

REVERSING THE FLOW: THE INTERCONNECTIVITY OF ENVIRONMENTAL LAW IN ADDRESSING EXTERNAL THREATS TO PROTECTED LANDS AND WATERS

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Federally protected lands such as national parks are not only a source of natural beauty; they are often also rich in natural resources, such as coal, water, and timber. These lands face ongoing environmental challenges due to extractive activities seeking to capture and utilize these commercially valuable resources. While environmental law has proven relatively effective at preventing and controlling environmentally damaging resource extraction within federally protected lands, it has thus far encountered much more difficulty in addressing external threats that originate outside the formal boundaries of protected areas. Using a case study from the Big South Fork National River and Recreation Area, located in Appalachia, this Article demonstrates how current environmental laws may be better employed to address these external challenges.

I. INTRODUCTION

One of environmental law's earliest preoccupations has been the preservation of pristine natural spaces. These places deserve protection for reasons of unique geography, natural beauty, historic value, biodiversity, or other unique significance. The earliest protections were afforded by individual Congressional mandate and judicial affirmation,¹ or simply at the whim of Presidents such as Theodore Roosevelt.² Over time, a vast network of federally protected lands has grown in the United States, administered under a complex legal regime. Throughout the scheme, the original

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¹ See, e.g., *Camfield v. U.S.*, 167 U.S. 518 (1897) (holding that the Unlawful Inclosures Act, 43 U.S.C. § 1061-62, and the Property Clause of the U.S. Constitution could impose restrictions on private land to protect the federal government's interest in federal lands). Yellowstone was set aside by an act of Congress as the first National Park in 1872. 16 U.S.C. § 21 (2005).

² See *Cameron v. U.S.*, 252 U.S. 450 (1920) (upholding, under the 1906 Antiquities Act, 16 U.S.C. § 431, President Roosevelt's 1908 Executive Order designating 270,000 acres of the Grand Canyon as a National Monument against claim that it exceeded his authority). See also, *U.S. v. Midwest Oil Co.*, 236 U.S. 459 (1915) (upholding extremely broad executive withdrawal authority, uncontradicted by Congress, under the Mining Act of 1872, 30 U.S.C. § 22). Congress later supported many of these executive actions, granting them National Park status. See GEORGE CAMERON COGGINS ET AL., *FEDERAL PUBLIC LAND AND RESOURCES LAW* 354-55 (5th ed. 2002).

underlying values of preservation and conservation continue to predominate.³

In light of the modern economy and the growing demands of its population in terms of resources and pure land area, these protected places are more important than ever. On the one hand, as suburban sprawl continues outward from metropolitan areas, there are fewer and fewer acres of undeveloped land.⁴ At the same time, the demands of a larger, more affluent population, as well as the rigors of city life, produce increased calls for places of recreation and solitude, where people can “get away from it all.” The federal lands system, particularly National Parks, provide this resource. Not all people, however, share the same enthusiasm for maintaining these areas. Many National Parks possess valuable natural resources such as timber, water, or coal, which could yield considerable business profits through their development. Furthermore, the areas surrounding National Parks also may possess valuable resources; while those areas are not encompassed in the scope of the protected lands, in many cases such development still may adversely affect the protected areas directly or indirectly. Thus, the threats to public areas can accordingly be grouped into “internal” and “external” categories.⁵

Environmental law, particularly at the federal level, has proven to be very capable in addressing the first set of concerns. Large systems of federally protected lands have been created by several broad-based statutes, such as the Wilderness Act,⁶ the National Forest Management Act (“NFMA”),⁷ and the Federal Land Policy and Management Act.⁸ Other laws similarly address important water resources, such as the Wild and Scenic Rivers Act (“WSRA”).⁹ New units may be added to these systems

³ While these two terms do not imply exactly the same purpose (conservation implies more room for multiple use, recreation, and resource extraction, while preservation is mostly concerned with the maintenance of undisturbed, pristine areas), the basic idea is to afford recreational opportunities, forestall or prevent resource depletion, and maintain resources for future generations. See Harold W. Wood, Jr., *Pinchot and Mather: How the Forest Service and Park Service Got That Way*, NOT MAN APART (1976), reprinted in COGGINS, *supra* note 2, at 114–17 (discussing clash over the Hetch Hetchy Valley Dam in Yosemite National Park between Gifford Pinchot’s more utilitarian conservationists and John Muir and the Sierra Club’s purist preservationists).

⁴ See, e.g., *Jacksonville, Florida, Mayor John Delaney Talks About Problems With Urban Sprawl* (National Public Radio, Morning Edition, interview May 9, 2001).

⁵ See Robert B. Keiter, *On Protecting the National Parks from the External Threats Dilemma*, 20 LAND & WATER L. REV. 355 (1985) (discussing the history and pressing nature of the current problem of potential external threats to protected areas emanating from both surrounding non-federal and federal lands). This Article, however, disagrees somewhat with Professor Keiter’s more negative view of the potential effectiveness of current environmental laws in addressing such potential challenges.

⁶ 16 U.S.C. §§ 1131–1136 (2005).

⁷ *Id.* §§ 1601–1614.

⁸ 43 U.S.C. §§ 1701–1785 (2005).

⁹ 16 U.S.C. §§ 1271–1287. It should be noted that several of these systems may overlap with one another, providing additional requirements for the same areas. See, e.g., William J. Chandler & Hannah Gillelan, *The History and Evolution of the National Marine*

over time. Besides defining the geographic scope of the lands, these laws also enable Congress and/or federal agencies to prescribe substantive management standards. These standards are then supplemented by more general environmental statutes, such as the Surface Mining Conservation and Recovery Act (“SMCRA”),¹⁰ the Endangered Species Act (“ESA”),¹¹ and the National Environmental Policy Act (“NEPA”).¹² This body of environmental law can effectively address activities that are potentially directly harmful to federally protected lands and waters.¹³

However, the second set of concerns, those involving activities *outside* protected lands that could still adversely affect those lands, has proven to be more elusive for environmental law. It is an unresolved issue exactly how much power an agency, such as the National Park Service (“NPS”), operating under the terms of its organic statute, can exert outside the areas over which it has express jurisdiction. While Congress theoretically could pass additional legislation granting such powers, such a move seems unlikely.¹⁴

At the same time, there are real, growing threats to protected areas from surrounding land uses. Consider, in particular, strip mining for coal upstream from protected areas. Though the coal market has suffered in recent history, due in part to stricter sulfur dioxide requirements in the most recent Clean Air Act Amendments of 1990, recent market developments (including new technologies for controlling sulfur dioxide emissions)

Sanctuary Act, 34 ENVTL. L. REP. 10505, 10509 (2004) (noting that the Wilderness Act basically “superimposed a wilderness overlay on existing parks, refuges, forests, and public lands to identify qualified wilderness areas”).

¹⁰ 30 U.S.C. §§ 1201–1328 (2005).

¹¹ 16 U.S.C. §§ 1531–1544.

¹² 42 U.S.C. §§ 4321–4370(f) (2005).

¹³ See generally COGGINS ET AL., *supra* note 2, at 1053. Of course, there are still problems in determining what activities are allowable in (and around) protected lands. These debates occur at many levels, particularly in the administrative law process. See, e.g., recent issues with off-road vehicles, discussed in D. SHERIDAN, OFF-ROAD VEHICLES ON PUBLIC LAND 7–29 (1979); *Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55 (2004); *Conservation Law Found. of New England, Inc. v. Sec’y of the Interior*, 864 F.2d 954 (1st Cir. 1989).

¹⁴ One reason may be recent jurisprudence limiting Congress’s power under the traditionally wide-reaching Commerce Clause (though there may be little doubt that it has such authority under the Property Clause). For Commerce Clause-limiting jurisprudence, see *United States v. Lopez*, 514 U.S. 549 (1995). See also, Joseph Sax, *Helpless Giants: The National Parks and the Regulation of Private Lands*, 75 MICH. L. REV. 239 (1976). For cases establishing authority under the Property Clause, see *Kleppe v. New Mexico*, 426 U.S. 529 (1976); *Minnesota v. Block*, 660 F.2d 1240 (8th Cir. 1981) (both cases finding broad power under the Property Clause for Congress to regulate surrounding private lands in order to effectuate its purposes on federal lands, subject to mere reasonableness standard). Such constitutional power, however, does not settle the question of the proper scope of delegated agency authority under various congressional statutes. These reasons of course say nothing of the apparent sheer lack of political will in Washington, D.C. to strengthen environmental regulation. See generally, Richard J. Lazarus, *Congressional Descent: The Demise of Deliberative Democracy in Environmental Law*, 94 GEO. L.J. 619 (2006).

have resuscitated the demand for coal in the nation's energy portfolio.¹⁵ At the same time, new technologies for extracting coal have proliferated in recent years, most notably mountaintop removal.¹⁶ While these technologies produce larger amounts of coal more efficiently, many observers have suggested that such methods may be incredibly destructive to the local environment.¹⁷ Such negative consequences as acid mine drainage and increased sedimentation may proceed downstream from the blasting and mining site, impairing or even destroying the protected resources found there. Strip mining activities may thus impair the recreation values for which the protected area was established (e.g., filling streams with sediment, making them unavailable for fishing or rafting), or adversely affect aesthetic and species values (e.g., killing marine organisms). With mountaintop removal mining coal at an unprecedented level and rate, these threats are only increasing. The key question thus presents itself: how can one regulate potentially harmful mining activities in *unprotected upstream* areas to prevent damage to *protected downstream* areas?

This Article squarely addresses this dilemma, and I suggest that the answer lies in plain view: full utilization of the already-available body of environmental law. Indeed, by fully employing the various environmental statutes, protections may be extended beyond the specific geographic boundaries of a protected area. Furthermore, I will argue that such a result precisely reflects Congressional intent. The vocabulary and wording, parallel provisions, and legislative history of the various acts, as well as the early administrative battles over their implementation, suggest that Congress meant to create an interconnected framework of environmental law. As Congress realized that the integrity of protected areas depended in part on surrounding land uses, it must also have intended to develop a framework that extends beyond a protected area's formal geographic boundaries.

This idea of more broadly viewing the protections afforded by environmental law in addressing external threats is seldom discussed explicitly in the environmental law and policy literature. Yet this perceived lack of academic treatment hardly suggests the concept is a novel one. This Article discusses court cases, legislative history, and other secondary sources that support both the legality and desirability of viewing the traditional envi-

¹⁵ Clean Air Act Amendments of 1990 for Acid Deposition Control, 42 U.S.C. § 7651; see Kim A. O'Connell, *From the River Bottom Up*, NAT'L PARKS, Fall 2004, at 20–25.

¹⁶ Mountaintop removal strip mining entails exactly what it suggests: exploding the top off of a mountain to reach the coal seam underneath. As defined by Office of Surface Mining regulations, 30 C.F.R. § 785.14(b) (2005), this “special category of mining” requires the “remov[al of] an entire coal seam or seams running through the upper fraction of a mountain, ridge, or hill . . . by removing substantially all of the overburden off the bench and creating a level plateau or a gently rolling contour”

¹⁷ For a thorough discussion and illustrations of potential environmental effects, see MARK SQUILLACE, *THE STRIP MINING HANDBOOK* 28–35, 72–77 (1990) (addressing mining in Appalachia).

ronmental statutes in a broader light, but they offer no particular legal term or doctrine expressing this idea.

Hence, the discussion throughout this Article employs the (self-created) term *interconnectivity*, comprised of two closely related premises. First, “geographic interconnectivity” holds that legal protections and considerations afforded a protected area should extend to activities technically performed outside that area if their unabated continuation would threaten the resources, purposes, or values for which the protected area was established by law. Second, “legal interconnectivity” envisions environmental law as one cohesive regulatory framework. That is, though various statutes are passed (and amended) in different times and circumstances, Congress intends for all of its environmental regulations to be read together; one statute’s specifics (or silence) on an issue should not presumptively trump other complementary laws. The evidence presented below supports both of these components of interconnectivity.

To clarify these principles of interconnectivity, this Article employs a case study involving current coal mining issues surrounding the Big South Fork National River and Recreation Area (“BISO”). Spanning 125,000 acres in northeastern Tennessee and southeastern Kentucky, BISO is a designated unit within the NPS’s jurisdiction. Noted for its rich scenery and biodiversity (though existing in the shadow of its more famous neighbor, the Great Smoky Mountains National Park), the area is a rich resource for outdoor recreation. The area is bisected by the Big South Fork, a major tributary of the Cumberland River, flowing northward through and beyond the area, with its own tributaries originating in Tennessee.¹⁸

As in much of Appalachia, the recent resurgence of the coal market and mining permit applications may pose a major threat to BISO. Surface mining in the area had (and elsewhere continues to have) many deleterious consequences on both river and land conditions.¹⁹ Since SMCRA, coal mining has been dormant around BISO, and the environment has recovered to a fair extent, as evidenced in part by rising populations of mussels.²⁰

¹⁸ See NPS’s comprehensive BISO website, <http://www.nps.gov/biso> (last visited Apr. 25, 2006) (on file with the Harvard Environmental Law Review), and Federal Transit Administration, U.S. Department of Transportation, Federal Lands Alternative Transportation Systems Study Field Reports: Big South Fork National River and Recreation Area, <http://web.archive.org/web/20050306210521/http://www.fta.dot.gov/library/policy/fedland/fieldreports/NPS/Southeast/BigSouthFork.html> (last visited Apr. 25, 2006) (on file with the Harvard Environmental Law Review).

¹⁹ See O’Connell, *supra* note 15; Jim L. Lolcama, et al., NPS, Using the Watershed Approach to Identify, Characterize, and Prioritize for Remediation Water Quality Impacts from Contaminated Mine Drainage’s [sic] in the Big South Fork National River and Recreation Area, Kentucky, *available at* http://www2.nature.nps.gov/geology/distlands/biso_restoration.

²⁰ OFFICE OF SURFACE MINING, ANNUAL EVALUATION SUMMARY REPORT FOR THE REGULATORY PROGRAM ADMINISTERED BY THE KNOXVILLE FIELD OFFICE OF TENNESSEE FOR EVALUATION YEAR 2005, at 4 (2005), *available at* <http://www.arcc.osmre.gov/reports/tennessee05.pdf> (noting almost eighty percent fewer tons of mined coal as mining “steadily declined” since 1972 high mark); Susan P. Bass, *Tools for Regulating the Environ-*

But that trend may prove only temporary.²¹ Many of the surface rights surrounding the Big South Fork in Tennessee are owned by the State of Tennessee, but the severed mineral rights are federally owned and leasable by the Tennessee Valley Authority.²² Other lands (and mineral rights) belong to private landowners. While BISO's authorizing legislation and other environmental laws, such as SMCRA, clearly do not permit mining within the confines of the park, coal mining conducted upstream in the New River Watershed could potentially have adverse downstream consequences and ultimately undermine the values for which BISO was created. Because no mining activities can proceed without a permit from the Office of Surface Mining ("OSM"), in the Department of the Interior, a focus on applying environmental law to prevent agencies' permit decisions is critical to ensuring that destructive mining does not occur. This Article argues that the interconnectivity approach is a wise legal strategy in bringing such laws to bear on agency decisions or in subsequent court actions.

The layout of this Article is as follows. First, to help frame the issue, I briefly outline some of the current legal protections that prevent harmful activities *within* protected areas, focusing on the NPS Organic Act and authorizing legislation for individual areas.²³ Second, I identify and analyze the applicable environmental law statutes affording protection beyond the borders of a protected area. These laws are presented roughly in the ascending order of their substantive "bite" in addressing external issues, highlighting their respective outward-looking statutory text, legislative history, and pertinent case law. Specifically, the discussed statutes include: the NPS Organic Act; BISO authorizing legislation; NEPA; Sur-

mental Impacts of Mining in the United States, 26 ENVTL. L. REP. 10,159, 10,172 (1996) ("[SMCRA] has dramatically reduced the environmental impacts of coal mining and substantially advanced the art of reclamation."); National Parks Conservation Association, Southeast Field Office: Regional Report, http://www.npca.org/across_the_nation/npca_in_the_field/southeast/fieldreport/fall05/big_south_fork.asp (last visited Apr. 25, 2006) (on file with the Harvard Environmental Law Review) (noting that several streams are starting to recover forty years after mining); NPS, Geology Fieldnotes: Big South Fork National River and Recreation Area, Kentucky and Tennessee, <http://www2.nature.nps.gov/geology/parks/biso> (last visited Apr. 25, 2006) (on file with the Harvard Environmental Law Review).

²¹ See OFFICE OF SURFACE MINING, *supra* note 20, at 4 (noting an uptick in total mining in 2004 after years of decline).

²² For a discussion of the long history and development of severed mineral estates, particularly the rise and eventual demise of broad form deeds in central Appalachia, see Dean Hill Rivkin, *Lawyering, Power, and Reform: The Legal Campaign to Abolish the Broad Form Mineral Deed*, 66 TENN. L. REV. 467, 477-98 (1999) (noting the device, generated in the late 1800s largely by coal companies, effectively subordinated the surface to the mineral estate); Michelle Andrea Wenzel, Comment, *The Model Surface Use and Mineral Accommodation Development Act: Easy Easements for Mining Interests*, 42 AM. U. L. REV. 607 (1993) (evaluating Model Act as uniform mechanism to balance use of surface and mineral resources).

²³ Similar potential threats are shared across the various federal land systems, but as National Parks (including BISO) are generally referred to as the "crown jewels" of the federal lands, the issues are especially pertinent in these places. COGGINS ET AL., *supra* note 2, at 1053.

face Mining and Reclamation Act; Tennessee Anti-Degradation Statement (part of the state's Water Quality Act); and ESA. Each law offers different jurisdictional "hooks," as well as different prospects for success; however, the overall theme presented is that these statutes work best when read in tandem, as parts of one comprehensive system of environmental law. Generally, discussion of each of these laws begins with an eye toward the "geographic interconnectivity" offered by the law itself, then proceeds to highlight the "legal interconnectivity" with other laws. Third, I present a case study of BISO and apply the above interconnected environmental laws to its facts. Finally, the conclusion section examines this approach's prospects of success, its applicability outside the mining realm, other potential obstacles, and how to go about putting all of the pieces into a workable and practical overall legal strategy.

Some qualifying admissions as to the scope and intent of this Article are warranted at the outset. First, my research and the present analysis admittedly deal largely with mining issues confronting National Parks in Appalachia.²⁴ Yet, there is little reason to assume that the principles of interconnectivity would be inapplicable in other settings. Second, and perhaps more importantly, in promoting the theory of "interconnectivity" in environmental law, I do not intend to give the impression that it is a proven approach without legal or practical fault. My larger purpose is instead to simply offer an alternative approach for how people (particularly lawyers) might think about addressing external threats to protected areas. The often fractured, *ad hoc* approaches to such issues as mining permits and National Park protection are insufficient to address complex modern problems. If Congress truly intended to protect these areas, it could not possibly have succeeded if environmental laws are completely confined to set geographic boundaries. Thus, a change in approach, rather than a wholesale rewriting of the laws, may be appropriate. I argue that this new approach should embrace the two pieces of interconnectivity: (1) the laws afford protection from both inside *and* outside activities; and (2) the laws work consistently with one another to provide such protection.

One final consideration at the outset is the environmental justice dimension. The benefits of enhanced protection are not restricted to the lands and waters themselves, or even to the visitors who use them. Local populations in and around these areas may also be impacted.²⁵ As the case study in Appalachia will show, local communities have felt the greatest impact from coal mining. Very often these are poor, rural communities with high unemployment rates and low to moderate development, who have

²⁴ Appalachia is a common reference to the southeastern portion of the United States around the Appalachian Mountains, extending from Pennsylvania down through Tennessee.

²⁵ See, e.g., Kathryn M. Mutz, *Mineral Development: Protecting the Land and Communities*, in JUSTICE AND NATURAL RESOURCES 307–15 (K. Mutz et al. eds., 2002); see generally, Patrick C. McGinley, *From Pick and Shovel to Mountaintop Removal: Environmental Injustice in the Appalachian Coalfields*, 34 ENVTL. L. 21 (2004).

lived on the land for generations. For example, the towns in the New River watershed near the Big South Fork have some of the highest unemployment rates in Tennessee.²⁶ Mountaintop removal especially creates problems for people living near blasting sites, sending debris into people's homes, polluting the water, and causing noise and land disturbance.²⁷ Furthermore, many people in these communities used to work in the mining industry, but as mining operations have become more mechanized and the industry has consolidated, there has been greater productivity but with fewer jobs.²⁸ All in all, gross inequity results where the benefits of coal mining accrue (i.e., dollars of profit for industry and cheaper power for large urban purchasers) versus where the burdens of such actions are imposed (i.e., adverse effects to National Parks and local populations). Thus, remedying environmental concerns, by changing the nature of permitted activities, may serve environmental justice as well.

II. A LOOK INSIDE: PROTECTIONS AFFORDED WITHIN A PROTECTED AREA

Before looking at the reach of environmental law outside a protected area, it is helpful to compare the more settled issues of potentially harmful activities within its geographic boundaries. As described above, several different legal regimes afford varying levels of environmental protection. For example, the Wilderness Act affords the strictest protection of any federal land classification, basically preserving nature in its pristine state. At the more lax end are Wildlife Refuges and National Scenic Areas, which often allow for multiple uses that may to some extent compromise environmental values in the area. A number of designations in the middle, including the National Park System, embody rigorous, yet not absolutist, protection regimes. Each of these designations further implicates different administrative agencies, not even all located in the same department. This potential problem presents itself in the BISO case study below, implicating the sometimes dicey relations among OSM and NPS (both within the Department of the Interior) and the Tennessee Valley Authority, an independent, quasi-public agency.

²⁶ The Labor Market Information/Research and Statistics Section of the Tennessee Department of Labor and Workforce Development publishes labor statistics (e.g., unemployment and wage rates) on a yearly basis by county, metropolitan area, and individual employers. See COVERED EMPLOYMENT AND WAGES (2003), available at <http://www.state.tn.us/labor-wfd/CEW2003.pdf>.

²⁷ See SQUILLACE, *supra* note 17, at 69–72; Carol Morello, *A Coal Town Grieves, Lashes Out After Boy's Death*, WASH. POST, Jan. 6, 2005, at B1 (detailing the tragic death of a three-year-old Virginia boy crushed by a huge boulder sent into his bedroom by blasting activities of nearby coal strip-mining operation, and other adverse effects to local populations).

²⁸ Marc Seamon, *Media and Claims under Framing of Controversial Environmental Issues: A Frame Mapping Analysis of Mountaintop Removal Mining* 47, 55 (May 2005) (unpublished Ph.D. thesis, the Pennsylvania State University), available at <http://etda.libraries.psu.edu/theses/approved/WorldWideFiles/ETD-745/seamon.pdf>.

Enacted in 1916, the NPS Organic Act is the overall governing statute for lands admitted to the National Park System. In addition to creating the NPS within the Department of the Interior, the Act directs the agency to, among other things:

promote and regulate the use of the federal areas known as national parks . . . by such means and measures as to conform to the fundamental purpose of said parks . . . which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.²⁹

As implied by the “enjoyment” language in the organic statute, the National Parks embody an ethos of conservation, rather than pure preservation, and thus allow many recreational uses, such as hiking, fishing, and in some cases even motorized off-road vehicles.³⁰ Areas are continuously added (and may be removed) from the National Park System by specific authorizing acts of Congress (advised by agencies).

Nor are “pure” National Parks the only type of designation administered by NPS. A variety of other categories afford protection either for more specific purposes (such as recreation) or resources (such as rivers). Despite the many categories, all are subject to NPS oversight and the mandates of the NPS Organic Act.³¹ One such additional designation is the National Recreation Area, which generally protects lands and waters for their unique recreational offerings (e.g., rapids, hiking areas, horseback riding areas, and fishing holes).³² Additionally, National Rivers receive protection for the river and the immediately surrounding land.³³ In BISO and one other location, Congress has (roughly) combined the above two designations and created a National River and Recreation Area (“NRRRA”).³⁴ These areas encompass the protections of each of their component parts, boasting exceptional land and water resources worth combined, integrated protection.

²⁹ 16 U.S.C. § 1 (2005).

³⁰ *See supra* note 13.

³¹ *See Mich. United Conservation Clubs v. Lujan*, 949 F.2d 202, 204–05 (6th Cir. 1991) (describing how NPS Organic Act and NPS regulation amendments in the 1970s, in response to an expanding and more complex park system, eliminated the previous system of different management categories for different lands, enabled consistent regulation of the park system as an integrated whole, and adopted a policy of allowing activities in derogation of public park values only as explicitly and specifically directed by Congress).

³² *See COGGINS, supra* note 2, at 968–69.

³³ *See Brown v. U.S. Dep’t of Interior*, 679 F.2d 747, 751 (8th Cir. 1982) (holding that National River designation “implicitly” barred mining claim).

³⁴ These two specially designated areas include the Big South Fork NRRRA, 16 U.S.C. § 460ee (2005), and the Mississippi NRRRA. *Id.* § 460zz.

In addition to the general protections afforded by different designations and the NPS Organic Act, Congress may impose strict standards and regulations particular to a given area through its individual authorizing statute. These specific pieces of legislation clarify the purpose for which a particular area was set aside and prescribe what type of activities may or may not be done in or around the area. For instance, BISO's enabling legislation establishes it for the purposes of:

conserving and interpreting an area containing unique cultural, historic, geologic, fish and wildlife, archaeologic, scenic, and recreational values, preserving as a natural, free-flowing stream the Big South Fork of the Cumberland River, major portions of its Clear Fork and New River stems, and portions of their various tributaries for the benefit and enjoyment of present and future generations, the preservation of the natural integrity of the scenic gorges and valleys, and the development of the area's potential for healthful outdoor recreation.³⁵

Congress thus designated the area to serve many "unique" values, and put human recreational values on an equal footing with other existence values such as scenery and wildlife. It also contemplated protection in the long term for future generations' "benefit and enjoyment." Finally, of particular import, Congress made clear that the Big South Fork's upstream tributaries outside the technical BISO boundaries in the New River watershed also deserve protection as a "natural free-flowing stream."

It remains somewhat unsettled, and within agency discretion, as to what activities are permitted in National Parks, particularly regarding motorized vehicles and other recreational activities that may interfere with other park values.³⁶ Particularly because statutes are so broadly worded, as illustrated above, disputes are often settled in an administrative or judicial forum. However, these statutory provisions, while unclear as to what they include, more clearly indicate what is *excluded*. For example, while National Forest designations envision some logging and mining activities under the NFMA and Organic Act,³⁷ National Parks (and NRRAs) largely do not.³⁸ Happily, sometimes Congress makes a legislative decision and simply states a rule expressing its reasoned judgment, summarily dispensing

³⁵ *Id.* § 460ee(a).

³⁶ *See supra* note 13.

³⁷ *See* Robert V. Percival, et al., ENVIRONMENTAL REGULATION 921–22 (4th ed. 2003) (comparing NFMA and NPS lands in permitting different kinds of development). *See also* Okanogan Highlands Alliance v. Williams, 236 F.3d 468, 478 9th Cir. 2000) (noting that mining interests and environmental values are both accommodated on National Forest land).

³⁸ *Brown*, 679 F.2d at 750–51 (holding that National River, to be administered as National Park, is not subject to mining claims, per the Mining Activities Within the National Park Systems Areas Act, 16 U.S.C. §§ 1901–1912, since specific area enabling act did not so state, in possible contrast to National Forest). *See also, supra* note 34.

with the issue. To give one pertinent example, SMCRA openly prohibits mining in a National Park or Recreation Area.³⁹ This enactment reflects Congress's judgment that in certain areas mining and economic interests should defer to environmental and recreational values.⁴⁰

Thus, as a starting point, the various environmental laws, headlined by the NPS Organic Act, specific authorizing statutes, and SMCRA, afford considerable protection to National Parks (and NRRAs). Even though such areas may possess economically desirable resources (e.g., BISO contains some coal), they are off-limits to exploitation and extraction, given their primary purposes for recreation and preservation. However, these protections on the "inside" are only part of the picture. If an activity that is prohibited inside a designated area could simply be relocated outside its geographic boundaries yet still similarly adversely affect the protected area, then the entire regime of federal land and water protection would be undermined. So it must be asked: what protections are available on the "outside" to protect the prized area on the "inside?" It is this question, and its subset of component issues, to which we turn next.

III. BRANCHING OUTWARD: ENVIRONMENTAL LAWS FROM AN INTERCONNECTED APPROACH

A variety of environmental laws offer the possibility of contributing to a workable solution to external threats facing protected areas. These statutes and regulations were passed and subsequently amended in different time periods and political climates, and on their face deal with very different subject matter. Nevertheless, these laws, both individually and collectively, can be read to apply beyond the geographic confines of a protected area. Furthermore, the analysis of the case law and the legislative and administrative history indicates that not only *can* the statutes be read expansively, but also that they *should* be, in order to achieve the full purposes of Congress in enacting both the protected area legislation and the environmental statutes themselves. Thus, throughout this Part, the basic argument is that Congress simply could not have intended to ignore external threats if it really set out to protect special lands and waters.

Some other themes are also worth mentioning at the outset of this Part. First, determining how the statutes can be used to protect against external threats is a complex exercise in statutory interpretation. Indeed, a single word or term (or its absence) can produce a notably different outcome. Second, the particular term "adverse effect" is a touchstone that triggers environmental protection in many contexts, particularly under SMCRA. Nevertheless, despite several employed interpretive methodologies, it remains

³⁹ 30 U.S.C. § 1272(e)(1) (2005).

⁴⁰ H.R. REP. NO. 95-218, at 94 (1977), *reprinted in* 1977 U.S.C.C.A.N. 593, 632. *See infra* Part III.C.

unclear exactly what this term means, or what level of adverse effect Congress envisioned as sufficient to trigger a response. Third, there is a running omnipresent theme of coordination and consultation. Such consultations may take place between two or more agencies; state and federal government entities; local grassroots groups and an agency; a regulated entity and an agency; and in various other settings. Such cooperation is essential to the success of environmental law, as most recently stated by NPS itself.⁴¹ Finally, the entire system of environmental law undoubtedly presents a complicated matrix of rules and regulations that are difficult to understand, let alone apply; there are no precise answers given by precedent or regulations to date. Nevertheless, these statutes can and should be read together, emphasizing their points of agreement rather than potential inconsistency.

This Part presents the following laws: the NPS Organic Act and specific National Park enabling laws, NEPA, SMCRA, Tennessee's Antidegradation Statement, and the ESA. It proceeds to discuss their provisions, legislative and administrative history, and subsequent case law, with positive (and negative) implications for "interconnectivity."⁴²

A. *The NPS Organic Act and Specific Park Enabling Legislation*

The ideal starting point for an analysis of pertinent environmental laws for protected areas is the NPS Organic Act.⁴³ As referenced in the above Part, NPS is commissioned as an agency to fulfill the purposes of the organic act in administering the National Park System, and hence has a duty to protect all its units' preservation and recreation values. While this broad language in the organic statute undoubtedly gives NPS some regulatory discretion, it is possible to read the limits of NPS authority as correlating with the boundaries of the Park itself. However, even if the full powers of the NPS do not extend beyond the Park's boundaries, the agency still may exert *some* external authority.

Components may be added to any part of the National Park System by act of Congress.⁴⁴ These lands must be administered in conformity with the organic act, but also are subject to the more specific guidelines established in their particular statutes. These terms may be stricter and may

⁴¹ See NPS, Big South Fork Visitor Guide (2005), available at <http://www.nps.gov/biso/bisopaper05.pdf>.

⁴² Readers less familiar with environmental law and desiring more background may consult one of the many works that provide an overview of the subject. See, e.g., Richard J. Lazarus, *The Greening of America and the Graying of United States Environmental Law: Reflections on Environmental Law's First Three Decades in the United States*, 20 VA. ENVTL. L.J. 75 (2001); RICHARD J. LAZARUS, *THE MAKING OF ENVIRONMENTAL LAW* (2004).

⁴³ See 16 U.S.C. §§ 1-4; *supra* note 29 and accompanying text.

⁴⁴ With required periodic input from the Interior Secretary as to lands deserving of protection. See 16 U.S.C. § 1a-5. "The System now includes nearly 80 million acres . . . located in almost every state." COGGINS ET AL., *supra* note 2, at 140.

clarify some of the general terms of the organic statute as applied to the particular lands at hand.

The authorizing statute for BISO provides a good example.⁴⁵ BISO was separately established in 1974, as part of the Water Resources Development Act.⁴⁶ Several of its provisions suggest that Congress was considering external threats to the NRRA from the beginning. As cited above, in protecting the “unique” values for which BISO was created, NPS must not only maintain the Big South Fork as a “natural, free-flowing stream,” but must also afford similar protection for “major portions of its Clear Fork and New River stems, and portions of their various tributaries.”⁴⁷ Thus, the statute recognizes that maintaining the river resource and the NRRA values for “natural integrity” or “healthful outdoor recreation”⁴⁸ requires upstream protections as well.⁴⁹

Fleshing out this requirement, the authorizing statute requires a comprehensive plan for upstream areas of the New River tributary.⁵⁰ It calls for cooperation with other agencies in drafting the upstream New River comprehensive plan in order to minimize siltation and acid mine drainage downstream in the Big South Fork,⁵¹ as well as more cooperation and consultation generally in protecting all the values of the NRRA.⁵² The comprehensive plan was promulgated in 1981 and recommends various strategies for dealing with mining and other resource extraction activities up-

⁴⁵ 16 U.S.C. § 460ee. BISO’s authorizing statute is discussed further in Part IV, *infra*; it is offered here to generally identify the possible protections that may be afforded by a specific authorizing statute.

⁴⁶ Why BISO was established as a water resources project under the supervision of the Army Corps of Engineers is unclear. *See infra* Part IV. Nevertheless, it has been under the authority of the Secretary of the Interior since 1990. 16 U.S.C. § 460ee(b).

⁴⁷ 16 U.S.C. § 460ee(a); *see supra* note 29 and accompanying text.

⁴⁸ *See supra* note 47.

⁴⁹ If the reader will permit a degree of poetic license, this recognition by Congress is an adaptation of an old adage: what goes *upstream* must come *downstream*.

⁵⁰ As explained more fully in Part IV, *infra*, the upstream New River tributary watershed will receive more attention than the Clear Fork tributary because much of the currently proposed coal mining is to take place within the Koppers Coal Reserve, which lies primarily in the New River watershed. *See* 68 Fed. Reg. 26,371, 26,371–73 (May 15, 2003). However, a truly comprehensive strategy would clearly have to ultimately encompass the Clear Fork tributary and its watershed as well.

⁵¹ 16 U.S.C. § 460ee(h):

In furtherance of the purpose of this subsection the Secretary in cooperation with the Secretary of Agriculture, the heads of other Federal departments and agencies involved, and the State of Tennessee and its political subdivisions, shall formulate a comprehensive plan for that portion of the New River that lies upstream from United States Highway Numbered 27 [which is the upstream geographic boundary for BISO]. Such plan shall include, among other things, programs to enhance the environment and conserve and develop natural resources, and to minimize siltation and acid mine drainage. Such plan, with recommendations, including those as to costs and administrative responsibilities, shall be completed and transmitted to the Congress within one year from March 7, 1974.

⁵² *Id.* § 460ee(i).

stream.⁵³ However, while this comprehensive plan bodes well for upstream protections, it also presents important limitations. For example, the authorizing statute and the comprehensive plan include a parallel mandate to “develop” natural resources, envisioning some coal mining in the area.⁵⁴ Thus, the protections afforded upstream are not strong enough by themselves to completely ban coal mining or to prevent all damage to the Big South Fork, as long as such adverse effects are “minimize[d].”⁵⁵ In addition, it is unclear to what extent the comprehensive plan is legally binding on agencies, and hence whether private parties can enforce it in court.⁵⁶

In addition to the portions of the BISO statute dealing directly with the New River per se, other provisions potentially prevent federal government actors from contributing to or assisting in activities that pose a threat downstream. To this effect, subsection (f) states:

[N]o department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which the National Area was established.⁵⁷

This statutory language, besides its apparent clarity, has two major implications for protecting BISO downstream (and in further preventing such activities *within* the NRRRA). First, to the extent that the government pursues a “water resources project,” it cannot have “direct and adverse effects” on the NRRRA values. These values, as noted above, include aesthetic and recreation values. Because many upstream activities threatening these values (e.g., surface mining for coal) require federal permits beforehand (e.g., from OSM), and the federal government cannot “assist by . . . license

⁵³ See NPS, Big South Fork Final General Management Plan/Environmental Impact Statement Summary, Feb. 2005, available at <http://www.nps.gov/biso/gmp/summary.pdf> (NPS current operating plan update). See also Tennessee Valley Authority, EA Adoption and FONSI for U.S. coal company, Deep Mine No. 11, OSM Permit No. TN-014, Campbell and South Counties Tennessee (approving FONSI for underground mine potentially on Koppers Coal Reserve, 13.5 miles from BISO) (July 21, 2004), available at <http://www.tva.gov/environment/reports/uscoal/fonsi.pdf>.

⁵⁴ See, e.g., 16 U.S.C. § 460ee(i). The last part of subsection (i) indicates that water quality is not the exclusive criterion, but only one of many values to be afforded by the NRRRA.

⁵⁵ *Id.* § 460ee(h).

⁵⁶ See *Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55 (2004) (rejecting environmental group’s challenge to Bureau of Land Management land withdrawal review program). *But see* *Natural Res. Def. Council v. Patterson*, 333 F. Supp. 2d 906, 916 (E.D. Cal. 2004) (noting that *Norton* holds, in part, that “a land use plan, unlike a specific statutory command, is generally a statement of priorities; it guides and restrains actions, but does not prescribe them . . . [t]hus, such statements are not legally binding commitments” and are “not actionable.” By contrast, section 8 of the Reclamation Act of 1902 entailed a “discrete agency action that [the Interior Secretary] is required to take” (emphasis in original), and thus *Norton* was inapposite as to the need to comply with state law in protecting downstream historic fisheries from the proposed dam).

⁵⁷ 16 U.S.C. § 460ee(f).

. . . or otherwise” aid in such activities, it follows that such activities are banned upstream.

Granted, one may fairly question the reasoning of this argument. First, recall that BISO was passed within a statute primarily pertaining to water resources projects,⁵⁸ and some activities, such as coal mining, may be distinguished as not water resources-related per se. In addition, it may be argued that no definite “direct and adverse effect” would follow from such activities for prospective application of the statute. In response, however, it may be noted that since coal mining clearly requires the use of significant water resources,⁵⁹ and must receive an NPDES permit under the Clean Water Act,⁶⁰ it may indeed be characterized as a “water resources project.” The “direct and adverse effect” point is similarly contestable and ill-defined by the statute; however, as explained more fully in the section below dealing with SMCRA,⁶¹ the threshold for finding such effects is not particularly demanding.

The second import of subsection (f) is that the language is taken directly from section 7 of the WSRA.⁶² WSRA is a separate organic statute providing special protections for rivers possessing particularly high natural, aesthetic, or ecosystem values. While it remains unclear whether Congress, by borrowing the precise language, intended to fully apply WSRA to OSM decisions or to coal mining in general, it does seem to suggest a similar legislative intent to prevent federal support of environmental degradation.⁶³ The existence of WSRA language in BISO’s authorizing legislation at least arguably suggests a wider jurisdiction for NPS than if such

⁵⁸ See *supra* note 46.

⁵⁹ E.g., the mined coal must be “washed” of its impurities before being transported or sold.

⁶⁰ NPDES permits issued by EPA are required under the Clean Water Act’s section 402 provisions for the discharge of any pollutant. 33 U.S.C. §§ 1311(a), 1342 (2005). EPA’s section 402 authority controls even when the pollutants from mining activities may also be characterized as “fill” which would usually fall within the authority of the Army Corps of Engineers or state programs. See *W. Va. Coal Ass’n v. Reilly*, Nos. 90-2034, 90-2040, 1991 WL 75217, at *12–14 (4th Cir. May 13, 1991) (unpublished *per curiam* affirming opinion). Even for “remining operations,” subject to somewhat looser requirements in some aspects, the resulting pH levels and discharges of iron and manganese in no event may exceed the levels currently discharged from the abandoned site. 33 U.S.C. § 1311(p)(1)–(3). In another noted example of interconnectivity, these provisions also do not interfere in any way with the simultaneous application of SMCRA to such areas, particularly as to suspended solids. *Id.* § 1311(p)(4).

⁶¹ See generally *infra* Part III.C.4.

⁶² 16 U.S.C. §§ 460ee(f), 1278. Also supporting the WSRA connection are other provisions in BISO’s authorizing statute seemingly borrowed from WSRA, such as preservation of “free flowing” river conditions and protection of “scenic, recreational, geologic, fish and wildlife . . . values” for “the benefit and enjoyment of present and future generations.” *Id.* §§ 460ee(a), 1271.

⁶³ For a good discussion addressing external threats in the Wild and Scenic Rivers Context, as well as comparing other statutes to WSRA in this regard, see Riette van Laack, Comment, *Protection of a Wild and Scenic River Against Nonfederally Funded, Nonpower Water Projects Reducing the Volume of Water Feeding Into that River*, 72 TENN. L. REV. 875, 886 (2005).

language did not exist.⁶⁴ Furthermore, the WSRA linkage may also require a broad study and review of the interagency comprehensive plan for the New River watershed, whether or not mining is pursued in the area.⁶⁵ This extra process would further agency cooperation in the area and ensure that the Big South Fork is viewed in conjunction with its hydrological connection to the upstream New River watershed.⁶⁶

A final issue pertaining to the protected area's authorizing statute involves the "unreasonably diminish" standard.⁶⁷ Even if WSRA applies, section 7 and BISO subsection (f) explicitly note that such limitations do not apply to "external areas."⁶⁸ At first, this statement immediately seems to rebut both protective imports of the statutory provision described above. However, the section goes on to say that such external projects still may not "unreasonably diminish" the river's "scenic, recreation, and fish and wildlife values" existing on the date the protections were enacted.⁶⁹ Thus, read together, it appears on the one hand that the federal government is not expressly barred from permitting mining and other potentially dangerous activities upstream of a protected area, even if there would be some "direct and adverse impact." On the other hand, the law also suggests that a significant degree of protection (short of a zero risk, zero damage standard) must be afforded upstream, and in no instance may such "direct and adverse impacts" rise to the level of "unreasonably diminish[ing]" the river values (particularly as to those values enumerated in the BISO authorizing statute itself).

Perhaps more fundamentally, the interplay of the above provisions in the BISO authorizing statute, particularly the "unreasonably diminish" language, suggests a greater role for NPS in protecting and administering the National Park System than suggested by a cursory first reading of the organic and authorizing statutes. That is, with such broad standards set out by Congress, the agency receives a certain amount of discretion in interpretation.⁷⁰ Thus, if NPS (or another agency in a context outside the National Park System) is to effectively administer a protected area as Congress

⁶⁴ This conclusion is further supported by section 9 of WSRA, which makes clear both that the mining laws apply to rivers included in the System and that those rivers may be subject to possibly stricter regulations by the Secretary of the Interior to effect the purposes of WSRA, as well as SMCRA. 16 U.S.C. § 1280.

⁶⁵ See *id.* §§ 1273, 1275.

⁶⁶ See, e.g., *id.* § 1278(a) (mandating, in part, consultation between the Interior Secretary and Congress and any agency or department pursuing a water resources project that would have a "direct and adverse effect on the values for which such river was established," at least sixty days in advance of construction or a request for funds, even if the project has otherwise been authorized).

⁶⁷ *Id.*

⁶⁸ *Id.* Instead of "external areas" (the language in BISO's statute), WSRA uses the phrase "developments below or above a wild, scenic or recreational river area or on any stream tributary thereto." *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.* (stating that the "direct and adverse effect[s]" of mining are relevant insofar "as determined by the Secretary").

has prescribed, it must have the authority to determine if and when, for instance, an external activity may “unreasonably diminish” the values of the protected area. And to make such a determination, that authority must entail some degree of direct supervision and review of external activities; that is, NPS staff must be allowed to step outside park boundaries and still retain some (if not full) regulatory authority. One may fairly expect that, with this greater oversight, more effective protection will follow.

Buttressing this broader view of NPS jurisdiction (and geographic interconnectivity) is the federal district court case *Ozark Society v. Melcher*.⁷¹ Involving the Buffalo River in Arkansas, a National River like the Big South Fork, the authorizing statute possessed identical language to WSRA and subsection (f) of BISO.⁷² In particular, the statute invoked the “unreasonably diminish” standard.⁷³ The case made clear that a Clean Water Act section 404 permit⁷⁴ could not be issued by the Army Corps of Engineers prior to the Interior Secretary’s decision as to the potential impact on the National River *twenty-six miles* downstream.⁷⁵ Thus, the case upholds broader agency authority (for BISO, the Interior Secretary, who oversees NPS) to determine whether water resources projects would unreasonably diminish the river’s natural and wildlife values. Moreover, it does so in the face of only a “potential” impact, occurring a fairly long distance away from the dam.⁷⁶ By comparison, proposed coal mining is only between ten and fifteen miles away from the boundaries of BISO.⁷⁷

B. The National Environmental Policy Act (“NEPA”)

The applicable body of environmental law is not confined to the above area-specific statutes. And any analysis of more general and traditional environmental laws must begin with one of the oldest and most comprehensive statutes, NEPA. Enacted in 1970, NEPA is a broad framework statute with its purpose to reorient general policy and rule-making toward protection and promotion of environmental quality.⁷⁸ Agencies must satisfy Congress and the courts (and the public) that they are giving a “hard

⁷¹ 248 F. Supp. 2d 810 (E.D. Ark. 2003).

⁷² 16 U.S.C. § 460m-11.

⁷³ *Id.*

⁷⁴ 33 U.S.C. § 1344 (2005). This detailed section basically says that “dredge and fill” activities cannot be performed on “navigable waters” without an Army Corps of Engineers permit, with approval from EPA.

⁷⁵ *Ozark Soc’y*, 248 F. Supp. 2d at 811, 818. The procedural posture of this case is a bit complicated. While the formal holding of the case is dismissed for mootness, one important ground for this disposition was the court’s confidence that the wrong could not be repeated; that is, no permit would be issued in the upstream watershed without prior NPS approval. *Id.* at 819. The import of the case (and the currently prevailing agency interpretations) thus supports broader NPS jurisdiction.

⁷⁶ *Id.* at 812.

⁷⁷ *See supra* note 53.

⁷⁸ 42 U.S.C. § 4331(a)–(c) (2005).

look” to the potential environmental impacts from a particular proposed project, *before* the project is underway and irreversible environmental impacts cannot be ameliorated.⁷⁹

NEPA also requires discussion in an Environmental Assessment (“EA”) and/or Environmental Impact Statement (“EIS”) of indirect and second-level effects, as well as simple direct ones.⁸⁰ For example, while mining activities may not directly dump excess spoil into a waterway, permitting authorities must consider that acid mine drainage may seep through groundwater and eventually make its way into the same stream.⁸¹ NEPA also requires treatment of the cumulative impacts of an agency action.⁸² Thus, while an activity done in isolation (i.e., a single strip mining operation) may not pose a real threat to the surrounding environment, if repeated in several nearby surrounding areas, such operations may cumulatively have quite a significant effect.⁸³ As illustrated below in the BISO discussion, agencies tend to have the most trouble (or reluctance) in identifying and adequately considering these indirect and cumulative effects. In addition, NEPA requires consultation and cooperation among agencies in gathering and sharing data and analyzing environmental risks.⁸⁴ Finally, as to standing to sue, an injury from alleged increased environmental risks

⁷⁹ See *Kleppe v. Sierra Club*, 427 U.S. 390, 409–10, 410 n.21 (1976) (labeling, based on legislative history, NEPA as an “action-forcing” directive to “all agencies to assure consideration of the environmental impact of their actions in decisionmaking,” citing the Conference Report on NEPA, 115 CONG. REC. 40,416 (1969)).

⁸⁰ See 42 U.S.C. § 4332 (mandating in part that all agencies, “to the fullest extent possible,” consider the “environmental impact of a proposed action” and the “adverse environmental effects” that cannot be avoided if the proposal goes forward).

⁸¹ See SQUILLACE, *supra* note 17, at 31–33; O’Connell, *supra* note 15, at 23–24; Stephen G. Allen, *Special Legal Problems With Other Environmental Laws Under SMCRA*, 7 J. MIN. L. & POL’Y 129, 131–32 (1991–1992) (noting that acid mine drainage is a particularly big problem in the northern third of Appalachia due to the greater sulphuric material exposure per ton, and also describing the frequent occurrence of large sudden releases of polluted water from abandoned mine sites due to natural processes or renewed surface mining nearby).

⁸² See *Kleppe*, 427 U.S. at 409–10; *infra* note 83.

⁸³ Recent NEPA case law stresses the need for broad-based consideration of secondary and cumulative impacts from government actions. See, e.g., *Senville v. Peters*, 327 F. Supp. 2d 335, 368–70 (D. Vt. 2004) (holding, despite presidential executive order encouraging construction of new highway, that proposal violated NEPA by not sufficiently looking at “relocated or redirected growth” due to the road, namely the acceleration of “uneven growth patterns,” “draining jobs and population” from the cities to the suburbs, and adverse effects on agriculture, and furthermore, failing to discuss cumulative effects of other surrounding projects at all); *Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002) (holding that a Finding of No Significant Impact (“FONSI”) determination as to highway construction was in error, due in part to inadequate consideration of cumulative impacts, and that plaintiff could enjoin first phase of project even if only affected by second phase, because completed first phase would create a bias to finish the project; furthermore, adopting a default presumption of finding environmental harm when NEPA procedures are violated, such as by inadequate consultation or insufficient independent analysis by agency).

⁸⁴ 42 U.S.C. § 4332(A), (C), (F), (G), (I) (requiring broad consultation among various agencies, the President’s Council on Environmental Quality, and internationally, as well as a “systematic, interdisciplinary approach” to environmental considerations in agency planning and decision-making).

due to an agency's uninformed decision making may be the foundation for suit for injury in fact under Article III, even for claimants living several miles downstream of a proposed project.⁸⁵

Despite the promising precedent and statutory language, there are several downsides of NEPA that may frustrate its usage in addressing external activities. First and most importantly, NEPA is largely a procedural statute with little substantive enforceability. That is, NEPA does not automatically dictate that the agency must choose the least environmentally destructive option as long as it considers all the effects and relevant alternatives. Second, while some cases apply NEPA more rigorously,⁸⁶ many others find no NEPA violations.⁸⁷ Third, as the comparative burden of doing an EA is far less than an EIS, agencies are implicitly encouraged to produce a Finding of No Significant Impact ("FONSI"). To illustrate, in the first seven years of the federal SMCRA program in Tennessee (discussed in the next Section), despite the protective provisions of SMCRA and NEPA, OSM issued three hundred mining permits, all with a FONSI. Finally, while the statute's call for cooperation in implementing NEPA should be regarded as a good thing, it may also work against environmental protection through segmentation and tiering.⁸⁸ That is, an agency failing to recognize (or recognizing and merely trying to avoid considering) the complex cumulative impacts of several nearby projects or multi-stage projects may limit the scope of its EIS to the particular phase or project for which it is directly responsible. For instance, a mining operation may require the leasing of the land or mineral rights by the land management agency, as well as a mining permit from OSM. Though both stages are federal actions that individually trigger NEPA, the land management agency may attempt to limit the scope of its EA or EIS to the leasing stage, ignoring the eventual environmental effects of mining since the lease is legally insufficient for actual mining. In addition to such segmentation, OSM may then simply do

⁸⁵ See, e.g., *Comm. to Save the Rio Hondo v. Lucero*, 102 F.3d 445, 450–51 (10th Cir. 1996) (holding that living twelve to fifteen miles downstream from a proposed ski area was sufficient for a concrete interest and standing to sue under NEPA, given actual use of the river by the plaintiffs, their geographic proximity, and the risk of environmental harm from inadequate EA). Recall the BISO is only ten to fifteen miles from the proposed mining sites in Tennessee. See *supra* note 53. See also 68 Fed. Reg., 26,371, 26,371–73 (May 15, 2003).

⁸⁶ See discussion *supra* note 83.

⁸⁷ See, e.g., *Kleppe*, 427 U.S. at 413–15 (finding no NEPA violation and holding that no nationwide EIS for coal mining in Great Plains was required absent an existing proposal for nationwide action, despite the contended relationship between all coal mining in the region, and stating that there was no test to determine at what point a potential proposal warrants an impact statement); *Concerned Citizens Alliance, Inc. v. Slater*, 176 F.3d 686 (3d Cir. 1999) (holding that bridge alignment sending traffic through historic district was acceptable under NEPA; even though "highways and historic districts mix like oil and water," the existing highway bridge was deteriorating, the "no build" alternative was not "feasible," and one "historic" structure would inevitably be destroyed under any legitimate alternative).

⁸⁸ Council on Environmental Quality Tiering Rules, 40 C.F.R. §§ 1502.20, 1508.28 (2005).

an EA for its mining permits, tiering off the statistical data and analysis of the land management agency's NEPA document.⁸⁹ Though all of this is done in the name of greater agency cooperation and efficiency under NEPA, such tactics may very well undermine NEPA's underlying purpose.

Nevertheless, the geographical interconnectivity of NEPA is still a useful component of a strategy to address upstream environmental threats. First, the case law indicates that at some point, segmentation and tiering may illegally avoid addressing pertinent cumulative impacts.⁹⁰ Second, in reality, agencies are heavily dependent on outside parties to supply data for analyzing a proposed project; agency regulations clarify that, at least in the mining context, this burden to provide the bulk of information requested by OSM falls on the permit applicant.⁹¹ Thus, while the agency itself must prepare the EA or EIS, requests for additional necessary information (whether the investigatory incentive comes from inside the agency or from environmental lobbyists) can significantly decelerate the permit process, at least a temporary victory for those seeking to block or modify a permit. Third, as discussed more fully in Part III.C.3, OSM as an agency practice does compile the more complete EIS for all "lands unsuitable" petitions in SMCRA federal program states.⁹² Finally, and perhaps most importantly for a practical legal strategy, NEPA litigation may be used as a threat to deter uninformed agency decisions and gain leverage. That is, NEPA litigation proves time-consuming and costly to all parties involved, and of-

⁸⁹ See, e.g., U.S. COAL COMPANY OSM PERMIT (2004), <http://www.tva.gov/environment/reports/uscoal> (last visited Apr. 25, 2006) (on file with the Harvard Environmental Law Review) (reversing roles in text, here TVA tiered off the OSM EA and issued its own FONSI permitting underground mining on portion of the Koppes Coal Reserve as "[c]onsistent with TVA's leasing process").

⁹⁰ See, e.g., *Thomas v. Peterson*, 753 F.2d 754 (9th Cir. 1985) (disallowing segmentation and building of timber road until ESA and NEPA complied with, involving consideration and consultation as to whether the eventual logging "may affect" endangered species); *W. N.C. Alliance v. N.C. Dep't of Transp.*, 312 F. Supp. 2d 765 (E.D.N.C. 2003) (declining to extend *Kleppe*, 427 U.S. 390, and holding that state and federal transportation agencies improperly segmented the different portions of highway expansion project to avoid NEPA, as it restricted alternatives under consideration, the segments had no logical terminus, and, most importantly, the segments were "pending concurrently" and the agencies had full control of the related projects); *California v. U.S. Dept. of Transp.*, 260 F. Supp. 2d 969, 978 (N.D. Cal. 2003) (holding airport expansion to accommodate growing ski area violated NEPA by issuing FONSI, given it was "common sense" that airport improvements in a heavily touristed area would draw more people, substantially affecting the environment, and that the "growth-inducing effects of the airport project appear to be its 'raison d'être'"). But see, e.g., *One Thousand Friends of Iowa v. Mineta*, 364 F.3d 890, 894 (8th Cir. 2004) (holding highway construction to support shopping center was not improperly segmented from related projects, given its independent utility and actual, extensive NEPA analysis).

⁹¹ 30 C.F.R. § 942.773(b)(6) (2005).

⁹² Here, OSM to an extent combines the EIS with the petition assessment. See Allen, *supra* note 81, at 161-62; see, e.g., Jerry Childress, *OSM Seeks Comments on Fall Creek Falls Surface Mining Unsuitability Petition*, OSM NEWS (May 1, 1998), available at <http://www.osmre.gov/news/050198.txt> (noting availability of EIS in response to Fall Creek Falls petition, as "required by . . . [SMCRA]"). For more on Fall Creek Falls petition, see *infra* note 136.

ten is biased against environmental plaintiffs. However, particularly in cases where supporting data or analysis on the part of the agency is clearly lacking, the threat of a NEPA suit can produce greater cooperation *ex ante* between environmental groups and agencies.⁹³

C. *The Surface Mining Control and Reclamation Act (“SMCRA”)*

Seven years after NEPA, the Surface Mining Control and Reclamation Act of 1977 was enacted in the wake of rampant environmental harms emanating from largely uncontrolled surface mining activities.⁹⁴ Such harms were found directly on-site, such as in large open pits, unstable valley fills containing overburden and mining spoils, and large swaths of unreclaimed land made worthless for any further use. In addition, environmental harms migrated off-site, including acid mine drainage and increased sedimentation in surrounding streams and rivers.⁹⁵ SMCRA is now the primary means of directly controlling the adverse effects of surface mining. The statute is administered by OSM, within the Interior Department; OSM conducts direct oversight and permitting for surface mining both on public and private lands.⁹⁶ Today, very few surface mining activities may proceed without a valid OSM permit.

Most importantly for the present analysis, SMCRA contains a range of both general and specific provisions that could be read to prevent OSM approval of mining permits upstream of a protected area. The legislative history and case law under SMCRA suggest that Congress, recognizing the persistent environmental ills under the previously unregulated (or purely state-regulated) system, intended to place environmental values on at least an equal footing with the economic benefits of coal mining.⁹⁷ The

⁹³ At the time of this writing, the U.S. House of Representatives (Committee on Resources task forces) and the Council on Environmental Quality (“CEQ”) have separately issued draft recommendations on NEPA reform proposals that would, among other things, expedite the EIS review process, shorten EIS documents, improve public and stakeholder participation, improve agency coordination, clarify terms within NEPA (e.g., “cumulative impacts” and “alternatives” analysis), and eliminate alleged redundancies in parallel environmental assessments mandated by other environmental laws. H. COMM. ON RESOURCES, 106th Cong., Task Forces on Improving and Updating the National Environmental Policy Act, Initial Findings and Draft Recommendations, *available at* <http://resourcescommittee.house.gov/nepataskforce.htm>; CEQ NEPA Task Force, Modernizing NEPA Implementation (2003), *available at* <http://ceq.eh.doe.gov/ntf/report/index.html>. However, whether or not any such reforms to regulations or NEPA itself are ultimately adopted, such changes likely would be minor due to the popularity of NEPA and lack of political will to overhaul the statute. *See, e.g.*, The Public and Experts Review of the National Environmental Policy Act Task Force Report, “Modernizing NEPA Implementation,” at 14, *available at* http://ceq.eh.doe.gov/ntf/CEQ_Draft_Final_Roundtable.pdf (noting that NEPA is seen by many as the Magna Carta of environmental protection).

⁹⁴ 30 U.S.C. §§ 1201–1328 (2005).

⁹⁵ *See* SQUILLACE, *supra* note 17, at 10–11, 28–35.

⁹⁶ 30 U.S.C. § 1211.

⁹⁷ *See* Citizens Coal Council v. Norton, 330 F.3d 478, 480 (D.C. Cir. 2003) (noting that “SMCRA was enacted in an effort by Congress to both ‘protect society and the environ-

relevant provisions of SMCRA may be grouped into three categories. First, SMCRA's general provisions and statements of purpose, largely found in the preamble and definitions sections, indicate the broad intended scope of the act. Second, section 522 of SMCRA expressly designates certain lands as "unsuitable for coal mining."⁹⁸ This section embodies a judgment by Congress that on certain lands environmental protection outweighs economic values. Two specific portions of section 522 are particularly noteworthy. Section 522(a), in conjunction with section 522(c) describes a process by which anyone may petition the regulatory authority to designate lands as unsuitable for surface coal mining.⁹⁹ On federal lands, as well as lands of states without an approved SMCRA program, the Secretary of Interior, as the "regulatory authority," may respond and set aside lands as "unsuitable."¹⁰⁰ Of course, if unsatisfied with a state's disposition of such petitions, the Secretary could disapprove a state's program and assert primary control.¹⁰¹ Meanwhile, section 522(e)(3) prohibits coal mining that would "adversely affect" a "publicly owned park," without joint approval from NPS; particularly interesting (and unclear) is what "adversely affect" means.¹⁰² A third set of provisions at section 515(c) deals separately with mountaintop removal, and may additionally mandate consideration of the off-site effects of this inherently destructive practice.¹⁰³

In analyzing the provisions of SMCRA below, it should be noted that SMCRA is not one of Congress's best feats of draftsmanship. Whether intentionally or unintentionally (perhaps for political insularity), Congress included several broad, ambiguous terms of uncertain import. Indeed, as the D.C. Circuit has bemoaned, SMCRA is a "complex and often puzzling statute."¹⁰⁴ Even SMCRA's own legislative history admits that there are several ambiguous terms, most notably "adversely affect," as used in the lands unsuitability provisions.¹⁰⁵ Nevertheless, while there is room for several interpretations of the level of environmental protection that Congress meant to provide, a thorough reading of these interconnected provisions in light of the protective purposes of SMCRA, and as analyzed through the lenses of the case law, legislative history, and certain canons of statutory interpretation, indicates that SMCRA indeed offers remedies against the downstream effects on protected areas from external coal min-

ment from the adverse effects of surface coal mining operations' and to 'assure that the coal supply essential to the Nation's energy requirements, and to its economic and social well-being is provided and strike a balance between protection of the environment and agricultural productivity and the Nation's need for coal as an essential source of energy'" (citing 30 U.S.C. § 1202(a), (f)).

⁹⁸ 30 U.S.C. § 1272.

⁹⁹ *Id.* § 1272(a)(c).

¹⁰⁰ *Id.* § 1272(b).

¹⁰¹ *Id.* § 1272(a)(4).

¹⁰² *Id.* § 1272(e)(3).

¹⁰³ *Id.* § 1265(c).

¹⁰⁴ *Id.*

¹⁰⁵ H.R. REP. NO. 95-218, at 193-94 (1977), *reprinted in* 1977 U.S.C.C.A.N. 593, 722.

ing. At the very least, SMCRA encourages more reasoned mining permit decisions through agency interaction.

1. Preamble and General Provisions of SMCRA

From the outset, SMCRA asserts its sweeping intentions to deal with the environmental effects of strip-mining. Indeed, SMCRA's first listed purpose is to "protect society and the environment from the adverse effects of surface coal mining operations."¹⁰⁶ The legislative history explicitly states that environmental protection is a "coequal objective" with producing coal.¹⁰⁷ In section 101(c), Congress announces its findings underlying its decision to enact SMCRA:

[M]any surface mining operations [can] burden and adversely affect . . . the public welfare by destroying or diminishing the utility of land for *recreational* . . . purposes, by causing erosion and landslides . . . , by polluting the water . . . , by impairing *natural beauty* . . . , by *degrading the quality of life in local communities*, and by *counteracting governmental programs and efforts to conserve soil, water, and other natural resources*" (emphases added).¹⁰⁸

Several of the above-emphasized provisions particularly imply Congress's apparently broad purposes in SMCRA. First, recreation is one key set of "public welfare" values that Congress thought deserved special protection; as many protected areas are set aside specifically for their unique recreational opportunities (hence National *Recreation Areas*), it would seem that Congress would prevent them from becoming "adversely affect[ed]" by coal mining. Second, a similar argument follows from Congress's mention of "natural beauty" and federal lands set aside specifically for that purpose. Third, Congress seeks to not have its other parallel environmental "programs and efforts" undermined by uncontrolled surface coal mining operations. Such efforts would include the setting aside of certain protected areas, as well as particular government-sponsored conservation activities.¹⁰⁹ This statement supports a legally "interconnected" reading of the wider "parallel" body of environmental law. Finally, Congress expressly addresses activities that may "degrad[e] the quality of life in local communities." This explicit recognition of the environmental justice dimension of surface mining at the outset of the statute implies that Congress understood the unique plight of people living around surface min-

¹⁰⁶ SMCRA § 102(a), 30 U.S.C. § 1202(a).

¹⁰⁷ H.R. REP. NO. 95-218, at 96 (2005), *reprinted in* 1977 U.S.C.C.A.N. 593, 632.

¹⁰⁸ SMCRA § 101(c), 30 U.S.C. § 1201(c).

¹⁰⁹ *See, e.g.*, the government-sponsored reintroduction of endangered mussel species into the Big South Fork, discussed in Part IV, *infra*.

ing operations and, further, intended to regulate surface coal mining not just to preserve aesthetic or recreational values, but also to check these potential human consequences of unchecked mining.¹¹⁰

Congress also makes several broad statements about both the wide geographic scope and approach of SMCRA. For example, section 102(m) says that Congress intended to, “wherever necessary, use the full reach of federal constitutional powers to protect the public interest.”¹¹¹ While such congressional statements do not fully answer the constitutional issue of how far Congress can go, they indicate the broadest use of its power. Section 701 indicates that Congress meant to include, under the umbrella of “surface coal mining operations,” areas where “activities occur or . . . disturb the natural land surface,” including “adjacent” land effects “resulting from or incident to” mining.¹¹² It is unclear from this section how far a distance “adjacent” implies, but subsequent OSM regulations (dealing with reclamation plans) define “adjacent” to include “area[s] outside the permit area where a resource or resources . . . are or reasonably could be expected to be adversely impacted by proposed mining operations.”¹¹³ Thus, a convincing case could at least be made that SMCRA applies to some extent to outside areas, perhaps not necessarily even limited to those lands or waters directly bordering the proposed mine site, as long as resources would be “adversely impacted” by the mining. In effectuating the purposes of SMCRA, Congress also calls for a “cooperative” effort as “necessary to prevent adverse environmental effects of present and future coal mining operations.”¹¹⁴ Thus, agencies such as OSM must consult with other agencies (e.g., NPS) and not simply act within their own exclusive sphere or expertise.

As a matter of legal interconnectivity, in addition to the section 101(c) language regarding non-interference with other government programs,¹¹⁵ Congress states in two other places that SMCRA is not to conflict with other applicable federal or state laws. First, at the federal level, section 702 provides that SMCRA does not “supercede, amend, modify, or repeal” any other federal law.¹¹⁶ That is, SMCRA is to be read consistently with such laws, and not as an implicit repeal of any other federal statute. While section 702 proceeds to enumerate certain statutes, this list is not exclusive, as Congress also notes that section 702 is “not limited to” the specified laws.¹¹⁷ Thus, until Congress specifies otherwise, the import of section 702 should also apply to laws promulgated after SMCRA’s passage in 1977.

¹¹⁰ See the environmental justice materials referenced *supra* note 25 and accompanying text.

¹¹¹ SMCRA § 102(m), 30 U.S.C. § 1202(m).

¹¹² SMCRA § 701(28), 30 U.S.C. § 1291(28).

¹¹³ OSM General Permanent Regulatory Program Definitions, 30 C.F.R. § 701.5 (2005).

¹¹⁴ SMCRA § 101(k), 30 U.S.C. § 1201(k).

¹¹⁵ See *supra* note 107 and accompanying text.

¹¹⁶ SMCRA § 702, 30 U.S.C. § 1292.

¹¹⁷ *Id.*

Second, at the state level, SMCRA allows state programs in lieu of the federal SMCRA program.¹¹⁸ However, while this provision provides a fair degree of state control, the state programs are always subject to federal approval.¹¹⁹ That is, OSM must approve the substituted state plan, and for those states that either fail to promulgate an acceptable plan or forego the effort entirely, OSM may withhold or rescind its approval.¹²⁰ Thus, SMCRA directly controls in a state with a federal plan, and provides at least a minimum floor of protection for valid state plans.¹²¹ As examined below, Tennessee is a state governed by the federal program, due to its failure and reluctance to implement its own state-specific regime under SMCRA.¹²²

2. Lands Unsuitability Provisions

The above look at SMCRA's general provisions, statements of purpose, and definitions demonstrates the breadth of its regulatory reach. Yet it is only a starting point. To be read within this framework are the specific provisions of section 522, expressly setting aside certain areas as lands unsuitable for mining.¹²³ This section is the most explicit manifestation in the statute of Congress's intent to protect the environment. It embodies a decision by Congress that some areas' environmental values should clearly outweigh potential economic values,¹²⁴ though Congress is clearer in certain provisions than in others. Recall that section 522(e)(1) simply bans mining in any National Park.¹²⁵ Section 522(a), dealing with the petition process, indicates that some lands should be set aside as unsuitable for mining, but largely vests discretion in the Interior Secretary.¹²⁶ Yet further, the language of section 522(e)(3) bars any surface coal mining that would, among other things, "adversely affect" a "publicly owned park," but allows it if joint approval is granted by OSM *and* the relevant land

¹¹⁸ SMCRA § 503, 30 U.S.C. § 1253.

¹¹⁹ *Id.*

¹²⁰ *See id.*

¹²¹ *See* SMCRA §§ 521(b) (reserving federal authority to supplement or rescind inadequate state programs), 523(c) (allowing valid state programs to apply even on federal lands through cooperative agreement with Secretary, but *not* permitting delegation by Secretary to states to determine lands unsuitable for mining under section 522), 30 U.S.C. §§ 1271(b), 1273(c). States under a federal program may, however, pass stricter laws than SMCRA, as long as OSM does not invalidate them as inconsistent with SMCRA. SMCRA § 505, 30 U.S.C. § 1255. *See* 30 C.F.R. §§ 73b.23, 942.20–942.955 (2005).

¹²² *See* 30 C.F.R. §§ 942.20–942.955 (revoking Tennessee's program and instituting a federal program for the state). Kentucky, on the other hand (which includes the northernmost part of BISO) has had its own approved state program since 1982. *See* 30 C.F.R. §§ 917.1–917.30. Because the upstream problems facing BISO involve mining in Tennessee, the federal program applicable in Tennessee is more relevant.

¹²³ SMCRA § 522, 30 U.S.C. § 1272.

¹²⁴ Recall that the legislative history makes clear that coal production is just one of many alternative land uses. *See* H.R. REP. No. 95-218, at 93–94 (1977), *reprinted in* 1977 U.S.C.A.N. 593, 629–30.

¹²⁵ 30 U.S.C. § 1272(e)(1) (2005).

¹²⁶ *Id.* § 1272(a).

management agency.¹²⁷ Underlying this legislation is the basic principle that environmental protection and reclamation at a minimum are a coequal objective with coal production.¹²⁸ Together these provisions provide important additional substantive and procedural protections for special lands and waters, regardless of where mining may take place.

3. *Lands Unsuitable Petitions*

A brief overview of the various provisions of section 522 frames the issues regarding lands unsuitable for mining under SMCRA. Under section 522(b), the Secretary of the Interior is instructed to review *federal* lands to determine possible unsuitability for coal mining.¹²⁹ This assessment of federal lands is a nondiscretionary duty of the Interior Secretary. Thus, applying the decision criteria in the statute, the Secretary may effectively denote certain federal lands as off-limits to mining, even if the area's authorizing statute does not afford such protection. In the National Park System, such an assessment (in the rare case that mining is not expressly forbidden by statute) would almost certainly be warranted. This assessment may be equally appropriate on less-protected federal lands whose resource exploitation would have an impact on protected nearby federal lands.

In the context of protecting against external threats to federal lands occurring on *non-federal* lands, however, the issue is more complicated. The Secretary does not have the same affirmative duty or authority to survey and designate private and state-owned land as on federal land. However, on such lands, per section 522(c), citizens may petition the regulatory authority for a discretionary unsuitability designation.¹³⁰ This argument is strongest in states without an authorized SMCRA program, as *all* mining requires a permit directly from OSM. Particularly by denying a permit categorically through the petition process, OSM can exert its authority over large areas of non-federal lands as readily as federal lands in such states.¹³¹ Further, similar petitions are likely offered even where the "regulatory authority" is a state agency pursuant to an authorized program under sections 503, 504(a) and 522(a), since such programs are expressly sanctioned

¹²⁷ *Id.* § 1272(e)(3).

¹²⁸ *Id.*

¹²⁹ *Id.* 1272(b).

¹³⁰ *Id.* § 1272(c) (stating in part that any "person having an interest which is or may be adversely affected" by current or proposed mining operations may petition the regulatory authority (e.g., OSM) to have an area declared unsuitable). All mining requires a permit from OSM—unless it is a state-run program, sanctioned by OSM—and thus by denying permit categorically through petition process, can apply to non-federal as readily as federal lands.

¹³¹ The Secretary of Interior has delegated to the OSM Director most of the SMCRA program, including final decision authority on lands unsuitable petitions for coal mining. See Department of the Interior, Department Manual 216 DMI (1984), available at http://elips.doi.gov/app_dm/act_getfiles.cfm?relnum=2552.

by OSM. OSM may rescind such approval, and state programs may not be less strict than the federal regime.¹³² In this way, federal authority can stretch even beyond federal lands. Citizens may also submit petitions in the more complex case where mineral rights are severed from surface rights, as in many parts of Appalachia (for example, the New River watershed).¹³³ Two questions then arise: (1) what form do these petitions take; and (2) on what standards or criteria are they reviewed?

Petitions under 522(c) are usually filed by local groups that stand to be adversely affected by mining operations coming to the area.¹³⁴ Local citizens, often with little to gain through additional mining, may band together in a grassroots organization and, with varying levels of help from environmental groups and lawyers, file petitions to have lands taken out of consideration for coal mining. By their very nature, these petitions may require great time and financial resources to research the issues and record the data particular to the area. Indeed, rather than a one-sentence request (i.e., “please do not mine here”), a well-presented petition can cover many pages of analysis and appendices.¹³⁵ The greater the size of the threat or the area sought to be protected, the larger and more complex the petitions become. A review of successful 522(c) petitions in the Appalachia region reveals that the areas covered range from a few square miles to a few thousand square miles, and final records for some areas are multi-volume bound documents.¹³⁶ Thus, the basic point is that embarking on a lands unsuitable petition is a burdensome, expensive task not to be taken lightly.¹³⁷

The reasons for submitting a detailed petition may be understood given the vague criteria for OSM (or state agency) review; because there is much

¹³² See 30 U.S.C. §§ 1253, 1272(a), 1254(a)(3). The latter provision notes that the Secretary may impose a federal program if a state “fails to implement, enforce, or maintain its approved state program.” Moreover, section 1254(b) provides that the Secretary “may provide for the Federal enforcement,” directly, of any “part” of a “State program not being enforced by such State,” thus reasserting possible federal jurisdiction. *Id.* § 1254(b).

¹³³ See Rivkin, *supra* note 22, at 477–98.

¹³⁴ See SQUILLACE, *supra* note 17, at 53.

¹³⁵ See, e.g., OSM, SUMMARY OF THE FINAL FALL CREEK FALLS PETITION EVALUATION DOCUMENT/ENVIRONMENTAL IMPACT STATEMENT (2000) (describing eighty-page petition), available at <http://www.osmre.gov/pdf/summaryfallcreekfallseis.pdf>. But see J. J. Zaluski & S. Ganher, *Black Mountain—An Overview: The Resolution of the Lands Unsuitable Petition from the Legal and Technical Perspectives* (2000) (describing petition for 12,000 acre area consisting of only two pages, including attachments, and resulting in negotiated settlement), available at http://www.mountaintopmining.com/articles/pdf/00_054.pdf.

¹³⁶ See, e.g., OSM, Record of Decision and Statement of Reasons, 65 Fed. Reg. 39,178 (June 23, 2000) (approving, in large part, the Fall Creek Falls State Park and Natural Area petition for over 61,000 (of 85,588 requested) acres of park land and surrounding watershed in Tennessee, the largest grant of discretionary protection under the petition process to date).

¹³⁷ See 30 C.F.R. §§ 764.13, 769.1–789.19 (2005) (OSM regulations setting detailed minimum procedures and standards for the petition process in designating (and terminating) non-federal and federal lands as unsuitable for surface coal mining, creating a complex, lengthy, and demanding process).

room for agency discretion in granting or denying a petition, petitioners bear a high burden of persuasion, especially in the face of agency recalcitrance or ignorance in dealing with a specific problem or area. The decision criteria are set out in section 522(a),¹³⁸ and are detailed more fully in the OSM regulations.¹³⁹ Basically, SMCRA sets one mandatory and four discretionary standards for considering lands unsuitable petitions. Section 522(a)(2), the mandatory criterion, reads: the “state regulatory authority *shall* designate an area as unsuitable for all or certain types of surface coal mining operations if . . . reclamation pursuant to the requirements of this chapter is not technologically and economically feasible.”¹⁴⁰ That is, if a petitioner can prove that reclamation cannot feasibly occur, then the Secretary *must* declare the lands unsuitable for certain or all types of surface coal mining. This provision reflects SMCRA’s goal of harmonizing economic and environmental interests, requiring satisfactory reclamation even when mining does go forward.¹⁴¹

Next, section 522(a)(3) says that an area “*may* be designated as unsuitable” (but does not have to be) when one or more of four special land types will be affected: “fragile,” “historic,” “natural hazard,” or “renewable resource” lands.¹⁴² The statute uses only broad terms in defining these different types of lands; OSM regulations attempt to provide more clarity, with mixed success.¹⁴³ Both the SMCRA and implementing regulations language make clear that minor effects are not sufficient to trigger

¹³⁸ SMCRA § 522(a)(2)-(5), 30 U.S.C. § 1272(a)(2)-(5) (2005).

¹³⁹ Criteria for Determining Areas as Unsuitable for Surface Coal Mining Operations: Definitions, 30 C.F.R. § 762.5.

¹⁴⁰ 30 U.S.C. § 1272(a)(2) (emphasis added). *See also* 30 C.F.R. § 762.11. SMCRA § 522(b) specifies that the same standard applies to the Secretary of the Interior. 30 U.S.C. § 1272(b).

¹⁴¹ *See also* SMCRA §§ 507(d), 508, 515, 30 U.S.C. §§ 1257(d), 1258, 1265 (calling for party submission and regulatory approval of a separate “reclamation plan” prior to regulatory authority issuing mining permit).

¹⁴² 30 U.S.C. § 1272(a)(3) (emphasis added). *See also* 30 C.F.R. § 762.11.

¹⁴³ For the purposes of designation petitions, 30 C.F.R. § 762.5 (2005) defines the four types of land as follows:

Fragile lands means areas containing natural, ecologic, scientific, or esthetic resources that could be significantly damaged by surface coal mining operations. Examples of fragile lands include valuable habitats for fish or wildlife, critical habitats for endangered or threatened species of animals or plants, uncommon geologic formations, paleontological sites, National Natural Landmarks, areas where mining may result in flooding, environmental corridors containing a concentration of ecologic and esthetic features, and areas of recreational value due to high environmental quality Historic lands means areas containing historic, cultural, or scientific resources Natural hazard lands means geographic areas in which natural conditions exist which pose or, as a result of surface coal mining operations, may pose a threat to the health, safety, or welfare of people, property, or the environment, including areas subject to landslides “Renewable resource lands” means geographic areas which contribute significantly to the long-range productivity of water supply or of food or fiber products . . . includ[ing] aquifers and aquifer recharge areas.

the protective discretion of the Secretary, but rather that there must be “significant damage,” “substantial loss or reduction,” or “substantial endanger[ment]” of each type of land’s important resources or values.¹⁴⁴ Finally, reflecting the recurring legal interconnectivity theme in environmental law, section 522(a)(3) embodies federalism concerns: implementing regulations state that an operation *may* also be declared unsuitable when mining “will be incompatible with existing state or local land use plans or programs.”¹⁴⁵

As the permissive language of 522(a)(3) and its implementing regulations suggest, there are several limitations of the petition process as a tool for addressing external threats to protected areas. First, the decision to grant the petition is completely discretionary on the part of the Interior Secretary or those officials to whom he delegates such responsibility. Thus, subject only to highly deferential judicial review, an agency decision to deny the petition will be the final say on the matter. Second, “significant” damage is harder to show than mere “effects” on such lands. However, the standards in place today do reflect a more generous view to petitioners than required by the agency’s original “irreparable damage” standard, which seemed merely to duplicate the mandatory infeasible reclamation criteria under section 522(a)(2).¹⁴⁶ Third, it may be difficult to apply any or all of the four discretionary categories to a particular area. That is, “renewable resource” lands appear to be primarily concerned with areas of productivity (food and water), not all lands boast “historic” values, and “natural hazards” such as landslides and flooding may not be sufficiently likely in many areas. And these characteristics must be found *on* the lands, rather than simply nearby or off-site. Fourth, it is unclear whether off-site concerns suffice to characterize an area as a “fragile land.” OSM regulations formerly included adjacent “buffer zones” as an example of a fragile area. This deletion does not mean that buffer zones cannot be considered by the Secretary in designating lands unsuitable, but the current provision reads much more narrowly.¹⁴⁷ Finally, even if certain lands can be brought under these wide umbrellas, it may prove too expensive or scientifically complex to establish cause and effect with sufficient certainty to persuade OSM, particularly considering the general dearth of financial resources and expertise often felt by interested local groups.

However, despite these limits, the petition process is a promising tool in coordinating citizen efforts aimed at protecting large land areas, as well as drawing agency attention to such broader issues. First, it helps to build

¹⁴⁴ *Id.* § 762.11.

¹⁴⁵ *Id.* § 762.11(b)(1).

¹⁴⁶ *See* 52 Fed. Reg. 18,792, 18,792–95 (May 19, 1987) (responding to a settlement agreement after protracted litigation by environmental groups challenging OSM’s permanent regulatory program, and eliminating the “irreparable damage” requirement for unsuitability findings on “fragile lands” and “historic lands”).

¹⁴⁷ *See id.*

local action groups, brings different interests together, and enables a dialogue between these groups, OSM, and industry.¹⁴⁸ Second, this dialogue often results in a compromise that affords new protections to at least some areas. That is, the process often is “give and take”; the reviewing agency may narrow the geographic scope of a petition, rather than rejecting it altogether.¹⁴⁹ Third, history has shown petitions to be successful in several instances, albeit in much smaller land areas than the entire New River watershed contemplated in the BISO context.¹⁵⁰ Finally, there is judicial precedent upholding the vitality of designation petitions where specially protected areas (rather than ordinary lands) would suffer serious adverse consequences.¹⁵¹

4. Section 522(e)(3): Special Protections Against Surface Mining that “Adversely Affects” Public Parks

Besides providing the means of having the Interior Secretary designate certain lands as unsuitable, section 522(e) expressly forbids mining in certain places as an *ex ante* congressional judgment. That is, Congress thought certain areas deserved special protection because of their unique environmental or historic values, and chose not to grant the agency any

¹⁴⁸ For example, the National Parks Conservation Association (“NPCA”) successfully engaged the Tennessee Chapter of the National Audubon Society, as well as the Southern Environmental Law Center, in preparing a ninety-page petition to declare 284,000 acres of Tennessee unsuitable for mining. The Bush Administration (through OSM) has initially rejected the petition as incomplete and lacking serious merit. The environmental groups are currently planning their appeal of this initial ruling. See Alison A. Freeman, *Enviros Plan To Appeal Federal Rejection of Bid To Protect Tenn. Mountains*, GREENWIRE, Jan. 24, 2006 (on file with the Harvard Environmental Law Review).

¹⁴⁹ Interview with Don Barger, Director, NPCA Southeast Regional Office (Jan. 12, 2005); *Utah Int’l, Inc. v. Dept. of Interior*, 643 F. Supp. 810, 812 n.5 (D. Utah 1986) (noting that “only a portion of the area covered by the unsuitability petition” around Bryce Canyon National Park was designated unsuitable by Secretary Andrus, though the parties disputed whether that portion was ten or fifty percent). See also *supra* note 136.

¹⁵⁰ See *supra* note 136. Fall Creek Falls was one-quarter of the area proposed in the NPCA petition.

¹⁵¹ See *Utah Int’l*, 643 F. Supp. at 812 (discussing the background of the case and noting that Secretary Andrus based his unsuitability decision on a “finding that surface coal mining operations would substantially impair public use and enjoyment of Bryce Canyon National Park”). Specifically:

[M]ining in the designated areas would cause significant cumulative impacts on Bryce Canyon National Park by reducing visibility, by creating dust plumes and large disturbed areas which would be visible for long periods of time from the park, and by generating mechanical activity and blasting that would be audible from the park, thereby adversely affecting the value for which the park was established and, thus, the experience of the park’s visitors.

Id. at 812 n.6. See also *Utah Int’l, Inc. v. Dept. of Interior*, 553 F. Supp. 872 (D. Utah 1982) (upholding, in earlier litigation, the unsuitability designation against various procedural and substantive challenges made by Utah International and the State of Utah).

discretion to allow mining on those lands.¹⁵² Most significant for our purposes is section 522(e)(3), which reads as follows:

[S]ubject to valid existing rights no surface coal mining operations, except those which exist on August 3, 1977, shall be permitted . . . which will *adversely affect* any *publicly owned park* . . . unless approved *jointly* by the regulatory authority and the *Federal, State, or local agency with jurisdiction over the park*¹⁵³

As all units of the National Park System are “publicly owned parks,” section 522(e)(3) protects them from unilateral OSM action allowing mining that would yield adverse effects. Moreover, such mining only has to “affect” the park, meaning that it is similarly circumscribed even if conducted outside the park boundaries. In examining the import of section 522(e)(3), it is necessary to explore the meanings of its components, namely: (1) “valid existing rights”; (2) “adversely affect”; and (3) “joint” approval.

a. Valid Existing Rights

Section 522(e)(3) effectively grandfathers coal mines existing in 1977 (when SMCRA was first enacted), allowing existing operations with “valid existing rights” (“VERs”) to trump SMCRA. Neither the statute nor the legislative history precisely defines VERs,¹⁵⁴ however, the legislative history suggests the provision should apply rather narrowly, and that the main import of VERs is to prevent unlawful takings by the state or federal government of mining rights on non-federal lands.¹⁵⁵ By negative implication, it follows that an explicit grant of VERs is required in a deed of title when the land owner starts to mine after the deed was granted.¹⁵⁶

¹⁵² Section 522(e)(3)’s parallel provisions of historic lands are not treated in this Article. However, the same analysis pertinent to preventing adverse effects to public parks would apply to historic lands as well.

¹⁵³ 30 U.S.C. § 1272(e)(3) (2005) (emphases added).

¹⁵⁴ See *Nat’l Wildlife Fed’n v. Hodel*, 839 F.2d 694, 748–50 (D.C. Cir. 1988) (noting that VER concept in section 522(e)(3) is not elaborated on in either the statutory language or legislative history, but upholding the Secretary’s interpretation that continually created valid existing rights were permissible, and that section 522(e)(3) prohibitions could only apply prospectively).

¹⁵⁵ See *id.* at 750 n.86 (noting that the legislative history indicates that “operating mines should not be shut down” and that Congress meant to avoid takings of valid property rights, quoting H.R. REP. NO. 95-218, at 94 (1977), *reprinted in* 1977 U.S.C.C.A.N. 593, 631 (stating that “[t]he designation process is not intended to be used as a process to close existing mine operations, although the area in which such operations are located may be designated with respect to future mines”), and citing *Hodel v. Va. Surface Mining & Reclamation Ass’n*, 452 U.S. 264, 296 n.37 (1981) (rejecting an overly restrictive interpretation of VERs, in an early industry challenge to SMCRA)).

¹⁵⁶ See *Nat’l Wildlife Fed’n*, 839 F.2d at 750–51 (holding that section 522(e) applies prospectively, and mining should be allowed to continue on lands where “a mining operation [has] been lawfully established,” i.e., by its “existence” prior to SMCRA or by “permits

Throughout much of Appalachia, particularly in the New River watershed, there are many unreclaimed, abandoned mines that were shut down when coal became unprofitable in light of the western coal boom and environmental regulations regarding sulfur dioxide.¹⁵⁷ But when there has been no recent mining operation (at least since January 1, 1977, the effective date for SMCRA), it does not appear that there are applicable VERs. Besides a history of actual coal mining in an area, VERs may also be implicated by recent substantial financial and/or legal commitments incurred by a party in reliance on the ability to mine. Even so, the legislative history makes clear that “mere ownership or the acquisition costs of the coal itself or the right to mine” is not sufficient to qualify for the exemption.¹⁵⁸ Thus, VERs pose more of an issue for “remining” operations than for new mines on previously undisturbed land.

b. The “Adversely Affect” Standard

It appears that 522(e)(3) is triggered only if a certain threshold of probable or certain harm is reached (note the “*will* adversely affect” language).¹⁵⁹ Unfortunately, authority is at least as vague as for VERs. Indeed, the legislative history around the time of SMCRA’s passage bemoaned that certain terms were too imprecise, notably “adversely affect.”¹⁶⁰ However, using several different approaches to statutory interpretation, it appears that this threshold is a low hurdle. First, one may simply consult a dictionary.¹⁶¹ *Webster’s Dictionary* defines “adverse” as “acting against or in a contrary direction” or “causing harm”;¹⁶² *Black’s Law Dictionary* similarly defines “adverse” as simply “against,” “opposed to,” or “contrary (to) or in opposition (to).”¹⁶³ Given the less-than-conclusive results of the dictionary approach, it is useful to next consider the term as used elsewhere in SMCRA;

approved for mining” prior to designation as “unsuitable,” and presenting no other scenario for VERs).

¹⁵⁷ There were 120 unreclaimed mining sites within BISO itself prior to its creation. See *infra* note 292.

¹⁵⁸ H.R. REP. NO. 95-218, at 95 (1977), *reprinted in* 1977 U.S.C.C.A.N. 593, 631. See 30 U.S.C. §§ 1260(b)(4), 1272(a)(6) (2005) (exempting operations continuously conducted prior to SMCRA, under a SMCRA permit, or where “substantial legal and financial commitments in such operation were in existence prior to January 4, 1977”); *Nat’l Wildlife Fed’n*, 839 F.2d at 748 (noting that the language, while possibly ambiguous, appears to contemplate a “long-term” focus, based on a “coal contract” or the like and resulting in “capital-intensive” activities and investments) (citing H.R. REP. NO. 95-218, at 95 (1977), *reprinted in* 1977 U.S.C.C.A.N. 593, 631).

¹⁵⁹ 30 U.S.C. § 1272(e)(3) (2005) (emphasis added).

¹⁶⁰ H.R. REP. NO. 95-218, at 193–94 (1977), *reprinted in* 177 U.S.C.C.A.N. 593, 722.

¹⁶¹ See, e.g., *Citizens Coal Council v. Norton*, 330 F.3d 478, 482 (D.C. Cir. 2003) (looking to Webster’s Dictionary for the “plain meaning” of “operations” under SMCRA); *MCI Telecomms. Corp. v. AT&T*, 512 U.S. 218 (1994) (both Justice Scalia’s majority opinion and Justice Stevens’s dissenting opinion make broad use of dictionaries to define the statutory term “modify” as applied to the FCC rules on long-distance rate filing).

¹⁶² MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 16 (10th ed. 1993).

¹⁶³ BLACK’S LAW DICTIONARY (8th ed. 2004).

this comparison suggests that “adverse effect” does not mean a severe effect at all.¹⁶⁴ A third step is to employ canons of statutory interpretation, as established in the federal case law.¹⁶⁵ While there are undoubtedly competing canons in any given case, certain established concepts by the U.S. Supreme Court should bear some weight.¹⁶⁶ Fourth, ambiguous provisions should be read consistently with the intent of Congress, as set forth in the general sections above dealing with the environmental purposes of SMCRA and the pertinent legislative history.¹⁶⁷ Finally, one may compare the term “adversely affect” with its usage in other statutes, particularly in the environmental law field. It turns out that “adversely affect,” or slight variations thereon, is a frequently used term, and when Congress intends to require a greater showing of environmental harm, it tends to place a modifying adjective such as “significantly” in front of “adversely affect,” lacking in section 522(e)(3).¹⁶⁸

¹⁶⁴ Sections 101(c), 101(k), and 522(c) (designation petitions) use the same “adverse” term as 522(e)(3), and imply the term’s broad reach. 30 U.S.C. §§ 1201(c), (k), 1272(c). Additionally, SMCRA §§ 525(c) and 526(c) (setting standards for granting temporary relief against notice or order to cease mining during Secretary and judicial review and investigation thereof) allow mining to temporarily continue pending a final disposition, if “such relief will not adversely affect the health or safety of the public or cause significant imminent environmental harm to land, air, or water resources.” *Id.* §§ 1275(c), 1276(c). The contrast between the “adversely affect” standard applied to the public health and the seemingly stricter “significant, imminent environmental harm” term applied to non-human concerns suggests that while human health impacts may rank above risks to the environment, *see also id.* § 1233 (similarly prioritizing public health, safety, and welfare), the term “adversely affect” entails a lower threshold showing, and thus also would mean a similarly low threshold when used in the pure environmental context of 522(e)(3). *Cf.* *Defenders of Wildlife v. Norton*, 239 F. Supp. 2d 9, 19 (D.D.C. 2002) (noting by contrast that “significant” is defined in Webster’s Dictionary as “a noticeably or measurably large amount”), discussed *infra* note 221; SMCRA § 401(c)(7), 30 U.S.C. § 1241(c)(7) (implying that “adverse” is not synonymous with “emergency”).

¹⁶⁵ “Congress is presumed to act with knowledge of the basic rules of statutory construction.” *Haynes v. Shoney’s, Inc.*, 803 F. Supp. 393, 396 (N.D. Fla. 1992) (citing *McNary v. Haitian Refugee Center, Inc.*, 498 U.S. 499 (1991)).

¹⁶⁶ For example, there is a command to a court not to read the law to make a section superfluous within a statute. *See United States v. Menasche*, 348 U.S. 528 (1955). Further, and perhaps more importantly, if language is found in one section of a statute but not in another, Congress likely intended a distinction between the standards employed in the two differing sections. *See Russello v. United States*, 464 U.S. 16, 22 (1983). *See also Env’tl. Def. Fund v. Costle*, 631 F.2d 922, 934–35 (D.C. Cir. 1980) (considering, but not espousing, the related yet not logically necessary concept that “in the absence of contrary evidence,” “adversely affected” has the same meaning in two places of Federal Insecticide, Fungicide and Rodenticide Act (“FIFRA”) since the same term is used in both places); *Arizona Cattle Growers’ Ass’n v. U.S. Fish and Wildlife*, 273 F.3d 1229, 1239 (9th Cir. 1991) (holding similarly that “taking” is identical in meaning and application in the ESA §§ 7 and 9).

¹⁶⁷ *See, e.g.*, the broad environmental purposes stated in H.R. REP. No. 95-218, at 100 (1977), reprinted in 1977 U.S.C.C.A.N. 593, 633–34, and SMCRA § 101(c), 30 U.S.C. § 1201(c).

¹⁶⁸ *See, e.g.*, Alaska National Interest Lands Conservation Act, 16 U.S.C. § 3142(d), (f) (2005) (passed only three years after SMCRA, using a “*significantly* adversely affect” standard as to fish and wildlife and general environmental effects of oil and gas exploratory activities) (emphasis added); FIFRA, 7 U.S.C. § 136(bb) (2005) (referring to “*unreasonable* adverse effects on the environment,” and defining the term more narrowly) (emphasis

At the end of this interpretive exercise, the unfortunate result is that there is still no clear answer. However, the various interpretive techniques and materials suggest that a broad inclusive reading of the term is appropriate, particularly due to the absence of modifiers to “adversely affect” that would limit its applicability to the most severe threatened harms. Furthermore, given the broad protections afforded to National Parks by other environmental laws (discussed throughout this Article), as well as the documented environmental harms from unregulated mining,¹⁶⁹ one must strain to envision Congress undermining its comprehensive regime by exempting most mining operations affecting public parks from the protective provisions of 522(e)(3).

c. Joint Agency Approval

The main consequence of triggering the provision is that the land management agency responsible for the particular public park (whether federal, state, or local) can invoke its authority alongside the permitting agency, before the permit is issued. That is, section 522(e)(3) potentially expands the jurisdiction of an agency like NPS far beyond its own organic act or a specific authorizing statute, and makes it an equal partner in mine permitting. The basic idea is that this added process ensures more communication among agencies and reconciles economic and environmental concerns so that one does not trump the other outright; these process values may be particularly valuable in the long run, as the agencies are repeat players and may adjust their internal culture accordingly.¹⁷⁰

This is not meant to imply that 522(e)(3) settles the issue of coal mining around public parks; indeed, as with everything examined thus far, there are several important limitations on its effectiveness. First, like NEPA, the provision is ultimately procedural; only joint agency approval is required, and if most people in government and industry *really* want a project to

added); Columbia River Gorge National Scenic Area authorization statute, 16 U.S.C. § 544(a) (using “adversely affect,” and defining it in the statute as a “reasonable likelihood of more than moderate adverse consequences for the scenic, cultural, recreation, or natural resources of the scenic area,” based on a multifactor test considering the context of the proposed action, suggested intensity, cumulatively significant impacts, and proven mitigation measures); Clean Air Act Hazardous Air Pollutants (“HAPs”), 42 U.S.C. § 7412(a)(7) (2005) (defining “adverse environmental effects” more narrowly for HAPs, as “any significant and widespread adverse effect, which may reasonably be anticipated . . .”); *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 U.S. 687, 706 (1995) (holding that the fact that the legislature deleted a provision that defined “take” in the ESA to include habitat modification does not undermine the Interior Secretary’s regulation adding the “limiting adjective ‘significant’” to the level of habitat modification or degradation, coupled with actual injury, required to prove a taking).

¹⁶⁹ SQUILLACE, *supra* note 17, at 10–11, 28–35.

¹⁷⁰ See *Wyatt v. United States*, 271 F.3d 1090 (Fed. Cir. 2001). In this Tennessee mining case, dealing with land adjacent to a *state* park, OSM found an adverse effect on scenic and solitude values of the park through excessive noise and hydrological consequences of mining and surface water discharges, thus requiring dual state approval.

happen, such approval can usually be exacted and the project will happen. Second, there is not much case law on the reach of 522(e)(3), particularly stretching off-site to activities conducted on private land that affect public parks.¹⁷¹ Third, OSM regulations state that the failure of a land management agency, particularly NPS or FWS, to reply in thirty days constitutes approval, and OSM can move forward with the permit.¹⁷² This is a potentially huge loophole in the application of 522(e)(3); thirty days may not allow NPS sufficient time to examine the issue or, alternatively, it may allow NPS to effectively allow a project without incurring the political costs of facing the opposition from environmentalists and adversely affected local populations.

However, 522(e)(3) can be a potentially powerful tool, and has been employed successfully in the past, even in Appalachia.¹⁷³ Though it is underutilized today, it may prove to be effective in the long run in forcing more agency cooperation in joint permitting of mining impacting public parks. Indeed, the provision perfectly illustrates the cooperative approach envisioned by Congress, forcing agencies with different primary missions (OSM supervises mining activities while NPS protects public parks) to work together. Such an approach ensures these laws are administered in an interconnected, consistent manner that protects both environmental and economic values.

5. SMCRA and Mountaintop Removal Operations

By far the most invasive form of surface mining, moving the greatest amount of earth and with the farthest-reaching impacts, mountaintop removal operations pose a special threat to nearby protected areas such as National Parks. In contrast to traditional methods like contour mining, which proceed around the edges of a mountain, mountaintop removal entails literally blasting the tops off mountains in order to directly access the coal seams lying underneath.¹⁷⁴ In most states, the required reclamation after mining involves the creation of valley fills, where the excess spoil is pushed over the side of the mountain and graded so as to be more stable.¹⁷⁵ As judicially recognized, such fills may destroy valley streams and adversely affect wild-

¹⁷¹ *But see id.* It is unclear whether this lack of case law reflects inaction by plaintiffs or inattention or rejection by courts.

¹⁷² 64 Fed. Reg. 70,766, 70,836 (Dec. 17, 1999) (codified at 30 C.F.R. § 761.17(d)). For background and authority, see *In re: Permanent Surface Mining Regulation Litigation*, 620 F. Supp. 1519, 1556 (D.D.C. 1985) (finding that “the Act accords the Secretary the flexibility to determine by regulation how [joint] approval is to be indicated in [522(e)(3)] cases”). However, the case adds that the time period runs from the granting of “actual notice” to the (non-permitting) land management agency and “includes an extension provision.” *Id.*

¹⁷³ *See, e.g., Wyatt*, 271 F.3d 1090.

¹⁷⁴ *See SQUILLACE, supra* note 17, at 25–26.

¹⁷⁵ *Id.*

life dependent on those streams; in addition, landslides can and do occur.¹⁷⁶ In Tennessee, however, valley fills are not permitted;¹⁷⁷ the alternative is analogous but regulated head-of-hollow fills, or “cross-ridge” mining where the spoil is replaced at the top of the mountain, in an attempt to approximate its original contour. A common analogy is sprinkling the crumbled top half of an Oreo cookie back atop the intact lower half after removing the cream filling (the coal); the instability issues are immediately evident.

Mountaintop removal has been controversial throughout its short existence. Indeed, in the passage of SMCRA, two of the most divisive issues were whether to allow mountaintop removal and the lands unsuitable provisions described above. Rather than allow the mountaintop removal debate to completely derail the passage of SMCRA, part of the compromise was to allow such operations, but to place significant procedural and substantive restrictions on them.¹⁷⁸ However, this compromise means that SMCRA and its legislative history specifically envision that some mountaintop removal will occur, and thus that some damage to surrounding areas is inevitable yet acceptable. Those seeking to prevent or circumscribe mountaintop removal operations hence must dig deeper to show that despite SMCRA’s general sanction of the practice, any “adverse effects” still warrant case-by-case agency intervention.

Section 515(c) of SMCRA deals expressly with mountaintop removal and prescribes additional regulations that apply on top of SMCRA’s other provisions.¹⁷⁹ At first reading, it appears that if the proper process is fol-

¹⁷⁶ See *Bragg v. Robertson*, 72 F. Supp. 2d 642, 661–62 (S.D. W. Va., 1999). Judge Haden granted an injunction against state permitting of mountaintop removal: “When valley fills are permitted in intermittent and perennial streams, they destroy those stream segments. The normal flow and gradient of the stream is now buried under millions of cubic yards of excess spoil waste material, an extremely adverse effect. If there are fish, they cannot migrate. If there is any life form that cannot acclimate to life deep in a rubble pile, it is eliminated. No effect on related environmental values is more adverse than obliteration. Under a valley fill, the water quantity of the stream becomes zero. Because there is no stream, there is no water quality.” Judge Haden’s opinion was vacated by *Bragg v. W. Va. Coal Ass’n*, 248 F.3d 275, 286 (4th Cir. 2001) (holding in part that Eleventh Amendment immunity precluded citizen suit in federal court when a state ran its own exclusive SMCRA program as West Virginia does (but Tennessee does not), yet still conceding that “[m]any valley fills bury intermittent and perennial streams and drainage areas that are near the mountaintop . . .” and also that “[t]he disruption to the immediate environment created by mountaintop mining is considerable . . .”). While largely no longer good law, Judge Haden’s opinion shows judicial recognition of the adverse effects of valley fills, and may still apply in a federal program state where Eleventh Amendment immunity does not apply.

¹⁷⁷ Rules of the TDEC, Division of Surface Mining, Backfilling and Grading, TENN. COMP. R. & REGS. 0400-3-7-.03 (2005) (providing, among other things, that under the buffer zone rule, “no mining, placement of spoil, or associated activity will be permitted within [100] feet horizontal distance of any stream”; water discharge permits are necessary “if the quality of the water is or may be altered in any way” by runoff or discharges; and reclamation of the site is required after mining, including removal of large rocks and boulders.

¹⁷⁸ Interview with Don Barger Director, NPCA Southeast Regional Office (Sept. 21, 2004).

¹⁷⁹ SMCRA § 515(c), 30 U.S.C. § 1265(c) (2005). See also Special Permanent Program Performance Standards—Mountaintop Removal, 30 C.F.R. §§ 824.1, 824.2, 824.11 (2005).

lowed, it may be difficult to stop mountaintop removal operations. Furthermore, the required level of reclamation may not be that high, as only “disturbed” areas need to be reclaimed, rather than the broader standard of “affected” areas.¹⁸⁰ But as the compromise suggests, SMCRA may very well be concerned with the off-site effects of mountaintop removal. For example, section 515(c)(2) treats mountaintop removal as an *exception* to the “approximate original contour” (“AOC”) requirement for OSM permitting, given that strict application would basically prohibit the technique (i.e., the mountain will not look even “approximately” the same after mining no matter the level of reclamation).¹⁸¹ However, in return, SMCRA does not allow such operations unless, among other things, “no damage will be done to natural watercourses”;¹⁸² such concerns appear to include the off-site, downstream segments as well.¹⁸³ Another provision, section 515(c)(3) (C) once again provides that mountaintop removal must be “consistent with adjacent land uses, and existing State and local land use plans and programs.”¹⁸⁴ Thus, if protected federal, state, or local lands are present in the area, then yet another level of inquiry is imposed on the pending permit. Finally, there is to be no conflict with the ESA (or any other law pertaining to species protection) in selecting and permitting alternate post-mining uses.¹⁸⁵ All of these provisions suggest that while some mountaintop removal may occur, the interconnectivity of environmental laws prescribes where and how such operations may go forward, at least through additional required processes.

¹⁸⁰ See OSM Permanent Program Performance Standards—Surface Mining Activities, Postmining Land Use, 30 C.F.R. § 816.133(a) (“All *disturbed* areas shall be restored in a timely manner. . . .”) (emphasis added). For some background on this evolving language, see also 47 Fed. Reg. 16,152, 16,152–60 (Apr. 14, 1982); 48 Fed. Reg. 14,814, 14,820–21 (Apr. 5, 1983).

¹⁸¹ 30 U.S.C. § 1265(c)(2).

¹⁸² *Id.* § 1265(c)(4)(D).

¹⁸³ See Reclamation Plan Requirements, SMCRA § 508(a)(13), 30 U.S.C. § 1258(a)(13) (requiring a “detailed description of the measures taken during the mining and reclamation process to assure the protection of” the quality and quantity of surface and groundwater, “*both on- and off-site*”) (emphasis added); 30 C.F.R. § 816.133(d)(6) (requiring in part, in order to avoid the AOC requirement, that “the *watershed* of the permit and *adjacent* areas is shown to be improved”) (emphases added).

¹⁸⁴ 30 U.S.C. § 1265(c)(3)(C). See also 30 C.F.R. § 816.133(d)(10) (enabling “Federal, State, and local government agencies with an interest in the proposed [postmining] land use [to] have an adequate period in which to review and comment on the proposed use”).

¹⁸⁵ See OSM Permanent Program Performance Standards—Surface Mining Activities, Protection of fish, wildlife, and related environmental values, 30 C.F.R. § 816.97 (2005); 48 Fed. Reg. 30,312, 30,320 (June 30, 1983) (codified at 30 C.F.R. §§ 816–817) (stating that “in reconciling” SMCRA with the ESA and state endangered species laws, “these other acts take precedence over the requirements of the SMCRA”).

D. Additional Protections at the State Level: Outstanding Natural Resource Waters in Tennessee

Federal law does not provide the only protections for special lands and waters. State laws supplement federal environmental laws and often may even offer additional protections. While state laws proved incapable of adequately addressing environmental issues as an exclusive mechanism, hence warranting the enactment of federal environmental laws in the first place,¹⁸⁶ states continue to play a key role in implementing and enforcing the federal regime,¹⁸⁷ as they tend to be most familiar with the areas to be protected within their borders.¹⁸⁸ In addition, through the creation and administration of state parks, wildlife refuges, and other protected areas, states may designate other lands off-limits to certain development activities.

As seen above, SMCRA contemplates state cooperation with OSM in implementation and enforcement of the statute.¹⁸⁹ Many states, such as Kentucky, take advantage of these provisions and administer their own programs for surface coal mining with the continued blessing of OSM.¹⁹⁰ Other states, however, do not have their own programs, and instead are governed directly by OSM under its federal program. One pertinent example for the purposes of this discussion is Tennessee, an outlier within the major coal mining states in that it does not run its own program. As such, Tennessee is subject to guidelines promulgated by OSM under SMCRA and is not free, among other things, to make its own mining permit decisions.¹⁹¹

Nevertheless, Tennessee and other federal program states are not powerless under SMCRA. While controlling, SMCRA does not bar stricter state policies regarding the environmental effects of mining.¹⁹² That is, even under a federal program, states may preserve their current laws and pass new laws offering stronger environmental protections, as long as such

¹⁸⁶ See generally Robert V. Percival, *The Political Origins of Modern Environmental Law: Environmental Legislation and the Problem of Collective Action*, 9 DUKE ENV. L. & POL'Y F. 9 (1998); ROBERT V. PERCIVAL, ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY, 85-95 (4th ed. 2003).

¹⁸⁷ See *Bragg v. W. Va. Coal Ass'n*, 248 F.3d 275, 288-89 (4th Cir. 2001) (speaking of SMCRA as a statute embodying "a 'cooperative federalism,' in which responsibility for the regulation of surface coal mining in the United States is shared between the U.S. Secretary of the Interior and State regulatory authorities").

¹⁸⁸ The fascinating topics of federalism and preemption in environmental law are largely beyond the scope of this Article. The recent Supreme Court case *Engine Manufacturers Ass'n v. South Coast Air Quality Management District*, 541 U.S. 246 (2004), discusses these issues nicely in the Clean Air Act context.

¹⁸⁹ See *supra* note 121.

¹⁹⁰ 30 C.F.R. § 917.10.

¹⁹¹ 30 C.F.R. § 942.700.

¹⁹² Even in approved state programs, federal law still imposes "minimum procedures and standards" for such tasks as designating (and terminating designations on) non-federal lands in a state as unsuitable for all or certain types of surface coal mining operations. See 30 C.F.R. § 764.1.

laws are not inconsistent with SMCRA and neither OSM nor Congress provides otherwise by Federal Register notice or statute, respectively.¹⁹³

A part of one such stricter state program is the Tennessee Antidegradation Statement (hereinafter “Statement”).¹⁹⁴ The primary purpose of the Statement is to establish greater protection for high quality waters, due to their near-pristine condition, specialized uses, or otherwise unique features. The Tennessee Water Quality Act (“TWQCA”) vests, subject to oversight and supplemental authority of the Tennessee Department of Environment and Conservation (“TDEC”) Commissioner, most practical authority in the Water Quality Control Board to classify intrastate waters and administer or even modify the antidegradation policy.¹⁹⁵ In Tennessee, protected rivers are separated into three classes, with Tiers II and III designated as “high-quality surface waters.”¹⁹⁶ General water quality criteria for management of such rivers (the focus here is on surface waters) are then selected and assigned, according to the rivers’ primary intended uses;¹⁹⁷ for instance, the primary intended uses for the Big South Fork are recreation and fish and aquatic life.¹⁹⁸ The greatest protection is afforded Tier III waters, labeled “Outstanding Natural Resource Waters” (“ONRWs”);¹⁹⁹ this category includes the portions of the Big South Fork included within the NRRRA.²⁰⁰

The substantive protections afforded to ONRWs under Tennessee law are far-reaching. The basic rule is that new water pollutant discharges or

¹⁹³ 30 C.F.R. § 736.23. *See also supra* note 121.

¹⁹⁴ Tennessee Antidegradation Statement, TENN. COMP. R. & REGS 1200-4-3-.06 (2004), available at <http://www.state.tn.us/sos/rules/1200/1200-04/1200-04-03.pdf> (the following discussion pulls directly from this brief Statement). The federal Clean Water Act requires such a policy in each state. 33 U.S.C. § 1313(d) (2005) and EPA Water Quality Standards, 40 C.F.R. § 131.12 (2005). Kentucky has a similar policy to Tennessee for ONRWs (and Outstanding State Resource Waters), *see* Kentucky Department for Environmental Protection, Division of Water, Water Quality, 401 Ky. Admin. Regs. 5:029 § 1, 5:030 § 1(2), and 5:031 § 7 and for wild rivers, *see* Wild Rivers Change of Use Permit Standards, Water Quality, 401 Ky. Admin. Regs. 4:140 § 4 (2005).

In accordance with the nondegradation provision for outstanding resource waters [in Chapter 5:029 above] . . . [a]ny new discharge of a substance or combination of substances into a surface water within a wild river corridor shall maintain or enhance background water quality in the receiving stream . . . [and water withdrawals] shall not be allowed to impair existing recreational or fish and wildlife uses of the river, nor adversely impact endangered or threatened species.

Id. The Kentucky Administrative Regulations are available at <http://www.lrc.ky.gov/kar/titles.htm>.

¹⁹⁵ TENN. CODE ANN. § 69-3-105(a)(1)-(2)(b)(1) (2004). *See generally*, Van Laack, *supra* note 63, at 895–99 (discussing TWQCA Program).

¹⁹⁶ *See* TENN. COMP. R. & REGS. 1000-4-3-.06(1)–(2).

¹⁹⁷ *See* TENN. COMP. R. & REGS. 1000-4-3-.02–.05.

¹⁹⁸ *See* AreaParks.com, Big South Fork National River & Recreation Area Information, <http://bigsouthfork.areaparks.com/parkinfo.html?pid=918> (last visited Apr. 8, 2006) (on file with the Harvard Environmental Law Review).

¹⁹⁹ *See* TENN. COMP. R. & REGS. 1200-4-3-.06(2).

²⁰⁰ TENN. COMP. R. & REGS. 1200-4-3-.06(4)(e).

expansions of existing discharges, as well as physical alterations to any discharging source, cannot result in “degradation” of existing water quality.²⁰¹ “Degradation” is broadly defined as the “alteration of the properties of waters by the addition of pollutants or removal of habitat.”²⁰² Much like the “adversely affect” language in SMCRA’s section 522(e)(3) analyzed above, “alteration of the properties of waters” appears to be a very low threshold. Indeed, one may argue that an “alteration” may even be a lower hurdle than “adversely affect,” as the former bars any modification of the high-quality water at all, whether or not it is shown to be adverse. The statute is not completely inflexible, allowing a “de minimis” exception where a new or modified discharge results in less than a five percent loss of “assimilative capacity” for the river.²⁰³ But as even five percent seems significant, the statute qualifies that the exception does not apply in a river that has already lost more than fifty percent of its assimilative capacity.²⁰⁴

A broad protective agenda under Tennessee law is also indicated by the varied water bodies that may qualify for ONRW status. While not providing many specifics, the Statement’s language stresses that ONRWs are to include habitat for ecologically significant populations of aquatic animals, including listed species under the federal ESA; water bodies affording special recreational opportunities; and waters with high scenic or geologic values.²⁰⁵ Waters in National Parks and waters of “exceptional recreational or ecological significance” may also be proposed as ONRWs.²⁰⁶ Thus, while such waters may already receive some federal protection, the state provides a supplemental layer of protection in order to preserve a wide array of values competing with development interests.²⁰⁷

One may ask how this additional layer of state regulations plays into the interconnectivity theme, and whether it offers more protection against upstream threats to downstream protected areas, especially when such discharges may occur in tributaries that are not themselves designated ONRWs.²⁰⁸ On one hand, one may doubt the effectiveness of additional state controls, given the pervasive influence of controlling federal provisions (particularly in a SMCRA federal program state like Tennessee). Indeed, a number of ONRWs, even after designation, may not meet their assigned water quality standards, due to either the lingering effects of past pollu-

²⁰¹ TENN. COMP. R. & REGS. 1200-4-3-.06(4).

²⁰² TENN. COMP. R. & REGS. 1200-4-3-.04.

²⁰³ *Id.*

²⁰⁴ *Id.*

²⁰⁵ TENN. COMP. R. & REGS. 1200-4-3-.06(2).

²⁰⁶ TENN. COMP. R. & REGS. 1200-4-3-.06(4).

²⁰⁷ See van Laack, *supra* note 63, at 897 (comparing promise of Tennessee law favorably versus WSRA in protecting intrastate waters).

²⁰⁸ See *id.* at 898 (noting that the antidegradation standards in Tennessee “become more difficult to apply as . . . projects . . . move upstream (or downstream) of [a protected river] rather than directly on it”).

tion, external threats beyond state control, or the sceptre of subsequent federal preemption.²⁰⁹

On the other hand, both geographic and legal interconnectivity may be strongly implicated here. As noted above, the broad definitions of ONRWs and degradation suggest widespread protection. While certain upstream tributaries may not be subject to the exact same strictures as the actually designated portions downstream, if “alteration” of the protected waters downstream would occur following discharges upstream, then the hydrological connection bars those as well. Further, ONRWs are set aside as special to an even greater degree than Tier II waters, which while “high-quality,” may be subject to more mixed uses.²¹⁰

Still other provisions of the Statement explicitly recognize upstream concerns. First, at the permit renewal stage, “previously authorized discharges, *including upstream discharges*, which *presently degrade* [Tier II water or ONRW], will be subject to alternatives analysis.”²¹¹ The policy thus, in addition to explicitly using “upstream” language, contemplates periodic reevaluation of authorized discharge decisions, and some permits may conceivably not be renewed. Second, there must be public participation “in conjunction” with the permitting and ONRW designation processes, allowing impacted people to have their objections heard before permits are issued.²¹² Third, ONRW designation decisions should involve participation from other federal, state, and local agencies with responsibility for land and water resource management “within the [same] watershed.”²¹³ Thus, interested federal agencies such as NPS can work with Tennessee and OSM (who administers Tennessee’s SMCRA program) in deciding whether or not to protect a particular stretch of river as an ONRW. By using “watershed,” the provision also recognizes the geographic interconnectivity of upstream and downstream systems, potentially enabling NPS involvement even regarding an unprotected upstream tributary of a protected downstream river.²¹⁴

E. The Endangered Species Act

Perhaps the most powerful substantive hammer of the available environmental statutory tools in addressing external threats to protected areas

²⁰⁹ See, e.g., SQUILLACE, *supra* note 17, at 10–11, 28–35; *supra* notes 121, 192.

²¹⁰ See van Laack, *supra* note 63, at 897–99 (highlighting Tier II waters’ vibrant but lesser protections, and its use of an unclear “reasonableness”-type standard in lieu of non-balancing, “ministerial” approach to ONRWs).

²¹¹ TENN. COMP. R. & REGS. 1200-4-3-.06(3)(a), (4) (emphasis added).

²¹² TENN. COMP. R. & REGS. 1200-4-3-.06(1), (3)(a), (4).

²¹³ TENN. COMP. R. & REGS. 1200-4-3-.06(4).

²¹⁴ See van Laack, *supra* note 63, at 899 n.164 (citing informal decision by Tennessee suggesting that Tier II tributary upstream of an ONRW would effectively be treated as an ONRW itself, hence subject to the “more certain (and much tougher) Tier III antidegradation standard”).

is the federal Endangered Species Act (“ESA”).²¹⁵ The main goal of the ESA is the preservation of species that have become scarce or face imminent extinction. Per the legislative history of the ESA, Congress recognized that, even more than hunting, the “greatest threat [to endangered species] was destruction of natural habitats.”²¹⁶ Hence, in commanding that “all Federal departments and agencies shall seek to conserve endangered and threatened species, and shall utilize their authorities in furtherance of the purposes of [the ESA],”²¹⁷ Congress envisioned protection not only of individuals or populations of species, but also of their indigenous habitat.²¹⁸

Even OSM regulations concede that the ESA “take[s] precedence over the requirements of the SMCRA.”²¹⁹ Before exploring this broader theme, however, it is helpful to look at some of the more pertinent ESA provisions and case law for protecting against external threats. The basic point made in this Section is that the presence of endangered or threatened species in or near a protected area provides a powerful hook to invoke the strict protective provisions of the ESA. This hook is not a clever legal tactic, but reflects Congress’s intent to elevate biodiversity concerns above competing economic interests so that they play a part in agency actions, such as preparing an EIS, building a road, or permitting a coal mine.

1. Pertinent ESA Provisions

The ESA is administered by the Fish and Wildlife Service (“FWS”), located within the Department of the Interior.²²⁰ (This makes FWS a sis-

²¹⁵ 16 U.S.C. §§ 1531–1544 (2005). It should be noted that, as in the NEPA context above, at the time of this writing there have been proposals (but only in the U.S. Senate) to reform the ESA, particularly in regards to its “critical habitat” provisions. However, because the final product of such reforms is uncertain, and because the basic import of any revised ESA will likely not change drastically, the points made in this Section also likely will remain valid going forward.

²¹⁶ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 179 (1978) (citing and discussing the various testimonies given in the 1973 House hearings on the proposed ESA by government officials and environmental groups, supporting a focus on preserving habitat).

²¹⁷ 16 U.S.C. § 1531(c)(1).

²¹⁸ In light of the previous Section on the continuing importance of state laws, states may promulgate their own endangered species laws consistent with the federal regime in order to protect threatened or endangered local species not listed under the federal ESA. *See id.* § 1535.

²¹⁹ 48 Fed. Reg. 30,312, 30,320 (June 30, 1983).

²²⁰ National Oceanic & Atmospheric Administration (“NOAA”) Fisheries, separately located in the Department of Commerce, administers the ESA for certain classes of species as well. FWS has jurisdiction for the mussel species found in BISO. *See* U.S. FISH & WILDLIFE SERVICE, PERMITS FOR NATIVE SPECIES UNDER THE ENDANGERED SPECIES ACT 3 (2006), <http://www.fws.gov/endangered/permits/permits.pdf> (explaining respective permitting responsibilities) (on file with the Harvard Environmental Law Review); NOAA Fisheries, Office of Protected Resources, Species Protected Under the Endangered Species Act (Apr. 10, 2006), <http://www.nmfs.noaa.gov/pr/species/esa.htm> (listing the sixty-two species over which NOAA Fisheries, rather than FWS, has jurisdiction) (on file with the Harvard Environmental Law Review). For purposes of this Article, references to FWS include NOAA Fisheries when that agency would have jurisdiction over a particular species.

ter agency of OSM, and their relationship can be akin to a sibling rivalry, much like that between NPS and OSM.) Section 4, the listing provision, is the touchstone of the ESA; a species is not afforded ESA protection unless it is listed.²²¹ The ESA also mandates the listing of any “critical habitat” associated with a listed species, which itself receives protection.²²² However, persons trying to invoke the ESA to halt a project and finding no listed species in the area have at least the legal option to petition FWS to list a new species and habitat.

Section 7, widely cited as the “no jeopardy” provision, binds the actions of the federal government, including licensing and permitting decisions.²²³ Section 7(a)(1) requires all federal agencies to use their authority in furtherance of the ESA by carrying out programs for the conservation of endangered species. This provision has not been used very often in litigation to date, but it does stress the necessary cooperation and interconnected approach by all agencies.²²⁴ Furthermore, “conservation” is not merely maintaining the status quo, but rather resuscitating populations so that ESA protection becomes unnecessary; hence, recovery plans must be promulgated for each of its listed species.²²⁵ The more oft-cited section 7(a)(2)

²²¹ 16 U.S.C. § 1533. A species must be listed as endangered if it “is in danger of extinction throughout all or a significant portion of its range.” 16 U.S.C. § 1532(6). “Significant portion of its range” refers to “major geographical areas in which it is no longer viable but once was,” regardless of state or park boundaries. *See Defenders of Wildlife v. Norton*, 239 F. Supp. 2d 9, 19 (D.D.C. 2002) (finding the destruction of three of four main lynx regions to be significant), *vacated in part by Defenders of Wildlife v. Norton*, No. 03-5055, 2004 WL 438590 (D.C. Cir. Mar. 3, 2004) (pursuant to parties’ agreement to vacatur and remand to the district court).

²²² Yet only about thirty-six percent of listed species have listed critical habitat, thanks to FWS’s historical ambivalence, economic costs (which may be considered), and budget shortfalls. *See FWS Final Rule*, 69 Fed. Reg. 68,568, 68,568–69 (Nov. 24, 2004) (codified at 50 C.F.R. § 17) (reluctantly designating critical habitat for the California Tiger Salamander, admitting that only 445 of the 1244 FWS-listed species had critical habitat as of 2004, and baldly stating that “[w]hile attention to and protection of habitat is paramount to successful conservation actions, we have consistently found that, in most circumstances, the designation of critical habitat is of little additional value for most listed species, yet it consumes large amounts of conservation resources”). Similarly, the budgets of cooperating agencies which could aid in species protection have also declined in recent years; for example, NPS’s budget may fall at least \$600 million short of the level needed to administer its lands and waters. *See National Parks Conservation Association, Americans for National Parks, Campaign Missions and Goals*, http://www.npca.org/across_the_nation/americansfor_nationalparks/about/default.asp (last visited Apr. 8, 2006) (on file with the Harvard Environmental Law Review); Morgan Simmons, *Citizens Group Ready to Help Big South Fork*, KNOXNEWS (Mar. 29, 2004), http://www.ktsaf.org/News/General_News_2004/KnoxNews/Citizens%20Group%20ready%20to%20help%20Big%20South%20Fork%203_29_04.htm (on file with the Harvard Environmental Law Review).

²²³ 16 U.S.C. § 1536.

²²⁴ *See, e.g., Sierra Club v. Glickman*, 156 F.3d 606 (5th Cir. 1988) (holding in part that section 7(a)(1) imposes much more specific and particular affirmative duties of conservation on federal agencies, but also noting that the ESA does not independently supply agency discretion to consider species effects when the agency lacks discretion in administering its duties).

²²⁵ 16 U.S.C. § 1533(f) (unless the Secretary “finds that such a plan will not promote the conservation of the species”). Yet a similarly low level of follow-through has been

states that federal agencies must consult with FWS when their actions may implicate endangered species. Substantively, “agency actions” must be “not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat.”²²⁶ Procedurally, all federal agencies must assess the effects of their actions where such species may be present; much like in the NEPA context, these considerations must include both direct and indirect species effects. If an action “may affect” a protected species or habitat, the acting agency must enter into a consultation with FWS, who then issues a Biological Opinion or finds the action likely to jeopardize the species.²²⁷ Federal “agency actions” triggering the ESA are also broadly defined, and explicitly include authorizing permits. Section 7(a)(2) thus further highlights Congress’s interconnected approach in having the agencies work together to accomplish the aims of the statute.²²⁸

Finally, section 9 prohibits the “taking” of endangered or threatened species, and applies to “any person,” private or public.²²⁹ “Taking” means the same thing in both sections 7 and 9: to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt [to do so]”²³⁰ The most contentious definitional term in takings litigation has been “harm.” FWS regulations have since defined “harm” as “an act which actually kills or injures wildlife. [It] may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”²³¹ Establishing harm is not an easy task, given the required showing of “actual” harm, either present or imminent. It is of course un-

achieved with recovery plans as with critical habitat, while their legal enforceability is also unclear. See Eric Biber, Comment, *The Application of the Endangered Species Act to the Protection of Freshwater Mussels: A Case Study*, 32 ENVTL. L. 91, 136 (2002) (finding that while most species have recovery plans, only 2.5% of listed freshwater mussel species, and only 23% of all FWS-listed species, have achieved more than 25% of their respective plan objectives); Mary Christina Wood, *Reclaiming the Natural Rivers: The Endangered Species Act as Applied to Endangered River Ecosystems*, 40 ARIZ. L. REV. 197, 232 (1998) (noting that “[t]o be effective at all, the plans must have an implementation mechanism, and yet courts have refrained from holding that recovery plans are binding regulations”).

²²⁶ 16 U.S.C. § 1536(a)(2).

²²⁷ *Id.* § 1536(b)–(c).

²²⁸ See Eric Hudson, *The National Park Service Organic Act and Section 7(a)(1) of the Endangered Species Act: Prioritizing Recreation and Endangered Species Preservation in the National Parks*, 22 VT. L. REV. 953, 961 (1997) (noting: “[e]ssentially, section 7(a)(2) consultation requires that agency actions will not adversely affect endangered or threatened species or their habitat”). Yet, the success of the consultation process remains another matter. Of the 1,869 section 7(a)(2) consultations performed between 1982 and 1991, only 181 found possible jeopardy, and only 23 found the lack of “reasonable and prudent alternatives” sufficient to stop the project. *Id.* at 961 n.63 (nonetheless suggesting that “[s]till, Section 7 is better known for the handful of projects it has stopped than for the hundreds it has allowed to go forward”).

²²⁹ 16 U.S.C. § 1538. “Person” defined at 16 U.S.C. § 1532(13).

²³⁰ *Id.* § 1532(19) (emphasis added).

²³¹ 50 C.F.R. § 17.3 (2005).

necessary to wait for the species to be killed to seek its protection, but there must be a “reasonably certain imminent threat” to the species, more than just a “potential” danger.²³² Nevertheless, with proper causation data, harm could be shown by scientific studies projecting the future and “take” could be expressed simply in terms of alteration of habitat characteristics (e.g., sediment loads); again, the metric must be more specific than “ecological improvement.”²³³ Alternatively, the less often used parallel term “harass” is defined as “an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering.”²³⁴ Hence, it may be the case that “harass” may be best used for future threats, while “harm” may be more useful for past or present injuries.²³⁵ In any case, the section 9 “take” provisions, while posing some hurdles, clearly allow the halting of a project in the interest of saving a species before it is too late.

Thus far, it has been suggested that the structure of the ESA offers several far-reaching protections for a protected area when species concerns may be involved. No one provision offers absolute protection. Section 7 may prove more limited than section 9 in practice because it only applies to the federal government; allows adverse effects on species that do not rise to the level of “jeopardy” or “modifications” of critical habitat; and pro-

²³² See 16 U.S.C. § 1540(g) (ESA citizen suit provision); *Coho Salmon v. Pacific Lumber Co.*, 61 F. Supp. 2d 1001, 1006–07, 1012–13 (N.D. Cal. 1999) (holding that ESA citizen suit provision allows citizen plaintiffs to enjoin private activities that are “reasonably certain” to “imminent[ly]” harm protected species, and further that plaintiffs need not “conclusively establish” such harm at summary judgment stage of litigation) (citing *Forest Conservation Council v. Rosboro Lumber Co.*, 50 F.3d 781, 784, 788 (9th Cir. 1995) (“effectuat[ing] the clear intent of Congress,” finding claim against proposed clear-cutting of timber actionable as to its effects on pair of spotted owls, despite no showing of current or past injury, given the “reasonably certain” injury to the owls’ habitat and the imminent logging plans suggested by the already-built access road)).

While the “harm” inquiry must inevitably proceed somewhat on a case-by-case basis, it is possible to create a “checklist” of elements of proof weighing toward either a finding of “prohibited takings” or “no prohibited takings” (useful in bringing a protective action under the ESA or defending against one, respectively). See Ray Vaughan, *Proof of “Prohibited Takings” Under the Endangered Species Act*, 27 AM. JUR. PROOF OF FACTS 3d 421, §§ 9–10 (1994).

²³³ See *Ariz. Cattle Growers Ass’n v. U.S. Fish and Wildlife*, 273 F.3d 1229, 1246 (9th Cir. 2001) (holding that as to “the ‘potential’ downstream effects of grazing . . . the mere potential for harm . . . is insufficient . . . [w]ithout evidence that a take would occur”). See also *id.* at 1250–51 (while finding that ecological conditions can be used as a surrogate for take and not requiring FWS to determine “a specific number of takings” in establishing this linkage, nevertheless holding that FWS must promulgate a clearer standard than “general ecological improvement.”

²³⁴ 50 C.F.R. § 17.3.

²³⁵ See Alicia M. Griffin, Note, *Beyond “Harm”: Abandoning the Actual Injury Standard for Certain Prohibited Takings Under the Endangered Species Act by Giving Independent Meaning to “Harassment.”* 52 VAND. L. REV. 1831, 1834 (1999) (calling this approach “consistent with both the legislative intent behind the takings prohibition and the regulatory understanding of it”); *id.* at 1864 (implying that “harm” and “harass” serve “consistent . . . but distinct” functions within the ESA, for past and future threats, respectively).

ceeds on a case-by-case basis. On the other hand, section 7 does not require proof of an *actual* or imminent species killing or injury (including harm to critical habitat). While FWS Biological Opinions and recovery plans are likely not binding in a pure legal sense, agencies implicitly understand them to be binding, as disobedience risks a future adverse judgment.²³⁶ In addition, section 5 may allow land acquisition by the Secretary of the Interior or the Secretary of Agriculture to prevent takings.²³⁷ There are exceptions to the taking prohibitions, such as section 10, allowing FWS to issue Incidental Take Permits,²³⁸ but FWS may not issue a permit to a federal agency until after consultations have been completed and the Secretary has determined that the permit will adequately protect the species and will actually be complied with.²³⁹ Similarly, private parties must submit a Habitat Conservation Plan (“HCP”), approved by FWS, before a permit may be issued.²⁴⁰ Thus, the cooperative and interconnected elements necessary to protect species persist even in the taking exceptions.

2. ESA Case Law

The vast body of ESA case law provides further legal authority to address off-site impacts from upstream activities. In the seminal ESA case, *TVA v. Hill*, the Supreme Court upheld the legality of the ESA and emphasized Congress’s broad protections.²⁴¹ The setting and facts of that case are perhaps even more significant for present purposes: the construction of the entire Tellico Dam in Tennessee by the Tennessee Valley Authority was halted in order to protect the snail darter, a listed species of fish that lived downstream and would be adversely affected by projected lower water flows.²⁴² The dam was stopped in its final stages and after considerable time and money had already been invested. While the dam was eventually built pursuant to congressional order,²⁴³ the case shows that from the beginning the law contemplated protection for downstream species affected by upstream activities. For purposes of the Big South Fork, the involvement of TVA and Tennessee waters makes it a particularly relevant precedent.

Case law regarding the take provisions, particularly as to what constitutes “harm,” provides further support for broad ESA application. An-

²³⁶ See Wood, *supra* note 225, at 232 (stating that “while courts have stopped short of holding that biological opinions issued under section 7 are per se binding on the action agency, there is nevertheless a presumption to that effect”).

²³⁷ 16 U.S.C. § 1534.

²³⁸ *Id.* § 1539.

²³⁹ *Id.* § 1539(a)(2)(B).

²⁴⁰ *Id.* See the discussion of the Nature Conservancy HCP, *infra* notes 327–328 and accompanying text.

²⁴¹ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 157–58, 174, 189–90, 194 (1978).

²⁴² *Id.*

²⁴³ *Sequoyah v. Tennessee Valley Authority*, 480 F. Supp. 608, 610 (E.D. Tenn. 1979) (describing 1979 Energy and Water Development Appropriation Bill directing construction of the dam).

other major case, *Babbitt v. Sweet Home*, settled the longtime debate over the meaning of “take” in sections 7 and 9 of the ESA.²⁴⁴ The Supreme Court adopted a broad definition of the term, extending the ESA to reach more federal and private actions by holding that “take” includes habitat modifications and applies to indirect and also purposeful actions.²⁴⁵ In *Palila II* and *Palila IV*, the Ninth Circuit upheld species protection over directly competing economic interests and affirmed the importance of habitat.²⁴⁶ The complete removal of feral animals from the area was required to prevent harm to an endangered bird also making its home there, since the animals would destroy the bird’s necessary critical habitat. Nor was the government’s remedial fencing plan sufficient, as it allowed the destructive activity to continue.²⁴⁷ *Palila* shows the legal importance of critical habitat designation for species protection; thirty percent of the land in question was not even presently occupied by the bird, but was merely saved for future populations as the species recovered.²⁴⁸ In addition, *Palila* may provide an analogy to the mining context, suggesting that even mining with regulations may not provide adequate safety for the species or its habitat, and that banning the competing activity may at times be the most prudent course of action. Furthermore, in *Palila IV*, the district court below held that retarding recovery is “harm”; the Ninth Circuit did not decide this point, so the district court interpretation of recovery technically still stands.²⁴⁹ A final case on the “harm” question, *Sierra Club v. Lyng*, noted that a plaintiff need not bring the dead animal to court in order to prevail.²⁵⁰ Rather than prove individual deaths due solely to the activity in question, it is only necessary to show population declines and that certain actions have caused or accelerated the decline.²⁵¹ The court banned logging within three-quarters of a mile of woodpecker colonies, once again blocking development of a large land area to prevent a “harm”-type taking.

Several other ESA cases deal more directly with the downstream or off-site species and habitat effects from external activities. Some provide

²⁴⁴ *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 U.S. 687 (1995).

²⁴⁵ *Id.* at 704–05.

²⁴⁶ *Palila v. Haw. Dep’t of Land and Natural Res.*, 639 F.2d 495 (9th Cir. 1981) (*Palila II*); *Palila v. Haw. Dep’t of Land and Natural Res.*, 852 F.2d 1106, 1108 (9th Cir. 1988) (*Palila IV*).

²⁴⁷ *Palila II*, 639 F.2d at 496–98.

²⁴⁸ *Id.*

²⁴⁹ *Palila IV*, 852 F.2d 1106. See John A. Macleod, Thomas C. Means & Thomas R. Lundquist, *The Endangered Species Act: A Comprehensive Evaluation for the Coal Industry*, 93 W. VA. L. REV. 673, 697 (1991).

²⁵⁰ *Sierra Club v. Lyng*, 694 F. Supp. 1260, 1270–71 (E.D. Tex. 1988), *aff’d in pertinent part, vacated in part* by *Sierra Club v. Yeutter*, 926 F.2d 429 (5th Cir. 1991) (affirming finding of ESA violation against the Forest Service, but dissolving the lower court’s injunction as exceeding its authority and inhibiting the consultation process).

²⁵¹ *Id.* at 1270, 1272–73 (finding jeopardy to woodpecker, based solely on evidence that logging had impaired the habitats of woodpeckers and resulted in a precipitous population decline during the previous ten years, and not requiring proof of the death of individual members of the species).

helpful direct precedent, while others provide useful rules or guidance. In *Arizona Cattle Growers' Association v. U.S. Fish and Wildlife*, upstream cattle grazing resulted in habitat modification affecting an endangered minnow.²⁵² The court found no taking, however, holding that the plaintiffs needed site-specific data to link grazing and sedimentation; "potential" effects were not sufficient.²⁵³ In *Platte River Whooping Crane v. FERC*, a hydroelectric facility relicensing case, the court upheld as reasonable FERC's consideration of instream flow that was essential to the habitats of four species (one of which was endangered).²⁵⁴ *Riverside Irrigation District v. Andrews* involved an Army Corps of Engineers (Corps) denial of an otherwise "automatic" nationwide Clean Water Act section 404 fill permit for a dam.²⁵⁵ The denial was based on the downstream impact on an endangered species and critical habitat 250–300 miles downstream from the increased consumptive use of water.²⁵⁶ The Corps was authorized under the Clean Water Act to consider downstream impacts, including indirect ones; it had to employ a no "blindness" policy in assessing environmental impacts of the dam.²⁵⁷ But perhaps most interesting about this case's background was that the Corps did not identify the placement of fill material during the dam construction phase as the dangerous activity, but rather the foreseeable end product, the operation of the dam itself and the altered water flow.²⁵⁸ Analogized to the mining context, the actual permitting or leasing of lands may not be the imminent danger, but such actions may be properly barred due to the foreseeable adverse effects that the mining will have on the species and habitat downstream.²⁵⁹

Water Works & Sewer Board of Birmingham v. Army Corps of Engineers perhaps qualified this Corps position, holding that the Corps cannot directly regulate off-site activity.²⁶⁰ However, the court did allow the Corps to consider the activity's direct, indirect, and cumulative impacts.²⁶¹ *Idaho Rivers United v. National Marine Fisheries Service*, another critical habitat case, dealt with the problem of increased sedimentation in riverbeds.²⁶² It held that an annual sediment transport increase of 3.8% was an adverse

²⁵² 273 F.3d 1229 (2001).

²⁵³ *Id.* at 1246.

²⁵⁴ 962 F.2d 27, 36 (D.C. Cir. 1992).

²⁵⁵ 568 F. Supp. 583 (D. Colo. 1983), *aff'd*, *Riverside Irr. Dist. v. Andrews*, 758 F.2d 508 (10th Cir. 1985).

²⁵⁶ *Id.* at 589.

²⁵⁷ 758 F.2d at 511–12; Clean Water Act § 404, 33 U.S.C. § 1344 (2005).

²⁵⁸ 568 F.Supp. 585.

²⁵⁹ Recall that the Army Corps of Engineers also created and administered BISO before transferring control to NPS in 1990. *See supra* note 46 and accompanying text. Thus, the analogy has particular import for this discussion.

²⁶⁰ 983 F. Supp. 1052, 1067 (N.D. Ala. 1997), *aff'd without reported opinion*, *Water Works v. Army Corps of Eng'rs*, 162 F.3d 98 (11th Cir. 1998).

²⁶¹ *Id.*

²⁶² No. C94-1576R, 1995 WL 877502 (W.D. Wash. Nov. 9, 1995) (unpublished opinion).

impact under the ESA, and that it was arbitrary and capricious for the National Marine Fisheries Service (now “NOAA Fisheries”) to disregard this effect in its Biological Opinion allowing the project to go forward.²⁶³ Finally, in *Friends of Wild Swan, Inc. v. U.S. Forest Service*, involving the Forest Service rather than FWS or NOAA Fisheries, the court noted that development of an area and the filling of two thousand acres of wetlands would cause wildlife habitat loss, filtration loss, and significant adverse effects to bay fisheries downstream; hence, the court upheld the Forest Service’s denial of the levee/canal permit.²⁶⁴

3. Dual Interconnectivity in the ESA

Taken together these cases illustrate the interconnected approach, both legal and geographic, adopted by Congress, the courts, and agencies in respectively enacting, interpreting, and implementing the ESA. First, geographic interconnectivity is present in many (not all) cases where adverse species and habitat effects downstream are sufficiently likely. Second, legal interconnectivity is evidenced across the various laws governing certain activities. Once again, consider the mining context; there is no question from the statutes, legislative history, and agency regulations that SMCRA and the ESA are to be read consistently with one another. More importantly, it is evident that the ESA in most cases trumps SMCRA, putting species protection above mining interests and affording protections off-site and downstream from proposed mining operations.²⁶⁵ Hardly a foregone conclusion, this result was the culmination of a long evolution of rules following several rounds of litigation and failed agency regulations.²⁶⁶ The current rule makes clear that an OSM-sanctioned mining operation cannot take a listed species in violation of the ESA in any circumstances.²⁶⁷ Also notable from the administrative history is that mining operations need only be “likely to” cause species jeopardy or adverse habitat modification to trigger ESA protection.²⁶⁸ Additionally, SMCRA and the

²⁶³ *Id.* at *5.

²⁶⁴ 966 F. Supp. 1002, 1016 (D. Or. 1997).

²⁶⁵ “Likely to” ultimately prevailed over “will” cause jeopardy language, allowing for borderline cases to fall on the side of species protection. *See* 48 Fed. Reg. 30,312, 30,317 (June 30, 1983) (substituting “will” in place of “likely to”); 50 Fed. Reg. 41,164, 41,167 (Oct. 9, 1985) (rejecting “will” in favor of “likely to”); 51 Fed. Reg. 19,498, 19,501 (May 29, 1986), *finalized at* 52 Fed. Reg. 47,352, 47,357–58 (Dec. 11, 1987) (reinstating more protective standard on national basis).

²⁶⁶ *See, e.g.*, 51 Fed. Reg. 41,952 (Nov. 20, 1986) (discussing the background of the protracted litigation surrounding OSM’s permanent program regulations under SMCRA).

²⁶⁷ 30 C.F.R. § 816.97 (2005), *supra* note 185. While there are incidental take exceptions in ESA § 10, 16 U.S.C. § 1539 (2005), such exceptions must be granted by FWS, not OSM; the provision further conditions the grant of an incidental take permit on a showing that the incidental “taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.” 16 U.S.C. § 1539(a)(2)(B)(iv).

²⁶⁸ 16 U.S.C. § 1539(b).

ESA together require pre-mining resource information, as well as protection and enhancement plans, to ensure a national minimum standard of protection *ex ante*. Recall that OSM must consult with FWS under 7(a)(2) when species are found on-site or would be affected off-site; thus, FWS, like NPS, is allowed some input into the permitting decision. Finally, agency regulations offer protections for species found in “adjacent area[s].”²⁶⁹ They require site-specific resource information in the reclamation and operating plans, both prior to and during mining operations, when adjacent areas are likely to have species or high value habitat, such as important streams or reproduction areas.²⁷⁰ “Adjacent area,” in turn, is broadly defined as “area outside the permit area where a resource or resources . . . are or reasonably could be expected to be adversely impacted by proposed mining operations.”²⁷¹

As with each statute analyzed above, the ESA framework is not perfect. For instance, while a regulatory authority must consult with FWS when species are found on-site, the consultation is not as rigorous as with other federal agencies under 7(a)(2). FWS largely sits in an advisory capacity, while the ultimate decision regarding species protections rests with the permitting authority; information and planning documents may not even have to be submitted to FWS in the absence of an FWS request.²⁷² Similarly, in “adjacent areas,” if the regulatory authority or permit-seeker provides all the relevant off-site information, the mining permit likely can be issued. As noted above, FWS remains unenthusiastic about critical habitat and there are real financial shortages constraining such designations. Recovery plans similarly are not always promulgated, and when they are, the majority of their goals usually remain unsatisfied.²⁷³ Finally, there may be an agency bias against non-charismatic species, including marine organisms such as mussels (examined below), as they tend not to receive the same moneys as more charismatic species.²⁷⁴

Nevertheless, despite these several shortcomings, the ESA has survived, largely intact, despite occasionally intense congressional opposition. When applicable, the ESA continues to offer some of the strongest environmental protections against external threats to protected areas. It also serves as a model embodying the interconnected approach of environmental law, as species protection is now a concern for all agencies, and widespread cooperation and consultation is the only way to ensure ESA compliance.

²⁶⁹ 30 C.F.R. § 780.16 (2005).

²⁷⁰ *Id.*

²⁷¹ 30 C.F.R. § 701.5 (2005).

²⁷² See 52 Fed. Reg. 47,352 (Dec. 11, 1987) (codified at 30 C.F.R. §§ 780.16, 816.97).

²⁷³ See Biber, *supra* note 225, at 136; Wood, *supra* note 225, at 201–02, 231–32.

²⁷⁴ See Biber, *supra* note 225, at 137 (noting that freshwater mussels have traditionally received only about thirteen percent of the funding of more charismatic species, such as birds); O’Connell, *supra* note 15, at 25.

IV. INTERCONNECTIVITY IN ACTION: A CASE STUDY OF THE BIG SOUTH FORK NRRRA (“BISO”)

The above Parts have examined how some of the major environmental laws may offer extended protections outside a given geographic area in order to protect something special within that space. It has been suggested that these laws envision an interconnected approach in both geographic terms, viewing protected areas as part of a larger watershed or ecosystem, as well as in a legal sense, providing one consistent framework of federal and state environmental law and encouraging consultation and coordination among the several regulatory entities.²⁷⁵ However, rather than dealing in abstract ideas or possibilities, the case for interconnectivity may be strengthened through a concrete example of how this approach would actually work on the ground.

Accordingly, this Part presents a case study purporting to apply and clarify the principles canvassed in the above statutory sections. The subject is the BISO, which provided the original impetus and much of the research for this Article. For six months in 2004 and 2005, I had the privilege of working with the National Parks Conservation Association (“NPCA”) in a clinical setting, analyzing the applicability and interplay of environmental laws in addressing the resurgence of coal mining in the region and its threats to BISO. In January of 2005, I also had the opportunity to visit BISO and engage in some on-site “ground-truthing.” My experiences and research suggest that an interconnected approach can indeed protect the NRRRA from external mining threats upstream in the New River watershed. This section first provides a detailed background of BISO and the threats surrounding it. Next, the principles embodied in the environmental laws and supporting materials discussed above are applied to BISO. The final subsection addresses how to incorporate this authority into a cohesive legal strategy to effectively protect the downstream NRRRA from upstream coal mining threats.²⁷⁶

A. Background

As noted in the Introduction, BISO was enacted in 1974 by Congress, as part of the Water Resources Development Act.²⁷⁷ The Army Corps

²⁷⁵ See, e.g., Allen, *supra* note 81 at 130. “One can no longer serve merely as a ‘SMCRA lawyer’ to a coal company client, but instead must act as a knowledgeable, environmental attorney. In order to avoid traps for the unwary, one must be familiar with the environmental impacts of surface coal mining and the scope of protections afforded by other environmental laws.” *Id.*

²⁷⁶ For another good description of the area and overall environmental and legal challenges, see Daniel Cusick, *Fate of Tenn. Mountains at Heart of Appalachian Mining Battle*, GREENWIRE, Dec. 22, 2005, <http://www.eenews.net.ezp1.harvard.edu/Greewire/2005/12/22/archive/1> (on file with the Harvard Environmental Law Review).

²⁷⁷ Pub. L. No. 93-251, Title I, § 108, 16 U.S.C. § 460ee(a) (1975). For helpful BISO

of Engineers acquired the land and helped plan and develop the facilities, maintaining control until 1990.²⁷⁸ In Pursuant to the BISO authorizing statute, control was then transferred to NPS for the long term to protect the area for the benefit and use of the public.²⁷⁹ BISO is one of only two NRRAs; the Big South Fork, bisecting BISO, is a National River, and the entire area is a National Recreation Area. BISO's tourist draw does not rival the nearby Smokies, but it still attracts 850,000–875,000 visitors annually.²⁸⁰ The NRA spans ninety miles of river and 125,000 acres of land encompassing five counties in northeastern Tennessee and southeastern Kentucky.²⁸¹ The majority of BISO is in Tennessee, as are the major tributaries and upstream watersheds and also much of the remaining available coal, found in the New River watershed.

As noted above, BISO was created for a variety of uses, including recreation and preservation. The sheer beauty and the rich, diverse landscape of the areas more than accommodate these various interests. The land primarily consists of the rugged mountainous forestland of the Cumberland Plateau, with the Big South Fork of the Cumberland River bisecting it through a gorge. The area was ravaged by surface coal mining in the 1930s and 1940s, but as those activities have largely ceased, BISO has attained a much healthier status and is once again lush with greenery. Among BISO's attributes is a diverse tree population, including pine, oak, sugar maple, basswood, buckeye, poplar, red maple, and beech.²⁸² Visitors continue to flock to BISO to partake in many other authorized recreational activities, including horseback riding, canoeing, kayaking, mountain biking, hunting, fishing, and rock climbing.²⁸³

However, despite the importance of BISO to its users and the considerable legal protections afforded under both its authorizing statute and the NPS Organic Act, the outlook for the near future is less rosy. First, the legacy of the earlier mining days is still very much present. Indeed, the Big South Fork of the Cumberland River has nearly twice as much dis-

background, see U.S. Department of Transportation, *supra* note 18.

²⁷⁸ 16 U.S.C. § 460ee(a).

²⁷⁹ *Id.*

²⁸⁰ Morgan Simmons, *Citizens Group Ready to Help Big South Fork*, KNOXNEWS, Mar. 29, 2004, http://www.ktsaf.org/News/General_News_2004/KnoxNews/Citizens%20Group%20ready%20to%20help%20Big%20South%20Fork%203_29_04.htm (on file with the Harvard Environmental Law Review); FEDERAL LANDS ALTERNATIVE TRANSPORTATION SYSTEMS STUDY 4-3 (2001), <http://nps.gov/transportation/alt/documents/Federal%20Lands%20ATS%20Study%20Volume%203.pdf> (on file with the Harvard Environmental Law Review).

²⁸¹ NPS, Big South Fork, <http://www.nps.gov/biso> (last visited Apr. 26, 2006) (on file with the Harvard Environmental Law Review); AreaParks.com, Big South Fork National River & Recreation Area Information, <http://bigsouthfork.areaparks.com/parkinfo.html> (last visited Apr. 26, 2006) (on file with the Harvard Environmental Law Review); Big South Fork National River & Recreation Area, <http://www.nps.gov/applications/parks/biso/ppMaps/BISOMap.pdf> (outlining the current BISO area) (last visited Apr. 26, 2006) (on file with the Harvard Environmental Law Review).

²⁸² See AreaParks.com, *supra* note 281, <http://bigsouthfork.areaparks.com/parkinfo.html>.

²⁸³ *Id.*

solved solids and suspended solids, and a two and a half times greater sulfate yield than a comparable unmined river.²⁸⁴ Several species in the area have still not recovered to the point where they no longer need ESA protection.

Second, there are imminent coal development activities on the horizon. Appalachia, particularly Tennessee, still contains some of the greatest thicknesses of remaining coal-bearing strata in the United States, and in light of rising worldwide oil prices and continued reliance on unstable foreign production, as well as larger, more efficient mining practices and machinery, the market for coal is returning.²⁸⁵ There may also be few direct legal protections to stop such mining, despite the damage from the flow of sediment and acid mine drainage downstream into BISO. That is, only the most downstream seventeen percent of the watershed is included in BISO's borders, and the federal government does not otherwise control the lands and waters upstream. Much of the land and mineral rights are privately owned, particularly in the Clear Fork (the Big South Fork's other major tributary). In the New River watershed, the upstream surface rights are largely owned privately or by the state of Tennessee (which administers a state wildlife refuge), while the split mineral rights largely belong to TVA, an independent quasi-public federal agency.

TVA has not been reluctant to lease its mining interests to date; indeed, the agency has already proposed (and received a large response to)²⁸⁶ the leasing of eighty-two million tons of coal from the Koppers Coal Reserve at the headwaters of the New River, which drains into the Big South Fork roughly ten to fifteen miles downstream.²⁸⁷ Of particular note, included in the plans for mining in Tennessee is mountaintop removal, a technique to date not widely employed in the state, unlike its neighbors Kentucky and West Virginia.

²⁸⁴ *Id.*

²⁸⁵ See O'Connell, *supra* note 15, at 24; Energy Information Administration, *Coal News and Markets*, Mar. 16, 2006, <http://www.eia.doe.gov/cneaf/coal/page/coalnews/coalmar.html> (discussing rising current and future coal production) (on file with the Harvard Environmental Law Review); Mark Clayton, *America's New Coal Rush*, CHRISTIAN SCI. MONITOR, Feb. 26, 2004, <http://www.csmonitor.com/2004/0226/p01s04-sten.html> (describing linkage between higher fuel prices and planning for more coal-fired power plants) (on file with the Harvard Environmental Law Review); Seamon, *supra* note 28. Cf. OFFICE OF SURFACE MINING, *supra* note 20; U.S. Department of Energy, National Energy Technology Laboratory, Tracking New Coal-Fired Power Plants (2006), <http://www.netl.doe.gov/coal/refshelf/ncp.pdf> (detailing the "large potential that exists for new coal-fired power plants") (on file with the Harvard Environmental Law Review).

National Coal Corporation, a brand-new coal mining company formed in 2003, has been actively engaged in buying up the rights to mine coal on almost 115,000 acres across Appalachia, including in the New River watershed near BISO. National Coal has been particularly bold in stating its ambitious intentions for the near future in regard to its acquired mining rights. See United Mountain Defense, <http://www.unitedmountaindefense.org/NCC.php> (citing statement of National Coal, since removed from NCC's website) (last visited Apr. 26, 2006) (on file with the Harvard Environmental Law Review).

²⁸⁶ See O'Connell, *supra* note 15, at 22–23, 25.

²⁸⁷ See *id.*

Third, the stakes for the environment in a National Park rival that of mining interests. That is, the potential adverse effects caused by increased mining may be particularly drastic given National Parks' unique environmental values, namely biodiversity. Freshwater mussels, one particular species found in BISO, are particularly susceptible to acid mine drainage and sedimentation; in addition, they are a useful indicator species in determining river water quality.²⁸⁸ Over ninety percent of the 297 mussel species that occur in U.S. waters live in the Southeast, and seventy percent of all freshwater mussels are listed by federal and state governments as endangered, threatened, of special concern, or extinct.²⁸⁹ This is hardly an encouraging starting point for more Appalachian mining.

Nevertheless, those who would be adversely affected by additional mining are hardly prepared to give in without a fight. Various environmental and local grassroots groups have organized effectively to address the adverse effects of mining in Appalachia. The presence of a National Park downstream from the proposed mining sites only magnifies the reasons for increased protection. Recognizing this fact, NPCA has made BISO protection one of its priority programs. NPCA is a private, nonprofit advocacy organization dedicated to educating the public about protection of the National Park System.²⁹⁰ The organization was previously successful in litigation concerning mining around the Ozark National River, and now has turned its attention to upstream mining that would adversely affect BISO. NPCA afforded me the opportunity to work in the earliest stages of determining environmental law's ability to halt blank check authorizations of mining activities by OSM and TVA in the New River watershed. As discussed in the next two Sections, by employing a strategy making the fullest use of the various environmental laws in an interconnected way, NPCA and other similarly motivated groups may successfully protect BISO beyond its borders.

²⁸⁸ See *id.* (noting "[m]ussels are filter feeders, making them essential indicators of water quality"). See also Section 404(B)(1) Guidelines for Specification or Disposal Sites for Dredged or Fill Material, 40 C.F.R. § 230.31 (2005). Discharge of dredged and fill material may result in the debilitation or death of sedentary organisms by smothering, exposure to chemical contaminants in dissolved or suspended form, exposure to high levels of suspended particulates, reduction in food supply, or alteration of the substrate upon which they are dependent. Mollusks are particularly sensitive to the discharge of material during periods of reproduction and growth and development due primarily to their limited mobility." *Id.*

²⁸⁹ O'Connell, *supra* note 15, at 23.

²⁹⁰ See National Parks Conservation Association, <http://www.npca.org> (last visited Apr. 8, 2006) (on file with the Harvard Environmental Law Review); National Parks Conservation Association, Frequently Asked Questions, http://www.npca.org/about_npca/faq.asp (last visited Apr. 8, 2006) (on file with the Harvard Environmental Law Review). NPCA has operated since 1919, only three years less than NPS itself has been in business. It has nationwide operations, including an office in Knoxville, headed by Donald Barger, dealing with issues in Appalachia. NPCA boasts 300,000 members nationwide.

B. Application of the Environmental Laws to BISO

1. The NPS Organic Act and the BISO Authorization Statute

As cited above, both the BISO and NPS organic statutes use broad language requiring NPS to protect BISO for the several purposes for which it was created. If mining upstream would cause increased acid mine drainage and/or sedimentation in the Big South Fork that would “impair” the recreational or aesthetic value for present or future generations, NPS should have some (if not full) jurisdiction under its organic statute to address those threats.²⁹¹ The BISO authorizing statute also may embody external concerns. Besides explicitly prohibiting mining within the NPS,²⁹² it tells NPS to preserve as a “natural, freeflowing stream” not only the downstream river, but also “major portions of its Clear Fork and New River stems, and portions of their various tributaries.”²⁹³ Furthermore, under the comprehensive plan requirement, NPS must work with other agencies to address upstream threats and, under the language borrowed from the WSR, may step in to forbid upstream projects that would “unreasonably diminish” the values of the protected area downstream.²⁹⁴ While issues remain with the enforceability of the New River comprehensive plan and the required level of cooperation, the import of the statute, as well as the Buffalo River precedent,²⁹⁵ suggest that NPS’s reach may extend outside the geographic boundaries of BISO after all.

2. National Environmental Policy Act (“NEPA”)

Both TVA leasing and OSM permitting are major federal actions requiring an EIS under NEPA. Indeed, TVA is currently engaged in the NEPA process and is developing an EIS for the leasing of its mining rights in the Cumberland Mountains, primarily in the Koppers Coal Reserve.²⁹⁶ About one third of this land area overlaps with the New River watershed, close enough that mining could have impacts downstream on BISO. The

²⁹¹ Indeed, BISO park managers have effectively ameliorated the effects of 300 oil and gas wells and 120 coal mines within BISO’s boundaries. The key concern now is convincing neighboring landowners to do the same. O’Connell, *supra* note 15, at 20.

²⁹² 16 U.S.C. § 460ee(e)(1)–(3) (2005) (stating that in both the “gorge” and “adjacent areas,” into which the park is divided, surface and strip mining is completely prohibited, despite the conditional allowance of other extractive activities such as oil drilling).

²⁹³ *Id.* § 460ee(a). See *supra* text accompanying note 35.

²⁹⁴ See *supra* notes 68–71 and accompanying text.

²⁹⁵ See *supra* note 71 and accompanying text. Similar issues may surround the first General Management Plan (and corresponding EIS) for BISO, promulgated by NPS as late as February 2005, providing “the first comprehensive framework plan . . . for the area,” which “examines and reaffirms Congress’ purpose and direction for the National Area,” and calls for “[s]pecial projects, including . . . reclamation of contaminated mine drainage . . . [to] be continued or initiated.” NPS, Big South Fork Final General Management Plan/Environmental Impact Statement Summary, *supra* note 53, at 2.

²⁹⁶ See 68 Fed. Reg. 26,371, 26,371–73 (May 15, 2003).

TVA process thus far, however, has exhibited several of the NEPA shortcomings identified earlier, and hence may provide some grounds for challenge. First, the release of the EIS has been less than prompt; while the original release date was the fall or winter of 2004, as of the time of this writing, the draft EIS has still not been released. Second, early indications from TVA and its communications with other agencies may suggest that TVA is limiting the scope of its EIS to the leasing stage and not considering the environmental effects of actual mining after OSM approval.²⁹⁷ TVA may further segment its analysis by disregarding the downstream effects of mining on BISO, the cumulative effects of granting several leases, and the already existing damage in such areas from previous mining.²⁹⁸ Once TVA promulgates its EIS, OSM may only find it necessary to do an EA for the eventual mining permits down the road, tiering off the data and conclusions of TVA's EIS, however incomplete or unsupported they might be.²⁹⁹ Additionally, TVA, though lacking OSM's experience, may attempt to do some of the SMCRA "lands unsuitable" analysis (with a predictable outcome) under the guise of giving "advice" to OSM, thus potentially undercutting the SMCRA petition process.

Despite the fact that NEPA is a procedural statute at heart, there are still means of challenging these shortcomings and forcing the agencies to consider the off-site effects of their leases and permits. First, once the final EIS is promulgated, unsatisfied parties may bring suit pursuant to the Administrative Procedure Act ("APA") to challenge the adequacy or completeness of the analysis.³⁰⁰ As noted above,³⁰¹ several cases indicate that at some point segmentation of different phases of a project or inadequate consideration of cumulative effects renders the EIS insufficient on judicial review. Standing to challenge the agencies' decision would also likely lie for mining in the New River watershed, given that it is less than fifteen miles from the protected National River.³⁰² Second, as the goal is really to get the agencies to listen to environmental concerns while the EIS is being

²⁹⁷ See Environmental Impact Statement—Koppers Coal Reserve Management Plan, 68 Fed. Reg. 26,371, 26,371–73 (May 15, 2003).

²⁹⁸ Interview with Barger, *supra* note 149 (describing TVA's likely approach, dividing the proposed project site into thirty-one smaller, separately considered sub-watersheds).

²⁹⁹ See *supra* notes 88–90 and accompanying text.

³⁰⁰ 5 U.S.C. § 704 (2005); *Sierra Club v. U.S. Army Corps of Eng'rs*, No. 04-3910, 2006 U.S. App. LEXIS 8060 at *14–16 (8th Cir. Apr. 4, 2006) (holding that FONSI, like EIS promulgation, was final agency action under NEPA and hence reviewable under the APA).

³⁰¹ See *supra* note 90.

³⁰² See *Comm. to Save the Rio Hondo v. Lucero*, 102 F.3d 445, 450–51 (10th Cir. 1996) (upholding plaintiffs' claim that living near and recreationally using portions of a river "twelve to fifteen miles downstream" from a proposed ski area, yet in the "same watershed," established an injury in fact, namely "an increased, threatened risk of environmental harm due to the Forest Service's alleged uninformed decisionmaking . . . [which included] increased river water consumption . . . [and decreased] quality of the river by increasing sewage discharge and non-point source pollution from increased vehicle travel, silt, and industrial fluids from the Ski Area's mechanical operations[,] . . . disturb[ing] the recreational and aesthetic value of the land in and around the Ski Area" (emphases added)).

developed, even the mere threat of bringing suit under NEPA can gain leverage with TVA, given that no one really wants to incur the time and financial costs of litigation. Third, at the permit stage, the information burden necessary for a complete EIS is on the mining applicant, ensuring that cash-strapped local and environmental groups do not solely bear the burden of proving adverse impacts.

3. *The Surface Mining Control and Reclamation Act (“SMCRA”)*

SMCRA contains both general and specific provisions that may prevent approval of mining permits upstream of BISO. In general terms, SMCRA section 101(c) notes that mining upstream could adversely affect poor local communities by lowering property values and imposing safety concerns; diminish the quality of the land for recreational or aesthetic purposes, particularly via mountaintop removal; and counteract government conservation programs, such as the reintroduction of endangered mussel species.³⁰³ This section embodies Congress’s clear intent to make environmental protection a “coequal objective” with coal production.³⁰⁴ SMCRA further requires federal agencies like OSM, TVA, and NPS to use their full powers and cooperate to fulfill this aim, thus allowing outside input into the permitting process. Finally, OSM revoked the Tennessee program in 1984, and Tennessee has not since attempted to reinstitute its own program. Hence, all mining applicants in Tennessee are subject to the full strictures of the federal program.³⁰⁵

The lands unsuitable provisions, notably the petition process and section 522(e)(3), are even more promising for BISO than SMCRA’s general language. First, as noted above, NPCA and other groups are currently pursuing a lands unsuitable petition for the entire New River watershed upstream from BISO.³⁰⁶ Given the increased health of BISO since the cessation of mining, it may be difficult to prove the mandatory criterion that reclamation be impossible. However, if this first requirement is met, a legitimate case could be made that mining would affect “fragile” lands (containing “ecological” and “esthetic” resources “that could be significantly damaged” by mining) and/or “renewable resource” lands (meaning water supply and quality in the area would be diminished).³⁰⁷ And, as noted above, while “buffer” lands are no longer a listed example of “fragile” lands, they are still to be considered by the Secretary in determining the petitioned areas deserving protection.³⁰⁸

³⁰³ 30 U.S.C. § 1201(c) (2005).

³⁰⁴ H.R. Rep. No. 95-218, at 96 (1977), *reprinted in* 1977 U.S.C.C.A.N. 593, 632.

³⁰⁵ *See* 30 C.F.R. §§ 942.20–955 (2005).

³⁰⁶ *See supra* note 148.

³⁰⁷ 30 U.S.C. § 1272(a)(3); 30 C.F.R. § 762.5 (2005), *supra* note 143.

³⁰⁸ 52 Fed. Reg. 18,792, 18,792–95 (May 19, 1987); *supra* notes 146–147 and accompanying text.

Granted, there are obstacles to using the petition process for BISO.³⁰⁹ The New River watershed is at least twice the size of the largest area ever deemed unsuitable in the petition process.³¹⁰ Hence, the groups preparing the original petition expended considerable time and financial resources in order to conduct scientific assessments and compile other necessary data; even further efforts will be required to appeal OSM's initial denial of the petition. And the ultimate decision remains under the discretion of the Interior Secretary. Furthermore, TVA, during the NEPA process for its leasing attempts, may attempt to undermine a citizen petition *ex ante*, making findings of no significant impacts that the later petitions will have to refute. However, the process is a worthwhile endeavor that may be successful, as past experience and the *Utah International* case suggest.³¹¹ At the very least, making a large land area request will promote conversations between OSM and other interested agencies and citizen groups; even if the granted unsuitable area is smaller than originally petitioned, it may still be a victory for BISO.

Section 522(e)(3) also clearly applies to BISO, given its status as a "publicly owned park." The value of this section, much like the petition process, is largely procedural. That is, if upstream mining would "adversely affect" BISO, then NPS (with jurisdiction over the park) must jointly approve mining permits and is elevated to an equal position with OSM. Thus, the scope of NPS jurisdiction may be expanded far beyond the geographic limits suggested in its organic act or BISO's authorizing statute. The deliberative and substantive value of this extra process is made clear by the *Wyatt* case, involving a Tennessee state park, where OSM could not grant the permit without the state of Tennessee's approval.³¹² Perhaps even more importantly from that case, knowing that such cooperation was necessary, OSM found adverse environmental effects in the first instance. Thus, the process may alter OSM's generally pro-mining culture over time.

Of course, section 522(e)(3) is not without flaw. The requirement is still essentially procedural, and political directives from the Interior Secretary may force NPS to give its approval despite the presence of adverse effects. Bickering within the Interior Department between OSM and NPS may also occur, given the primarily economic and environmental missions of OSM and NPS, respectively. Finally, the touchstone of the provision, what constitutes an "adverse effect," is unclear in the BISO context. Nev-

³⁰⁹ Indeed, there are already significant obstacles presented by OSM's initial rejection of NPCA's petition. See Interview with Barger, *supra* note 149 (citing the Southern Environmental Law Center's characterization of OSM rejection on completeness grounds: "[t]hey set the bar higher than ever before . . . I don't see almost how one could meet it, but we are going to go back").

³¹⁰ The Fall Creek Falls petition area was the largest requested or granted to date. See *supra* note 136.

³¹¹ *Id.* See also *Utah Int'l, Inc. v. Dept. of Interior*, 643 F. Supp. 810, 812 n.5 (D. Utah 1986).

³¹² *Wyatt v. United States*, 271 F.3d 1090, 1094 (Fed. Cir. 2001).

ertheless, the additional cooperation and consultation should yield a more reasoned and legitimate outcome and allow the agencies to resolve their differences. Moreover, as to what constitutes an “adverse effect,” the discussion above suggests that the various methods of statutory interpretation, most notably the use of the term throughout the rest of SMCRA and in other environmental statutes, indicate a relatively low threshold. With the amount of documented damage already existing in and around BISO from past mining activities, and the demonstrated greater magnitude of such effects with mountaintop removal, an adverse effect showing may be even easier. To date, the provision has been underutilized, but by its bringing environmental concerns to the fore early in agency consideration of mining proposals, there is greater promise for adequate consideration of those points in the future.

4. Outstanding Natural Resource Waters (“ONRWs”)

The Big South Fork has been named an ONRW, deserving of the highest level of protection under Tennessee law. Because OSM has not expressly preempted this additional layer of Tennessee law, and has shown no indication of doing so, the ONRW scheme remains in full effect, even under Tennessee’s federally administered SMCRA program. Recall that the guiding definitions of an ONRW include rivers that are in a National Park or provide habitat to marine organisms listed under the ESA. The Big South Fork clearly is located within the National Park System, and it contains several endangered species of mussels. According to TDEC regulations, the Big South Fork ONRW is to be primarily managed for recreation and fish and wildlife uses, while at the same time preventing broadly defined “degradation.”³¹³ Hence, if it can be shown that the discharges from mining operations would result in the “alteration of the properties of waters by the addition of pollutants or removal of habitat,” then mining may be barred under state law.³¹⁴ As argued above, this “alteration” standard is a low burden; evidence of likely acid mine drainage and sedimentation, and their adverse effects on water quality, species, and recreation likely suffice. Finally, as the state law envisions participation from federal agencies with jurisdiction in the same watershed, NPS may have a role to play in ensuring that Tennessee’s ONRW regime adequately protects BISO.

³¹³ See Tennessee Antidegradation Statement, TENN. COMP. R. & REGS. 1200-4-3-.06(4) (2004). See also *supra* note 198.

³¹⁴ TENN. COMP. R. & REGS. 1200-4-3-.04(4).

5. Endangered Species Act (“ESA”)

Finally, the ESA may provide strong external protection for BISO, primarily due to its resident population of endangered freshwater mussels. Freshwater mussels are the single most endangered group of animals in the United States, and depend on river depth and substrate to provide quality habitat.³¹⁵ They exhibit a long life, low rate of population increase, and stable populations if the environment is suitable.³¹⁶ The numbers of mussels dropped dramatically following the first wave of mining in Tennessee; today there are twenty-six species still present in the NRR (out of the original seventy-one), and the ESA applies to six of them.³¹⁷ The federal government has recently stepped in to rebuild the mussel population in BISO, introducing experimental populations back into the river.³¹⁸ However, these efforts may be undermined by the indirect impacts of proposed mining upstream. Possible sedimentation effects of mining may clog the valves that mussels use for feeding and breathing; juveniles, especially susceptible, then cannot grow to reproduce and sustain the mussel population over the long run.³¹⁹ Acid mine drainage is also potentially a serious problem, as mussels are very sensitive to changes in river pH levels, and small increases in acidity could prove toxic to entire populations.³²⁰

To date, the ESA has proven essential in continuing to protect these mussels; making greater use of its provisions may afford even more protection for both the mussels and their habitat. The several cases cited above make clear that species protection is not limited to activities that take place directly where the species resides.³²¹ The proximity of BISO to the Koppers Coal Reserve, only ten to fifteen miles, is close enough to make such downstream effects reasonably likely.³²² The cases also indicate the

³¹⁵ Biber, *supra* note 225, at 95, 97.

³¹⁶ *Id.* at 96.

³¹⁷ See NPCA, Protecting the Headwaters of the Big South Fork, http://www.npca.org/across_the_nation/npca_in_the_field/southeast/fieldreport/fall05/big_south_fork.asp (last visited Apr. 26, 2006) (on file with the Harvard Environmental Law Review); O’Connell, *supra* note 15, at 20–22. The six endangered species found in BISO are the Cumberland Elktoe, Cumberlandian comb-shell, tan riffle shell, little-wing pearly mussel, Cumberland bean pearly mussel, and oyster mussel.

³¹⁸ See O’Connell, *supra* note 15, at 23 (describing the efforts of BISO staff, working with FWS, the United States Geological Survey (“USGS”), Tennessee Wildlife Resources Agency, and two mussel hatcheries, to undertake the first ever reintroduction of freshwater mussel species into a national park).

³¹⁹ Biber, *supra* note 225, at 103–06. See also O’Connell, *supra* note 15, at 20 (stating that “[o]ne heavy sediment load in the river can wipe out an entire colony of mussels”), 23 (stressing the importance of both the symbiotic relationship with fish species as well as the level of pollution in the river in determining the success of the reintroduction effort, quoting USGS biologist Steve Bakaletz, “[i]n wildlife management, you can’t just have females have more babies and dump them back in the river,” and noting that certain mussel species are only starting to recover from mining operations ended “nearly a generation ago”).

³²⁰ Biber, *supra* note 225, at 105–06.

³²¹ See *supra* notes 241–264 and accompanying text.

³²² See *Comm. to Save the Rio Hondo v. Lucero*, 102 F.3d 445, 450–51 (10th Cir. 1996).

importance of critical habitat to courts in affording off-site protection. This posed a problem for mussels prior to 2004, as not a single freshwater mussel species had a designated critical habitat. However, in August of 2004, FWS finally did designate critical habitat for five mussels in the Cumberland and Tennessee River basins.³²³ This area includes BISO (including portions of the New River, together consisting of 36 of the 550 total designated river miles), and addresses three of the listed mussel species found there.³²⁴ The critical habitat listing more directly implicates the above legal precedent for external protection and also triggers more section 7 consultation prior to the issuance of federal surface mining permits, thus allowing FWS and NPS to play a greater role in TVA and OSM decisions.³²⁵ The ESA may further help BISO given that endangered mussels have recently been found in the New River *itself*, triggering ESA protections independent of BISO downstream.

Like the SMCRA process, the ESA is not without its shortcomings for BISO. FWS, unenthusiastic about critical habitat in general, only included sections of the New River upstream of Highway 27 (the same geographical limit as in the BISO authorizing legislation). There also may be a reluctance by FWS and the acting agencies to find adverse species effects. Indeed, of the countless federal projects since the promulgation of the ESA in 1973, many performed by TVA, to date only two have been subject to a FWS Biological Opinion finding jeopardy to mussels, one of which was in Tennessee. Despite their value as an indicator species of water quality, there is also evidence of agency bias against mussels, reflected in the lower expenditures that mussels receive compared to more charismatic species.³²⁶ Recovery plans are a further issue: while most listed mussel species do have recovery plans, less than twenty-five percent of the goals usually are achieved,³²⁷ and only one species in BISO has such a plan in place.

Nevertheless, the ESA remains perhaps the most promising statute for external protection. The designation of critical habitat and the existence of government programs to help resuscitate mussel populations show recognition of their peril and provide additional avenues for enforcement. The presence of mussels in the New River will slow the permit approval proc-

(finding injury in fact, and hence standing, to challenge U.S. Forest Service's compliance with NEPA, where proposed ski resort posed increased risk of environmental harm to plaintiffs' concrete recreation and irrigation interests in river flow within watershed).

³²³ See 69 Fed. Reg. 53,136, 53,136–80 (Aug. 31, 2004) (codified at 50 C.F.R. § 17 (2005)) (describing Unit 9 accompanying BISO).

³²⁴ *Id.* Critical habitat was designated for the Cumberland elktoe, Cumberlandian combshell, and oyster mussels found in BISO.

³²⁵ See *supra* note 230 and accompanying text.

³²⁶ See O'Connell, *supra* note 15, at 25 (quoting USGS biologist Steve Ahlstedt: “[m]ussels are constantly ignored because they are down amongst the gravel and the sand”); Biber, *supra* note 225, at 137, 151.

³²⁷ See Biber, *supra* note 225, at 136, 171. The little-wing pearly mussel had a recovery plan promulgated in 1989 yet still remains endangered today.

ess until findings of no jeopardy can be established. There are also state listed fish species in BISO deserving of protection, such as the olive and Tippecanoe darters, and the finding of other endangered species in the area would implicate the ESA even more. And while the legal status of recovery plans is unclear, they provide yet another opportunity for citizen enforcement and periodic agency and judicial review for adequacy and effectiveness.

Efforts to protect species are already showing results. The Nature Conservancy, an environmental group, has been working to protect endangered species in the Tennessee and Cumberland River watersheds. In September 2004, as part of \$70 million in grants to twenty-eight states to support more effective protection for endangered species, Secretary Gale Norton and the Department of the Interior pledged \$272,500 in federal funds to develop an HCP for the Northern Cumberlands Region in Tennessee and Kentucky.³²⁸ This area includes, but is not limited to, the entire New River watershed and specifically focuses on a “minimum of 15 species including 8 federally endangered freshwater mussels,” encompassing all of the mussel species found in BISO.³²⁹ The grant gives credit to the Nature Conservancy: “[T]he HCP will build upon The Nature Conservancy’s eco-regional planning effort for the Northern Cumberlands . . . provid[ing] a strong foundation from which to initiate the planning for the HCP.”³³⁰ Finally, the grant calls for “development of an outreach program to engage additional partners, landowners and stakeholders in the HCP process.”³³¹ While the HCP is in its infancy and will eventually require much more funding, it does hold the potential for bringing groups and agencies together in protecting the outstanding, unique mussel populations in the region.

C. Looking Forward: An Interconnected Approach to BISO

The above discussion illustrates how various environmental laws can, and perhaps should, be stretched to accommodate external threats to BISO. However, their full value becomes clear only when one views them as providing one interconnected framework of environmental law. The best way to understand and deal with the imminent mining problems facing BISO is to first stop thinking in segmented terms.³³² That is, one should not geographically separate BISO into “inside” and “outside” the park, nor merely view SMCRA as a “surface mining statute” and the ESA as an “en-

³²⁸ See Press Release, U.S. Department of the Interior, Office of the Secretary, Secretary Norton Announces More than \$70 million in Grants to Support Land Acquisition and Conservation Planning for Endangered Species (Sept. 23, 2004), available at <http://www.doi.gov/news/040923b>.

³²⁹ *Id.*

³³⁰ *Id.*

³³¹ *Id.*

³³² See van Laack, *supra* note 63 at 902 (arguing for watershed approach to river protection in lieu of currently flawed “segmented approach”).

dangered species statute.” Instead, these laws and geographic segments are part of one regulatory scheme, with complementary provisions that enhance their respective goals and encourage cooperation and consultation among the various interested actors. This brief Section reviews some of the major evidence of geographic and legal interconnectivity. The concluding Section below, in turn, suggests how an interested actor can use these principles to form an overall legal strategy to force agencies to recognize geographic interconnectivity.

One overall interconnectivity theme is the cooperation and consultation provisions in the various statutes and regulations. For example, SMCRA section 101(k) envisions agency cooperation as the key to carrying out the goals of the statute.³³³ Similarly, under section 7(a)(2) of the ESA, agencies must consult with FWS when an endangered or threatened species may be involved.³³⁴ Even without this provision, species concerns are also likely to emerge through consultations during NEPA’s EIS process and required responses to public comments.³³⁵ The major import of the SMCRA lands unsuitable provisions, particularly section 522(e)(3), is also interagency communication.³³⁶ Finally, state and federal authorities are urged to work together; under Tennessee’s Antidegradation Statement, the state is to consult federal agencies with overlapping jurisdiction,³³⁷ while states in return are often allowed considerable flexibility and responsibility in running their programs under such laws as SMCRA.³³⁸ This consultation theme was not intended by Congress merely to create additional paperwork or red tape; rather, informed decision-making, with different agencies bringing their expertise to a complex problem and learning from each other, enables complex problems to be solved fairly, effectively, and even efficiently. Most tellingly, NPS’s most recent BISO update calls for cooperation as the key to BISO’s continued protection.³³⁹

Also suggesting legal interconnectivity are the environmental statutes’ and regulations’ various references to other laws. These provisions make clear that environmental values are intended to trump economic interests in some situations. For example, OSM’s regulations under SMCRA explicitly note that the interest in protecting endangered species outweighs mining interests, and thus the ESA takes precedence.³⁴⁰ OSM extends this deference to the ESA even in an “adjacent area” outside the geographic

³³³ 30 U.S.C. § 1201(k) (2005). *See supra* text accompanying note 114.

³³⁴ 16 U.S.C. § 1536(a)(2) (2005). *See supra* text accompanying note 223.

³³⁵ 42 U.S.C. § 4332 (2005). *See supra* text accompanying note 80.

³³⁶ 30 U.S.C. § 1272(e)(3). *See supra* note 168.

³³⁷ TENN. COMP. R. & REGS. 1200-4-3-.06(4) (2004). *See supra* text accompanying note 211.

³³⁸ 30 U.S.C. §§ 1253, 1272(a), 1254(a)(3) (state SMCRA programs); 30 C.F.R. § 736.23 (2005); *supra* text accompanying note 192 (federal SMCRA program).

³³⁹ *See supra* note 41 and accompanying text.

³⁴⁰ *See* 30 C.F.R. § 816.97 (2005); 48 Fed. Reg. 30,312, 30,320 (June 30, 1983), *codified at* 30 C.F.R. §§ 816–817; *supra* note 185 and accompanying text.

scope of a given permit proposal, “where a resource . . . [is] or reasonably could be expected to be adversely impacted by proposed mining operations.”³⁴¹ In other instances, these referential provisions note that there is no intended preemption or conflict with other laws. For example, SMCRA section 702 makes clear that no environmental laws are trumped or superseded by SMCRA.³⁴² Still other provisions, by borrowing language from other statutes, imply that similar protections should apply in both situations. Thus, BISO’s authorizing statute, by directly taking “unreasonably diminish” language from WSRA, may suggest similarly broad applicability, extending NPS authority beyond BISO’s borders.³⁴³ Similarly, the meaning of “adversely affect” in SMCRA section 522(e)(3),³⁴⁴ though a more commonly used term, can be gleaned from its usage elsewhere in SMCRA and in other statutes; the absence of any more onerous modifiers such as “significantly” hence suggests a lower threshold for SMCRA than in other contexts.³⁴⁵ Finally, the absence of preemptive language also suggests legal interconnectivity and consistency, illustrated by the allowance of stricter state ONRW protections under a federal SMCRA program, unless OSM explicitly preempts those laws with proper notice.³⁴⁶

In other contexts it appears that Congress and agencies may simply wish to afford another layer of substantive or procedural protection. That is, while more paperwork may be created, the general absence of regulatory flexibility in many contexts suggests that Congress intends all of its relevant statutes to apply and does not sanction shortcuts that may result in inadequate consideration of environmental factors. For example, the NEPA EIS is often a parallel requirement for any federal action affecting the environment. In many contexts, the work in creating an EIS may appear duplicative when all of the environmental considerations would seem to be considered in the necessary SMCRA permits, ESA Biological Opinions, lands unsuitable petitions, and other processes. In some cases, Congress does dispense with the NEPA requirements, such as in the adoption of state or federal lands programs under SMCRA.³⁴⁷ Yet, for those states under federal programs, the permitting actions themselves are *not* exempt from an EIS beforehand.³⁴⁸ Indeed, extensive NEPA informational demands may fall on permit applicants.³⁴⁹ Agencies themselves, in order to assure

³⁴¹ 30 C.F.R. § 701.5 (2005). *See also* 30 C.F.R. § 780.16(a), (b)(i), (c) (2005).

³⁴² 30 U.S.C. § 1292.

³⁴³ 16 U.S.C. §§ 460ee(f), 1278(a) (2005). *See supra* text accompanying note 62.

³⁴⁴ 30 U.S.C. § 1272(e)(3).

³⁴⁵ *See supra* note 168 and accompanying text.

³⁴⁶ 30 C.F.R. §§ 736.23, 764.1 (2005). *See supra* notes 192–193 and accompanying text.

³⁴⁷ 30 U.S.C. § 1292(d) (stating that such actions are not “major federal actions” triggering NEPA).

³⁴⁸ *See also* Clean Water Act § 511(c), 33 U.S.C. § 1371(c) (2005) (addressing issuance of section 402 permits and federal assistance to states for public treatment works, which do trigger NEPA).

³⁴⁹ *See* 30 C.F.R. § 942.773(b)(6) (2005).

compliance with NEPA, may also adopt a general practice of engaging in additional procedure. For example, OSM routinely does an EIS for every lands unsuitable petition it receives and reviews concerning a federal program state or any especially large project, despite the Secretary's final decision on the petition's merits or the scope of the area to be protected.³⁵⁰

Finally, there is much interconnectivity on the theme of environmental justice, protecting local communities as well as the environment itself. Several of the statutes envision agency coordination not only with other agencies and permit applicants, but also with citizens and local groups. For example, Tennessee's ONRW scheme contains a broad public participation clause,³⁵¹ and SMCRA's general provisions in section 101(c) invoke the interests of local communities as a limiting factor on approved mining.³⁵² Thus, environmental law is interested in both allowing more participation by those people most affected by proposed actions, as well as protecting them substantively from potentially adverse effects. These environmental justice benefits cannot be underestimated in considering the interconnected approach. If large-scale mining is coming back to the New River watershed, it is important that local communities are not exploited and that they share in the benefits, not just the burdens.

V. CONCLUSION

This discussion has suggested how a modern, complex environmental issue can be recast into solvable terms. The identified issue is the seeming inability of environmental law to protect special places such as National Parks against possible external threats. This frustration exists even though such lands and waters are afforded some of the highest legal protections, and is shared by policymakers, courts, lawyers, visitors, and local populations alike. Surface coal mining in Appalachia gives context to this dilemma; many in the region feel that more coal mining is inevitable in the absence of additional legislation from Congress or successful lobbying of OSM and TVA.

However, I have argued that perhaps the solution to this modern problem lies not just in new laws, but actually in the body of environmental law already in place. The argument starts with the premise that Congress's intention is to protect the values of National Parks and other special lands and waters for present and future generations. Since external activities in fact may prove just as damaging to such protected areas as activities occurring within them, the logic follows that Congress either intended, or else would have intended, to protect against those threats as well. That is, Con-

³⁵⁰ See Allen, *supra* note 81, at 161-62.

³⁵¹ TENN. COMP. R. & REGS. 1200-4-3-.06(1), (3)(a), (4) (2004). See *supra* notes 211-213 and accompanying text.

³⁵² See 30 U.S.C. § 1201(c), *supra* note 108 and accompanying text.

gress could not have meant to exalt form over substance, allowing harmful effects to continue simply due to an activity's relocation. This seeming end run would undermine the entire protective scheme.

The discussion then focused on several major environmental laws, suggesting that their various broad provisions, buttressed by legislative history, administrative regulations, and case law, should be extended to protect against external threats when damage to protected downstream areas would likely follow. Finally, the BISO case study gave a concrete example of how a comprehensive, interconnected approach to the region's geography and the various applicable laws could adequately address upstream mining dangers in the New River watershed.

As noted at the outset, this Article primarily offers another way of thinking about the problem posed by external threats to protected areas, suggesting that environmental law and agency jurisdiction are not as exclusive or limited as they may appear at first glance.³⁵³ However, the possibilities have not been exhausted here. Other contexts involving lands other than National Parks (e.g., wilderness areas and National Forests) and other possible external threats other than mining (e.g., logging or oil drilling) may have more to contribute on this topic. Furthermore, this Article does not even exhaust all the possible statutes in the mining context illustrating interconnectivity. For example, the Clean Air Act gives NPS the power to oppose air pollution permits within range of a National Park.³⁵⁴ The

³⁵³ Some may argue that the recent case *Norton v. Southern Utah Wilderness Alliance*, 542 U.S. 55 (2004) ("*SUWA*"), undercuts this argument by its general ruling barring suit against an agency where plaintiffs cited no discrete required duty to act. In response, this case of course does not undermine the exercise of re-thinking issues in the interconnected way presented herein, which is the main purpose of this Article. Moreover, in several situations including surface mining challenges, *SUWA* can be readily distinguished, as it does not categorically insulate agency actions (and inactions) from judicial review simply because they are pursuant to laws providing for some agency discretion. *M&T Mortgage Corp. v. White*, 2006 U.S. Dist. LEXIS 1903, at *31 n.1, *34-44 (E.D.N.Y. 2006). Judicial review under the APA is particularly more rigorous if decisions are categorized as final "agency actions" under section 706(1), 5 U.S.C. § 706(1), rather than inactions or "failure to act" under section 706(2), 5 U.S.C. § 706(2). *SUWA*, 542 U.S. at 63-64; *Heckler v. Chaney*, 470 U.S. 821, 831 (1985). Indeed, in the short time since the *SUWA* decision, the case has been distinguished no less than ten times, often on such grounds. *See M&T Mortgage Corp.*, 2006 U.S. Dist. LEXIS at *31 n.1 ("Norton did not overrule the long line of cases that review agency actions in which the 'law to apply' provides discretion to agencies."); *Forest Service Employees for Environmental Ethics v. U.S. Forest Service*, 397 F. Supp. 2d 1241, 1255-56 (D. Mont. 2005) (finding "broad" definition of reviewable "agency action" under NEPA and ESA, pursuant to congressional intent). These statements in the cases effectuating congressional intent suggest that the interconnectivity theory survives *SUWA*.

³⁵⁴ *See* 42 U.S.C. § 7470(2) (2005) (providing that the PSD rules are intended "to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value"); *id.* § 7475(d) (noting the affirmative responsibility of NPS to "protect the air quality related values (including visibility) of . . . Class I area[s]," including BISO as it is over six thousand acres in size, mandating "consultation" between EPA and NPS "to consider . . . whether a proposed major emitting facility [including "coal cleaning plants" per CAA § 169(1)] will have an *adverse impact* on such values;" and if so, not allowing air permits to be issued (absent a variance)) (emphasis added). This power has

Flood Control Act of 1928³⁵⁵ extends flood control authority on navigable streams to tributaries and watersheds.³⁵⁶ Similarly, the Clean Water Act, through section 404 fill permits³⁵⁷ as well as the nonpoint source discharge provisions,³⁵⁸ offers further means for extended protections.³⁵⁹ The interconnectivity framework presented in the mining context applies to these other statutes and contexts as well. Thus, the present approach, using environmental laws to their fullest extent and in conjunction with each other, could be used to address other pressing issues.³⁶⁰

Even with the various protections offered through the interconnected approach, there may be further obstacles to its achieving adequate park protection for BISO. There are currently pending rules in the Bush administration allowing oil and gas directional drilling that would directly affect

already been exercised in relationship to the Great Smoky Mountains National Park in Tennessee, not far from BISO. Jim Renfro, NPS scientist and park ranger, has been particularly instrumental in modeling the potential adverse effects to National Parks from nearby air pollution point sources.

³⁵⁵ 33 U.S.C. § 702(j) (2005) (vesting authority in the Army Corps of Engineers for flood control projects on all at-risk tributaries of the Mississippi River); *id.* § 701-1(a) (extending the principles of § 702(j) to all “rivers of the Nation,” but not altering in any way the application of the 1928 Act).

³⁵⁶ See *Oklahoma ex rel. Phillips v. Atkinson*, 313 U.S. 508, 516–17 (1941) (discussing earlier efforts to develop a national comprehensive flood control program). *But cf.* *Concerned Residents of Buck Hill Falls v. Grant*, 537 F.2d 29, 36–38 (3d Cir. 1976) (holding under NEPA and Watershed Protection and Flood Prevention Act, 16 U.S.C. §§ 1001–1012 (2005), which provided similar protections to tributaries, that because Congress did not speak to individual projects in the legislation as in the earlier Flood Protection statutes, the Soil Conservation Service could analyze costs of multi-dam watershed projects as a single unit). *Compare supra* notes 88–90 and accompanying text (discussing tiering and segmentation in NEPA context).

³⁵⁷ See *Ozark Soc’y v. Melcher*, 248 F. Supp. 2d 810 (E.D. Ark. 2003) (dealing with section 404 permit for NPS Buffalo River case).

³⁵⁸ See 33 U.S.C. § 1251(a)(7) (2005) (amending Clean Water Act policy goals to include nonpoint source pollution). Despite the 1987 introduction of Nonpoint Source Management Programs and Best Management Practices (“BMPs”) under the Clean Water Act section 319, *id.* § 1329, and state-set Total Maximum Daily Load (“TMDL”) requirements under section 303(d), *id.* § 1313, nonpoint source pollution is still a difficult issue for the Clean Water Act and federal regulation generally. Today, it largely remains a state prerogative, with only some grant money available at the federal level. One limited exception is the Coastal Nonpoint Source Pollution Control Program, part of the amended Coastal Zone Management Act of 1990, 16 U.S.C. § 6217 (2005) (mandating federally approved, state-set programs for nonpoint sources, yet applying only to coastal states and zones). See Cynthia J. Aukerman, *Agricultural Diffuse Pollution Controls: Lessons for Scotland from the Chesapeake Bay Watershed*, 20 J. LAND USE & ENVTL. L. 191, 241–45 (2004).

³⁵⁹ *But see* *Solid Waste Agency v. U.S. Army Corps of Eng’rs*, 531 U.S. 159 (2001) (narrowly defining “navigable waters” in the section 404 context).

³⁶⁰ Take, for example, another fossil fuel context, namely the expiration of the long-term ban on coastal oil drilling. See generally Philip Shabecoff, *House Panel Urges One-Year Ban on Oil Drilling Off Much of U.S.*, N.Y. TIMES, June 30, 1989, at A1 (off-shore ban has been renewed every year since); Carl Hulse, *Senate Votes to Permit Taking Inventory of Offshore Reserves*, N.Y. TIMES, June 13, 2003, at A29; Jeff Gerth, *Big Oil Steps Aside in Battle Over Arctic*, N.Y. TIMES, Feb. 30, 2005, at A12 (suggesting that the Arctic National Wildlife Refuge is an important step toward greater offshore drilling elsewhere in the United States).

BISO (at least on the Kentucky side).³⁶¹ In addition, a recent Executive Order (“EO”) may result in fewer denials of mining permit applications.³⁶² The EO requires a statement of energy effects when regulatory actions significantly affect energy supply, distribution, or usage; among its definitions of “significantly affect” are actions that would prevent over five million tons of coal from being mined, an amount of coal possibly present in and around the New River watershed.³⁶³ By the EO’s own terms, it is only aimed at the “internal management” of federal government. Nevertheless, its intention is to ensure an adequate domestic energy supply,³⁶⁴ and as such the EO could prove to be a disincentive to federal agencies to deny permits. The EO’s pro-development bias and its chilling tone toward denials may result in the issuance of more permits in borderline cases.

A final issue is how this interconnected strategy could actually be implemented. This issue faces groups like NPCA wishing to move forward quickly to block mining permits before it is effectively too late. The legal approach must be one that treats environmental law as a single regulatory framework and focuses on the interplay of different statutes in affording protection. Groups should at first try to gain access to the agency decision-making process through informal consultations. As the process progresses, if communication proves difficult or ineffective, groups may threaten suit to force agencies to take note of their concerns. In addition, they may file lands unsuitable petitions with OSM, which will at least delay the process while OSM considers them.³⁶⁵ The petition may at least provide an opportunity to communicate with the agency, and even if not fully granted, the size of the initial request will provide a starting point. The work done in creating the petition will also allow groups to search for endangered species that may implicate ESA protections. At the same time, groups may build a coalition, at the grassroots or national levels, to educate the public and garner its support. Finally, as a last resort, groups may bring suit against the agency or permit applicants on one or more statutory bases; ideally, the arguments would invoke the interconnectivity points emphasized here.

Ultimately, there are a number of ways in which the interconnected approach can factor into a workable legal strategy. The ideal mix likely in-

³⁶¹ See Press Release, Common Dreams Newswire, New Documents Reveal Bush Administration Allowed Drilling Under National Park Service Areas (Nov. 17, 2004), available at <http://www.commondreams.org/news2004/1117-10.htm>.

³⁶² Exec. Order No. 13,211, 66 Fed. Reg. 28,355 (May 18, 2001).

³⁶³ See *id.* (citing Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Sept. 30, 1993), further stating that “‘significant regulatory action’ means any regulatory action that is likely to result in a rule that may . . . [h]ave an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities.”)

³⁶⁴ 66 Fed. Reg. 28,355.

³⁶⁵ See 30 C.F.R. §§ 764.13, 769.1–.19 (2005). As described above, this complex process is already well underway for BISO, and environmental groups have already suffered a significant setback. See *supra* notes 137, 148 and accompanying text.

volves consultation, cooperation, education, and litigation components. Different statutes and arguments may prove more or less effective in achieving different goals. For example, NEPA, the ESA, and section 522(e)(3) may best effectuate consultations or joint approval. Alternatively, the organic statutes, the ESA, and the ONRW provisions provide effective *ex ante* protection even without any mining proposals. And several statutes deal with broad “adverse effects,” such as section 522(e)(3), NEPA (cumulative effects), or ONRWs (degradation). However, whatever the relative utility of these provisions, the key point is that they are not exclusive and work best when used together. Following the interconnected approach across both geographic and legal borders not only differs from current mainstream practice, but also achieves Congress’s and agencies’ underlying goal of protecting unique natural values for current and future generations. Interconnectivity will help ensure the production of these environmental benefits in protected areas, rather than merely the production of more coal.

