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# CAUSE AND EFFECT: SURFACE MINE RECLAMATION AND FLOOD LITIGATION IN APPALACHIA

BETHANY N. BAXTER\*

## I. INTRODUCTION

After flash flooding in Eastern Kentucky resulted in serious property damage and death, landowners initiated litigation blaming coal operators for negligently reclaiming mine sites and exacerbating floodwaters. This note examines the complicated ecological, social, and legal consequences of mine reclamation practices illustrated by recent flooding in Kentucky. Specifically, it will examine claims of negligence, the act of God defense, nuisance, and strict liability, and how these common law concepts might evolve in the face of mounting scientific evidence linking reclamation to flooding events. Available information and research prove mine reclamation practices do not satisfy their statutory purposes, and the external costs of reclamation are deflected from the industry onto coalfield communities and state taxpayers. Recent flood litigation demonstrates a need for reclamation regulation that reflects the scientific community's findings.

## II. MINE RECLAMATION REGULATIONS & REGIONAL FLOOD EVENTS

### *A. Surface Mine Reclamation*

Surface mining is cheaper and generally safer than deep mining, making it more attractive to mining companies.<sup>1</sup> Surface mining and subsequent reclamation is a process whereby topsoil is removed and stored, and lower layers of soil and rock, referred to as "overburden," are removed to expose coal seams.<sup>2</sup> Coal deposits are then mined, and the land reclaimed.<sup>3</sup> Given the serious environmental and safety concerns, coal mining is a heavily regulated industry in the United States. State agencies

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<sup>1</sup> *Coal Mining and Processing*, CONSUMER ENERGY REP., <http://www.consumerenergyreport.com/research/coal/coal-mining-and-processing> (last visited Sept. 30, 2011).

<sup>2</sup> KY. REV. STAT. ANN. § 350.010 (West 2011).

<sup>3</sup> *Id.*

first implemented the federal surface mining regulations governing the reclamation process in 1977.<sup>4</sup> Prior to the passage of the Surface Mining Control and Reclamation Act (SMCRA) mined lands were often abandoned, resulting in massive erosion and degradation necessitating regulation.<sup>5</sup> The Act created the Office of Surface Mining (OSM) to work with state agencies to oversee the reclamation process.<sup>6</sup>

Over the past century, mining practices have changed the Eastern Kentucky landscape, as surface mining has leveled many of the steep forested hillsides and coves. Throughout the 1990s, annual coal production in Kentucky averaged 160 million short tons, and while production has declined some in recent years Kentucky is still the third largest coal producing state in the nation.<sup>7</sup> The OSM reports 1,919 active mining permits in 2010, of which 907 are surface mines.<sup>8</sup> Of these surface mines, two-thirds are greater than 100 acres in size.<sup>9</sup> The Kentucky Energy and Environment Cabinet is charged with oversight of surface mine permitting and reclamation under SMCRA.<sup>10</sup> Within the Cabinet, the Division of Mine Reclamation and Enforcement (DMRE) is organized to directly manage and oversee reclamation and permitting. Kentucky law requires that:

“the permittee or person shall restore the land affected to a condition capable of supporting the uses which it was capable of supporting prior to any mining, or higher or better uses of which there is reasonable likelihood, so long as the use or uses do not present any actual or probable hazard to public health or safety or pose any actual or probable threat of water diminution or pollution, and the permit applicant’s declared proposed land use following reclamation is not deemed to be impractical or unreasonable, inconsistent with applicable land use policies and plans, involves unreasonable delay in implementation, or is violative of federal, state, or local law.”<sup>11</sup>

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<sup>4</sup> See 30 U.S.C.A. §1201 (West 2010).

<sup>5</sup> See A. Brooke Rubenstein & David Winkowski, *A Mine is a Terrible Thing to Waste: Past, Present and Future Reclamation*, 13 VILL. ENVTL. L.J. 189, 200-01 (2002).

<sup>6</sup> *Id.* at 201.

<sup>7</sup> OFFICE OF SURFACE MINING RECLAMATION & ENFORCEMENT, 2010 KENTUCKY EVALUATION REPORT, at 1 (2010), available at [www.osmre.gov/Reports/EvalInfo/2010/KY10-aml-reg.pdf](http://www.osmre.gov/Reports/EvalInfo/2010/KY10-aml-reg.pdf).

<sup>8</sup> *Id.* at 2.

<sup>9</sup> *Id.* at 3.

<sup>10</sup> See KY. REV. STAT. ANN. § 350.050 (West 2011).

<sup>11</sup> KY. REV. STAT. ANN. § 350.405 (West 2011).

Mine operators are required to assess hydrologic conditions at the mine site for use in determining the consequence of mine activity.<sup>12</sup> Fish and wildlife impacts must also be assessed, and a plan for reclamation submitted along with the mine permit application.<sup>13</sup> Applicants must file a reclamation bond before a permit will be issued, as an added safeguard to provide for reclamation in the event the mine operator proves insolvent.<sup>14</sup> Prior to mining, the permittee must remove and save biologically rich topsoil.<sup>15</sup> Steps must also be taken throughout the surface mining process to minimize disturbance to the watershed's hydrologic balance. Such steps include containment of runoff and sediment via construction of settling ponds or siltation structures, and use of the best available technology.<sup>16</sup> Unless cabinet approval is obtained for certain exceptions, regulatory performance standards require post-mining land be returned to its original contours via backfilling, compaction, and grading.<sup>17</sup> Finally, topsoil is replaced and the area is "revegetated in a manner that encourages prompt vegetative cover and recovery of the land's productivity levels."<sup>18</sup> Introduced species may be used to reseed reclaimed land where desirable and necessary, and aggressive fast growing species are often preferred.<sup>19</sup>

### *B. Flooding Associated with Mine Reclamation*

Surface mining and subsequent reclamation represent the dominant land use changes in central Appalachia between 1975 and 2000.<sup>20</sup> The mandated reclamation process is widely criticized as ineffective in returning mined lands to their original hydrologic capacities. Much like urbanization, reclamation decreases the perviousness of the landscape, which impedes the ability of water to filter through the soil matrix.<sup>21</sup> Academic studies suggest there is a correlation between reclaimed mine

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<sup>12</sup> KY. REV. STAT. ANN. § 350.062(1)-(2) (West 2011).

<sup>13</sup> KY. REV. STAT. ANN. § 350.062(4)-(5) (West 2011).

<sup>14</sup> KY. REV. STAT. ANN. § 350.064 (West 2011).

<sup>15</sup> KY. REV. STAT. ANN. § 350.415 (West 2011).

<sup>16</sup> KY. REV. STAT. ANN. § 350.420(3)-(4) (West 2011); *see also* 405 KY. ADMIN. REGS. 16:090 (2011).

<sup>17</sup> 405 KY. ADMIN. REGS. 16:190 § 2 (2011); *see also* KY. REV. STAT. ANN. § 350.415 (West 2011).

<sup>18</sup> 405 KY. ADMIN. REGS. 16:200 (2011); *see also* KY. REV. STAT. ANN. § 350.415 (West 2011).

<sup>19</sup> 405 KY. ADMIN. REGS. 16:200 (2011).

<sup>20</sup> J. R. Ferrari, T. R. Lookingbill, B. McCormick, P. A. Townsend & K. N. Eshleman, *Surface Mining and Reclamation Effects on Flood Response of Watersheds in the Central Appalachian Plateau*, 45 WATER RESOURCES RES. (2009); *see also* CLIMATE CHANGE SCI. PROGRAM & SUBCOMM. ON GLOBAL CHANGE RESEARCH, STRATEGIC PLAN FOR THE CLIMATE CHANGE SCIENCE PROGRAM FINAL REPORT, 63-70 (2003) (reflecting similar results from a study from 1973-2000).

<sup>21</sup> Timothy L. Negley & Keith N. Eshleman, *Comparison of Stormflow Responses of Surface-Mined and Forested Watersheds in the Appalachian Mountains, USA*, 20 HYDROLOGICAL PROCESSES 3467, 3468 (2006).

land and the incidence and severity of flooding events. A 2009 study assessed flood response as a function of the percentage of a Maryland watershed impacted by reclaimed mine sites over a thirty-year period, using Landsat imagery.<sup>22</sup> Average daily stream flow data revealed that flood magnitude increases with increased mining and subsequent reclamation over time.<sup>23</sup> Similarly, a 2006 study of this same watershed determined that reclaimed sites experience three times the total storm runoff and double peak hourly flows relative to adjacent forested sites.<sup>24</sup>

A 2006 study compared the storm flow response of a watershed subjected to mining and reclamation with a watershed covered with second growth forest.<sup>25</sup> This three-year study revealed the watersheds subjected to reclamation exhibited significantly higher storm water runoff coefficients, greater total storm runoff, and higher peak hourly runoff rates.<sup>26</sup> The study attributed these differences to compacted soils at reclaimed sites.

University of Kentucky researchers conducted a study of small surface mined watersheds in eastern Kentucky, determining that peak runoff rates were thirty-six percent more extreme in watersheds subjected to reclamation.<sup>27</sup> A 2002 study from the West Virginia Department of Environmental Protection found peak discharge stream flows were dramatically increased in watersheds disturbed by mining and logging, as compared to undisturbed watersheds.<sup>28</sup> Based on these results, researchers recommended regulations be revised to enhance hydrologic reclamation plans for mining and timbering operators.<sup>29</sup> These studies prove that mine activity and reclamation impairs hydrologic function, and watersheds are not returned to their pre-mined capability as mandated by statute.

Recently the Environmental Protection Agency (EPA) completed a final programmatic Environmental Impact Statement (EIS) assessing mountaintop mining and valley fills in the Appalachian region of eastern Kentucky, southern West Virginia, and southwest Virginia.<sup>30</sup> Studies included in the 2005 EIS found that streams in watersheds affected by mountaintop removal and valley fill operations were characterized by:

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<sup>22</sup> Ferrari et al., *supra* note 20.

<sup>23</sup> *Id.* at 9.

<sup>24</sup> Negley & Eshleman, *supra* note 21, at 3468 .

<sup>25</sup> *Id.* at 3467.

<sup>26</sup> *Id.* at 3477.

<sup>27</sup> B.A. Bryan & J.D. Hewlett, *Effect of Surface Mining on Storm Flow and Peak Flow from Six Small Basins in Eastern Kentucky*, 17 WATER RESOURCES BULL. 290, 298 (1981).

<sup>28</sup> FLOOD ANALYSIS TECHNICAL TEAM, W.VA. DEP'T. OF ENVTL. PROT., RUNOFF ANALYSES OF SENG, SCRABBLE, AND SYCAMORE CREEKS, pt. 1, at 61-69 (2002), *available at* [www.epa.gov/region3/mtntop/pdf/appendices/h/wvflooding/Flooding\\_Study\\_Part\\_01.pdf](http://www.epa.gov/region3/mtntop/pdf/appendices/h/wvflooding/Flooding_Study_Part_01.pdf).

<sup>29</sup> *Id.* at 71.

<sup>30</sup> U.S. ENVTL. PROT. AGENCY, MOUNTAINTOP MINING/VALLEY FILLS IN APPALACHIA: FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT 4 (2005), *available at* [http://www.epa.gov/region03/mtntop/pdf/mtm-vf\\_fpeis\\_full-document.pdf](http://www.epa.gov/region03/mtntop/pdf/mtm-vf_fpeis_full-document.pdf) [hereinafter MOUNTAINTOP MINING/VALLEY FILLS].

increased mineral loads; less diverse and more pollutant tolerant macro-invertebrate and fish species; and greater and more persistent flow bases than streams in un-mined watersheds.<sup>31</sup> Further, the EIS found that during high intensity storm events, these streams exhibited higher peak discharges than those in un-mined watersheds.<sup>32</sup>

Mine reclamation results in radical changes to topography, soil properties, and vegetation of affected lands.<sup>33</sup> Empirical data consistently find reclamation ineffective in returning mined lands to their natural hydrologic state and ecosystem function.<sup>34</sup> Specifically, these studies establish that re-contouring and re-vegetation requirements mandated under SMCRA and enforced by state agencies do not effectively restore hydrologic function to mined land.<sup>35</sup>

Flash floods are more common to the Appalachian region of eastern Kentucky than the rest of the state.<sup>36</sup> When heavy rains fall in the Appalachian region, landslides are more likely to occur by virtue of the steep sloped topography.<sup>37</sup> A U.S. Geological Survey identified eastern Kentucky as an area of high incidence and high susceptibility for landslides.<sup>38</sup> Flash flood data can be skewed, as reports of such events are more common in densely populated areas, and many events in sparsely populated areas go unreported.<sup>39</sup> Even so, a study based on data from the National Weather Service's Morristown, Tennessee office, servicing eastern Tennessee, southwestern Virginia, and southwestern North Carolina, found that reports of flash flooding have increased between 1990 and 2000.<sup>40</sup> The increased incidence of reported flash flooding in the central Appalachian region corresponds with scientific research, and it appears likely that this trend will continue.

### C. Recent Flooding Events in Kentucky

Within the past couple years, several severe and damaging flash floods have impacted eastern Kentucky communities. In May of 2009 a flash flood followed heavy rains in Breathitt County, Kentucky, leaving

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<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> Ferrari et al., *supra* note 20.

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

<sup>36</sup> U.S. GEOLOGICAL SURVEY, *Debris-Flow Hazards within the Appalachian Mountains of the Eastern United States* 1 (Aug. 2008), available at [pubs.usgs.gov/fs/2008/3070/fs2008-3070.pdf](http://pubs.usgs.gov/fs/2008/3070/fs2008-3070.pdf).

<sup>37</sup> *See id.* at 1 fig.1.

<sup>38</sup> *See id.*

<sup>39</sup> David M. Gaffin & David G. Hotz, Nat'l Weather Serv., *Precipitation and Flash Flood Climatology of the WFO Morristown Hydrological Service Area 4* (2000), available at [www.srh.noaa.gov/mrx/research/climo/rainclim.php](http://www.srh.noaa.gov/mrx/research/climo/rainclim.php).

<sup>40</sup> *Id.*

hundreds of people homeless.<sup>41</sup> Among the hardest hit were those living in the community of Rousseau, along Quicksand Creek. Homes, businesses, and the community elementary school were destroyed by floodwaters.<sup>42</sup> A state of emergency was declared and the Federal Emergency Management Agency (FEMA) received more than 900 applications for relief, finally approving almost four million dollars in aid for victims.<sup>43</sup> On July 17, 2010 a similar flooding event occurred on Harless Creek, in the community of Regina, Pike County, Kentucky. This flooding event left two people dead, thousands in the region without water or power, and hundreds with damaged or destroyed homes and automobiles.<sup>44</sup> Both Breathitt and Pike county residents have filed suits alleging that poor reclamation of mine sites exacerbated floodwaters and significantly contributed to property damage.

Eighty-seven individuals in Breathitt County joined in a suit against Lexington Coal, Appalachian Fuels, ICG Coal, and Miller Brothers Coal; the defendants represent present or past owners of mine sites within the Quicksand Creek watershed.<sup>45</sup> Plaintiffs allege defendants violated mining regulations by allowing coal mine debris to escape from mining areas.<sup>46</sup> An expert hired by plaintiffs made findings that the flooding was caused by sediment pond breaches and active mining.<sup>47</sup> Contrary to the expert's findings, Steve Vance, manager of DMRE's London Office, made a public statement claiming the area was not poorly reclaimed and supported this assertion with a 2009 hydrologic DMRE study determining that the ponds did not breach, but one pond may have overflowed.<sup>48</sup> Further the complaint alleges claims of negligence, strict liability for engaging in ultra-hazardous activity, trespass, and nuisance as a result of defendants escaped coal mining debris.<sup>49</sup>

One hundred and twenty-six individuals in Pike County filed suit against AEP Coal, a foreign limited liability company, and Cambrian Coal,

<sup>41</sup> Andy Mead, *Breathitt County Residents Struggle to Recover from Flood*, LEXINGTON HERALD LEADER, (May 13, 2009), [www.kentucky.com/2009/05/13/793615/breathitt-county-residents-struggle.html](http://www.kentucky.com/2009/05/13/793615/breathitt-county-residents-struggle.html).

<sup>42</sup> Dara Rees, *One Man Organizes Donations to Breathitt Co. Flood Victims*, WYMT TV, (May 15, 2009), <http://www.wkyt.com/wymtnews/headlines/45058147.html>.

<sup>43</sup> Angela Sparkman, *FEMA Disaster Recovery Centers Open*, WYMT TV, (June 4, 2009), <http://www.wkyt.com/wymtnews/headlines/46983327.html>.

<sup>44</sup> Shawntaye Hopkins & Dori Hjalmarson, *Flash Flood in Pike County Causes Death, Destruction*, LEXINGTON HERALD LEADER, (July 19, 2010), [www.kentucky.com/2010/07/19/1354066/at-least-one-dead-in-pike-flood.html](http://www.kentucky.com/2010/07/19/1354066/at-least-one-dead-in-pike-flood.html).

<sup>45</sup> See generally Amended Complaint at ¶ 11, *Allen v. Lexington Coal Co.*, No. 09-CI-00192 & No. 10-CI-00136 (Breathitt Cir. Ct. Dec. 7, 2009).

<sup>46</sup> Amended Complaint at ¶ 10, *Allen v. Lexington Coal Co.*, No. 09-CI-00192 & No. 10-CI-00136 (Breathitt Cir. Ct. 7 Dec. 2009).

<sup>47</sup> Dori Hjalmarson, *Mining Worsened 2009 Flooding in Breathitt County, Lawsuits Say*, LEXINGTON HERALD LEADER, (May 13, 2010), <http://www.kentucky.com/2010/05/13/1262650/mining-worsened-2009-flooding.html>.

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

a Kentucky corporation.<sup>50</sup> Plaintiffs allege that defendant coal companies engaged in ongoing mining activity in close proximity to Harless Creek, and that these activities caused or exacerbated the flood event.<sup>51</sup> Plaintiffs allege defendants are strictly liable by engaging in ultra hazardous activity, and additionally allege tort claims of trespass, negligence, and nuisance.<sup>52</sup> As defendants violated surface mining reclamation regulations, plaintiffs assert a statutory cause of action under KRS Section 446.070.<sup>53</sup>

These Pike county claims are distinct from the Breathitt claim in that defendant coal companies were cited for violation of state reclamation regulations.<sup>54</sup> Collectively the defendants were cited a total of six times in four citations, and plaintiffs allege these citations contributed to flooding, and resulted in their injuries.<sup>55</sup> The Kentucky Energy and Environmental Cabinet Department issued Cambrian Coal a non-compliance citation, which alleged improper maintenance of a sediment pond.<sup>56</sup> Following a September 2010 inspection of the mine sites, the state DMRE identified multiple violations, including failure to construct sediment structures, slope failures, and the occurrence of multiple, off permit disturbances.<sup>57</sup> Cambrian was also issued a citation on August 3, 2010, for failure to control runoff from a surface mine, and breach of two sediment control ditches.<sup>58</sup> AEP Coal was issued a citation in July of 2010 for landslides and failure to establish a temporary sediment control pond using best available technologies.<sup>59</sup>

The primary focus of this note is the analysis of the tort claims alleged in the two aforementioned cases. The claims illustrate legal strategies typically employed by plaintiffs in comparable circumstances. Analysis of these concepts will focus specifically on the relationship between mounting scientific and economic studies and common law doctrines. As awareness of the deleterious economic, social, and environmental effects of surface mining is heightened, courts' analysis and considerations in decision making should too evolve.

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2010).<sup>50</sup> Complaint at 3, *Damron v. Cambrian Coal Corp.*, No. 10-CI-1290 (Pike Cir. Ct. Aug. 17

<sup>51</sup> *Id.*

<sup>52</sup> *Id.* at 6-7.

<sup>53</sup> *Id.* at 7-8.

<sup>54</sup> *Id.* at 5-6.

<sup>55</sup> *Id.* at 4.

2010).<sup>56</sup> Complaint at 5, *Damron v. Cambrian Coal Corp.*, No. 10-CI-1290 (Pike Cir. Ct. Aug. 17

<sup>57</sup> Letter from David Spradlin, Envtl. Inspector, Div. of Mine Reclamation & Enforcement (Sept. 21, 2010) available at <http://www.pillersdorflaw.com/cambrianviolations2.pdf>.

2010).<sup>58</sup> Complaint at 6, *Damron v. Cambrian Coal Corp.*, No. 10-CI-1290 (Pike Cir. Ct. Aug. 17

<sup>59</sup> *Id.*



### III. ANALYSIS OF TORT ACTIONS IN THE PIKE & BREATHITT COUNTY SUITS

#### A. *Negligence Per Se* under KRS Section 446.070

Plaintiffs in both suits claim negligence on the part of past and present owners of coal mine sites within the flooded watersheds. The complaints filed allege flood waters were exacerbated by poorly reclaimed mine sites, and mine operators were negligent per se given past and present violations of reclamation regulations.<sup>60</sup> KRS Section 446.070 provides, “A person injured by the violation of any statute may recover from the offender such damages as he sustained by reason of the violation, although a penalty or forfeiture is imposed for such violation.”<sup>61</sup> The statute has long been interpreted to include injuries other than personal injuries, but applies only to the violation of state, not federal statutes.<sup>62</sup> In 2005, the Kentucky Supreme Court confirmed that violation of an administrative regulation created a private cause of action under this statute.<sup>63</sup> In *Hargis v. Baize*, a lumber mill violated a regulation governing the handling of timber, and consequentially improperly bound logs caused the death of an employee.<sup>64</sup> The court held where the plaintiff is an individual the statute was intended to protect; the harm caused is of the type the statute was intended to prevent; and where the violation was a factor in causing the result, the violation constitutes negligence per se.<sup>65</sup> As the state surface mine reclamation laws include no explicit civil remedy, KRS Section 446.070 is advantageous to plaintiffs in the Breathitt and Pike County suits in proving duty and breach on the part of defendant coal operators. The statute has never before been applied to a claim for flood damages in this circumstance.

Breathitt plaintiffs allege defendants caused coalmine debris to escape from coal mining areas in violation of Kentucky coal mining regulation Section 350.060, creating a statutory cause of action.<sup>66</sup> Further the Breathitt plaintiffs allege that defendants concealed the breach of impoundment ponds to regulatory agencies, and failed to properly reclaim

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<sup>60</sup> See generally Amended Complaint, *Allen v. Lexington Coal Co.*, No. 09-CI-00192 & No. 10-CI-00136 (Breathitt Cir. Ct. Dec. 7, 2009); Complaint, *Damron v. Cambrian Coal Corp.*, No. 10-CI-1290 (Pike Cir. Ct. Aug. 17 2010).

<sup>61</sup> KY. REV. STAT. ANN. § 446.070 (2010).

<sup>62</sup> See *Roberts v. Hargis*, 96 S.W.2d 691, 692 (Ky. 1936); see also *Alderman v. Bradley*, 957 S.W.2d 264, 266. (Ky. App. 1997).

<sup>63</sup> *Hargis v. Baize*, 168 S.W.3d 36, 40 (Ky. 2005).

<sup>64</sup> *Id.* at 39.

<sup>65</sup> *Id.* at 45.

<sup>66</sup> Amended Complaint at ¶ 11, *Allen v. Lexington Coal Co.*, No. 09-CI-00192 & No. 10-CI-00136 (Breathitt Cir. Ct. Dec. 7 2009).

surface mined property.<sup>67</sup> In the Pike County suit, Cambrian Coal has been cited numerous times for violation of reclamation regulations, making KRS Section 446.070 easily applicable.<sup>68</sup> In the Breathitt and Pike County claims, even if the court finds negligence per se, causation will still need to be established. Convincing the court that defendant mining companies exacerbated floodwaters will be difficult, certainly more so than proving causation in *Hargis v. Baize*. It will be interesting to see how and if the court finds negligence per se based on this statute. If successfully alleged, this would heighten the consequences of violating mine regulations, and in theory could result in changes to industry practices.

### *B. Causation & the Act of God Defense*

Negligence is the failure to exercise care typical of a reasonable person under given circumstances.<sup>69</sup> The act of God defense is a legal concept based on fairness.<sup>70</sup> Part of the basis for this concept is the *foreseeability* of risks.<sup>71</sup> A defendant is required to have knowledge of and anticipate regional weather conditions, and take precautions accordingly.<sup>72</sup> However, where a defendant could not predict or foresee the consequence of an event, he should not, in fairness, be held liable. The act of God defense has been incorporated into federal environmental statutes, most recently in the 2006 Oil Pollution Act, as “an unanticipated grave natural disaster or other natural phenomenon of an exceptional, inevitable and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.”<sup>73</sup>

Kentucky case law is sparse in its analysis of the act of God defense, and no such cases speak directly to the issue of flooding and reclaimed mine land. Generally, Kentucky courts reason that where an act of God and human negligence both affect harm, human negligence is considered the proximate cause of the injury.<sup>74</sup> This is an adoption of the Restatement (Second) of Torts, which states, “[i]f two forces are actively operating, one because of the actor’s negligence, the other not because of any misconduct

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<sup>67</sup> *Id.* at ¶ 14.

<sup>68</sup> Complaint at 3, *Damron v. Cambrian Coal Corp.*, No. 10-CI-1290 (Pike Cir. Ct. Aug. 17 2010).

<sup>69</sup> BLACK’S LAW DICTIONARY 1133 (9<sup>th</sup> ed. 2009).

<sup>70</sup> See Jill M. Fraley, *Re-examining Acts of God*, 27 PACE ENVTL. L. REV. 669, 672 (2010).

<sup>71</sup> *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947) (outlining Judge Learned Hand’s three components for identifying reasonable care including: the probable risk of injury, the magnitude of the harm should the injury occur, and the availability of alternatives that would prevent the injury).

<sup>72</sup> W. PAGE KEETON, ET AL., PROSSER AND KEETON ON THE LAW OF TORTS 304 (5th ed. 1984).

<sup>73</sup> 33 U.S.C. § 2701(1) (2010).

<sup>74</sup> *Ky. Power Co. v. Kilbourne*, 307 S.W.2d 9, 13 (Ky. 1957) (holding defendant liable for negligence when plaintiff’s house was damaged due to that negligence and an electrical storm).

on his part, and each of itself is sufficient to bring about harm to another, the actor's negligence may be found to be a substantial factor in bringing it about."<sup>75</sup> To initiate a successful act of God defense, a defendant must prove the occurrence of both an extreme natural event beyond man's anticipation or control, and that this event was the sole proximate cause of injury.<sup>76</sup> The defense therefore requires both a finding of law and a finding of fact. Kentucky case law qualifies a flood event as an act of God based on the character and degree of rainfall.<sup>77</sup> The burden of proving causation is difficult for plaintiffs where heavy rainfall is a contributing factor, but this burden is alleviated where there is evidence of a defendant's misconduct.

If a defendant fails another duty that had the possibility of making damage foreseeable, the act of God defense is inapplicable. A defendant railroad was barred from initiating the act of God defense in a wrongful death action where defendant had reason to suspect the hazard and time to take precautions.<sup>78</sup> Here the defendant railroad, operating in Pike County, failed to inspect track running along the river during an abnormally heavy storm period.<sup>79</sup> This failure to inspect coupled with the extended period of the rainfall warranted rejection of the act of God defense. Foreseeability and predictability were heightened by virtue of the defendant's failure to take proper safety precautions.<sup>80</sup> Similarly, where damage to a plaintiff would have been guarded against by defendant's proper construction of a culvert, an act of God defense based on unusually heavy rains did not exonerate a defendant.<sup>81</sup>

This reasoning suggests that an act of God defense would prove unsuccessful in the Pike County claim. Defendant coal companies were cited numerous times for violations of reclamation regulations, and they failed to take requisite precautions to prevent flooding.<sup>82</sup> In the Breathitt County suit, plaintiffs will have to prove that such violations in fact occurred.<sup>83</sup> The claim alleges defendants allowed mine debris to escape from mine sites, and further sediment ponds managed by Appalachian Fuels and Lexington Coal Company were breached as a result of negligence.<sup>84</sup>

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<sup>75</sup> RESTATEMENT (SECOND) OF TORTS § 432(2) (1977).

<sup>76</sup> See 65 C.J.S. *Negligence* § 64 (2010).

<sup>77</sup> *Fife v. Chesapeake & Ohio Ry. Co.*, 211 S.W.2d 854, 855 (Ky. 1948) (quoting *Chesapeake & Ohio Ry. Co. v. Carmichael* 184 S.W.2d 91, 92 (Ky. 1944)).

<sup>78</sup> *Chesapeake & Ohio Ry. Co. v. Biliter*, 413 S.W.2d 894, 896-97 (Ky. 1967).

<sup>79</sup> *Id.*

<sup>80</sup> *Id.* at 898.

<sup>81</sup> *Land Dev. Inc. v. Louisville Gas & Elec. Co.*, 459 S.W.2d 150,152 (Ky. 1970).

<sup>82</sup> Complaint at 4, *Damron v. Cambrian Coal Corp.*, No. 10-CI-1290 (Pike Cir. Ct. Aug. 17, 2010).

<sup>83</sup> Amended Complaint at 7, *Allen v. Lexington Coal Co.*, No. 09-CI-00192 & No. 10-CI-00136 (Breathitt Cir. Ct. Dec. 7, 2009).

<sup>84</sup> *Id.*

For defendant coal companies in the Breathitt claim, there is less evidence of failure to inspect or take proper precautions in reclamation practices.<sup>85</sup> As there are contradictory findings from the DMRE and plaintiffs' expert, no violation has yet been determined.<sup>86</sup> Pike County defendants are likely barred from initiating the act of God defense. As there is no evidence of failure to take necessary precautions or violation of reclamation regulations, the defense is more plausible for Breathitt County defendants.

Whether defendants violated reclamation regulations or not, evolving views of the act of God doctrine suggest this defense will be difficult to assert. Information accepted by the scientific community makes the defense increasingly obsolete.<sup>87</sup> Both floods followed heavy rains, and were a major factor in resultant flood damage.<sup>88</sup> Grading and erosion control regulations are mandated by SMCRA to address the very risks that materialized in Breathitt and Pike counties.<sup>89</sup> Published academic studies convincingly establish correlations between reclaimed lands and flooding events. Is surmounting evidence of flood risk associated with mine reclamation enough to dispel an act of God defense? Persuasive case law may help inform this query.

In West Virginia, the Coal River watershed flooded in 2001, and subsequently 489 plaintiffs filed suit against 78 different defendants, including coal and timber companies, for property damage, personal injury, and death.<sup>90</sup> The claims asserted and the factual circumstances of this case are similar to the Breathitt and Pike county suits, and is a useful tool for predicting outcomes. The West Virginia Supreme Court of Appeals recognized, "[t]hat which reasonable human foresight, pains, and care should have prevented can not be called an act of God."<sup>91</sup> The court characterizes an act of God as "such an unusual and extraordinary manifestation of the forces of nature that it could not under normal conditions have been anticipated or expected."<sup>92</sup> Further, this court puts the burden of evidencing the character and measure of damages on the defendant, which is to be proven by clear and convincing evidence.<sup>93</sup> Defendants here argued the rainfall was of an unanticipated and unexpected

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<sup>85</sup> *Id.*

<sup>86</sup> Hjalmarson, *supra* note 47.

<sup>87</sup> Dennis Binder, *Act of God? Or Act of Man?: A Reappraisal of the Act of God Defense in Tort Law*, 15 REV. LITIG. 1, 37-39 (1996).

<sup>88</sup> *See* Complaint at 3, *Damron v. Cambrian Coal Corp.*, No. 10-CI-1290 (Pike Cir. Ct. Aug. 17, 2010).

<sup>89</sup> *See* 30 U.S.C.A. § 1265(c)(4)(A)-(F) (West 2011).

<sup>90</sup> *In re Flood Litig.*, 607 S.E.2d 863, 868 (W.Va. 2004).

<sup>91</sup> *Atkinson v. Chesapeake & Ohio Ry. Co.*, 82 S.E. 502, 503 (1914).

<sup>92</sup> *In re Flood Litig.*, 607 S.E.2d at 877 (quoting *State ex rel. Summers v. Sims*, 97 S.E.2d 295, 299 (W.Va. 1957)).

<sup>93</sup> *Id.* at 879.

volume.<sup>94</sup> The court ultimately held that where rainfall is unforeseeable and unusual, and defendant's conduct is actionable, the defendant is liable only for damages fairly attributable to his conduct.<sup>95</sup> In other words, the defendant is not liable for any damages that were the result of an unforeseen event not attributable to the defendant's conduct. This is logical but seemingly impractical. It seems doubtful that anyone, even the most qualified of experts, could realistically distinguish the flood damage resulting from defendant's conduct from those resulting from nature. It is unclear whether this interpretation represents evolution or devolution. In some sense the separation of the human and natural causes may logically reflect technological advances. On the other hand, this test may make it easier for defendants to absolve themselves, despite considerable negligent misconduct on their part.

The act of God defense is arguably antiquated in this modern age of science and technology, where means of gauging risk are much improved.<sup>96</sup> Historically the human was regarded as exclusive from the natural, but this distinction is weakened by modern era ecological understandings of interrelation and connectedness. Heightened awareness and broad access to reliable and precise information greatly diminish the unpredictability and lack of control necessary to construct an effective act of God defense.<sup>97</sup> As technologies increases the certainty of future projections, the act of God defense appears to be increasingly baseless.<sup>98</sup> Where flooding damaged plaintiff's cargo and the defendant initiated an act of God defense, a New York judge opined in 1963,

“is it not time to relieve Nature of even the formal blame for many acts which now seem to be within the scope of man's prowess? Perhaps the term ‘act of God’ should be replaced by a concept which reflects the possibility of human causality as well as that of the Divine.”<sup>99</sup>

In central Appalachia, where the area of reclaimed land is ever increasing, it seems reasonable to impute knowledge of hydrologic function and its relationship with reclamation on mine owners.

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<sup>94</sup> *Id.*

<sup>95</sup> *Id.*

<sup>96</sup> See Binder, *supra* note 88, at 38-39.

<sup>97</sup> Binder, *supra* note 88, at 37 (quoting *Atkinson v. Chesapeake & Ohio Ry. Co.*, 82 S.E. 502 (1914)).

<sup>98</sup> *Id.*

<sup>99</sup> *Joseph Resnick Co. v. Nippon Yusen Kaisha*, 241 N.Y.S.2d 134, 137 (N.Y. City Civ. Ct. 1963).

### C. Ultra-Hazardous Activity & Strict Liability

Complaints filed by both the Pike and Breathitt County plaintiffs allege defendants engaged in ultra-hazardous activity and are hence strictly liable.<sup>100</sup> Strict liability claims in the 2001 West Virginia flood claim proved unsuccessful.<sup>101</sup> However, the past decade brought major changes in public perception of the coal industry. The determination of whether an activity is “abnormally dangerous” is informed by these changing perceptions and could influence how a Judge ultimately qualifies reclamation activities.

Kentucky adopts the common law interpretation of strict liability for abnormally dangerous activity.<sup>102</sup> The Second Restatement reads, “[o]ne who carries on an abnormally dangerous activity is subject to liability for harm to the person, land or chattels of another resulting from the activity, although he has exercised the utmost care to prevent the harm.”<sup>103</sup> In the seminal case of *Rylands v. Fletcher*, the fundamental consideration for determining whether an activity qualifies as abnormally dangerous hinged on whether the activity qualifies as natural or non-natural.<sup>104</sup> Factors to consider in making this distinction include the appropriateness of the activity to the place in which the activity is carried on, and the extent to which the value of the activity to the community is outweighed by the activity’s dangerous attributes.<sup>105</sup> In assessing the value of the activity to the community, courts tend to evaluate whether “the community is largely devoted to the dangerous enterprise and its prosperity largely depends upon it.”<sup>106</sup> In the central Appalachian coalfields, where communities have long been dependent on the coal industry economically, such activities would seem less likely to qualify as abnormally dangerous.

The West Virginia Supreme Court similarly explored strict liability in the previously discussed 2001 flood litigation. In determining whether plaintiffs’ claim of negligence was viable, the court identified the test for whether a duty of care exists based on foreseeable harm resulting where due care is not exercised.<sup>107</sup> While the West Virginia Supreme Court did find

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<sup>100</sup> Complaint at 4, *Damron v. Cambrian Coal Corp.*, No. 10-CI-1290 (Pike Cir. Ct. Aug. 17, 2010); Amended Complaint at 8, *Allen v. Lexington Coal Co.*, No. 09-CI-00192 & No. 10-CI-00136 (Breathitt Cir. Ct. Dec. 7, 2009).

<sup>101</sup> *In re Flood Litig.*, 607 S.E.2d 863, 874 (W.Va. 2004).

<sup>102</sup> See *Triple-State Natural Gas & Oil Co. v. Wellman*, 70 S.W. 49, 50 (Ky. 1902); *Shell v. Town of Evarts*, 178 S.W.2d 32, 35 (Ky. 1944). *But see*, *Fletcher v. Tenneco, Inc.*, 816 F.Supp. 1186, 1192 (E.D. Ky. 1993).

<sup>103</sup> RESTATEMENT (SECOND) OF TORTS § 519(1) (1977).

<sup>104</sup> See *Rylands v. Fletcher*, [1868] 3 L.R.E. & I. App. 330 (H.L.) (appeal taken from Eng.) (Eng.).

<sup>105</sup> RESTATEMENT (SECOND) OF TORTS § 520(e) (1977).

<sup>106</sup> RESTATEMENT (SECOND) OF TORTS § 520 cmt. k (1977).

<sup>107</sup> *In re Flood Litig.*, 607 S.E.2d at 873.

the negligence claim valid, the court refused to find defendants strictly liable based on allegations that extraction of natural resources is an abnormally dangerous activity.<sup>108</sup> Plaintiffs did not claim that mining, by its nature, is abnormally dangerous. Rather, they alleged that “certain activities” in the course of resource extraction were abnormally dangerous in light of high flash flooding risks given the regions topography and other characteristics.<sup>109</sup> In other words, plaintiffs wished to distinguish the activity of mining from the conditions resulting from that mining activity.<sup>110</sup> Like Kentucky, West Virginia adopts the common law view of strict liability a la *Rylands*.<sup>111</sup> The West Virginia court considered the long history of resource extraction in the coalfields and perceived economic benefit of such industries, ultimately finding that flood risk can be greatly reduced by exercise of due care. Based on these findings, the court refused to find defendant’s activities necessarily create a high risk of flash flooding, and hence did not qualify as “ultra hazardous.”<sup>112</sup> A later case distinguished this point, treating defendants’ misconduct as a factor favoring a determination of strict liability. In *Pinnacle Mining Co. LLC v. Bluestone Mining Corp.*, the plaintiff owner of an impoundment brought action against defendant coal companies alleging illegal underground mining compromised the integrity of the impoundment structure.<sup>113</sup> Plaintiff’s complaint asserted, “defendants’ conduct in violating its mining permits and undermining Pinnacle’s impoundment was both unduly dangerous and inappropriate to the place where it was maintained, in light of the character of that place and its surroundings.”<sup>114</sup> The court denied defendants’ motion to dismiss, finding a stronger case for application of strict liability where defendants acted in violation of state law and regulations.<sup>115</sup> If the Kentucky court reasons similarly, it may be easier for plaintiffs to assert an effective claim for strict liability given defendants’ violation of reclamation regulations.

A 1975 Florida case resulted in a different outcome. At the time, Florida produced one-third of the world’s phosphate rock, and byproducts of the production process were stored in settling ponds.<sup>116</sup> The state of Florida sued a mining company following the breach of a settling pond,

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<sup>108</sup> *Id.*

<sup>109</sup> *Id.*

<sup>110</sup> *Id.*

<sup>111</sup> *Id.* (quoting *Peneschi v. Nat’l Steel Corp. v. Koppers Co. Inc.*, 295 S.E.2d 1, 5 (W.Va. 1982).

<sup>112</sup> *Id.* at 874.

<sup>113</sup> *Pinnacle Mining Co. v. Bluestone Mining Corp.*, 624 F.Supp. 2d 530, 533 (S.D. W.Va. 2009).

<sup>114</sup> *Id.* at 536.

<sup>115</sup> *Id.* at 538.

<sup>116</sup> *Cities Service Co. v. State*, 312 So. 2d 799, 801 (Fla. Dist. Ct. App. 1975).

despite finding no apparent negligence on the part of mine owners.<sup>117</sup> The Florida Court of Appeals, in weighing the appropriateness of the activity to the place, stated:

In early days it was important to encourage persons to use their land by whatever means were available for the purpose of commercial and industrial development. In a frontier society there was little likelihood that a dangerous use of land could cause damage to one's neighbor. Today our life has become more complex. Many areas are overcrowded, and even the non-negligent use of one's land can cause extensive damages to a neighbor's property. Though there are still many hazardous activities which are socially desirable, it now seems reasonable that they pay their own way. It is too much to ask an innocent neighbor to bear the burden thrust upon him as a consequence of an abnormal use of the land next door.<sup>118</sup>

This Florida court held defendant strictly liable regardless of negligence, based on the finding that slurry reservoir constituted a non-natural use of the land.<sup>119</sup>

It is difficult to predict with any degree of certainty how the Kentucky court would interpret and qualify defendant's activities in light of the facts and circumstances presented here. There is no doubt that coal has been a critical part of Kentucky's economic and cultural identity for over a century. Coal mining remains a major employer and premier source of revenue for coalfield communities, and economic interests to the community are still perceptively tied to the coal industry's viability. These factors could result in finding the mining and reclamation activities do not qualify as ultra-hazardous. However there have been major changes to national approaches to energy issues over in recent years. Ten years have passed since the West Virginia court weighed these factors, and over that time the framing of energy issues has changed significantly.

The non-profit organization Mountain Association for Community and Economic Development (MACED) released a 2009 report detailing the impacts of coal on Kentucky's state budget.<sup>120</sup> In this report MACED estimates that in fiscal year 2006 the coal industry, directly and indirectly,

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<sup>117</sup> *Id.* at 799.

<sup>118</sup> *Id.* at 801.

<sup>119</sup> *Id.* at 804.

<sup>120</sup> See MELISSA F. KONTY & JASON BAILEY, MOUNTAIN ASS'N FOR CMTY. ECON. DEV., THE IMPACT OF COAL ON THE KENTUCKY STATE BUDGET, (June 25, 2009) available at [www.maced.org/coal/documents/Impact\\_of\\_Coal.pdf](http://www.maced.org/coal/documents/Impact_of_Coal.pdf).



created an estimated \$528 million in revenue for the state.<sup>121</sup> That same year, the report found an estimated \$643 million in budget and tax expenditures to support the state's coal industry, which includes coal specific tax incentives, haul road repair and construction, coal worker training, and industry research and development.<sup>122</sup> In sum, this represents almost \$115 million dollars in net subsidies to the coal industry for fiscal year 2006.<sup>123</sup> Other externalities not included in the expenditure figure were external costs associated with surface mining, such as water treatment for siltation and water infrastructure necessary to replace damaged wells.<sup>124</sup> In this same year the Kentucky coal industry reported output of \$4.97 billion.<sup>125</sup> The West Virginia Center on Budget and Policy published a similar report, in which direct revenues from coal production, plus indirect revenue generated via employment, was compared with total state expenditures. This report found that the total impact on the West Virginia state budget for fiscal year 2009 amounted to a net cost of \$97.5 million.<sup>126</sup> The value of continued mining in Appalachian communities is increasingly difficult to justify given the economic impacts explicated in these comprehensive reports.

Additionally, heavily mined areas in the Appalachian region exhibit among the poorest socio-economic conditions in the country. A 2009 study initiated by the University of West Virginia concluded the human costs of the Appalachian coal mining economy outweigh any economic benefits.<sup>127</sup> Mortality rates between 1979 and 2005 as well as socioeconomic characteristics were reviewed in Appalachian counties with varying levels of coal production. The study revealed a statistically significant correlation between high levels of mining and increased mortality rates.<sup>128</sup> It attributed premature mortality to poverty, poor

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<sup>121</sup> *Id.* at 1. Calculation of direct Industry revenues included the following: severance tax, unmined minerals tax, extended weight coal haul decals and registration permits, sales tax on coal company purchases, strip mining and reclamation fees, and corporate income tax. Calculation of indirect revenues included the following: employment revenues such as personal income tax, sales tax receipts, general state property tax, coal related motor vehicle taxes, as well as indirect employment revenues such as downstream employment created in other sectors.

<sup>122</sup> *Id.* at 2.

<sup>123</sup> *Id.* at 1.

<sup>124</sup> *Id.* at 2.

<sup>125</sup> *Id.* at 17.

<sup>126</sup> RORY MCILMOIL, EVAN HANSEN, TED BOETTNER & PAUL MILLER, DOWNSTREAM STRATEGIES & W. VA. CTR. ON BUDGET & POLICY, COAL AND RENEWABLES IN CENTRAL APPALACHIA: THE IMPACT OF COAL ON THE WEST VIRGINIA STATE BUDGET, at xiii (June 22, 2010) available at [www.downstreamstrategies.com/Documents/reports\\_publication/DownstreamStrategies-coalWV.pdf](http://www.downstreamstrategies.com/Documents/reports_publication/DownstreamStrategies-coalWV.pdf).

<sup>127</sup> Michael Hendryx & Melissa M. Ahern, *Mortality in Appalachian Coal Mining Regions: The Value of Statistical Life Lost*, 124 PUB. HEALTH REP. 541, 541 (2009).

<sup>128</sup> *Id.* at 547.

education, smoking, and environmental pollution.<sup>129</sup> This research further found that coalmining counties experience higher rates of unemployment and poverty than other parts of Appalachia and the nation.<sup>130</sup> Additionally the study found that those counties most heavily mined experienced the highest levels of unemployment, as well as elevated out migration.<sup>131</sup> In 1986, 39,000 Kentuckians worked in the coal industry, but in 2006 the industry employed only 18,000.<sup>132</sup>

The considerable costs and marginal benefits of mining for the purpose of qualifying ultra hazardous activity could produce results different from those in previous cases. The information from aforementioned studies paints a different picture than the one illustrated by earlier courts. The West Virginia Supreme Court stated in 2001, “We are unable to conclude that the great economic value of some of these extractive activities, such as coal mining, is outweighed by their dangerous attributes.”<sup>133</sup> Trends reported in these economic and social impact studies, along with changes in the political climate trending towards new energy sources should impact the court’s analysis. It is important this information be used to inform the current ultra hazardous test, as this contemporary data may result in changed outcomes.

#### D. Nuisance

Plaintiffs in both suits bring nuisance claims based on allegations that defendants’ escaped mine debris destroyed plaintiffs’ property, and interfered with plaintiffs’ right to the use and enjoyment of their respective properties.<sup>134</sup> The factors used in determining when a plaintiff may recover for nuisance are the reasonableness of defendant’s use of the property, and the gravity of the harm to plaintiff.<sup>135</sup> An activity that would constitute a nuisance for private gain, when conducted for an important public purpose, may not be deemed a nuisance.<sup>136</sup> Kentucky courts have identified airports

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<sup>129</sup> *Id.* at 547; see also Michael Hendryx, *Mortality Rates in Appalachian Coal Mining Counties: 24 Years Behind the Nation*, 1 ENVTL. JUST. 5, 8 (2008); Michael Hendryx et al., *Lung Cancer Mortality is Elevated in Coal-Mining Areas of Appalachia*, 62 LUNG CANCER 1, 2 (2008); Michael Hendryx, *Mortality from Heart, Respiratory, and Kidney Disease in Coal Mining Areas of Appalachia*, 82 INT’L ARCHIVES OF OCCUPATIONAL & ENVTL. HEALTH 243, 244 (2009).

<sup>130</sup> *Id.* at 547.

<sup>131</sup> *Id.* at 547 (“Coal mining counties in West Virginia experienced a mean net loss of 639 people to migration between 1995 and 2000, compared with a mean net migration gain of 422 people in non-mining counties.”).

<sup>132</sup> Konty & Bailey, *supra* note 123, at 23.

<sup>133</sup> *In re Flood Litig.*, 607 S.E.2d 863, 874 (W. Va. 2004).

<sup>134</sup> See Amended Complaint at ¶ 12, *Allen v. Lexington Coal Co.*, No. 09-CI-00192 & No. 10-CI-00136 (Breathitt Cir. Ct. Dec. 7 2009); Complaint at 7, *Damron v. Cambrian Coal Corp.*, No. 10-CI-1290 (Pike Cir. Ct. Aug. 17 2010).

<sup>135</sup> DAVID J. LEIBSON, 13 KENTUCKY PRACTICE TORT LAW §14:3 (2011).

<sup>136</sup> *Id.*

and zoos as activities of public importance; therefore, the negative externalities of these operations do not constitute nuisance.<sup>137</sup> Further, it is not necessary for the defendant to be the sole source of the nuisance.<sup>138</sup>

The reasonableness of the activity creating the alleged nuisance is an important factor in making this determination. In a claim alleging air pollution from defendant's slag heap constituted a nuisance, the court instructed the jury to consider circumstances including "its importance and influence on the growth and prosperity of the community."<sup>139</sup> Further, the court states that where defendant acts prudently and has done all that can reasonably be expected to prevent or minimize the annoyance, there is no viable claim of nuisance.<sup>140</sup> Importance of the defendant's activity to the community and, more specifically, the activity's influence on the growth and prosperity of the community are the factors codified by the Kentucky General Assembly as those which determine a private nuisance.<sup>141</sup>

It is well established that coal yard or coal mining activities do not constitute a nuisance per se.<sup>142</sup> Much like considerations of community benefits in determining ultra hazardous activities, the nuisance determination is a place-based inquiry based on locality.<sup>143</sup> Industrial activities in a predominantly industrial area may not qualify as a nuisance, whereas the same activity would qualify as such when carried on in a residential neighborhood.<sup>144</sup> Eastern Kentucky's long history of coal mining and industry dependence are indeed strong, but mounting studies and research persuasively find that coal production costs states more in expenditures than it creates in revenues.<sup>145</sup> Coalfield communities suffer economic, cultural, and social depression as a result.<sup>146</sup>

### III. APPALACHIAN REGIONAL REFORESTATION INITIATIVE

There is mounting recognition of the shortfalls of SMCRA within government regulatory agencies. SMCRA was first enacted with a focus on stabilizing landforms, achieved by compacting soil and planting aggressive

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<sup>137</sup> See *City of Louisville v. Munro*, 475 S.W.2d 479, 482 (Ky. 1971); see also *Louisville and Jefferson Cnty. Air Bd. v. Porter*, 397 S.W.2d 146, 150 (Ky. 1965) ("[A]gencies of public transportation always have enjoyed a certain indulgence at the hands of the law, not for any subtle or unworthy reason but because of their nature and direct importance to progress, prosperity and public welfare.").

<sup>138</sup> *Id.*

<sup>139</sup> *George v. Standard Slag Co.*, 431 S.W.2d 711, 715 (Ky. 1968).

<sup>140</sup> *Id.*

<sup>141</sup> KY. REV. STAT. ANN § 411.550(1)(c)-(d)(2011).

<sup>142</sup> W.E. Shipley, Annotation, *Coalyard as a Nuisance*, 8 A.L.R.2d 419, §2 (1949).

<sup>143</sup> *Id.* at § 1.

<sup>144</sup> *Id.*

<sup>145</sup> Need cite.

<sup>146</sup> Need cite.

grasses as groundcover.<sup>147</sup> The result of this compaction is poor hydrologic function, and pastures where forests once were. A recent project initiated by the OSM promotes reforestation on mine sites, stressing the added benefits of wildlife habitat, watershed control, carbon sequestration, and recreation.<sup>148</sup> The important consequences of reforestation are less compaction and improved porosity that, over time, could slow the increases in flooding across the region.

The Appalachian Regional Reforestation Initiative (ARRI) was established in 2004 as an effort on behalf of the OSM to encourage reforestation on mine sites.<sup>149</sup> ARRI encourages use of the “forestry reclamation approach,” whereby mined lands are only loosely graded and then native and non-competitive early successional trees are planted.<sup>150</sup> This technique is currently being promoted on reclaimed Appalachian mine sites in Eastern Kentucky.<sup>151</sup> The program has been largely successful, combining efforts state and federal agencies, environmental groups, and the coal industry for the purpose of improving reclaimed mine land in the Appalachian coalfields.<sup>152</sup> ARRI has received considerable attention for its successes, particularly for widespread replanting of native American chestnut trees.<sup>153</sup>

This project is noteworthy because it represents a change in long held industry practices. Given that coal mining and its impacts are a divisive issue, it is encouraging to see that ARRI has support from both sides of the table.<sup>154</sup> Though still very much in its infancy, ARRI is symbolic of an evolving understanding of reclamation practices and the ways in which improved regulatory practices might better restore ecosystem functions.

#### IV. CONCLUSION

In April of 2011 the Breathitt county suit settled, the terms of this settlement being confidential.<sup>155</sup> Evidence submitted by plaintiffs included an engineering report comparing the Quicksand creek watershed pre- and

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<sup>147</sup> Patrick Angel et al., *The Appalachian Regional Reforestation Initiative*, FOREST RECLAMATION ADVISORY 1, 1 (2005).

<sup>148</sup> *Id.*

<sup>149</sup> *About ARRI*, THE APPALACHIAN REGIONAL REFORESTATION INITIATIVE, <http://arri.osmre.gov/About/AboutARRI.shtm> (last visited Oct. 1, 2011).

<sup>150</sup> *Id.*

<sup>151</sup> MOUNTAINTOP MINING/VALLEY FILLS, *supra* note 30.

<sup>152</sup> 2010 KENTUCKY EVALUATION REPORT, *supra* note 7, at 10-11.

<sup>153</sup> *Id.* at 12.

<sup>154</sup> *Id.* at 10-11.

<sup>155</sup> Dori Hjalmarson, *4 Coal Companies Settle 2009 Mine Lawsuit Filed by Breathitt County Residents*, LEXINGTON HERALD LEADER, (Apr. 29, 2011), <http://www.kentucky.com/2011/04/29/1722895/4-coal-companies-settle-2009-mine.html>.

post-mining.<sup>156</sup> The report concluded that peak flooding in the post-mined watershed experiences between seventy-seven and eighty-one percent increases in peak flooding.<sup>157</sup> This groundbreaking settlement illustrates that improvement in technology are in fact impacting coalfields flooding litigation. Reclaimed surface mines are not restored to their re-mining ecological capacities, and in the thirty years since SMCRA was enacted, the incidence and severity of flooding events have continued to increase as more area is mined. The flooding events and subsequent litigation initiated in Breathitt and Pike Counties assert very old common law claims for relief: negligence, strict liability, and nuisance. This note suggests that there will come a time, perhaps soon, when the weight of environmental and economic findings will reach a critical mass sufficient to change how courts analyze these environmental torts. Conceptions of reasonableness and foreseeability have evolved over time to conform to technological and informational advances. Further, the coal industry has received very negative media attention in recent years for mine safety violations. As recently as January 13, 2011 the EPA made a final determination against permitting mine activity in West Virginia.<sup>158</sup> The agency used its veto authority under the Clean Water Act, finding that adverse environmental impacts outweighed the benefits of mining.<sup>159</sup> This authority has been exercised twelve times previously, and environmentalists see this as a promising victory. Studies suggest there will be more severe flooding events in the central Appalachian coalfields. It will be interesting to see how courts digest new information over time.

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<sup>156</sup> *Id.*

<sup>157</sup> *Id.*

<sup>158</sup> U.S. ENVTL. PROT. AGENCY, FINAL DETERMINATION OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO § 404(C) OF THE CLEAN WATER ACT CONCERNING THE SPRUCE NO. 1 MINE, LOGAN COUNTY, WEST VIRGINIA, at 6-9 (Jan. 13, 2011) *available at* [water.epa.gov/lawsregs/guidance/cwa/dredgdis/upload/Spruce\\_No-1\\_Mine\\_Final\\_Determination\\_011311\\_signed.pdf](http://water.epa.gov/lawsregs/guidance/cwa/dredgdis/upload/Spruce_No-1_Mine_Final_Determination_011311_signed.pdf).

<sup>159</sup> *Id.*