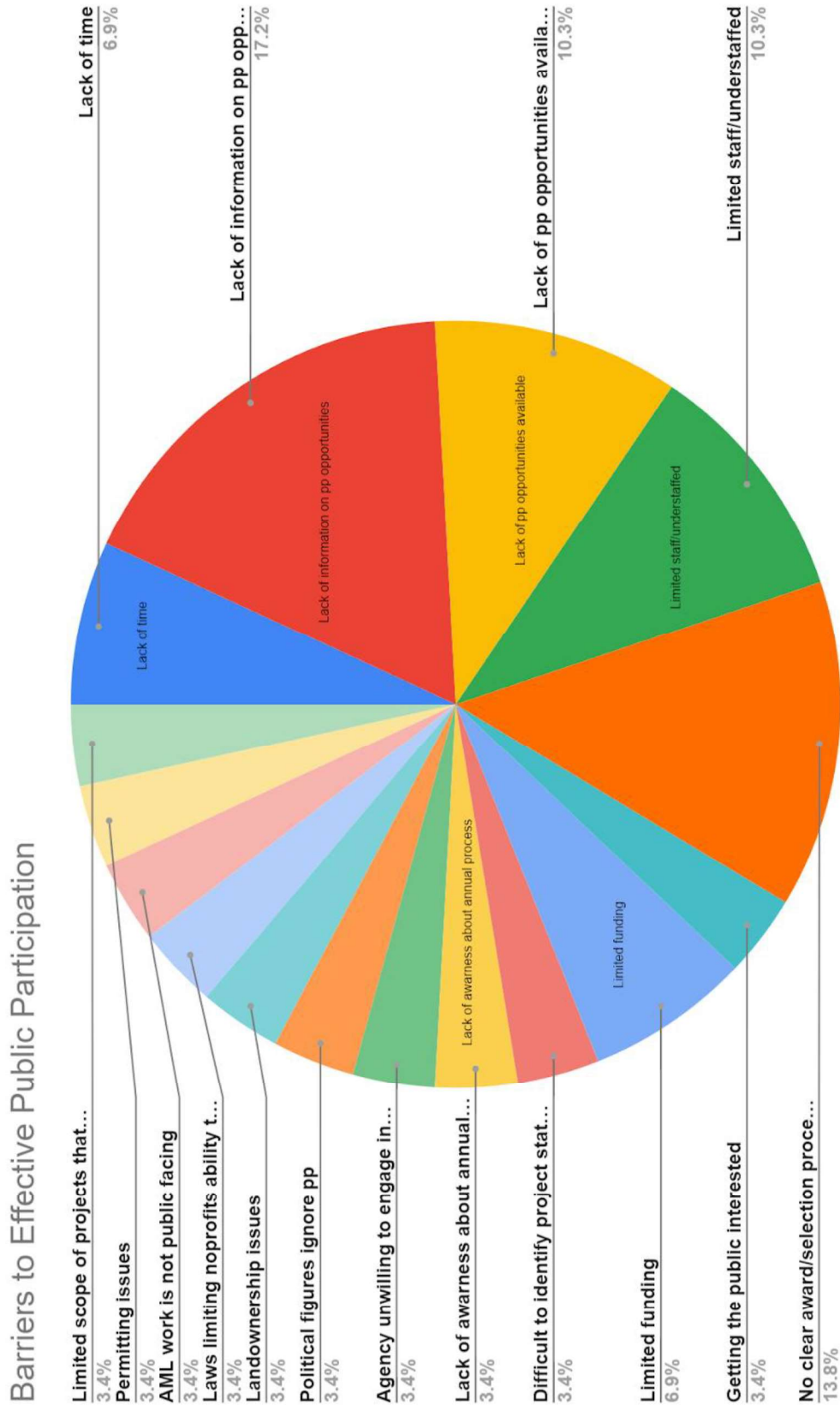
These questions were included in order to gain valuable insight from participants about the barriers to effective participation and recommendations for increasing the effectiveness of public participation in the AML program. A few common themes emerged from the open-ended questions, such as issues around staffing, timing, lack of

information about the public participation opportunities available, and transparency around how AML projects are chosen and prioritized.

For the open-ended question about barriers to ensuring effective public participation in the AML program, lack of information on what public participation opportunities are available was mentioned by five survey respondents. Four respondents mentioned a lack of transparency around how projects were selected and awarded, and three respondents mentioned limited staff and staff time for public participation as well as a general lack of public participation opportunities offered by the AML program.



Figure 17. Barriers to Effective Public Participation (n=29)



The second open-ended question in this section asked respondents to offer suggestions on practices and methods that would increase the effectiveness of public participation in the AML program. Many of these suggestions lined up with the barriers mentioned in the previous question, especially suggestions meant to increase the transparency around how projects are selected, which projects are prioritized, and which grants are eventually awarded for AML projects. For lack of information or awareness of the public participation opportunities offered, respondents suggested that the AML program hold additional informational meetings, webinars, and trainings for interested individuals to learn more about the AML program and process. Suggestions from this question set are outlined below and grouped into similar problem categories.

**Table 20. Practices and Methods to Increase Effectiveness of Public Participation**

<b>Problem Identified</b>	<b>Suggested Solutions</b>
Lack of information on public participation opportunities available	<ul style="list-style-type: none"> <li>• Curate an email list for a quarterly or bi-annual newsletter that would highlight projects and opportunities.</li> <li>• More communication with watershed groups and other organizations with a water quality mission.</li> <li>• Use multiple media platforms to inform the public on opportunities to learn about the program and future meetings/comment periods.</li> <li>• Provide information in a timely manner to avoid meeting fatigue.</li> <li>• Provide a better understanding of what the AML program is, what the current priorities are and how an organization can engage.</li> <li>• Hold an annual webinar or virtual forum where the agency's work plan and considered projects are discussed.</li> <li>• Hold informational meetings on the AML program.</li> </ul>

<p>Lack of transparency on projects selected and awarded</p>	<ul style="list-style-type: none"> <li>• Create an accessible prioritized list of potential projects that can be adjusted as new projects are identified or funding abilities change.</li> <li>• Publication of grants awarded.</li> <li>• Create a map based informational site showing current and future projects and their status (and contacts for additional information).</li> <li>• Meetings aren't necessarily needed for each AML project, but the agency should share with the public how each AML project relates to the agency master plan.</li> <li>• Create a public scoring matrix to clearly show the logic behind the selection process in a way that is accountable to the structures and commitments of the AML program.</li> <li>• For the AMLER program, there needs to be agreed-upon goals and objectives and a standardized scoring rubric to back up the program-level decisions.</li> <li>• Make selection criteria public. After awards are made, documentation of the selection process needs to be made public and the agency should explain why certain projects were chosen.</li> </ul>
<p>Lack of public participation opportunities</p>	<ul style="list-style-type: none"> <li>• Hold more community events.</li> <li>• Engage more stakeholders (local watershed groups, local planning and development councils, county-level EDAs, etc) and have deliberate conversations with these groups in the early planning stages.</li> <li>• Meet people where they are by holding community tours and creating incentives for participation.</li> <li>• Partner with local non-profits and outreach groups.</li> <li>• Hold webinars, trainings, meetings, etc to give the public the opportunity to understand/participate in the decision making process.</li> <li>• More community outreach on the work being done.</li> </ul>
<p>Lack of time and staffing</p>	<ul style="list-style-type: none"> <li>• Hire additional staff</li> <li>• Hire an on-staff communications person to work specifically with the AML program.</li> </ul>
<p>Additional Suggestions</p>	<ul style="list-style-type: none"> <li>• Prioritize outreach with environmental justice communities before reaching out to landowners.</li> </ul>

	<ul style="list-style-type: none"><li>• Create an oversight committee with members including a representation of all groups eligible for awards.</li><li>• Allow citizens participation in solving the post law issues. This would identify the sites and perhaps provide funding for remediation.</li></ul>
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Finally, respondents were asked to provide any general feedback on the AML program and public participation. Much of this feedback was positive, with one respondent praising the AML program and leadership for their role in improving environmental conditions. One respondent commended the agency's work with local schools, and another lamented the fact that the AML fund was allowed to expire during the 117th Congress. Much of the feedback echoed the suggestions offered above, with two respondents mentioning opportunities that are missed because of lack of information, and two respondents reiterating that the agency's process should be as transparent as possible around selection, prioritization, and funding of projects.

One respondent pointed to innate distrust of government entities in the coal region, given the neglect felt in these areas from federal government projects and promises. This respondent emphasized the need for the state AML staff to remain sensitive to local opinions, and partner with community groups and nonprofits that have been active in the region to increase trust in AML program projects.

## DISCUSSION

The purpose of this study was to conduct a novel landscape analysis of the extent of, and methods for, public engagement throughout Abandoned Mine Land (AML) states and tribes. Our primary research questions were:

- 1) How do community organizations, the public, and stakeholders participate in the AML site selection, design, and approval process?
- 2) What are the barriers and opportunities for public participation faced by AML agency officials and engaged community organizations?

We attempted to address these research questions by conducting an analysis of AML state and tribal Reclamation Plans and Annual Evaluation Reports from 2015-2019, conducting a case study analysis of four AML states, and disseminating a survey to community organizations and government officials.

### **Public Participation in the Abandoned Mine Land Program**

Providing opportunities for meaningful public participation, in which participation is a dynamic, iterative, and committed process on both the agency and community side is difficult, requiring additional time, care, funding, and attention. AML agencies are often operating on long time-horizons with limited funding to dedicate to public participation, and opportunities for engagement vary throughout AML states and tribes.

In this study, we reviewed the methods outlined in AERs to determine what opportunities were available for public participation. For uncertified states, the most

commonly mentioned method of public engagement within AERs was the annual outreach conducted by the Office of Surface Mining Reclamation and Enforcement (OSMRE). Each year, OSMRE contacts "watershed groups, environmental organizations, industry representatives, private citizens, and government agencies," to obtain input and comments about the oversight process, topics for the annual Performance Agreement (PA), and suggestions for improving annual evaluation reports (Alabama and Arkansas Annual Evaluation Report, 2015; Illinois Annual Evaluation Report, 2017; Louisiana Annual Evaluation Report, 2018). This method of outreach was found in 73.6% of uncertified and 42.9% of certified state and tribal AERs.

The most commonly mentioned method of engagement for certified states and tribes was public meetings or hearings, which were included in 71.4% of AERs. Public meetings and hearings were included in 57.9% of uncertified AERs. That these methods are the top two mentioned across AML states and tribes indicates that the traditional approaches of holding public meetings/hearings and soliciting public comment are still common approaches in the AML program, approaches that are focused primarily on providing information to the public about decisions already made or in the works.

However, the fact that both certified and uncertified AML programs include information on annual outreach efforts such as hearings, meetings, and community events in their reports demonstrates that while programs are relying heavily on traditional opportunities, there are many AML states and tribes that play an active role in community engagement. As Peelle et al., (1996) notes, effective participation necessitates that agencies go beyond legal minimums for public participation and give priority to

actions that build trust in the community, both of which were evidenced for many states and tribes in this review.

In 2018 alone, Colorado placed four AmeriCorps volunteers at AML sites in the state, the Hopi Tribe supported public housing events in coordination with the Hopi HUD office, Iowa participated in a trail cleanup with 20 volunteers for Soil and Water Conservation Week, Illinois utilized a traveling trailer to display rocks and mineral samples at the Illinois State Fair, Maryland participated in an Arbor Day tree planting with 130 students from local schools, the Navajo Nation participated in three natural resources fairs across New Mexico and Arizona, and Utah printed and distributed a Historic Spring Canyon calendar with photos of Utah's mining operations to local teachers and participated in 13 different community outreach events including presentations, informational booths, and collaborative partnerships. However, in that same year, a majority of AML states and tribes (61.5%) did not list any community outreach or events that they engaged in. Overall, the majority of AML states and tribes rely heavily on OSMRE annual outreach and public meetings or hearings for public participation opportunities.

In our in-depth review of the AML programs in Colorado, Kentucky, Pennsylvania, and West Virginia we reviewed if the state was 1) responsive 2) informative 3) educational 4) innovative 5) committed and 6) providing opportunity for capacity-building. Each of the states have independently established processes and methods to select, design, and approve AML sites for reclamation through an annual grant application process.

Offering opportunities for public participation in AML decision-making is a requirement of each state or tribe in the AML program, and a fundamental norm of environmental decision-making in the United States. Each of our four reviewed states listed some element of public participation in their SRPs, annual evaluation reports, and on their websites, though the degree of commitment to participation varied across our states. Our analysis revealed two postures towards public participation that were apparent: reactive and proactive.

Reactive states are those whose public participation efforts focus mainly on providing information to the public of agency actions. In these cases, agencies make their own internal decisions about AML site selection, design, and approval, only notifying the public once decisions have already been made. West Virginia represents a reactive state, in that the AML office holds public meetings to advise citizens of AML sites once they have already been chosen by the state.

Proactive states are those whose public participation efforts are integrated into AML site selection, design, and approval. In these cases, structures within the AML program allow for public involvement at early points in the process, guiding decision making instead of presenting state decisions to the public once they have been made. Colorado represents a proactive state, where public participation is integrated into the site selection process through the ad hoc Inactive Mine Program Advisory Council.

Kentucky and Pennsylvania display both proactive and reactive aspects in their AML programs, where public participation is not fully integrated into the AML process, but the state also does not rely solely on notifying the public after decisions are made. In



Kentucky's case, the state relies heavily on citizen complaints and requests from the public to guide AML sites for potential reclamation, but public meetings are held only if "the project has interest from the public." Pennsylvania is more proactively postured because their MRAB includes citizens that advise on project selection for the grant application. Additionally, their Good Samaritan protections have created an actively engaged nonprofit and volunteer environment, but the state still makes final AML sites decisions internally, and sends out notices to the public once the grant application has already been compiled.

Our review of SRPs, annual evaluation reports, and state websites has yielded three key takeaways for further discussion.

1. **Annual Evaluation Reports contain little detailed information on public participation efforts.** Our review of the 4 states' annual evaluation reports varied widely regarding the level of detail surrounding public participation efforts. Even Colorado, which had the most detail of all 4 states in this category did not include information on the topics, quantities, and types of participants at public meetings. Pennsylvania did not even dedicate a section in their report to AML specific public participation opportunities, and West Virginia's opportunities are vague and repetitive year to year. Kentucky's reports stated year to year that "LFO participates in public meetings, trainings, and other events to encourage interaction and facilitate public participation," but provided no further detail on the topics of the public meetings or the types of trainings that happened and who they included. Including more detailed information on the types and quality of the

participation efforts from year to year would allow state AML officials to understand what types of citizens they are already reaching with their efforts and who they are missing. Barnes (1999) notes that public participation should be designed to involve those that would not normally participate, so recording information at public meetings would allow the state to more clearly build a public participation scheme that could have a further reach into cross sections of the community.

- 2. Capacity building is not a strong focus of the program, but there is great opportunity for it.** Michels and DeGraaf (2010) argue that “education and capacity building” in the community are essential, and that the final aim of participation should be civic skills development and opportunities for citizens to meet and talk through issues. We found evidence of state AML staff engaging citizens and educating them on AML issues through their reported attendance at conferences or symposiums, but little evidence of any types of citizen training or workshops. However, the state of Kentucky has recently offered a grants workshop for the AMLER program to help prospective applicants under the program requirements and application process ("AMLER program," 2022). And in our review of Indiana's annual evaluation report from 2016, the state mentions their partnership with the Indiana Society of Mining and Reclamation, which hosts a Technology Transfer Seminar each year in which participants can participate in technical workshops. The general lack of trainings and workshops is not surprising, as AML staff are trying to reclaim as many sites as possible under

constrained budget circumstances and long time-horizons, meaning there is little time or funding to organize such events. However, because many AML problems are concentrated in regional parts of the state and are iterative year to year, there is great opportunity to engage in community capacity building endeavors to build a trusted, communicative, and iterative process. AML states could attempt to hold regionally specific trainings and webinars (concentrated in areas with high AML sites) for members of the public that are interested in the AML program, targeted at educating the public on the details of AML and reclamation work and the opportunities for public participation in the yearly grant cycle. These trainings could even be held at the same time as the yearly grant review, effectively accomplishing two goals: informing the public of the AML sites chosen for the year and building community and regional capacity for citizens to engage more actively going forward.

3. **Innovation is also in short supply but needed for the future.** We found only one example of an innovative approach in this review, the Colorado ad hoc Inactive Mine Program Advisory Council. However, even this participation method does not mean that Colorado is using innovative approaches to engage the citizenry throughout the state. Innovation, like capacity building, is difficult to dedicate resources to when the major aim of the program is to reclaim as many sites as possible as efficiently as possible. But given the role that public involvement plays in community and economic development, finding innovative methods to engage the public is going to be key, especially in former coal

communities. According to a recent report from the Ohio River Valley Institute (ORVI), an estimated \$20.9 billion is needed to address the unreclaimed AML sites across the country and even with AML reauthorization, there is a projected \$25.6 billion revenue gap in funding available and funding need by 2050 for AMLs (Dixon, 2021). AML problems are not going to go away, and new programs like the AML Pilot Economic Development Program and passage of the RECLAIM Act (H.R. 1733) are going to provide more funding for AML along with more stringent requirements for public and community participation. A good start would be for AML states to dedicate at least one part-time staff member to work on expanding opportunities for public participation in the program. This position could be solely responsible for driving the public involvement in state AML activities and could be the point of contact for all public participation efforts. Commitment through one staffer could also help to build the iterative and communicative two-way conversations that are needed for meaningful engagement.

### **Public Participation in Survey Results**

On the community organization side, our survey results indicate that more informal methods of engaging in the AML program are at use, at least within our survey states. This method includes direct contact with AML state staff through meetings, calls, and emails. Public participation opportunities offered also helped organizations to develop working relationships with AML staff, as well as providing for a better

understanding of AML issues, with 70% agreement to both statements found within the survey results.

Community organizations represented in the survey utilize additional public participation opportunities such as attending public meetings and writing op-eds and sign-on letters to AML staff. And while 60% of respondents agreed that the AML staff value the participation and comments from their organization, only 23.3% of respondents were satisfied with the opportunities offered to them by the AML program. These results indicate that engaged community and nonprofit organizations have a desire to continue providing that value and are looking for additional opportunities to be involved in AML decision-making.

### **Public Participation Barriers in the AML Program**

On the community and nonprofit organization side, major barriers to effective public participation in the AML program include lack of information on available public participation opportunities, lack of transparency in project selection and awards, lack of public participation opportunities available, and staff availability. As Peelle et al., (1996) notes, effective participation requires two-way communication and education, agency openness, and participation that is interactive and iterative. Simply put, organizations that are already working on AML issues are hungry for more information, communication, and transparency from AML agencies.

Peelle et al., (1996), Beierle (1998), and other scholars have stressed the importance of building trust with communities and organizations to ensure effective public participation. But rather than explicitly identifying any lack of trust in agencies,

community organizations represented in our survey mostly pointed to an overall lack of information and transparency as major barriers to public participation effectiveness, feeling in some cases that a majority of AML decisions are made behind closed doors. Additional funding is not required to increase the information available to the public and community organizations, offering AML agencies with an easy solution to mitigate this barrier. One survey respondent did explicitly mention lack of trust of government entities in the coal region and emphasized the need for the state AML staff to remain sensitive to local opinions, and partner with community groups and nonprofits that have been active in the region to increase trust in AML program projects.

### **Recommendations**

Our recommendations to improve public engagement within the AML program draw from suggestions made by survey respondents as well as recommendations the author has arrived at through investigation into this program. To increase transparency around AML decision-making, agencies should make AML information more readily available on agency websites. For this review, the author individually reached out to AML officials to obtain copies of State and Tribal Reclamation Plans. These plans contain valuable information on project selection structures such as selection criteria and scoring matrices but are not easily accessed through agency websites. Other than the state of Pennsylvania, none of the AML states and tribes referenced in this study include their Reclamation Plan on their website.

Because our review found that the most common methods of public engagement were through the OSMRE annual outreach process and meetings and hearings, AML

states and tribes should ensure that in addition to posting notices in newspapers or central locations, they are utilizing multiple media platforms to provide information on upcoming AML projects and participation opportunities. One respondent in our survey suggested quarterly or bi-annual newsletters sent out through email lists to provide information on AML projects and opportunities. AML staff could also utilize social media and agency websites as landing pages for participation, community events, upcoming hearings and meetings, upcoming and ongoing projects, and comment periods. Many AML states and tribes are already utilizing agency websites and social media for these purposes, but some provide limited information on public participation specific to the AML program. Leaning more heavily on social media platforms would also work to engage younger generations of citizens that are interested in learning about the AML program and environmental restoration.

Finally, AML agencies should lean on the community partnerships they have already established while expanding these partnerships to additional nonprofit, community, environmental, environmental justice, and watershed organizations in AML regions. Neighborhood-based and other nonprofit organizations can help to increase local participation because of their existing structures to engage the public and may have existing relationships with additional community entities like local planning and development councils or economic development associations.

### **Limitations and Sources of Error**

One limitation of this study is the small sample size of the organization's survey. The survey for community groups was also focused on the specific regions, mostly in

Appalachia, meaning that outcomes from the survey cannot be applied to all organizations working on AML issues.

Some potential sources of error can be found from the survey questions as well. For example, one question in the community organizations survey was mistyped as "How long have you worked for the AML program?", instead of "How long have you worked on AML-related issues?" Future surveys would need to make that clarification to avoid confusion.

Survey targeting for the organizational survey included one organization that does not yet work on AML issues but was interested in learning more about the program, so some survey results may be skewed. In addition, the high number of questions that were skipped in some of the responses indicates that even organizations that work on the AML program might do so in a limited capacity and not have enough knowledge about AML processes to answer each question. Future efforts to communicate with AML-related organizations should focus on more in-depth conversations with groups that are heavily engaged in AML work.

Our survey also focused only on the opinions from community organizations that operate primarily in the Appalachian region. Future research should extend public participation evaluation to AML agency officials that work within the AML program, or expand the survey to include organizations working on AML issues in additional states across the U.S.

And although this analysis was meant to be as thorough as possible regarding public participation opportunities, evaluation of State Reclamation Plans and Annual



Evaluation Reports may still miss critical methods of engagement and relationships that have been built between AML officials and citizens, interest groups, and organizations.

It is also unclear the impact that the COVID-19 pandemic has had on public participation across AML states and tribes. This review focused on activities undertaken in AERs from 2015-2019, but it is unclear how COVID has changed participation opportunities and community events for AML states and tribes. Further research could investigate any changes in AML agency approaches due to the COVID-19 pandemic.

### **Conclusion**

Reclamation and remediation of former coal sites is identified as a crucial tool in just transition efforts, providing immediate job creation and new economic development opportunities. The Infrastructure Investment and Jobs Act, passed in November of 2021, included a requirement for a report on the economic viability of siting solar energy technologies on current and former mine land, as well as authorizing a \$500 million program to demonstrate the viability of carrying out clean energy projects on current and former mine land [Public Law 117-58; sections 40341-40342]. It also included funding for state reclamation of orphaned oil and gas well sites, established a new program through DOI for remediating abandoned hardrock mine land, and provided billions in funding for the EPA's Superfund and Brownfields programs [Public Law 117-58; sections 40601; 40704].

Funding for environmental restoration and transition will only increase as coal declines, and oil and gas operations produce new orphaned wells. In recent years, there has also been a rise in emphasis on incorporating environmental justice and equity

considerations into decision-making for environmental projects, along with a recognition that communities that have been disproportionately impacted by energy production should be prioritized for inclusion in decision-making.

The Just Transition Fund is clear in their National Economic Transition Platform recommendations that planning for transition work should be community-driven and bottom-up. The AML program is a key pillar that energy transition efforts rest upon and will remain a critical pathway for stakeholder engagement in environmental restoration and economic development for decades to come.

## APPENDIX

**A: FY21 State and Tribal Share Distribution**

State/Tribe	Certified (Y/N)	50% of Total Collections for FY 2020	Certified States and Tribes Ineligible	Eligible States/Tribes Share Collections	State Share Distribution (rounded)
Alabama	N	757,690.77	•	757,690.77	757,691
Alaska	N	141,052.35	•	141,052.35	141,052
Arkansas	N	•	•	•	•
Colorado	N	924,092.94	•	924,092.94	924,093
Illinois	N	2,167,382.54	•	2,167,382.54	2,167,383
Indiana	N	2,040,098.83	•	2,040,098.83	2,040,099
Iowa	N	•	•	•	•
Kansas	N	•	•	•	•

Kentucky	N	1,873,276.89	•		1,873,276.89	1,873,277
Louisiana	Y	36,352.54	(36,352.54)		•	•
Maryland	N	132,668.88	•		132,668.88	132,669
Mississippi	Y	105,456.24	(105,456.24)		•	•
Missouri	N	22,633.66	•		22,633.66	22,634
Montana	Y	3,089,430.05	(3,089,430.05)		•	•
New Mexico	N	838,721.56	•		838,721.56	838,722
North Dakota	N	1,052,870.65	•		1,052,870.65	1,052,871
Ohio	N	371,803.18	•		371,803.18	371,803
Oklahoma	N	7,863.07	•		7,863.07	7,863
Pennsylvania	N	2,817,715.56	•		2,817,715.56	2,817,716

Tennessee	N	18,832.50	•	18,832.50	18,833
Texas	Y	822,821.38	(822,821.38)	•	•
Utah	N	785,952.90	•	785,952.90	785,953
Virginia	N	765,924.58	•	765,924.58	765,925
West Virginia	N	4,974,384.50	•	4,974,384.50	4,974,385
Wyoming	Y	34,968,714.80	(34,968,714.80)	•	•
Crow Tribe	Y	299,617.46	(299,617.46)	•	•
Hopi Tribe	Y	•	•	•	•
Navajo Nation	Y	627,707.36	(627,707.36)	•	•
<b>Total</b>	N/A	<b>\$59,643,065.19</b>	<b>(\$39,950,099.83)</b>	<b>\$19,692,965.36</b>	<b>\$19,692,969</b>

(Source: "Fiscal Year 2021 Grant Distribution," OSMRE)

**B: Landscape Review of Information in Annual Evaluation Reports**

	Information																
<i>Uncertified States/Territories</i>	Public Participation	Definition of Public Stakeholders	AML Agency Website Location and Documents	Description of AML process	How to Assess Res and PAs	Environmental Assessment (EA) Information	Finding of No Significant Impact Information (FONSI)	eAMLI Information	Advisory Board/Commission Information	Citizens Council/Board Information	Citizen's Guide	Stakeholder Email List	Partnerships/Organizations Listed	AML-22 Directive/REG-Information			
Alabama	X				X	X	X	X									
Alaska	X	X	X		X												X
Arkansas	X				X							X					
Colorado	X	X	X	X						X			X				
Illinois	X	X	X		X												
Indiana	X	X	X		X						X			X			
Iowa	X	X	X		X									X			
Kansas	X	X			X												







**C: Landscape Review of Participation Methods in Annual Evaluation Reports**

State/Tribe	Public Participation Mechanisms																	
	Annual Oversight Outreach	Notices in Newspapers	Project Proposals or Posters in Libraries/Courthouses	Project Postings	Public Hearings/Meetings	Community Outreach/Events	Informational Booths	Presentations	Conferences/Interpersonal Meetings	Outreach/Volunteer Hours Counted	Participations Counted	Educational Materials	Complaint Collection/Tallying	Social Media	Open Houses	Proposals Sent to Government Officials	Directly Calling Citizens/Landowners	EY Meetings/Events Listed
Alabama	X	X	X	X	X												X	
Alaska	X																	
Arkansas	X	X																
Colorado		X		X	X	X	X											X
Illinois	X					X		X				X						X
Indiana						X	X	X		X		X						X
Iowa	X				X	X	X	X		X	X						X	X





**D: Remaining Unfunded Costs for AML States and Tribes (eAMLIS)**

<b>State/Tribe</b>	<b>Remaining Unfunded Costs in e-AMLIS</b>
Pennsylvania	\$3,971,255,782.30
West Virginia	\$1,234,306,834.22
Kansas	\$784,950,564.00
Kentucky	\$678,990,739.76
Ohio	\$399,580,970.36
Alabama	\$316,865,365.34
Montana	\$218,638,916.00
Indiana	\$119,549,991.19
Missouri	\$104,879,979.00
Virginia	\$103,053,966.79
Oklahoma	\$97,098,052.00
Wyoming	\$85,704,270.00
Iowa	\$75,126,317.68
Colorado	\$71,143,506.17
Alaska	\$37,328,803.00
Maryland	\$36,897,619.00
New Mexico	\$36,489,779.08
North Dakota	\$35,528,576.13
Tennessee	\$15,267,249.00
Arkansas	\$14,659,663.00
Louisiana	\$13,539,838.00
Utah	\$8,734,995.00
Texas	\$7,368,723.69

Michigan	\$3,615,000.00
Navajo Nation	\$765,300.00
Georgia	\$175,000.00
California	\$120,000.00
Mississippi	\$43,625.00
Illinois	\$0

## **E: Institutional Review Board Consent Form**

### **UNDERSTANDING THE PUBLIC PARTICIPATION PROCESS IN THE ABANDONED MINE LAND PROGRAM**

#### **RESEARCH PROCEDURES**

This research is being conducted to understand how the public participants in the Title IV Abandoned Mine Land reclamation program. If you agree to participate, you may start the 10-15 minute online survey. You may skip any questions you prefer not to answer.

#### **RISKS & BENEFITS**

There are no foreseeable risks for participating in this research. There are no benefits to you as a participant other than to further research on public participation in mine restoration and reclamation.

#### **CONFIDENTIALITY**

The data in this study will be confidential. The Institutional Review Board (IRB) committee that monitors research on human subjects may inspect study records during internal auditing procedures and are required to keep all information confidential. This research has been reviewed according to George Mason University procedures governing your participation in this research. While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission. The de-identified data could be used for further research without additional consent from participants.

## **PARTICIPATION**

Please note, you must be age 18 or older to participate. Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

## **CONTACT**

This research is being conducted by Karsyn Kendrick, a graduate student in Environmental Science and Policy, Associate Prof. Younsung Kim in the Department of Environmental Science and Policy at George Mason University.

For questions or to report a research-related problem, Kendrick may be reached at [kkendri@gmu.edu](mailto:kkendri@gmu.edu) or (706)829-6628; Younsung Kim at [ykih@gmu.edu](mailto:ykih@gmu.edu) or (703) 888-6736. You may contact the George Mason University Institutional Review Board office at (703) 993-4121 or [IRB@gmu.edu](mailto:IRB@gmu.edu) if you have questions or comments regarding your rights as a participant in the research. If you have any questions, please contact Younsung Kim ([ykih@gmu.edu](mailto:ykih@gmu.edu)) or Karsyn Kendrick ([kkendri@gmu.edu](mailto:kkendri@gmu.edu)).

## **IRBNet Number**

Please note that the IRBNet Number of this research is 1823503-1.

## **CONSENT**

Your completion of the survey indicates your consent to participate in this study.



## **F: Example of Email Outreach**

**Subject Line:** Seeking Out Your Opinion on the Abandoned Mine Land Program

Good Morning!

My name is Karsyn Kendrick, a graduate student in Environmental Science and Policy at George Mason University. I am currently undertaking an MS thesis research project under Dr. Younsung Kim's supervision.

We contact you to seek out your opinion on the role of public/organizational participation in the Title IV Abandoned Mine Land program (AML) site selection, design, and approval process.

Specifically, we are intrigued by current methods for engaging the public in AML, barriers, and opportunities for meaningful public engagement in the AML program.

You will receive a short survey via Survey Monkey shortly. The survey should take around 10 minutes to complete. It has been approved by the Institutional Review Board (IRB).

We would love if you could take some time to complete it. Your feedback will be incredibly valuable for a deeper understanding of this important program.

**Please return this completed survey by December 20, 2021.**

Thank you for your time, and please feel free to reach out to me with any further questions.

### **Contact Information**

Karsyn Kendrick, Graduate Student Researcher

Email: [kkendri@gmu.edu](mailto:kkendri@gmu.edu)

Phone: 706-829-6628

Dr. Younsung Kim, Associate Professor

Email: [ykih@gmu.edu](mailto:ykih@gmu.edu)

Phone number: 703-993-5165

Office Number

David J. King Hall,

Room 3020, MSN 5F2

Best,

Karsyn Kendrick

## **G: Survey Questions**

### *Background Information*

1. What is your name?
2. What is your organization?
3. What is your job title?
4. How long have you worked on the AML program?
5. What is your gender?
6. What is your age range?  
Under 18; 18-24; 25-34; 35-44; 45-54; 55-64; 65+
7. Please briefly describe your roles and responsibilities as it relates to the Title IV Abandoned Mine Land reclamation program. (open ended)

### *Public Participation Questions*

1. At what point in the yearly AML grant process are you or your organization involved in providing comments/opinions? Please select all that apply.
  1. Site identification
  2. Site selection
  3. Site approval
  4. Grant approval
2. To your knowledge, which types of methods are used to solicit public input for AML issues in your state? Please select all that apply.
  1. Newsletters/press releases
  2. Newspaper notices
  3. Website updates
  4. Email mailing lists
  5. Clearinghouse of A95 process
  6. Social media
3. Which of the following aspects of coal reclamation/policy does your organization prioritize? Select all that apply.
  1. AML site reclamation
  2. Acid mine drainage
  3. Emergency AML projects
  4. Watershed issues
  5. Coal regulatory program
  6. Coal permitting
4. What public participation opportunities does your organization utilize? Select all that apply.
  1. Providing comments on site selection/grant approval
  2. Attending public meetings
  3. Direct contact with AML state staff (meetings, calls, emails)
  4. Op-eds, sign-on letters,
  5. Social media

6. Other (open ended)

*For this next set of questions, please indicate your level of agreement with the following statements.*

1. AML staff make efforts to involve the public in AML projects throughout all stages in the yearly site selection and approval process.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree
  5. Strongly disagree
2. AML staff provide multiple opportunities for participation in AML site selection and approval.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree
  5. Strongly disagree
3. AML staff provide sufficient information and materials to allow my organization to participate in the yearly site selection and approval process.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree
  5. Strongly disagree
4. Public meetings/events are held at convenient times and locations for my organization to engage.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree
  5. Strongly disagree
5. AML staff provide information that is not overly technical and easy to understand and respond to.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree
  5. Strongly disagree
6. Public participation opportunities allow for a better understanding of AML sites and issues.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree

5. Strongly disagree
7. Public participation opportunities create a working relationship between my organization and AML staff.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree
  5. Strongly disagree
8. AML staff value the participation and comments from my organization.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree
  5. Strongly disagree
9. AML staff often use informal methods of soliciting public comments/opinion.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree
  5. Strongly disagree
10. AML staff offer opportunities to build the awareness of the AML program for the general public. This could include setting up AML tables at local events or hosting webinars or training programs to educate the public on the yearly AML process.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree
  5. Strongly disagree
11. Overall, my organization is satisfied with public participation opportunities offered in the AML program.
  1. Strongly agree
  2. Agree
  3. Neither agree nor disagree
  4. Disagree
  5. Strongly disagree

*Open-Ended Questions*

1. What are the main barriers to achieving effective public participation in the yearly AML program for your organization?
2. What practices or methods, in your opinion, would increase the effectiveness of public participation in the AML program?
3. Any general feedback on the AML program and public participation?

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