

Making Molehills Out of Mountaintop Removal: Mitigated “Minimal” Adverse Effects in Nationwide Permits

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The Army Corps of Engineers authorizes discharges that have enormous environmental effects under a streamlined “general permit” process reserved for activities with minimal impacts, relying on future mitigation to reduce the impacts of these discharges to minimal levels. For instance, until recently the Corps authorized valley fill disposal of overburden from mountaintop removal mining under a general permit, claiming that mitigation would cause net impacts to be minimal. These permitting decisions are given great deference by courts, despite the Corps’ failure to oversee mitigation and the scientific evidence that mitigation is not effective for certain types of impacts. Mitigation plans are not prepared at the time that general permits are issued, preventing meaningful public participation or effective judicial review of permitting decisions. Courts can and should apply greater scrutiny to the Corps’ decisions to issue general permits that rely on mitigation. In particular, courts should require detailed, defensible mitigation plans at the time general permits are issued. Doing so is proper under “hard look” review, and desirable because it would facilitate agency transparency, accountability, and reasoned decision making, and because the usual arguments for deferring to agency decisions are not applicable.

Introduction.....	182
I. Legal Framework: Clean Water Act Section 404 Permits	183
A. Individual Permits.....	184
B. General Permits	184
II. General Permit 21 and the “Minimal Adverse Effects” Fiction of Mountaintop Removal Mining	187
A. Introduction to Mountaintop Removal Mining.....	187

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1. Environmental Impacts.....	187
2. Effects on People.....	188
3. Compensatory Mitigation Measures for Mountaintop Removal Mining.....	189
B. Nationwide Permit 21.....	190
C. History of Litigation over Nationwide Permit 21.....	192
1. Kentucky Riverkeeper v. Rowlette.....	192
2. The Road Ahead.....	193
III. Are Mitigated Effects Minimal Effects?.....	193
A. Compensatory Mitigation.....	193
B. “Minimal Adverse Effects”.....	194
C. Does the CWA Authorize Compensatory Mitigation for General Permits?.....	195
IV. Courts Can Require Detailed, Defensible Pre-Issuance Mitigation Plans.....	196
A. “Super Deference”.....	196
B. “Hard Look” Review.....	197
C. Applying Hard Look Review to the Corps’ Findings of Minimal Adverse Effect.....	198
1. Procedural Requirements: Detailed Plans.....	198
2. Substantive Requirements: Defensible Plans.....	200
V. Courts Should Require Detailed, Defensible Pre-Issuance Mitigation Plans.....	201
A. Transparency and Accountability.....	201
B. Reasoned Decision Making.....	202
C. Policy Reasons for Deferring to Agencies Do Not Apply.....	203
Conclusion.....	204

INTRODUCTION

The Army Corps of Engineers can authorize discharge of dredged or fill material into U.S. waters through general permits, which have a streamlined process and little oversight, only for activities with minimal adverse effect on the environment. Yet, for years the Corps authorized mining companies to permanently fill valley streams with mining overburden from mountaintop removal coal mining under a general permit. The Corps relied on compensatory mitigation to reduce the impacts of mountaintop removal mining on streams and wetlands to minimal levels. That is, the Corps authorized tremendous environmental harm under general permits, with the promise that mining operators would make up for the damage later—despite the growing scientific evidence that such compensatory mitigation is ineffective.

In *Kentucky Riverkeeper v. Rowlette*, the court held that the Corps’ unsupported, conclusory finding of minimal adverse effect from mountaintop removal mining activities was arbitrary and capricious.¹ This outcome was a

1. *Ky. Riverkeeper, Inc. v. Rowlette*, 714 F.3d 402, 412 (6th Cir. 2013).

step in the right direction for environmental protection. Yet, the case also reflects the extreme deference that courts give the Corps in its decisions to issue general permits; the case was considered a big win for the environment simply because the court held the Corps to its statutory and regulatory duties.

In this Note, I examine the Corps' use of compensatory mitigation in general permits to authorize categories of activities that would otherwise have significant environmental effects. I use Nationwide Permit 21, a general permit authorizing dredge and fill associated with coal mining, as a case study throughout this Note to illustrate the real-world impacts of the Corps' reliance on compensatory mitigation when issuing general permits. While the Corps excluded mountaintop removal mining from Nationwide Permit 21, instead requiring that these mining activities be permitted individually, this resulted from an executive rather than a judicial decision.² There is no judicial backstop to enforce this change in the future, should the Corps reverse this policy. Additionally, a significant portion of general permits rely on compensatory mitigation to support their findings of minimal adverse effects on the environment.

I. LEGAL FRAMEWORK: CLEAN WATER ACT SECTION 404 PERMITS

In furtherance of the goal of “restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation’s waters,” the Clean Water Act (CWA) prohibits discharges of pollutants into “navigable waters” of the United States, unless authorized by a permit.³ Section 404 of the Clean Water Act empowers the Corps to issue permits for discharge of dredged or fill materials into streams and wetlands (commonly known as “section 404 permits”).⁴ The Environmental Protection Agency (EPA), however, is charged with developing the environmental criteria that the Corps uses in making permitting decisions,⁵ and has authority to veto a section 404 permit if it determines that the discharge “will have an unacceptable adverse effect.”⁶ Thus, the EPA and the Corps share enforcement authority.⁷

The Corps can issue two main types of section 404 permits: individual permits, which authorize an individual applicant’s project, and general permits, which authorize an entire category of activities all at once.⁸

2. MEMORANDUM OF UNDERSTANDING AMONG THE U.S. DEPARTMENT OF THE ARMY, U.S. DEPARTMENT OF THE INTERIOR, AND U.S. ENVIRONMENTAL PROTECTION AGENCY, IMPLEMENTING THE INTERAGENCY ACTION PLAN ON APPALACHIAN SURFACE COAL MINING 2, 4–5 (2009) [hereinafter MOU], available at http://water.epa.gov/lawsregs/guidance/wetlands/upload/2009_06_10_wetlands_pdf_Final_MTM_MOU_6-11-09.pdf.

3. See 33 U.S.C. §§ 1251(a), 1344(a) (2006).

4. *Id.* § 1344(a).

5. *Id.* § 1344(b).

6. *Id.* § 1344(c).

7. *Id.* § 1344.

8. *Id.* § 1344(e), (g)(1).

A. Individual Permits

The Clean Water Act requires individual permits for activities with “potentially significant impacts.”⁹ The Corps conducts case-by-case review of applications for individual permits, guided by regulations promulgated by the EPA (“404(b)(1) Guidelines”),¹⁰ and a public interest review process applicable to all Corps permitting decisions.¹¹ Despite their name, the 404(b)(1) Guidelines are in fact binding regulations¹² that prohibit discharge of dredged or fill material “unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern.”¹³ Consistent with this principle, the 404(b)(1) Guidelines mandate avoidance of harm through “practicable alternatives,”¹⁴ minimization of harm through “appropriate and practicable steps,”¹⁵ and compensatory mitigation for unavoidable adverse effects.¹⁶ The Corps’ public interest review requires a “general balancing process” that “reflect[s] the national concern for both protection and utilization of important resources.”¹⁷ Additionally, the Corps must provide notice and the opportunity for public hearings prior to issuance of a permit.¹⁸

B. General Permits

General permits provide a streamlined process for both the Corps and permittees by permitting an entire category of activities at one time, on a regional, state, or nationwide basis.¹⁹ General permits were first introduced by the Corps to manage its increased workload after the scope of its jurisdiction

9. *Section 404 Permitting*, EPA, <http://water.epa.gov/lawsregs/guidance/cwa/dredgdis/> (last updated Mar. 13, 2013).

10. 40 C.F.R. § 230.1 (2013). *See also* Clean Water Act Section 404(b)(1) Guidelines, 55 Fed. Reg. 9210 (Mar. 12, 1990) (noting that a Memorandum of Agreement between the EPA and Corps “provides clarification and general guidance regarding the level of mitigation necessary to demonstrate compliance with the Clean Water Act section 404(b)(1)”).

11. 33 C.F.R. § 320.4 (2013).

12. Lawrence R. Liebesman, *The Role of EPA’s Guidelines in the Clean Water Act § 404 Permit Program—Judicial Interpretation and Administrative Application*, 14 *Envtl. L. Rep. (Envtl. L. Inst.)* 10,272 (1984), available at <http://elr.info/sites/default/files/articles/14.10272.htm>.

13. 40 C.F.R. § 230.1.

14. The regulations provide that

[an] alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.

40 C.F.R. § 230.10.

15. *Id.* § 230.10(d).

16. Clean Water Act Section 404(b)(1) Guidelines, 55 Fed. Reg. 9210, 9212 (Mar. 12, 1990).

17. 33 C.F.R. § 320.4 (2013).

18. 33 U.S.C. § 1344 (2006).

19. *Id.* § 1344(e)(1).

was greatly expanded in 1975 by *NRDC v. Callaway*. *Callaway* held that all “waters of the U.S.” are “navigable waters” subject to Section 404 regulations.²⁰ Consequently, in 1977, the Corps adopted “interim final rules” that constituted the first general permits.²¹ The categories of activities authorized were:

- (1) Dredged or fill material placed as backfill or bedding for utility line crossings . . . provided there is no change in preconstruction bottom contours. . .
- (2) Material discharged for bank stabilization, provided that the bank stabilization activity is less than 500 feet in length . . .
- (3) Minor road crossing fills . . .
- (4) Fill placed incidental to the construction of bridges across tidal waters . . .
- (5) The repair, rehabilitation or replacement of any previously authorized, currently serviceable fill, or of any currently serviceable fill discharged prior to the requirement for authorization.²²

A few months after these first general permits were published, Congress approved and formalized the use of general permits in the 1977 Amendments to the Clean Water Act.²³ Congress adopted the Corps’ proposed requirements that activities in each category “are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment.”²⁴ Additionally, the corps may issue general permits for periods of five years or shorter, at which point the Corps may modify, reissue, or revoke a permit, following an opportunity for public review and comment.²⁵

Both the 404(b)(1) Guidelines and the Corps’ public interest review apply to general permits.²⁶ The 404(b)(1) Guidelines require the Corps to conduct written evaluations of the potential individual and cumulative impacts of activities it wishes to allow under a general permit.²⁷ The results of this evaluation must be published with the permit.²⁸ Furthermore, the regulations require that the Corps include “documented information supporting each factual determination” contained in these written evaluations.²⁹

Ordinarily, a general permit places limitations on the permitted activities, such as a cap on the number of wetland acres or stream feet that may be

20. ZACH C. MILLER & CHRISTOPHER M. KAMPER, ROCKY MOUNTAIN MINERAL LAW SPECIAL INST., USE OF NATIONWIDE AND OTHER GENERAL 404 PERMITS IN NATURAL RESOURCE DEVELOPMENT: OVERVIEW AND RECENT DEVELOPMENTS 4 (2002); see *Natural Res. Def. Council v. Callaway*, 392 F. Supp. 685, 686 (D.D.C. 1975).

21. See *Regulatory Programs of the Corps of Engineers*, 42 Fed. Reg. 37,122, 37,124 (July 19, 1977).

22. *Id.* at 37,146–47.

23. See Palmer Hough & Morgan Robertson, *Mitigation under Section 404 of the Clean Water Act: Where It Comes From, What It Means*, 17 WETLANDS ECOLOGY & MGMT. 15, 17–18 (2009).

24. 33 U.S.C. § 1344.

25. *Id.* § 1344(e)(2).

26. See 40 C.F.R. § 230.7 (2013); 33 C.F.R. § 320.4 (2013).

27. 40 C.F.R. § 230.7(b).

28. *Id.*

29. *Id.* § 230.7(b)(1).

impacted by each project.³⁰ Additionally, some general permits require that a permittee submit a preconstruction notification to the district engineer and receive written authorization before commencing the activity.³¹ The statute does not require that preconstruction notifications be posted for public review, and as a result, community members may not even be aware of a project until construction has begun.³²

The Corps has increasingly relied on general permits³³ to authorize dredge and fill associated with a wide spectrum of activities. Today, nationwide permits authorize approximately 40,000 activities per year that require reporting to the Corps, and approximately 30,000 activities that do not require reporting.³⁴ These activities range from relatively unobtrusive ones (aids to navigation, scientific measurement services, outfall structures and associated intake structures) to ones with the potential to cause substantial environmental harm (e.g., commercial and institutional developments, mining activities).³⁵ Environmentally damaging activities rely on post-issuance mitigation measures to mitigate adverse environmental effects to minimal cumulative levels.³⁶

The balance between economic efficiency and environmental protection in general permits has been controversial.³⁷ Environmental protection groups argue that general permits have failed to protect the environment, characterizing the program as a “rubber stamping” of projects that has led to significant wetlands losses.³⁸ On the other hand, industry groups argue that nationwide permits “have become increasingly restrictive and complex to the point that they faintly resemble the streamlined permitting process Congress envisioned when it enacted Section 404[.]”³⁹ Despite this contention, general

30. U.S. ARMY CORPS OF ENG'RS, SUMMARY OF THE 2012 NATIONWIDE PERMITS (2012), available at http://www.usace.army.mil/Portals/2/docs/civilworks/nwp/2012/NWP2012_sumtable_15feb2012.pdf.

31. See *id.*

32. Steven G. Davison, *General Permits under Section 404 of the Clean Water Act*, 26 PACE ENVTL. L. REV. 35, 68–69 (2009).

33. See Hough & Robertson, *supra* note 23, at 18. Individual permit applications declined from 17,864 in 1988 to 11,180 in 2005, while the number of general permit applications increased from 39,583 to 78,336. *Id.*

34. U.S. ARMY CORPS OF ENG'RS, NATIONWIDE PERMIT REISSUANCE (2012), available at http://www.usace.army.mil/Portals/2/docs/civilworks/nwp/NWP2012_factsheet_15feb2012.pdf.

35. U.S. ARMY CORPS OF ENG'RS, *supra* note 30.

36. Jon Devine, *The Corps' Nationwide Permits: Did Anyone Bother to Read the Law?*, NAT'L WETLANDS NEWSL., Aug. 2007, at 6, 7–9, available at <http://library.certh.gr/libfiles/E-JOURS/FULL-TXT/NWETLANDSNLTR-V-29-IS-4-Y-2007-PP-24.pdf>.

37. See CLAUDIA COPELAND, CONG. RESEARCH SERV., REP. NO. 97-223, THE ARMY CORPS OF ENGINEERS' NATIONWIDE PERMITS PROGRAM: ISSUES AND REGULATORY DEVELOPMENTS 8 (2012).

38. See, e.g., MELISSA SAMET, AMERICAN RIVERS AND NATIONAL WILDLIFE FEDERATION, A CITIZEN'S GUIDE TO THE CORPS OF ENGINEERS 131 (2009), available at <http://www.americanrivers.org/assets/pdfs/reports-and-publications/citizens-guide-to-the-corp.pdf> (“The significant losses attributable to the permitting program are perhaps not surprising since the Corps rarely denies a request for a § 404 permit. For example, between 2001 and 2003, the Corps denied fewer than one percent of the permits requested.”).

39. See COPELAND, *supra* note 37, at 8 (quoting NAT'L ASS'N OF HOME BUILDERS, ADVICE AND RECOMMENDATIONS OF THE NATIONAL ASSOCIATION OF HOME BUILDERS ON THE DEPARTMENT OF THE

permits still provide a significantly shorter, cheaper alternative to individual permits.⁴⁰ The average applicant for an individual permit spends 788 days and \$271,596 completing the permitting process, while the average applicant for a nationwide permit spends 313 days and \$28,915 (not counting costs of mitigation or design changes).⁴¹

II. GENERAL PERMIT 21 AND THE “MINIMAL ADVERSE EFFECTS” FICTION OF MOUNTAINTOP REMOVAL MINING

A. *Introduction to Mountaintop Removal Mining*

Mountaintop removal mining is a method of surface coal mining that uses millions of pounds of explosives per mine to remove the tops of mountains and expose coal seams.⁴² The process removes up to 1000 vertical feet of mountain—destroying the ecosystem, including any streams, present on the mountaintop.⁴³ Some of the material that once comprised the mountaintop, called overburden, is used to recontour the surface of the mountain after the coal has been extracted.⁴⁴ But not all of the overburden can be put back into place because its volume expands when broken up by explosives. Mining operators often dispose of excess overburden by filling valleys adjacent to mining sites, burying any springs or streams located in the valley.⁴⁵ Depending on topography, individual valley fills may be over 1000 feet wide and over a mile long.⁴⁶

1. *Environmental Impacts*

Not surprisingly, this type of mining has drastic environmental effects. Mountaintop removal mining disturbed about 400,000 acres of land, mostly forests, between 1994 and 2003⁴⁷ and generated thousands of valley fills⁴⁸ that

ARMY, CORPS OF ENGINEERS’ PROPOSAL TO REISSUE AND MODIFY NATIONWIDE PERMITS 3, 21, 44 (2006)).

40. See David Sunding & David Zilberman, *The Economics of Environmental Regulation by Licensing: An Assessment of Recent Changes to the Wetland Permitting Process*, 42 NAT. RESOURCES J. 59, 74–76 (2002).

41. See *id.*

42. *Mountaintop Removal 101*, APPALACHIAN VOICES, <http://appvoices.org/end-mountaintop-removal/mtr101/> (last visited Mar. 31, 2014).

43. EPA, THE EFFECTS OF MOUNTAINTOP MINES AND VALLEY FILLS ON AQUATIC ECOSYSTEMS OF THE CENTRAL APPALACHIAN COALFIELDS 7 (2011).

44. *Id.*

45. *Id.*

46. CLAUDIA COPELAND, CONG. RESEARCH SERV., REP. NO. RS21421, MOUNTAINTOP MINING: BACKGROUND ON CURRENT CONTROVERSIES 1 (2013).

47. U.S. GOV’T ACCOUNTABILITY OFFICE, REP. NO. GAO-10-206, SURFACE COAL MINING: FINANCIAL ASSURANCES FOR, AND LONG-TERM OVERSIGHT OF, MINES WITH VALLEY FILLS IN FOUR APPALACHIAN STATES 2–3 (2010).

48. *Id.*

buried over 1200 miles of stream channels.⁴⁹ In addition to permanently burying streams, a recent EPA study found that mountaintop removal mining is detrimental to downstream ecosystems, causing toxic selenium concentrations and, in some cases, water quality so poor that it is acutely lethal to laboratory test organisms.⁵⁰

2. *Effects on People*

Mountaintop removal mining also threatens the health and wellbeing of nearby residents. People are exposed to pollutants associated with mountaintop removal mining by drinking contaminated well water, eating contaminated fish, coming into contact with contaminated streams, and breathing airborne toxins.⁵¹ The mines, which are often operated twenty-four hours per day, seven days per week, produce lung-clogging dust, constant noise, falling rocks, and an increase in the incidence of flashfloods.⁵²

Studies have linked coal mining in Appalachia, including mountaintop removal mining, to a wide range of health problems.⁵³ Controlling for other factors, one study found that mortality rates in Appalachian coal mining areas “lag about 24 years behind national rates outside Appalachia.”⁵⁴ Other studies have linked mountaintop removal mining to increased rates of birth defects.⁵⁵ And a study looking at health-related quality of life concluded that “[m]ountaintop mining areas are associated with the greatest reductions in health-related quality of life even when compared with counties with other forms of coal mining.”⁵⁶

Mountaintop removal mining’s demolition of Appalachia’s natural heritage represents an additional harm. As one mountaintop removal opposition group puts it, “the streams affected by valley fills—even the little ones the industry insists aren’t streams at all—belong to the citizens of West Virginia.

49. Emily S. Bernhardt & Margaret A. Palmer, *The Environmental Costs of Mountaintop Mining Valley Fill Operations for Aquatic Ecosystems of the Central Appalachians*, 1223 ANN. N.Y. ACAD. SCI. 39, 39–57 (2011).

50. EPA, *supra* note 43, at 1.

51. Margaret A. Palmer et al., *Mountaintop Mining Consequences*, 327 SCI. 148, 148 (2010).

52. See, e.g., *Massey Valley Fill Disaster Lyburn WV*, OHIO VALLEY ENVTL. COALITION (July 19, 2002), http://ohvec.org/galleries/mountaintop_removal/006/index.html; *Community Impacts of Mountaintop Removal*, APPALACHIAN VOICES, <http://appvoices.org/end-mountaintop-removal/community/> (last visited Mar. 31, 2014).

53. See, e.g., Michael Hendryx, *Mortality Rates in Appalachian Coal Mining Counties: 24 Years Behind the Nation*, 1 ENVTL. JUST. 5, 8 (2008); OHIO VALLEY ENVTL. COAL., THE ASSOCIATION BETWEEN MOUNTAINTOP MINING AND BIRTH DEFECTS AMONG LIVE BIRTHS IN CENTRAL APPALACHIA, 1996–2003 (FACT SHEET) 1, available at http://www.ohvec.org/issues/mountaintop_removal/articles/health/OVEC_birth_defects_fact_sheet.pdf (last visited Mar. 31, 2014); Keith J. Zullig & Michael Hendryx, *Health-Related Quality of Life Among Central Appalachian Residents in Mountaintop Mining Counties*, 105 AM. J. PUB. HEALTH 848, 848 (2011).

54. See Hendryx, *supra* note 53, at 8.

55. See OHIO ENVTL. COAL., *supra* note 53, at 1.

56. Zullig & Hendryx, *supra* note 53, at 848.

They are common property.”⁵⁷ The loss of mountains, and the ecosystems that they support, results in a loss of culture and a way of life for local residents.⁵⁸ Collectively, these health, safety, and quality of life impacts take an enormous toll on Appalachian communities.

3. *Compensatory Mitigation Measures for Mountaintop Removal Mining*

The term “mitigation” describes measures aimed at reducing the impact of a project, including avoiding environmental harm in the first place, while the term “compensatory mitigation” refers specifically to measures intended to compensate for past environmental harms. Compensatory mitigation for mountaintop removal mining may take a variety of forms, including: creation of new stream channels to replace streams that have been filled; restoring riparian resources; enhancing or improving existing stream channels; improving fish habitat; controlling sediment and pollution; reforesting areas adjacent to the mining site; and removing stream encroachments such as roads, ponds, and other fills.⁵⁹

Scientific studies indicate that compensatory mitigation has been largely ineffective for mountaintop removal mining.⁶⁰ A recent survey of peer-reviewed literature concluded that “[c]urrent mitigation strategies are meant to compensate for lost stream habitat and functions but do not; water-quality degradation caused by mining activities is neither prevented nor corrected during reclamation or mitigation.”⁶¹ Similarly, the EPA called for additional study of some mitigation measures, but emphasized that the persistent presence of elevated toxic chemicals and long term alteration of ecosystems downstream of valley fills proves that reclamation has been less than successful.⁶²

Stream creation in reclaimed mining lands is a particularly problematic form of compensatory mitigation.⁶³ To start with, there is no documented successful stream creation in any setting, indicating that the practice is beyond our current scientific understanding.⁶⁴ Additionally, creating streams on reclaimed mine lands poses unique challenges; for example, mining reclamation significantly alters the land gradient and turns forests into grasslands, making reproduction of the original stream habitat unlikely.⁶⁵ This means that any streams created are unlikely to support the same types of

57. Bryan McNeil, Editorial, *Acts of Violence: Coal Companies Trample on Public, Private Property*, CHARLESTON GAZETTE, June 2, 2005, at P5A.

58. OHIO VALLEY ENVTL. COAL., THE SOCIAL AND CULTURAL EFFECTS OF MOUNTAINTOP REMOVAL/ VALLEY FILL COAL MINING 53 (2004), available at http://www.ohvec.org/issues/mountaintop_removal/articles/EIS_social_cultural.pdf.

59. EPA, *supra* note 43, at 85.

60. See, e.g., Palmer et al., *supra* note 51, at 149; EPA, *supra* note 43, at 96.

61. Palmer et al., *supra* note 51, at 149.

62. EPA, *supra* note 43, at 96.

63. See, e.g., Palmer & Bernhardt, *supra* note 49, at 4.

64. This conclusion is based on a review of “over 38,000 projects in the most comprehensive database of restoration.” *Id.*

65. *Id.*

ecosystems as the streams that were filled with overburden.⁶⁶ Finally, valley fill often destroys ephemeral and intermittent streams, but the streams created are often perennial streams.⁶⁷ These two stream types support distinct ecosystems, and swapping one for the other causes permanent loss of certain organisms from that area.⁶⁸

Given the dubious benefits of compensatory mitigation, one might assume that the Corps has taken precautions to ensure the success of mitigation measures, but unfortunately it has not.⁶⁹ Indeed, the Government Accountability Office reported in 2005 that the Corps “performed limited oversight to determine the status of compensatory mitigation.”⁷⁰ The Corps is authorized to require financial assurances that compensatory mitigation will be successfully completed by mining operators, but has not done so for any mountaintop removal activities authorized by general permits in Kentucky, West Virginia, Tennessee, or Virginia.⁷¹ The Corps explained its decision not to require financial assurances by stating, in part, that the Corps assumed that mine operators would comply with compensatory mitigation requirements without financial assurances, and that the Corps did not have evidence at the time the mitigation projects were approved (and when financial assurances could be imposed) that the mitigation projects would *not* be successful.⁷²

B. *Nationwide Permit 21*

Despite the environmental damage that mountaintop removal mining causes, the Corps authorized many mountaintop removal valley fills under Nationwide Permit 21, a general permit authorizing surface mining activities.⁷³ Nationwide Permit 21 relies on post-issuance compensatory mitigation measures to reduce cumulative adverse effects to minimal levels.⁷⁴ Yet, the 2007 Decision Document for Nationwide Permit 21 did not contain any information on the methods of compensatory mitigation that would be used, or where the mitigation would be conducted.⁷⁵ Instead, the document simply stated that, “[activities permitted under Nationwide Permit 21 could] result[] in impacts to approximately 320 acres of waters of the United States, including

66. *Id.*

67. *Id.*

68. *Id.*

69. For example, the U.S. Government Accountability Office concluded that the Corps performed limited oversight over mitigation projects, and rarely used enforcement actions available to them to resolve violations. See U.S. GOV'T ACCOUNTABILITY OFFICE, REP. NO. GAO-05-898, CORPS OF ENGINEERS DOES NOT HAVE AN EFFECTIVE OVERSIGHT APPROACH TO ENSURE THAT COMPENSATORY MITIGATION IS OCCURRING 1 (2005).

70. *Id.*

71. See, e.g., U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 47, at 21.

72. *Id.*

73. See *Ky. Riverkeeper v. Rowlette*, 714 F.3d 402, 405 (2013).

74. See *id.*

75. See U.S. ARMY CORPS OF ENG'RS, DECISION DOCUMENT NATIONWIDE PERMIT 21 (2007), available at http://www.eswr.com/docs/latest/307/NWP_21_2007.pdf.

jurisdictional wetlands. Approximately 540 acres of compensatory mitigation would be required to offset those impacts.⁷⁶ Nationwide Permit 21 requires written authorization from the Corps before projects can proceed under the permit; historically, the Corps has approved nearly every application for valley fill associated with mountaintop removal mining.⁷⁷

However, starting in 2012, in response to pressure from the Obama administration, new mountaintop removal mining activities cannot be authorized under Nationwide Permit 21.⁷⁸ In 2009, the EPA, Corps, and the Department of Interior signed a Memorandum of Understanding and Interagency Action Plan “designed to significantly reduce the harmful environmental consequences of Appalachian surface coal mining operations, while ensuring that future mining remains consistent with federal law.”⁷⁹ Included in the Memorandum of Understanding was a proposal by the Corps to modify Nationwide Permit 21 to exclude the discharge of fill material into streams for surface coal mining activities in the Appalachian region from coverage under the general permit, explaining that:

the Corps now believes that impacts of these activities on jurisdictional waters of the United States, particularly cumulative impacts, would be more appropriately evaluated through the individual permit process, which entails increased public and agency involvement, including an opportunity for public comment on individual projects.⁸⁰

Existing mountaintop removal mining projects that had been operating under the previous version of Nationwide Permit 21, however, were authorized to continue.⁸¹ And like the Bush-era policies that this Memorandum of Understanding overturned,⁸² these new policies are vulnerable to reversal by a new administration.⁸³

76. *Rowlette*, 714 F.3d at 412 (citing U.S. ARMY CORPS OF ENG’RS, *supra* note 75, at 22).

77. Julia Fuschino, *Mountaintop Coal Mining and the Clean Water Act: The Fight Over Nationwide Permit 21*, 34 B.C. ENVTL. AFF. L. REV. 179, 193 (2007).

78. See COPELAND, *supra* note 46, at 8.

79. See MOU, *supra* note 2, at 2.

80. Proposed Suspension and Modification of Nationwide Permit 21, 74 Fed. Reg. 34,311, 34,313 (July 15, 2009).

81. See U.S. ARMY CORPS OF ENG’RS, *supra* note 75, at 1.

82. See, e.g., Press Release, EPA, Obama Administration Takes Unprecedented Steps to Reduce Environmental Impacts of Mountaintop Coal Mining, Announces Interagency Action Plan to Implement Reforms (June 11, 2009), <http://yosemite.epa.gov/opa/admpress.nsf/0/E7D3E5608BBA2651852575D200590F23> (“The steps we are taking today are a firm departure from the previous Administration’s approach to mountaintop coal mining, which failed to protect our communities, water, and wildlife in Appalachia,” said Secretary Salazar.”).

83. See Diana Kaneva, *Let’s Face Facts, These Mountains Won’t Grow Back: Reducing the Environmental Impact of Mountaintop Removal Coal Mining in Appalachia*, 35 WM. & MARY ENVTL. L. & POL’Y REV. 931, 958 (2011).

C. History of Litigation over Nationwide Permit 21

In addition to challenges to Nationwide Permit 21 on other grounds,⁸⁴ several lawsuits have challenged the finding of minimal adverse effects on the environment associated with the permit.⁸⁵ For example, in *Ohio Valley Environmental Coalition v. Bulen*, a federal district court held that the Corps violated the CWA by authorizing activities that may have greater than minimal impacts under Nationwide Permit 21, and enjoined the Corps from authorizing new mountaintop removal mining projects in the Southern District of West Virginia under the general permit.⁸⁶ However, the case was overturned on appeal.⁸⁷ A similar case was brought in the Southern District of West Virginia, and the district court held that the Corps' analysis of cumulative impacts was inadequate, and its reliance on post-issuance compensatory mitigation was arbitrary and capricious.⁸⁸

Kentucky Riverkeeper filed yet another suit against the Corps, challenging, among other things, the lack of documentation supporting the Corps' finding that mitigation would reduce environmental impacts to minimal levels for activities permitted under Nationwide Permit 21.⁸⁹ The Eastern District of Kentucky upheld the permit, reasoning that the Corps' decision to rely on post-issuance mitigation plans when it determined that activities authorized under the permit had minimal adverse effects was not arbitrary and capricious.⁹⁰

I. Kentucky Riverkeeper v. Rowlette

The Eastern District of Kentucky's decision was overturned on appeal in the most recent Nationwide Permit 21 court opinion, *Kentucky Riverkeeper v. Rowlette*.⁹¹ In its ruling, the Sixth Circuit held that the Corps' unsupported conclusion that environmental impacts would be mitigated to minimal levels did not meet the CWA's requirements.⁹² The court stated: "We acknowledge that the Corps may rely on post-issuance mitigation procedures to minimize environmental impacts, but in making a minimal-cumulative-impact finding, it

84. See, e.g., *Bragg v. W. Va. Coal Ass'n*, 248 F.3d 275, 285 (4th Cir. 2001); *Kentuckians for Commonwealth Inc. v. Rivenburgh*, 317 F.3d 425 (4th Cir. 2003) (both regarding whether mountaintop removal valley fill must be regulated under section 402 or 404 of the CWA).

85. See *Ohio Valley Envtl. Coal. v. Bulen*, 410 F. Supp. 2d 450, 465–66, 471 (S.D. W. Va. 2004), *modified in part*, No. 3:03-2281, 2004 WL 2384841 (S.D.W. Va. 2004), *aff'd in part, vacated in part*, 429 F.3d 493 (4th Cir. 2005) and *aff'd in part, vacated in part*, 429 F.3d 493 (4th Cir. 2005); *Ohio Valley Envtl. Coal. v. Aracoma Coal Co.*, 556 F.3d 177, 188 (4th Cir. 2009); *Ky. Riverkeeper, Inc. v. Midkiff*, 800 F. Supp. 2d 846, 871 (E.D. Ky. 2011), *rev'd*, *Ky. Riverkeeper Inc. v. Rowlette*, 714 F.3d 402 (6th Cir. 2013).

86. See *Ohio Valley Envtl. Coal.*, 410 F. Supp. 2d at 466, 471.

87. See *Ohio Valley Envtl. Coal. v. Bulen*, 429 F.3d 493, 498 (4th Cir. 2005).

88. See *Ohio Valley Envtl. Coal. v. Hurst*, 604 F. Supp. 2d 860, 883 (S.D. W. Va. 2009).

89. *Ky. Riverkeeper, Inc.*, 800 F. Supp. 2d 846.

90. *Id.* at 876.

91. See *Ky. Riverkeeper*, 714 F.3d at 404.

92. *Id.* at 413.

must, at a minimum, provide some documented information supporting that finding.”⁹³

2. *The Road Ahead*

While requiring “some documented information” to support a finding of minimal adverse effect may seem like a mundane outcome, in many ways it was a significant step forward, given the deference that courts generally give the Corps’ section 404 permitting decisions.⁹⁴ Questions remain regarding how courts will respond to future challenges to general permits that rely on compensatory mitigation to meet the “minimal adverse effect” requirement. For example, how much documented information will courts require to support a finding of minimal cumulative adverse effect on the environment, and how much scrutiny will they apply to this documented information? Given courts’ general deference to the Corps’ actions relating to issuing both individual and general permits under section 404, the answer might be that any piece of “documented information” will suffice, whether or not it is actually supported by science. But legal doctrine, including applicable standards of review, does not dictate this outcome.

In the remainder of this Note, I map out a potential road ahead for judicial review of mitigated findings of minimal adverse effect. First, I examine compensatory mitigation and the term “minimal adverse effect” to determine whether the CWA authorizes the Corps to issue general permits for activities that have minimal impacts only after compensatory mitigation is completed. Next, I argue that courts can and should aggressively review findings of minimal cumulative adverse effect on the environment, requiring not only that the Corps explain its finding, but also that this finding is based on sound, defensible science.

III. ARE MITIGATED EFFECTS MINIMAL EFFECTS?

A. *Compensatory Mitigation*

Section 404 of the CWA does not expressly authorize the Corps to require that permit applicants mitigate the impacts of their activities; in fact, the word “mitigate” does not even appear in section 404.⁹⁵ However, compensatory mitigation has been a popular permitting option since the beginning of the section 404 permitting program.⁹⁶ Some argue that it “grew as a consequence

93. *Id.*

94. *See infra* Part IV.D (discussing the particularly deferential type of “arbitrary and capricious review” that courts have implemented in some cases challenging section 404 permits).

95. NAT’L RESEARCH COUNCIL, COMPENSATING FOR WETLAND LOSSES UNDER THE CLEAN WATER ACT 64 (2001).

96. WILLIAM L. KRUCZYNSKI, *Mitigation and the Section 404 Program: A Perspective*, in WETLAND CREATION AND RESTORATION: THE STATUS OF THE SCIENCE 137, 139 (Jon A. Kusler & Mary E. Kentula eds., 1989).

of the [Corps' and EPA's] minimal use of their CWA authorities."⁹⁷ That is, because the Corps was unlikely to deny a permit, even for a project with significant environmental harm, and the EPA was unlikely to veto a permit for such a project, an opening was created for applicants to simply assert that compensatory mitigation would reduce impacts to minimal levels.⁹⁸ Section 404 greatly expanded the Corps' regulatory authority, pitting it against its traditional allies, such as farmers (before agricultural activities were exempted in 1977) and developers.⁹⁹ This perhaps explains, at least in part, the Corps' reluctance to deny permits. Additionally, the EPA's hesitancy to use its veto power, at least in the early days of section 404 permitting, was attributed in part to the uncertainty around the extent of EPA's powers under section 404, "and in part because of the relatively low priority accorded the 404 program within EPA."¹⁰⁰ Compensatory mitigation provides a way for at least the on-paper environmental impacts of nearly any discharge of dredged or fill materials to be minimal. In 2003, 19 percent of general permits and 51 percent of individual permits required compensatory mitigation.¹⁰¹ Of course, if mine operators do not end up implementing these mitigation measures, or the mitigation does not have the environmental benefits intended, environmental impacts may in fact be significant.

B. "Minimal Adverse Effects"

The applicable regulations or code do not quantify or define the term "minimal adverse effects."¹⁰² Therefore, the Corps' regulatory staff has discretion in determining what constitutes a "minimal impact."¹⁰³ Examining the types of general permits that the Corps had approved before congressional authorization of general permits in the 1977 CWA Amendments provides insight into the types of activities that Congress envisioned as causing "minimal adverse effects," and thus being eligible for authorization under a general permit. These original five categories of activities were utility line crossings, bank stabilization, minor road crossing fills, fill placed incidental to the construction of bridges across tidal waters, and the repair, rehabilitation, or replacement of previously authorized fill.¹⁰⁴ Thus, with the exception of the

97. See Hough & Robertson, *supra* note 23, at 17.

98. See *id.*

99. Garrett Power, *The Fox in the Chicken Coop: The Regulatory Program of the U.S. Army Corps of Engineers*, 63 VA. L. REV. 503, 524 (1977).

100. Michael C. Blumm & D. Bernard Zaleha, *Federal Wetlands Protection under the Clean Water Act: Regulatory Ambivalence, Intergovernmental Tension, and a Call for Reform*, 60 U. COLO. L. REV. 695, 741-42 (1989).

101. See Steve Martin et al., *Compensatory Mitigation Practices in the U.S. Army Corps of Engineers* 3, (U.S. Army Corps of Eng'rs Working Paper 2006), available at http://www.eli.org/sites/default/files/docs/mitigation_status_2005.pdf.

102. See 33 C.F.R. § 330.2 (2013); 33 U.S.C. § 1344 (2006).

103. NAT'L RESEARCH COUNCIL, *supra* note 95, at 67.

104. Regulatory Programs of the Corps of Engineers, 42 Fed. Reg. 37,122, 37,146-47 (July 19, 1977).

repair and upkeep of previously authorized fill, the examples of activities presented to Congress that the Corps considered to have minimal adverse effects were stream-crossings that involved very short stream segments, and activities specifically aimed at environmental protection.¹⁰⁵ These activities have minimal impacts, as understood by the plain meaning of the word minimal—in contrast to the previously described impacts of mountaintop removal mining.¹⁰⁶

C. Does the CWA Authorize Compensatory Mitigation for General Permits?

The CWA does not explicitly state whether the gross or the net adverse environmental effects of an activity must be “minimal” in order to qualify for a general permit.¹⁰⁷ However, the language of the statute implies that the intent was for gross impacts to be minimal. The statute requires that the effects of activities, *both separately and cumulatively*, be minimal.¹⁰⁸ It is possible to interpret the requirement that cumulative impacts be minimal to mean that net impacts must be minimal—that is, adding together all of the negative effects of activities plus the positive effects of mitigation, the effects must be minimal. But Congress expressly required that the effects of each activity also be *separately* minimal. This implies that Congress meant that, when looking exclusively at the negative effects of each activity (not taking into account any other factors), impacts must be minimal. Under this reading, findings of minimal adverse effect that are based on compensatory mitigation would be prohibited. Additionally, that statute requires that each activity separately “cause” (rather than “result in”) minimal cumulative impacts, further supporting this interpretation.¹⁰⁹

Despite indications in the language and legislative history of section 404 that Congress did not contemplate that activities would be permitted under general permits that only have minimal adverse effects *after being mitigated*, it would be difficult to argue that the statute is not ambiguous with regard to whether findings of minimal adverse effect may be based on mitigated impacts. Therefore, under the *Chevron* doctrine, courts will likely continue to defer to the Corps’ interpretation of the statute as authorizing mitigated findings of minimal adverse effect.¹¹⁰ There is, however, one potential administrative fix: EPA is empowered to develop the environmental criteria that the Corps uses in making permitting decisions,¹¹¹ and could therefore define “minimal adverse effect” as effects that are minimal without compensatory mitigation.

105. *See id.*

106. *See supra* Part II.A.

107. *See* 33 U.S.C. § 1344.

108. *Id.* § 1344(e)(1).

109. *Id.*

110. *See generally* *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984).

111. *See* Hough & Robertson, *supra* note 23, at 17.

IV. COURTS CAN REQUIRE DETAILED, DEFENSIBLE PRE-ISSUANCE MITIGATION PLANS

While courts may not have the legal authority to strike down the use of compensatory mitigation in general permits, they do have the authority to require that general permits are only granted for projects that will actually have minimal effects. For example, they can require information supporting the Corps' conclusions that compensatory mitigation will decrease impacts to minimal levels. Challenges to the Corps' decisions to issue section 404 permits are brought under the Administrative Procedure Act.¹¹² The Act directs courts to "hold unlawful and set aside agency action, findings, and conclusions found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law" ("arbitrary and capricious review").¹¹³ However, the way in which courts implement "arbitrary and capricious review" can vary widely, from giving extreme deference to agency decisions, to conducting a more rigorous review that ensures that the agency took a "hard look" at its decision.

A. "Super Deference"

In *Baltimore Gas & Electric Co. v. Natural Resources Defense Council*,¹¹⁴ the Supreme Court reviewed a decision of the Nuclear Regulatory Commission with respect to the licensing of nuclear power plants. The Court held that where agencies are making decisions "at the frontiers of science," the reviewing court "must be at its most deferential."¹¹⁵ One scholar has termed this type of deference "super deference."¹¹⁶ Super deference allows the court to stay out of highly technical decisions, and instead leave those decisions to the agency acting within its area of expertise.¹¹⁷ This high level of deference is warranted because "it is supported by basic notions of institutional competence and plays into a natural judicial tendency to avoid any deep confrontations with science."¹¹⁸

Courts have cited *Baltimore Gas* to invoke "super deference" in reviewing Nationwide Permit 21.¹¹⁹ For example, in *Ohio Valley Environmental Coalition v. Aracoma Coal Co.*, the court stated the applicable standard of review as follows: "Review under this standard is highly deferential, with a presumption in favor of finding the agency action valid. Especially in matters involving not just simple findings of fact but complex predictions based on

112. Ky. Riverkeeper v. Rowlette, 714 F.3d 402, 407 (6th Cir. 2013).

113. 5 U.S.C. § 706(2)(A) (2012).

114. 462 U.S. 87, 89 (1983).

115. *Id.* at 103.

116. Emily Hammond Mezell, *Super Deference, the Science Obsession, and Judicial Review As Translation of Agency Science*, 109 MICH. L. REV. 733, 735 (2011).

117. *See id.*

118. Mezell *supra* note 116, at 734.

119. *See, e.g., Ohio Valley Envtl. Coal. v. Aracoma Coal Co.* 556 F.3d 177, 192 (4th Cir. 2009) (citing *Natural Res. Def. Council, Inc. v. EPA*, 16 F.3d 1395, 1400 (4th Cir.1993); *Balt. Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 103 (1983)).

special expertise, ‘a reviewing court must generally be at its most deferential.’”¹²⁰

Not surprisingly, given its framing of the standard of review, the court in *Ohio Valley Environmental Coalition* held that the Corps had not acted arbitrarily and capriciously in issuing Nationwide Permit 21, despite the permit’s reliance on post-issuance compensatory mitigation measures. The court stated that “neither [section 404] nor any other provision of the CWA specifies how the Corps must make the minimal-impact determinations, the degree of certainty that must undergird them, or the extent to which the Corps may rely on post-issuance procedures in making them.”¹²¹

In *Rowlette*, however, the court also cited *Baltimore Gas* and still found that the Corps’ issuance of Nationwide Permit 21 was arbitrary and capricious, stating that “though we generally give greatest deference to an agency’s ‘complex scientific determination[s] within its area of special expertise,’ we may not excuse an agency’s failure to follow the procedures required by duly promulgated regulations.”¹²² Comparing *Rowlette* with *Ohio Valley Environmental Coalition* illustrates the extreme extent of the court’s deference in *Ohio Valley Environmental Coalition*. There, the court upheld the Corps’ finding despite the fact that the Corps failed to provide documented information for their finding, as required by the statute.

B. “Hard Look” Review

“Hard look review” describes the less deferential end of the spectrum of arbitrary and capricious review. Under this type of review, courts require that agencies take a “hard look” at all relevant information and then make a reasoned decision. Hard look review was first endorsed by the Supreme Court in *Motor Vehicle Manufacturers Ass’n of the United States, Inc. v. State Farm Mutual Automobile Insurance Co.*¹²³ In that case, the Court articulated the standard of review as follows:

[n]ormally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.¹²⁴

Under hard look review, “[t]he court is not empowered to substitute its judgment for that of the agency,”¹²⁵ however, it may aggressively ensure that

120. *Id.*

121. *Ohio Valley Envntl. Coal. v. Bulen*, 429 F.3d 493, 500 (4th Cir. 2005).

122. *Ky. Riverkeeper v. Rowlette*, 714 F.3d 402, 413 (6th Cir. 2013) (quoting *Balt. Gas & Elec. Co.*, 462 U.S. at 103).

123. 463 U.S. 29, 43–44 (1983).

124. *Id.*

125. *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971), *overruled on other grounds by Califano v. Sanders*, 430 U.S. 99 (1977).

the agency has made a reasoned decision.¹²⁶ Indeed, one article reviewing deference to agency science concluded that courts have moved away from super deference, “returning to a hard-look approach that systematically describes and evaluates each major scientific contention.”¹²⁷

C. Applying Hard Look Review to the Corps’ Findings of Minimal Adverse Effect

Applying hard look review, courts can require not only that the Corps follow the required procedure, but can also evaluate the factual findings the Corps presents in its finding of minimal cumulative effect. This review could—and, as I argue below, should—require the Corps to provide a detailed mitigation plan. The plan should, for example, contain a list of specific, scientifically defensible mitigation measures that a mining company must demonstrate in their pre-construction notification at the time that a nationwide permit is authorized.

1. Procedural Requirements: Detailed Plans

It has not been the practice of the Corps to provide detailed mitigation plans at the time it issues nationwide permits,¹²⁸ and therefore there is no case law regarding how much detail such a plan would be required to have. However, courts have considered a similar issue in the context of findings of no significant impact (FONSI) under the National Environmental Policy Act. Under the Act, an agency must produce a full Environmental Impact Statement (EIS) “only where the agency proposes to undertake a project that qualifies as a

126. See, e.g., 2 WILLIAM H. RODGERS, *RODGERS’ ENVIRONMENTAL LAW* § 4:3 (2013). (stating that

The hard look claims heavy casualties across the procedural spectrum—inadequate publication, unacceptable explanation, reliance upon unreadable or indecipherable data, use of ‘shifting and inconsistent rationales’ and vague prohibitions, the substitution of cheerleading for hard analysis, failures to explore the costs and benefits of the proposed regulation, imposition of burdens that appear to have no conceivable environmental advantage, confused and capricious analysis, nondisclosure of data, lack of a ‘coherent discussion’ and the appearance of admitted errors, repaired by hasty and shifting assumptions, an important calculation undone, failure to come to grips with an industry study, the application of fine-tuned pleading requirements in disapproving a state-endorsed variance, and sundry other slips, mishaps, deceptions, and foreclosures.”)

(footnotes omitted).

127. Meazell, *supra* note 116, at 772.

128. See CLAUDIA COPELAND, CONGRESSIONAL RESEARCH SERVICE, *THE ARMY CORPS OF ENGINEERS’ NATIONWIDE PERMITS PROGRAM: ISSUES AND REGULATORY DEVELOPMENTS* 7 (2008). (noting that for nationwide permits that require compensatory mitigation, “[s]pecific compensatory mitigation requirements are determined by district engineers on a case-by-case basis . . .” and thus mitigation requirements are not in place at the time that the nationwide permits are issued.); U.S. ARMY CORPS OF ENG’RS, *2012 NATIONWIDE PERMITS FINAL DECISION DOCUMENTS* (2012), http://www.usace.army.mil/Portals/2/docs/civilworks/nwp/2012/2012_nwp_decisiondocs.pdf (providing links to decision documents demonstrating the lack of detailed mitigation plans when permits are issued).

“major Federal action[],” and that action “significantly affect[s] the quality of the human environment.”¹²⁹ In order to determine whether an EIS must be prepared, an agency prepares an Environmental Assessment.¹³⁰ If the Environmental Assessment determines that an EIS will not be required, the agency must issue a FONSI.¹³¹ The FONSI must “briefly present[] the reasons why an action . . . will not have a significant effect on the human environment.”¹³² Therefore, a FONSI is in some ways analogous to a finding of minimal cumulative adverse effect on the environment in the context of a nationwide permit.

When reviewing FONSI, courts have shown some willingness to question an agency’s findings.¹³³ In one case involving a FONSI issued by the Corps, the court stated that although “proposed mitigation measures need not be laid out to the finest detail . . . an EIS involving mitigation must include a serious and thorough evaluation of environmental mitigation options”¹³⁴ The law arguably requires more documentation for a finding of minimal cumulative adverse effect than for a FONSI. In contrast to the “brief” presentation of the reasons why a proposed agency action will not have a significant impact on the human environment that a FONSI demands,¹³⁵ the CWA requires that the Corps provide supporting information for each factual determination that it makes.¹³⁶

Hard look review, therefore, supports requiring that the Corps provide at least “a serious and thorough evaluation of environmental mitigation options”¹³⁷ The Corps has argued—and in some cases courts have agreed—that the Corps is unable to provide detailed mitigation plans prior to issuing a nationwide permit, because it cannot be certain exactly what the activities conducted under the permit will be.¹³⁸ This argument overstates the challenge of preparing a mitigation plan prior to issuing a nationwide permit. Because nationwide permits are for specific categories of actions, the Corps knows the range of activities that will be conducted under the permit (if not the exact number of projects of different specific types and sizes). This is particularly true for permits that the Corps is reissuing, and thus, with which the Corps has past experience. The Corps could, therefore, provide a “menu of options” to mine operators—a document containing a limited number of proven mitigation

129. 42 U.S.C. § 4332(2)(C) (2006).

130. *O’Reilly v. U.S. Army Corps of Eng’rs*, 477 F.3d 225, 231 (5th Cir. 2007).

131. *Id.*

132. 40 C.F.R. § 1508.13 (2013).

133. *See, e.g., O’Reilly*, 477 F.3d at 231.

134. *Id.* (internal quotations and citations omitted).

135. 40 C.F.R. § 1508.13.

136. *Id.* § 230.7(b).

137. *O’Reilly*, 477 F.3d at 231 (internal quotations and references omitted).

138. *See Ohio Valley Envtl. Coal. v. Bulen*, 429 F.3d 493, 501 (4th Cir. 2005) (“And, given the inevitable ex ante uncertainty the Corps confronts when issuing a nationwide permit, its reliance on post-issuance procedures is a reasonable, if not the only possible, way for it to cement its determination that the projects it has authorized will have only minimal environmental impact.”).

measures that address the types of environmental harms that the authorized category of activities cause.

Without this “menu of options” style of mitigation plan, a court could easily conclude that the Corps “entirely failed to consider an important aspect of the problem”¹³⁹ because it did not address how mitigation will be carried out and how effective this mitigation will be. This is an “aspect of the problem” that is not just important. It is paramount in the Corps’ finding of minimal cumulative adverse effect.

2. *Substantive Requirements: Defensible Plans*

Furthermore, courts could require that potential mitigation measures include not only specific, but defensible, scientific support. In at least some contexts, courts have been willing to closely examine agency science. For example, in the *Delta Smelt Consolidated Cases*,¹⁴⁰ the court made a thorough review of the science in the record. Stating that “the judicial review process is not one of blind acceptance,”¹⁴¹ and that “courts are not required to defer to an agency conclusion that runs counter to that of other agencies or individuals with specialized expertise in a particular technical area,”¹⁴² Judge Wanger held that water restrictions imposed in a Biological Opinion were the “product of guesstimations and attempts to try to achieve ‘equity,’ rendering it impossible to determine whether the [Reasonable and Prudent Alternative] Actions are adequately protective, too protective, or not protective enough. Judicial deference is not owed to such arbitrary, capricious, and scientifically unreasonable agency action.”¹⁴³

The Corps’ authority to issue general permits is restrained by the CWA’s strongly worded requirement that permitted activities “will cause only minimal adverse effects.”¹⁴⁴ By employing the type of agency science review used in the *Consolidated Salmonid Cases* to Corps’ findings of minimal impact, and in particular their findings about compensatory mitigation, courts would help to ensure that the Corps acts within these statutory boundaries. Particularly in light of the scientific evidence showing that compensatory mitigation for stream and wetland loss is not effective,¹⁴⁵ by not inquiring into the scientific defensibility of the Corps’ findings regarding compensatory mitigation, courts are abdicating their responsibility to uphold the law.

139. *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43–44 (1983).

140. *San Luis & Delta-Mendota Water Auth. v. Salazar (Delta Smelt Consolidated Cases)*, 760 F. Supp. 2d 855, 869 (E.D. Cal. 2010), *aff’d in part, rev’d in part sub nom.* *San Luis & Delta-Mendota Water Auth. v. Jewell* (9th Cir. 2014).

141. *Consol. Salmonid Cases*, 713 F. Supp. 2d 1116, 1159 (E.D. Cal. 2010).

142. *Id.*

143. *Id.* at 1170.

144. 33 U.S.C. § 1344 (2006).

145. *See supra* Part II.A.

V. COURTS SHOULD REQUIRE DETAILED, DEFENSIBLE PRE-ISSUANCE
MITIGATION PLANS

Nationwide Permit 21 illustrates why it is so important that courts require the Corps to support its findings of minimal adverse effect with detailed and scientifically defensible factual findings. In the absence of rigorous judicial review, mining operators have destroyed thousands of miles of streams, nearly unchecked, under Nationwide Permit 21—impacts that the Corps itself later acknowledged would be better assessed under individual permits.¹⁴⁶ Given the significant consequences of mountaintop removal mining, courts should be especially vigilant in advancing the values—such as transparency, public participation, and reasoned decision making—that judicial review of agency action promotes. Furthermore, the policy reasons for deferring to the Corps are weak, given the Corps’ dismal record on environmental protection in general and successful implementation of mitigation in particular,¹⁴⁷ and because the alternative option of permitting projects under a general permit eliminates the need to defer to the Corps even in face of uncertainty.

A. *Transparency and Accountability*

Requiring detailed mitigation plans before issuing nationwide permits promotes transparency by providing an opportunity for meaningful public review and input on the proposed mitigation. For nationwide permits, the only opportunity for public review and comment is every five years when a permit is issued or reissued. The public does not have an opportunity for review, and does not even need to be notified, when individual activities are commenced under a nationwide permit. Therefore, if a detailed mitigation plan is not available at the time that the nationwide permit is issued, the public is never provided an opportunity to comment on the mitigation plan. In the context of Nationwide Permit 21, Kentucky Riverkeeper argued in a court filing:

At the [nationwide permit]-issuance stage, the public does not have the full and fair opportunity to comment on the Corps’ generalized determination, because the Corps does not provide its full analysis of minimal effects, and instead defers its more detailed determination and documentation to the [nationwide permit]-authorization stage. It is a fundamental principle of administrative law that, “in order to have a ‘meaningful’ opportunity to comment, one must be aware of the information the agency finally decides to rely on in taking agency action.”¹⁴⁸

146. COPELAND, *supra* note 46, at 3–4.

147. See Rebecca L. Kihlsinger, *Success of Wetland Mitigation Projects*, NAT’L WETLANDS NEWSL., Apr. 2008, at 15, available at <http://www.tetonwyo.org/compplan/LDRUpdate/RuralAreas/Additional%20Resources/Kihlsinger%202008.pdf>; NAT’L RESEARCH COUNCIL, *supra* note 95, at 67; SAMET, *supra* note 38, at 24.

148. Plaintiff’s Memorandum in Support of Their Motion for Summary Judgment and Injunctive Relief on Their Supplemental Complaint at 15, *Ky. Riverkeeper, Inc. v. Midkiff*, 800 F. Supp. 2d 846 (E.D. Ky. 2011), *rev’d and remanded sub nom. Ky. Riverkeeper, Inc. v. Rowlette*, 714 F.3d 402 (6th

By preventing meaningful public participation in its decisions to issue nationwide permits, the Corps tramples democratic ideas of fairness and accountability of the government. As an administrative agency with an appointed, rather than elected, leadership, the Corps is not directly accountable to American citizens, and may be particularly vulnerable to political pressures¹⁴⁹ or to “capture” by the regulated community.¹⁵⁰ When decisions will have potentially severe impacts on the public, as is the case of mountaintop removal mining, the right of citizens to have their voices heard during the agency’s decision-making process is especially important to ensure proper accountability.

B. Reasoned Decision Making

Requiring the Corps to develop detailed and scientifically defensible mitigation plans prior to issuing general permits also promotes reasoned decision making—that is, it ensures that the Corps considers the relevant information, and makes a decision that it can explain and defend based on this information. This is particularly important in the context of findings of minimal adverse effect because the CWA clearly limits the Corps’ authority to issue general permits to only those activities that will have minimal adverse effect on the environment.¹⁵¹ While the exact interpretation of what constitutes a “minimal adverse effect” may ultimately be a policy decision that is in the hands of the Corps, it is clear that Congress intended to circumscribe the Corps’ policy-making authority. Otherwise, Congress would have delegated authority to grant general permits without this specific limitation.

Requiring that the Corps develop pre-issuance mitigation plans would ensure reasoned decision making in two ways. First, it would force the Corps to spend additional time studying the impacts of the permitted activities, including the efficacy of mitigation measures, during the creation of the mitigation plan. Second, public review and comment on the pre-issuance mitigation plans would increase pressure on the Corps to make informed decisions based on defensible science, and would allow citizens to challenge the Corps’ science by

Cir. 2013) (No. 705CV00181), 2008 WL 2895932 (quoting Nat’l Asphalt Pavement Ass’n v. Train, 539 F.2d 775, 779 n.2 (D.C. Cir. 1976)).

149. See Holly Doremus, *Using Science in a Political World: The Importance of Transparency in Natural Resource Regulation*, in *RESCUING SCIENCE FROM POLITICS* 144–45 (Wendy Wagner & Rena Steinzor eds., 2006).

150. See Amy Sinden, *In Defense of Absolutes: Combating the Politics of Power in Environmental Law*, 90 IOWA L. REV. 1405, 1441–42 (2005) (stating that

“The prevailing view is that ‘agencies unduly favor . . . the interests of regulated or client business firms and other organized groups at the expense of diffuse, comparatively unorganized interests such as consumers, environmentalists, and the poor.’ In addition to the straightforward advantages in lobbying power that allow anti-environmental interests to exert more influence on agency decision making than their pro-environmental counterparts, many courts and commentators point to a phenomenon peculiar to the administrative process widely referred to as ‘agency capture.’”).

151. See 33 U.S.C. § 1344(e)(1) (2006).

citing to peer-reviewed scientific articles that contradict the Corps' findings, or by questioning the methods or conclusions in the Corps' science. While the Corps would not be required to use contradictory science introduced through comments, it would be required to respond to the comment and explain why it chose not to use the science proposed¹⁵²—"agencies do not have quite the prerogative of obscurantism reserved to legislatures."¹⁵³

In the context of Nationwide Permit 21, requiring that the Corps produce a detailed and defensible pre-issuance mitigation plan would mean that the Corps would have to acknowledge the growing body of scientific evidence that compensatory mitigation for mountaintop removal mining is not effective.¹⁵⁴ Given this scientific evidence, it is unlikely that the Corps would be able to justify a finding of minimal cumulative effects unless it was able to produce its own defensible scientific evidence refuting the claims of the inefficacy of mitigation. Otherwise, the Corps would be forced to explain that the decision to permit mountaintop removal mining is a policy decision to allow destruction of wetlands from mountaintop removal mining despite its likely permanent adverse effects—an outcome that is clearly prohibited by the "minimal adverse effects" requirement.

C. Policy Reasons for Deferring to Agencies Do Not Apply

Finally, many of the policy reasons for which courts typically defer to agency decisions are simply not applicable to the Corps' findings of minimal cumulative adverse effect that rely on mitigation. Courts often defer to agencies because the agency has expertise that the court does not have.¹⁵⁵ The Corps certainly deserves no deference when it fails to create a mitigation plan, and therefore does not use any expertise that it has in mitigation.¹⁵⁶ However, even if the Corps did support a finding of minimal cumulative adverse effect that relied on post-issuance mitigation with documented information, compensatory mitigation is arguably outside of the expertise of the Corps. While environmental protection was added to the Corps' mission areas more than twenty years ago,¹⁵⁷ the agency's environmental protection record is poor. For example, studies by the National Academy of Sciences and Department of the Army Inspector General "concluded that the Corps has an institutional bias for approving large and environmentally damaging structural projects, and that its

152. See *United States v. Nova Scotia Food Products Corp.*, 568 F.2d 240, 252 (2d Cir. 1977) ("It is not in keeping with the rational process to leave vital questions, raised by comments which are of cogent materiality, completely unanswered.").

153. *Id.*

154. See *supra* Part II.A.3.

155. See *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983).

156. In *Ohio Valley Environmental Coalition v. Bulen*, 429 F.3d 493, 498 (4th Cir. 2005), however, the court invoked *Baltimore Gas* deference to agency expertise when it upheld the same post-issuance mitigation that the court in *Rowlette* held to be arbitrary and capricious.

157. See SAMET, *supra* note 38, at 24.

planning process lacks adequate environmental safeguards.”¹⁵⁸ More on point, the Corps has yet to demonstrate any particular expertise with respect to mitigating stream and wetland losses. For example, in its comprehensive national review of compensatory mitigation, the National Research Committee stated that it was “not convinced that the goal of no net loss for permitted wetlands is being met for wetland functions.”¹⁵⁹ Similarly, another study of twenty-three section 404 permits in Pennsylvania between 1986 and 1999 “showed that only 45% of the mitigation wetlands were of the same type as the impact sites” and that the mitigation had caused significant shifts in wetlands types.¹⁶⁰ And during a recent trial, a senior Corps official testified that he had no personal knowledge of any successful stream creation project.¹⁶¹

Courts also may defer to an agency’s judgment when absolute certainty is not possible, and therefore the agency is given discretion to make a policy choice based on uncertain science.¹⁶² This type of review is appropriate in some circumstances—if a court required absolute certainty, it might mean that important projects would never be allowed to move forward. Additionally, some authorizing statutes give agencies a certain level of discretion. However, in the context of nationwide permits, Congress clearly articulated a program that gave the Corps very limited discretion—general permits are to be issued only if they will have minimal adverse effects on the environment. This lack of discretion makes sense, since activities can be permitted through an individual permit if they are not authorized under a general permit, eliminating the risk that important projects will not be allowed to go forward due to a lack of certainty regarding their environmental impacts.

CONCLUSION

Despite the deference that courts have given to the Corps’ findings of minimal adverse effect on the environment associated with nationwide permits, arbitrary and capricious review by no means requires that the court be so deferential. Given the stakes—permanent loss of our streams and wetlands, and all of the social and ecological values that they support—courts should use their full authority to require that the Corps prepare detailed, defensible mitigation plans before issuing a general permit that relies on compensatory mitigation.

General permits were created by the Corps and were given Congress’s blessing in an attempt to reduce the Corps’ workload and reduce “red tape” for permittees. These are important considerations. Yet, they must be balanced against the CWA’s mandate to protect and restore our nation’s waters. Because

158. *Id.*

159. NAT’L RESEARCH COUNCIL, *supra* note 95, at 3.

160. Kihlsinger, *supra* note 147, at 15.

161. Memorandum Opinion & Order at 63, *Ohio Valley Envtl. Coal. v. U.S. Army Corps of Eng’rs*, 883 F. Supp. 2d 627 (S.D.W. Va. 2007) (No. 3:05-cv-00784), *available at* http://earthjustice.org/sites/default/files/library/legal_docs/decision-on-mountaintop-removal-mining-permits.pdf.

162. See *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 105 (1983).

of the lack of scientific evidence supporting the efficacy of mitigation measures like stream creation, the practical effect of requiring that the Corps prepare detailed, defensible mitigation plans before issuing a general permit that relies on compensatory mitigation would likely be that such permits could not be reissued. Instead, more activities would need to be permitted under individual permits. This would, of course, result in an increase in the Corps' workload. Both creating mitigation plans for activities permitted under general permits and shifting activities from general permits to individual permits would require additional work. But the Corps' increasing reliance on general permits, and the fact that such environmentally destructive activities as mountaintop removal mining valley fill have been authorized under general permits, show that the balance has shifted too far in favor of economic expediency.

As for Nationwide Permit 21, Appalachian streams are safe from valley fill for now (unless authorized under individual permits), but future administrations may choose to again authorize valley fills under Nationwide Permit 21. Given the current state of the science, it seems likely that further study will reveal that the environmental effects of mountaintop removal mining cannot effectively be mitigated—at least not with our current scientific knowledge. If this is the case, the Corps, and the nation, should be forced to consider the tradeoffs that permitting valley fill present, and together decide whether it is worth the irreversible damage to communities and to the environment to extract coal in this way. Requiring mitigation plans pre-issuance is one way to force this consideration. Thus, while implementation of my proposal would not necessarily mean that mountaintop removal mining (and similarly damaging activities authorized under nationwide permits) would cease, it would at least help ensure that we go forward with these activities with our eyes open to the inherent tradeoffs being made.

