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Volume 1 of 2

PUBLISHED

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

OHIO VALLEY ENVIRONMENTAL
COALITION; COAL RIVER MOUNTAIN
WATCH; WEST VIRGINIA HIGHLANDS
CONSERVANCY,

Plaintiffs-Appellees,

and

COAL MAC, INCORPORATED,

Movant,

v.

ARACOMA COAL COMPANY; ELK
RUN COAL COMPANY; ALEX
ENERGY, INCORPORATED;
INDEPENDENCE COAL COMPANY,
INCORPORATED,

Intervenors/Defendants-Appellants,

and

MINGO LOGAN COAL COMPANY,

Intervenor/Defendant,

and

UNITED STATES ARMY CORPS OF
ENGINEERS; LIEUTENANT GENERAL
ROBERT L. VAN ANTWERP,
Commander and Chief of
Engineers, U. S. Army Corps of
Engineers;

No. 07-1355

COLONEL DANA R. HURST, District
Engineer, United States Army
Corps of Engineers, Huntington
District; WEST VIRGINIA COAL
ASSOCIATION,

Defendants.

NATIONAL MINING ASSOCIATION;
KENTUCKY COAL ASSOCIATION;
COAL OPERATORS AND ASSOCIATES,
INC.; ILLINOIS COAL ASSOCIATION;
COLORADO MINING ASSOCIATION;
ALASKA MINERS ASSOCIATION;
VIRGINIA COAL ASSOCIATION; IDAHO
MINING ASSOCIATION; ALABAMA
COAL ASSOCIATION; PENNSYLVANIA
COAL ASSOCIATION; OHIO COAL
ASSOCIATION; INDIANA COAL
COUNCIL, INC.; UTILITY WATER ACT
GROUP; WEST VIRGINIA
DEPARTMENT OF COMMERCE; WEST
VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION,

Amici Supporting Appellants.

OHIO VALLEY ENVIRONMENTAL
COALITION; COAL RIVER MOUNTAIN
WATCH; WEST VIRGINIA HIGHLANDS
CONSERVANCY,

Plaintiffs-Appellees,

and

COAL MAC, INCORPORATED; FRASURE
CREEK MINING, LLC,

Movants,

v.

UNITED STATES ARMY CORPS OF
ENGINEERS; LIEUTENANT GENERAL
ROBERT L. VAN ANTWERP,
Commander and Chief of
Engineers, U. S. Army Corps of
Engineers; COLONEL DANA R.
HURST, District Engineer, United
States Army Corps of Engineers,
Huntington District,

Defendants-Appellants,

and

WEST VIRGINIA COAL ASSOCIATION,
Defendant,

and

ARACOMA COAL COMPANY; ELK
RUN COAL COMPANY;

No. 07-1479

ALEX ENERGY, INCORPORATED;
INDEPENDENCE COAL COMPANY,
INCORPORATED; MINGO LOGAN COAL
COMPANY,

Intervenors/Defendants.

NATIONAL MINING ASSOCIATION;
KENTUCKY COAL ASSOCIATION;
COAL OPERATORS AND ASSOCIATES,
INC.; ILLINOIS COAL ASSOCIATION;
COLORADO MINING ASSOCIATION;
ALASKA MINERS ASSOCIATION;
VIRGINIA COAL ASSOCIATION; IDAHO
MINING ASSOCIATION; ALABAMA
COAL ASSOCIATION; PENNSYLVANIA
COAL ASSOCIATION; OHIO COAL
ASSOCIATION; INDIANA COAL
COUNCIL, INC.; UTILITY WATER ACT
GROUP; WEST VIRGINIA
DEPARTMENT OF COMMERCE; WEST
VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION,

Amici Supporting Appellants.

OHIO VALLEY ENVIRONMENTAL
COALITION; COAL RIVER MOUNTAIN
WATCH; WEST VIRGINIA HIGHLANDS
CONSERVANCY,

Plaintiffs-Appellees,

and

COAL MAC, INCORPORATED; FRASURE
CREEK MINING, LLC,

Movants,

v.

WEST VIRGINIA COAL ASSOCIATION,
Defendant-Appellant,

and

UNITED STATES ARMY CORPS OF
ENGINEERS; LIEUTENANT GENERAL
ROBERT L. VAN ANTWERP,
Commander and Chief of
Engineers, U. S. Army Corps of
Engineers; COLONEL DANA R.
HURST, District Engineer, United
States Army Corps of Engineers,
Huntington District,

Defendants,

and

No. 07-1480

ARACOMA COAL COMPANY; ELK
RUN COAL COMPANY; ALEX
ENERGY, INCORPORATED;
INDEPENDENCE COAL COMPANY,
INCORPORATED; MINGO LOGAN COAL
COMPANY,

Intervenors/Defendants.

OHIO VALLEY ENVIRONMENTAL
COALITION; COAL RIVER MOUNTAIN
WATCH; WEST VIRGINIA HIGHLANDS
CONSERVANCY,

Plaintiffs-Appellees,

v.

UNITED STATES ARMY CORPS OF
ENGINEERS; CARL A. STROCK,
Commander and Chief of
Engineers, U. S. Army Corps of
Engineers; WILLIAM BULEN,
Colonel, District Engineer, U. S.
Army Corps of Engineers,
Huntington District; WEST
VIRGINIA COAL ASSOCIATION,

Defendants,

and

No. 07-1964

COAL MAC, INCORPORATED; MINGO
LOGAN COAL COMPANY; FRASURE
CREEK MINING, LLC; JUPITER
HOLDINGS LLC,

Intervenors/Defendants,

and

ARACOMA COAL COMPANY; ELK
RUN COAL COMPANY; ALEX
ENERGY, INCORPORATED;
INDEPENDENCE COAL COMPANY,
INCORPORATED,

Intervenors/Defendants-Appellants.

OHIO VALLEY ENVIRONMENTAL
COALITION; COAL RIVER MOUNTAIN
WATCH; WEST VIRGINIA HIGHLANDS
CONSERVANCY,

Plaintiffs-Appellees,

v.

UNITED STATES ARMY CORPS OF
ENGINEERS; ROBERT L. VAN
ANTWERP, Commander and Chief
of Engineers, U. S. Army Corps
of Engineers; DANA R. HURST,
District Engineer, United States
Army Corps of Engineers,
Huntington District,

Defendants-Appellants,

and

No. 07-2112

WEST VIRGINIA COAL ASSOCIATION,
Defendant,

and

ARACOMA COAL COMPANY; ELK
RUN COAL COMPANY; ALEX
ENERGY, INCORPORATED;
INDEPENDENCE COAL COMPANY,
INCORPORATED; MINGO LOGAN COAL
COMPANY; COAL MAC,
INCORPORATED; FRASURE CREEK
MINING, LLC; JUPITER HOLDINGS
LLC,

Intervenor/Defendant.

ALABAMA COAL ASSOCIATION;
ALASKA MINERS ASSOCIATION; COAL
OPERATORS AND ASSOCIATES,
INCORPORATED; COLORADO MINING
ASSOCIATION; IDAHO MINING
ASSOCIATION; ILLINOIS COAL
ASSOCIATION; INDIANA COAL
COUNCIL; KENTUCKY COAL
ASSOCIATION; NATIONAL MINING
ASSOCIATION; OHIO COAL
ASSOCIATION; PENNSYLVANIA COAL
ASSOCIATION; UTILITY WATER ACT
GROUP; VIRGINIA COAL
ASSOCIATION; WEST VIRGINIA
DEPARTMENT OF COMMERCE; WEST
VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION,
Amici Supporting Appellants.

Appeals from the United States District Court
for the Southern District of West Virginia, at Huntington.
Robert C. Chambers, District Judge.
(3:05-cv-00784; 3:06-cv-00438)

Argued: September 23, 2008

Decided: February 13, 2009

Before MICHAEL, GREGORY, and SHEDD,
Circuit Judges.

Reversed, vacated and remanded by published opinion. Judge Gregory wrote the opinion, in which Judge Shedd joined. Judge Michael wrote a separate opinion dissenting in part and concurring in part.

COUNSEL

ARGUED: Robert G. McLusky, JACKSON KELLY, P.L.L.C., Charleston, West Virginia; Michael Thomas Gray, UNITED STATES DEPARTMENT OF JUSTICE, Environment & Natural Resources Division, Washington, D.C., for Appellants. Joseph Mark Lovett, APPALACHIAN CENTER FOR THE ECONOMY & THE ENVIRONMENT, Lewisburg, West Virginia, for Appellees. **ON BRIEF:** James R. Snyder, Blair M. Gardner, JACKSON KELLY, P.L.L.C., Charleston, West Virginia; Michael R. Shebelskie, William H. Wright, Jr., HUNTON & WILLIAMS, L.L.P., Richmond, Virginia, for Intervenor/Appellants Aracoma Coal Company, Elk Run Coal Company, Alex Energy, Incorporated, Independence Coal Company, Incorporated; James S. Crockett, Jr., Allyn G. Turner, James C. Lesnett, Jr., SPILMAN THOMAS & BATTLE, P.L.L.C., Charleston, West Virginia, for Appel-

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OPINION

GREGORY, Circuit Judge:

This appeal concerns a challenge by Plaintiffs-Appellees Ohio Valley Environmental Coalition, the Coal River Mountain Watch, and the West Virginia Highlands Conservancy (hereinafter referred to collectively as "OVEC") to the U.S. Army Corps of Engineers ("Corps") issuance of four permits allowing the filling of West Virginia stream waters in conjunction with area surface coal mining operations. Granting judgment for OVEC, the district court rescinded the permits as violations of the Clean Water Act ("CWA"), 33 U.S.C. § 1251 *et seq.* (2000), the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 *et seq.* (2000), and the Administrative Procedure Act ("APA"), 5 U.S.C. § 701 *et seq.* (2000). The court also enjoined all activity under those permits and remanded to the Corps for further proceedings consistent with its order.

Separately, in an order dated June 13, 2007, the district court provided declaratory relief to OVEC, holding that the stream segments linking the permitted fills to downstream sediment treatment ponds were "waters of the United States" and that the Corps lacked authority under the CWA to permit discharge from the fills into the stream segments.

The Corps now appeals these two orders. For the reasons set forth below, we reverse and vacate the district court's opinion and order of March 23, 2007, and vacate the district court's injunction. We also reverse the district court's June 13, 2007, grant of declaratory relief and we remand for further proceedings consistent with this opinion.

I.

The mountaintop removal method of surface coal mining, pioneered in West Virginia, involves the blasting of the soil

and rock atop a mountain to expose coal deposits below. While mining operations are ongoing, the overburden is hauled or pushed into adjacent valleys. This excavated overburden is known as "spoil." Once the coal has been extracted, efforts are made to re-contour the mountaintop by replacing the removed overburden, but stability concerns limit the amount of spoil that can be returned to the area. In its natural state, the spoil material is heavily compacted; once excavated, however, the loosening of the rock and soil and incorporation of air causes significant swelling. As a result, large quantities of the blasted material cannot be replaced, and this excess spoil ("overburden") remains in the valley, creating a "valley fill" that buries intermittent and perennial streams in the process.

Water that collects in the fill must be moved out to ensure the fill's continued stability. Thus, an underdrain system is constructed by placing large boulders up to and above the ordinary high-water mark of the stream. The collected water is then channeled into a treatment pond, where sediment from the runoff is allowed to settle. Sediment ponds usually are constructed in existing streambeds, using earth and rock to create an embankment. After sediments have settled out of the fill runoff, the treated water is discharged from the sediment pond back into existing streams. When practicable, a sediment pond will be constructed in the streambed immediately adjacent to the end (or "toe") of the fill. But, because West Virginia's steep, mountainous topography often prevents this kind of positioning, a short stream segment is frequently used to move runoff from the fill downstream to the sediment pond. Once a valley fill is stabilized, the embankments of the sediment pond are removed, and the ponds and the stream segments are restored to their pre-project condition.

Much of the impact of a valley fill project is felt by headwater streams. Headwater streams are small streams that form the origin of larger streams or rivers, and may be intermittent or ephemeral. Intermittent streams receive their flow from

both surface runoff and groundwater discharge, while ephemeral streams rely on major rain or snow events for their flow. The precise role of headwater streams in overall watershed ecology is a matter of some debate in this litigation, as we discuss more below, but all parties agree that these streams perform important ecological functions.

OVEC initiated this challenge in September 2005 in the United States District Court for the Southern District of West Virginia, shortly after the Corps issued an individual valley fill permit and accompanying Combined Decision Document ("CDD") to the Aracoma Coal Company for the Camp Branch Surface Mine project ("Camp Branch") under its CWA § 404 authority.¹ As the Corps issued subsequent § 404 permits to West Virginia mining operations, the district court allowed OVEC to amend its complaint several times to include the newly issued permits.

In addition to the Camp Branch permit, OVEC's Third Supplemental Complaint raised challenges to the individual § 404 permits issued to the Elk Run Coal Company for the Black Castle Mine ("Black Castle"), and to Alex Energy, Inc., for the Republic No. 1 and Republic No. 2 Surface Mines ("Republic No. 1" and "Republic No. 2"). The Republic No. 1 challenge was ultimately dismissed on ripeness grounds, but a challenge raised in a separate complaint to the individual permit issued to Independence Coal Company for the Laxare East Surface Mine ("Laxare East") was consolidated with this proceeding. Each of the affected companies intervened as

¹Mine operators may seek a general § 404 permit for the discharge of fill material "on a State, regional, or nationwide basis" if their activities "will cause only minimal adverse effects when performed separately, and will have only minimal cumulative adverse effect on the environment." 33 U.S.C. § 1344(e)(1)(2000). For fill activities that do not meet the requirements for a general permit, the Corps issues individual § 404 permits for discharges at "specified disposal sites" on a case-by-case basis. 33 U.S.C. § 1344(a)(2000); *Ohio Valley Envtl. Coal. v. Bulen*, 429 F.3d 493, 496 (4th Cir. 2005).

defendants in the action, as did the West Virginia Coal Association.

All together, the four challenged permits authorize the creation of 23 valley fills and 23 sediment ponds, and they impact 68,841 linear feet of intermittent and ephemeral streams, or just over 13 miles.² For each of the four permits, the Corps prepared Environmental Assessments that concluded that the permitted activity would not result in significant environmental impacts given planned mitigation measures. On that basis, the Corps issued a "Finding of No Significant Impact" for all four permits.

OVEC's Third Supplemental Complaint charged that the Corps' issuance of the § 404 fill permits for these mining projects violated both substantive and procedural provisions of the CWA and NEPA, and were "arbitrary, capricious, and an abuse of discretion" under the APA. According to OVEC, the Corps was required under NEPA to prepare an Environmental Impact Statement for each of the projects before issuing a permit, given the significant individual and cumulative adverse effects the projects would have on water quality, aquatic and terrestrial ecosystems and habitats, species survival and diversity, crucial stream functions, forests, and the aesthetic value of the destroyed mountains. Similarly, OVEC claimed that the Corps failed to properly determine the

²The Camp Branch project includes 4 fills impacting 15,059 linear feet of intermittent and ephemeral streams, and 4 associated sediment ponds that would temporarily impound an additional 455 linear feet of intermittent streams. The Black Castle project includes 9 valley fills impacting 13,401 linear feet of intermittent and ephemeral streams, and 6 associated sediment ponds, temporarily impounding an additional 879 linear feet of intermittent streams. Republic No. 2's project includes 3 valley fills impacting 9,918 linear feet of intermittent and ephemeral streams, and 3 associated sediment ponds temporarily impounding an additional 690 linear feet of intermittent streams. Finally, the Laxare East project involves 7 valley fills, impacting 24,860 linear feet of intermittent and ephemeral streams, and 10 associated sediment ponds temporarily impounding an additional 3,099 linear feet of intermittent and ephemeral streams.

adverse individual and cumulative impacts to the affected aquatic ecosystems in accordance with the CWA and the Corps' CWA Guidelines.

Trial in the case was originally scheduled for June 20, 2006, but on June 16, on the Corps' motion, the district court remanded the permits to the Corps and stayed the proceedings. Almost a month later, the Corps reissued the permits, but this time with a supplemented administrative record that incorporated new comments from the public and the parties, including the reports prepared by OVEC's proposed expert witnesses. The district court lifted its stay on July 26, and a six-day bench trial was held in October 2006.

The district court granted judgment in favor of the plaintiffs on March 23, 2007, rescinding the permits, enjoining the Corps and Intervenors from taking any action under those permits, and remanding the permits to the Corps for further proceedings consistent with the court's order.³

The district court found, *inter alia*, that the probable impacts of the valley fills would be significant and adverse under both the CWA and NEPA; that the mitigation plans for each permit were not sufficient to compensate for those adverse impacts; that, in each permit, the Corps improperly limited its scope of review under NEPA to look only at the impact on jurisdictional waters rather than the broader impact of the entire valley fill project; and, finally, that the Corps inadequately evaluated the cumulative impacts of the projects.

On June 13, 2007, the district court granted summary judgment to OVEC on a separate claim under which the plaintiffs sought a declaratory judgment that the stream segments running from the valley fill toes to the sediment pond embank-

³The court later granted Intervenors' request for a limited stay of the injunctions for some of the fills, provided that Intervenors complied with all conditions, including mitigation requirements, of the permits.

ments are "waters of the United States," and that the Corps thus did not have authority to permit the discharge of pollutants into these segments with a CWA § 404 permit. According to the district court, mining operators who wished to discharge runoff from the fill into a stream segment needed to obtain a CWA § 402 permit from the EPA or proper state authority. On September 13, 2007, the district court granted, pursuant to Federal Rule of Civil Procedure 54(b), the Intervenor's motion for entry of final judgment on the June 13 order.⁴ The Corps and Intervenor filed timely notices of appeal from both the March 23 and June 13 orders.

On appeal, the Corps contends that it is entitled to deference on its determination about the scope of its NEPA analysis and that its findings on individual and cumulative impacts and mitigation were not arbitrary or capricious. The agency further argues that its interpretation of its CWA regulations—treating stream segments and sediment ponds as part of a unitary waste treatment system and thus excepting them from separate CWA § 402 permitting—was entitled to deference. Intervenor has raised these same challenges to the district court's ruling, but also argue that OVEC's stream segment claim was barred in the first place under principles of *res judicata*. OVEC has also filed two motions for judicial notice, asking this Court to take notice of five new permits that the Corps has issued since the district court's orders were entered.

II.

We review *de novo* a district court's findings on an administrative record. *See Crutchfield v. County of Hanover*, 325 F.3d 211, 217 (4th Cir. 2003). This *de novo* standard applies to questions of both law and fact. *See id.*

⁴The court also granted a motion by the Intervenor to stay the effect of the June 13 order pending appeal.

Both NEPA and CWA claims are subject to judicial review under the APA, 5 U.S.C. § 706 (2006). For all agency actions, a reviewing court must set aside the action if it is found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A) (2006); *Citizens To Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 413-14 (1971).

III.

A complex statutory framework undergirds the regulation of valley fills and associated sediment ponds, and it is this framework that provides the foundation for our opinion. Thus, we begin with a brief overview of the relationship of the four statutes that affect the scope of the Corps' authority to issue fill permits in connection with mountaintop coal mining operations: the Surface Mining Control and Reclamation Act of 1977 ("SMCRA"), 30 U.S.C. § 1201 *et seq.* (2000), the CWA, NEPA, and the APA.

A.

Congress passed SMCRA in 1977 to "establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations." 30 U.S.C. § 1202(a) (2000). Congress also recognized a need, however, to "strike a balance between protection of the environment and agricultural productivity and the Nation's need for coal as an essential source of energy." 30 U.S.C. § 1202(f) (2000). In striking this balance, SMCRA utilizes a "cooperative federalism" approach, allocating responsibility for the regulation of surface coal mining among both state and federal agencies. *Bragg v. W. Va. Coal Ass'n*, 248 F.3d 275, 288 (4th Cir. 2001).

Under SMCRA, states have "exclusive jurisdiction over the regulation of surface coal mining and reclamation operations" on non-Federal lands, so long as their regulatory program has

been approved by the Secretary of the Interior as satisfying the Act's minimum requirements.⁵ 30 U.S.C. § 1253 (2000). Once a state's SMCRA program has been approved, anyone wishing to engage in surface coal mining operations within the state must first obtain a permit from the state's regulatory authority.⁶ 30 U.S.C. § 1256(a) (2000). In West Virginia, the federally approved regulatory authority is the Department of Environmental Protection ("WVDEP").

Regulation of the disposal of excess spoil material from surface coal mining operations is within SMCRA's purview. As part of its environmental protection performance standards, SMCRA requires that all excess spoil material from surface mining operations be disposed of "in a controlled manner . . . and in such a way to assure mass stability and to prevent mass movement." 30 U.S.C. § 1265(b)(22)(A) (2000). The Act clearly contemplates that valley fills will be used in the disposal process. *See* 30 U.S.C. § 1265(b)(22)(D) (2000) (requiring that, where the disposal area contains "springs, natural water courses, or wet weather seeps . . . lateral drains [must be] constructed from the wet areas to the main underdrains in such a manner that filtration of the water into the spoil pile will be prevented."); *Kentuckians for the Commonwealth, Inc. v. Rivenburgh*, 317 F.3d 425, 443 (4th Cir. 2003) ("[I]t is beyond dispute that SMCRA recognizes the possibility of placing excess spoil material in waters of the United States . . .").

B.

An SMCRA permit by itself, however, does not suffice to allow a mine operator to construct a valley fill in conjunction

⁵States are free to adopt more stringent regulations than those mandated by SMCRA. 30 U.S.C. § 1255(b) (2000).

⁶Where a state does not have a federally approved SMCRA program in place, surface mining operations within that state must be permitted by the Secretary of the Interior. 30 U.S.C. § 1256 (2000).

with its mountaintop removal activities. Mining companies must also obtain permits certifying their project's compliance with the CWA. The CWA aims to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" by eliminating "the discharge of pollutants into the navigable waters." 33 U.S.C. § 1251(a)(2000). In the surface mining context, three sections of the CWA are relevant to the permitting process.

First, a mine operator applying for a federal permit under the CWA must comply with CWA § 401, 33 U.S.C. § 1341 (2000), by providing the federal permitting agency with a certification from the proper state authority—in this case, WVDEP—stating that any discharge from the mine site will comply with all applicable water quality standards. Next, the mine operator must obtain a National Pollutant Discharge Elimination System ("NPDES") permit pursuant to CWA § 402, 33 U.S.C. § 1342 (2000), if their project involves the discharge of a pollutant from a point source within the mining operation into navigable waters.⁷ 33 U.S.C. §§ 1342, 1362(12) (2000). The CWA defines "navigable waters" as "the waters of the United States, including the territorial seas." 33 U.S.C. § 1362(7) (2000). The release of treated waters from sediment ponds back into a stream, for example, require a CWA § 402 NPDES permit.

States wishing to administer their own NPDES program must be approved by the Environmental Protection Agency ("EPA") before they can begin issuing § 402 permits. 33 U.S.C. § 1342(c) (2000). West Virginia has had an EPA-approved § 402 program since 1982. *See* Approval of West Virginia's NPDES Program, 47 Fed. Reg. 22, 363 (May 24, 1982).

⁷A "point source" is "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14) (2000).

Finally, and most importantly for the purposes of this litigation, surface mining projects that intend to dispose of excess spoil from their mining operations in jurisdictional waters must obtain a CWA § 404, 33 U.S.C. § 1344 (2000), permit from the Corps. Section 404 permits allow "the discharge of dredged or fill material into the navigable waters at specified disposal sites." 33 C.F.R. § 1344(a) (2008). The Corps uses § 404 permits to authorize the fill activity itself, as well as the construction of downstream sediment ponds.⁸

In issuing § 404 permits, the Corps follows the § 404(b)(1) Guidelines ("CWA Guidelines") promulgated by the Environmental Protection Agency ("EPA") pursuant to 33 U.S.C. § 1344(b)(1) (2008), and incorporated by the Corps into its own regulations. *See* 40 C.F.R. pt. 230 (2008); 33 C.F.R. § 320.2(f) (2008). The Guidelines prohibit discharges that "will cause or contribute to significant degradation of the waters of the United States."⁹ 40 C.F.R. § 230.10(c) (2008). A discharge contributes to significant degradation if it has "[s]ignificantly adverse effects" on human health or welfare, on aquatic life and other wildlife dependent on aquatic ecosystems, on aquatic ecosystem diversity, productivity, and stability, or on recreational, aesthetic, and economic values. *Id.*

The Corps' § 404 permit evaluation process must also include a public interest review component, in which "[t]he benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments." 33 C.F.R. § 320.4(a)(1) (2008). The Corps' decision to issue a permit "should reflect the national concern for

⁸In *Kentuckians for the Commonwealth*, 317 F.3d 425, this Court upheld the Corps' interpretation of the term "fill material" to include coal mining overburden as a permissible construction of CWA § 404.

⁹"Waters of the United States" include interstate waters and all waters used (or that could potentially be used) in interstate commerce, and "[a]ll other waters such as intrastate lakes, rivers, streams (including intermittent streams) [et al.] . . . the use, degradation or destruction of which could affect interstate or foreign commerce . . ." 40 C.F.R. § 230.3(s) (2008).

both protection and utilization of important resources." *Id.* Ultimately, the § 404 permitting process requires extensive review and coordination with numerous federal and state agencies, as well as significant consideration of the public interest.

C.

Under NEPA, federal agencies must take a "hard look" at the potential environmental consequences of their actions. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989). Because NEPA is a procedural and not a results-driven statute, even agency action with adverse environmental effects can be NEPA-compliant so long as the agency has considered those effects and determined that competing policy values outweigh those costs. *Id.*

NEPA requires only that federal agencies prepare an Environmental Impact Statement for "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C) (2000). Significance is determined by evaluating both the context of the action and the intensity, or severity, of the impact. 40 C.F.R. § 1508.27 (2008). Where it is not readily discernible how significant the environmental effects of a proposed action will be, federal agencies may prepare an Environmental Assessment ("EA"). 40 C.F.R. § 1501.4(b) (2008). An EA is a "concise public document . . . that serves to . . . [b]riefly provide sufficient evidence and analysis for determining whether to prepare an [EIS] or a finding of no significant impact [("FONSI")]." 40 C.F.R. § 1508.9(a)(1) (2008); *see also* 33 C.F.R. §§ 230.10-230.11 (2008) (explaining the Corps' requirements for an EA).

Even where an EA determines that a proposed action will have a significant environmental impact, an agency may avoid issuing an EIS where it finds that mitigating measures can be taken to reduce the environmental impact of the project below the level of significance. *Roanoke River Basin Ass'n v.*

Hudson, 940 F.2d 58, 62 (4th Cir. 1991). In these situations, the agency can issue a "so-called mitigated FONSI." *Spiller v. White*, 352 F.3d 235, 241 (5th Cir. 2003) (internal quotations omitted).

D.

Claims challenging federal agency action under the CWA and NEPA are subject to judicial review under the APA. 5 U.S.C. § 702 (2006); *Holy Cross Wilderness Fund v. Madigan*, 960 F.2d 1515, 1521 (10th Cir. 1992). In issuing the § 404 permits challenged here, the Corps was engaged in informal ("notice and comment") rule-making. 33 U.S.C. § 1344(a) (2000); *Ohio Valley Env'tl. Coal. v. Bulen*, 429 F.3d 493, 496 (4th Cir. 2005). Such informal rulemaking, done pursuant to Section 4 of the APA, 5 U.S.C. § 553 (2006), must be reviewed under Section 10 of the APA, 5 U.S.C. § 706(2) (2006). *Ethyl Corp. v. EPA*, 541 F.2d 1, 34 (D.C. Cir. 1976).

Section 10 of the APA establishes that, as a general rule, "agency action, findings, and conclusions" will be set aside only when they are "found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2) (2000); *Citizens To Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 413-14 (1971). Review under this standard is highly deferential, with a presumption in favor of finding the agency action valid. *Natural Res. Def. Council, Inc. v. EPA*, 16 F.3d 1395, 1400 (4th Cir. 1993). Especially in matters involving not just simple findings of fact but complex predictions based on special expertise, "a reviewing court must generally be at its most deferential." *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 103 (1983).

In determining whether agency action was arbitrary or capricious, the court must consider whether the agency considered the relevant factors and whether a clear error of judg-

ment was made. *Citizens To Preserve Overton Park*, 401 U.S. at 416. "Although this inquiry into the facts is to be searching and careful, the ultimate standard of review is a narrow one. The court is not empowered to substitute its judgment for that of the agency." *Id.* Deference is due where the agency has examined the relevant data and provided an explanation of its decision that includes "a 'rational connection between the facts found and the choice made.'" *Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto Ins. Co.*, 463 U.S. 29, 43 (1983) (quoting *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962)); accord *Ohio River Valley Envtl. Coal., Inc. v. Kempthorne*, 473 F.3d 94, 102-03 (4th Cir. 2006).

The "arbitrary and capricious" standard is not meant to reduce judicial review to a "rubber-stamp" of agency action. *Ethyl Corp.*, 541 F.2d at 34. While the standard of review is narrow, the court must nonetheless engage in a "searching and careful" inquiry of the record. *Citizens To Preserve Overton Park*, 401 U.S. at 416. But, this scrutiny of the record is meant primarily "to educate the court" so that it can "understand enough about the problem confronting the agency to comprehend the meaning of the evidence relied upon and the evidence discarded; the questions addressed by the agency and those bypassed; the choices open to the agency and those made." *Ethyl Corp.*, 541 F.2d at 36.

IV.

With this statutory guidance in mind, we turn now to the substance of this appeal, first taking up the issues on appeal concerning the district court's March 23, 2007, opinion and order.¹⁰

¹⁰In their appeal of the March 23 opinion and order, the Intervenor have questioned OVEC's standing to challenge the Republic No. 2 permit. Intervenor claim that organizational standing is inappropriate because no member of the three plaintiff organizations has sustained an "injury in fact" as a result of the Corps' § 404 permitting with respect to Republic No. 2.

A.

The Corps and Intervenors (collectively "Appellants") claim on appeal that the Corps' decision about the scope of its NEPA analysis for each of these permits was entitled to deference as a reasonable interpretation of its own regulations. The district court found that the Corps acted contrary to its regulations by limiting the scope of its NEPA analysis to the impact of the filling of jurisdictional waters and by not looking at the larger environmental impacts of the valley fill as a whole. Agreeing with the district court, OVEC argues that the Corps' NEPA analysis should have considered all environmental impacts caused by the fill, including the impacts to the upland valleys where the fills will be located. The Corps counters that it reasonably determined that, under its regulations, its jurisdictional reach was limited to the affected waters and adjacent riparian areas and that this determination is entitled to deference.

Because we are asked here to review the Corps' interpretation of its own regulations, our review is cabined to assessing the reasonableness of that interpretation. This kind of review is highly deferential, with the agency's interpretation "con-

"[E]nvironmental plaintiffs adequately allege injury in fact when they aver that they use the affected area and are persons 'for whom the aesthetic and recreational values of the area will be lessened' by the challenged activity." *Friends of the Earth, Inc. v. Laidlaw Environmental Services*, 528 U.S. 167, 183 (2000) (quoting *Sierra Club v. Morton*, 405 U.S. 727, 735 (1972)). As the district court determined below, one of OVEC's members and employees, Vivian Stockman, travels to the Republic No. 2 mine site to take photographs of nature and she intends to do so regularly in the future. Ms. Stockman will thus suffer a direct aesthetic injury as a result of the permitted activity, and OVEC therefore has standing to proceed with its challenge to the Republic No. 2 permit. *See id.* at 181 (noting that an organization has standing to bring suit on behalf of its members where members could sue in their own right, the interests involved are germane to the organization's purpose, and the requested relief does not require the participation of individual members in the suit).

trolling unless plainly erroneous or inconsistent with the regulation." *Auer v. Robbins*, 519 U.S. 452, 461 (1997) (internal quotations omitted); see also *Bowles v. Seminole Rock & Sand Co.*, 325 U.S. 410, 413-14 (1945); *Kentuckians for the Commonwealth v. Rivenburgh*, 317 F.3d 425, 439 (4th Cir. 2003) (noting that, when reviewing an agency's interpretation of its own regulation, "[t]he reviewing court does not have much leeway"). In applying this principle, also known as "Auer deference" or "Seminole Rock deference," we must first determine whether the regulation itself is unambiguous; if so, its plain language controls. See *Christensen v. Harris County*, 529 U.S. 576, 588 (2000); *United States v. Deaton*, 332 F.3d 698, 709 (4th Cir. 2003). If ambiguous, however, *Auer/Seminole Rock* deference is applied. See *Christensen*, 529 U.S. at 588; *Deaton*, 332 F.3d at 709.

NEPA requires federal agencies to take a "hard look" at the environmental consequences of their actions, but the statute does not specify how an agency should determine the scope of its NEPA analysis. *Wetlands Action Network v. United States Army Corp of Eng'rs*, 222 F.3d 1105, 1115 (9th Cir. 2000). The Corps' implementing regulations, however, specify that the proper scope of analysis for NEPA review is "to address the impacts of the specific activity requiring a DA [Department of the Army] permit and those portions of the entire project over which the [Corps] district engineer has sufficient control and responsibility to warrant Federal review." 33 C.F.R. pt. 325, App. B, § 7(b)(1) (2008). OVEC's challenge to the scope of the Corps' NEPA review rests largely on its misapprehension of what constitutes the "specific activity" requiring a permit.

The Corps' regulations are unambiguous in requiring a district engineer to address the impacts of the "specific activity requiring a DA [Department of the Army] permit" in its NEPA analysis. *Id.* According to OVEC, the Corps' § 404 permit is a permit for the entire valley fill, down to the last shovelful of dirt at the edge of the valley. But § 404 is itself

unambiguous about what the Corps is authorized to permit under the CWA: the Corps "may issue permits, after notice and opportunity for public hearings *for the discharge of dredged or fill material into the navigable waters* at specified disposal sites." 33 U.S.C. § 1344(a) (2000) (emphasis added). The specific activity that the Corps is permitting when it issues a § 404 permit is nothing more than the filling of jurisdictional waters for the purpose of creating an underdrain system for the larger valley fill. In fact, the Corps has no legal authority to prevent the placement of fill material in areas outside of the waters of the United States. All other fill activity falls under the exclusive jurisdiction of the WVDEP, as the federally approved state SMCRA regulatory authority.

Of course, even if the "specific activity" being permitted under CWA § 404 is the filling of valley streams, the Corps could still be required under NEPA to consider larger impacts of the broader valley fill project if the Corps is found to have "sufficient control and responsibility to warrant Federal review." 33 C.F.R. pt. 325, App. B, § 7(b)(1) (2008). In cases where the permitted activity is only one part of a larger project, the regulations specify that the Corps has "control and responsibility for portions of the project beyond the limits of Corps jurisdiction where the Federal involvement is sufficient to turn an essentially private action into a Federal action. These are cases *where the environmental consequences of the larger project are essentially products of the Corps permit action.*" 33 C.F.R. pt. 325, App. B, § 7(b)(2) (2008) (emphasis added).

The regulations go on to suggest several factors to be considered in making this determination, including:

- (i) Whether or not the regulated activity comprises "merely a link" in a corridor type project (e.g., a transportation or utility transmission project).
- (ii) Whether there are aspects of the upland facility in the immediate vicinity of the regulated activity

which affect the location and configuration of the regulated activity.

(iii) The extent to which the entire project will be within Corps jurisdiction.

(iv) The extent of cumulative Federal control and responsibility.

Id.

OVEC's argument that the Corps has sufficient control and responsibility over the larger valley fill to warrant its consideration of the environmental impacts of the entire valley fill project has some intuitive appeal. As OVEC points out, "[t]he Corps could not seriously contend that, if the § 404 permit for the stream-covering portions of the fill were denied, the applicants could build the remainder of the fills with a cutout around the streams. That could be dangerous. The valley fill is designed for stability as an integral unit." (Appellees' Br. at 35 n.2.) Undoubtedly, obtaining a § 404 permit is a "small but necessary" component of the overall upland project. United States Army Corps of Engineers, *Combined Decision Document for the Camp Branch Surface Mine Project* 4 (July 6, 2006) [hereinafter *Camp Branch CDD*]; see also United States Army Corps of Engineers, *Combined Decision Document for the Black Castle Surface Mine Project* 6 (July 18, 2006) [hereinafter *Black Castle CDD*]; United States Army Corps of Engineers, *Combined Decision Document for the Laxare East Surface Mine Project* 7 (July 18, 2006) [hereinafter *Laxare East CDD*]. But the fact that the Corps' § 404 permit is central to the success of the valley-filling process does not itself give the Corps "control and responsibility" over the entire fill. See *Wetlands Action Network v. U.S. Army Corps of Eng'rs*, 222 F.3d 1105, 1116-17 (9th Cir. 2000) (observing that the fact that construction of a development project covering hundreds of acres was dependent on a Corps § 404 permit to fill sixteen acres of wetlands did not suffice to make the

Corps responsible for including the entire project in the scope of its NEPA analysis).

The Corps' jurisdiction under CWA § 404 is limited to the narrow issue of the filling of jurisdictional waters. To say that the Corps has a level of control and responsibility over the entire valley fill project such that "the environmental consequences of the larger project are essentially products of the Corps permit action," 33 C.F.R. pt. 325, App. B, § 7(b)(2) (2008), is to effectively read out of the equation the elaborate, congressionally mandated schema for the permitting of surface mining operations prescribed by SMCRA.

Under SMCRA, the state of West Virginia has "exclusive jurisdiction over the regulation of surface coal mining and reclamation operations." 30 U.S.C. § 1253 (2000). Congress clearly contemplated that the regulation of the disposal of excess spoil and the creation of valley fills fall under the SMCRA rubric. *See* 30 U.S.C. § 1265(b)(22)(D) (2000) (requiring that lateral drains be constructed where a spoil disposal area contains "springs, natural water courses or wet weather seeps"); *Kentuckians for the Commonwealth, Inc. v. Rivenburgh*, 317 F.3d 425, 443 (4th Cir. 2003) ("[I]t is beyond dispute that SMCRA recognizes the possibility of placing excess spoil material in waters of the United States").

As part of its federally approved SMCRA regulatory program, the WVDEP surface mine permitting process examines "[e]very detail of the manner in which a coal mining operation is to be conducted includ[ing] the plan for disposal of excess spoil for surface . . . mining operations" (Br. for the W. Va. Dep't of Commerce and the W. Va. Dep't of Env'tl. Prot. as Amici Curiae Supporting Appellants at 13.) As the Corps explains in its permits, "the social and environmental impacts associated with surface coal mining and reclamation operations are appropriately analyzed by WVDEP in this context before that agency decides whether to permit the min-

ing operation under SMCRA." *Camp Branch CDD* 4; *Black Castle CDD* 6; *Laxare East CDD* 7; United States Army Corps of Engineers, *Combined Decision Document for the Republic No. 2 Surface Mine Project* 6 (July 6, 2006) [hereinafter *Republic No. 2 CDD*]. A SMCRA permit applicant must provide detailed information about possible environmental consequences of the proposed operations, as well as assurances that damage to the site will be prevented or minimized during mining and substantially repaired after mining has come to an end. The WVDEP must ensure compliance with SMCRA's environmental protection performance standards. *See* 30 U.S.C. §§ 1257, 1260, 1265 (2000).

If the Corps, by issuing a § 404 permit, can turn a valley fill project "into a Federal action," 33 C.F.R. pt. 325, App. B, § 7(b)(2) (2008), the WVDEP's regulation of the fill process becomes at best duplicative, and, at worst, meaningless. NEPA plainly is not intended to require duplication of work by state and federal agencies. *See* 40 C.F.R. § 1506.2(b) ("Agencies shall cooperate with State and local agencies to the fullest extent possible to reduce duplication between NEPA and State and local requirements . . ."). The Corps' general regulatory approach echoes this sentiment. *See* 33 C.F.R. § 320.1(a)(5) (2008) ("The Corps believes that state and federal regulatory programs should complement rather than duplicate one another."); 33 C.F.R. § 337.1 (2008) (noting that, in issuing public notice for projects involving the discharge of fill material into jurisdictional waters, "[d]istrict engineers are encouraged to develop procedures to avoid unnecessary duplication of state agency procedures").

SMCRA also calls for a coordinated and non-duplicative approach to environmental review. *See* 30 U.S.C. § 1253(a)(6) (2000) (requiring that a state SMCRA program establish "for the purposes of avoiding duplication, . . . a process for coordinating the review and issuance of permits for surface coal mining and reclamation operations with any other Federal or State permit process applicable to the proposed

operations"). While SMCRA's provisions should not be construed as "superseding, amending, modifying, or repealing" the requirements of NEPA or the CWA, 30 U.S.C. § 1292(a) (2000), neither should NEPA be construed to require the Corps to essentially federalize an environmental review process that has already been delegated to federally approved state programs. *See Wetlands Action Network*, 222 F.3d at 1117 (noting, in support of its finding that the Corps' NEPA analysis for a wetlands-filling permit need not include the effects of the larger development project, that state regulations control the design of the project and that the larger project was already subject to extensive state environmental review); *Sylvester v. U.S. Army Corps of Eng'rs*, 884 F.2d 394, 401 (9th Cir. 1989) ("We, finally, draw comfort from the fact that ordinary notions of efficiency suggest a federal environmental review should not duplicate competently performed state environmental analyses.").

In *Department of Transportation v. Public Citizen*, 541 U.S. 752, 767 (2004), the Supreme Court rejected the idea that "an agency's action is considered a cause of an environmental effect [for purposes of NEPA] even when the agency has no authority to prevent the effect." The Court instructed that proximate causation, rather than "but for" causation, was the relevant measure of the causal relationship between the agency action and the environmental effects. 541 U.S. at 767. In engaging in this proximate cause analysis, "'courts must look to the underlying policies or legislative intent in order to draw a manageable line between those causal changes that may make an actor responsible for an effect and those that do not.'" *Id.* (quoting *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 n.7 (1983)).

But for the Corps' § 404 permit, a valley fill could not be built; yet it is WVDEP, and not the Corps, that has "control and responsibility" over all aspects of the valley fill projects beyond the filling of jurisdictional waters.¹¹ Thus, under the

¹¹The Ninth Circuit's opinion in *Save Our Sonoran, Inc. v. Flowers*, 408 F.3d 1113 (9th Cir. 2005), is not to the contrary. In that case, the court was

plain language of the regulation, activity beyond the filling of jurisdictional waters is not within the Corps' "control and responsibility" because upland environmental effects are "not essentially a product of Corps action," 33 C.F.R. pt. 325, App. B, § 7(b)(2) (2008).

Even if we credit OVEC's arguments regarding the Corps' control and responsibility over the greater valley fill project as a plausible construction of the Corps' regulation, we must still deem the regulation "ambiguous," and the Corps' interpretation would be entitled to deference as long as it is not "plainly erroneous or inconsistent with the regulation." *Auer*, 519 U.S. at 461 (internal quotations omitted); *see also Seminole Rock*, 325 U.S. at 413-14; *Kentuckians for the Commonwealth*, 317 F.3d at 439. In the case of each of the challenged permits, the Corps' engineers reasonably determined that a scope of NEPA analysis extending beyond the Corps' limited jurisdiction to include environmental effects on upland areas would encroach on the regulatory authority of WVDEP, which administers the state's SMCRA program and is responsible for determining the social and environmental impacts associated with surface mining operations.¹² *Camp Branch CDD* 6-7; *Black Castle CDD* 5-7; *Laxare East CDD* 6-8; *Republic No. 2 CDD* 4-7. Thus the Corps did not act arbitrar-

not confronted, as we are, with the problem of overlapping federal and state regulatory schemes.

¹²This interpretation is also not in tension with NEPA itself. "[T]o get to *Seminole Rock* deference, a court must first address the straightforward *Chevron* [*Chevron U.S.A. Inc. v. Natural Res. Def. Council*, 467 U.S. 837 (1984)] question whether an agency regulation, as interpreted violates the statute." *Kentuckians for the Commonwealth*, 317 F.3d at 440 (quoting John F. Manning, *Constitutional Structure and Judicial Deference to Agency Interpretations of Agency Rules*, 96 Colum. L. Rev. 612, 627 n.78 (1996)). NEPA is not a results-driven statute, and requires only that federal agencies carefully consider and weigh competing policy values, *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989), which the Corps has plainly done here.

ily or capriciously in determining the scope of its NEPA analysis.

B.

The Corps next challenges the district court's finding that the Corps failed to adequately support its mitigated FONSI's under NEPA and its findings of no significant degradation to waters of the United States under the CWA.¹³ The Corps takes issue with three areas in which the district court found the Corps' findings to be lacking: (1) the Corps' CWA analysis of the impact of the permitted fills on the structure and function of affected streams; (2) the sufficiency of the proposed mitigation measures for purposes of CWA and NEPA compliance; and (3) the adequacy of the Corps' NEPA and CWA assessments of cumulative impacts of the proposed fills. In finding fault with the Corps' conclusions, the district court failed to heed the admonition of *Citizens of Overton Park* that, in reviewing agency action, "[t]he court is not empowered to substitute its judgment for that of the agency," 401 U.S. at 416. Focusing now on the administrative record before us, and viewing the Corps' findings through the lens of arbitrary and capricious review, we cannot say that its findings regarding stream structure and function, mitigation, or cumulative impacts were an "abuse of discretion" or "not in accordance with law," 5 U.S.C. § 706(2) (2000).

1.

The Corps' CWA Guidelines require the Corps to "[d]etermine the nature and degree of effect that the proposed discharge will have, both individually and cumulatively, on the structure and function of the aquatic ecosystem and organisms." 40 C.F.R. § 230.11(e) (2008). The Guidelines do not

¹³The CDDs issued with each of the challenged permits included the Corps' NEPA and CWA analyses and conclusions, as well as details of the proposed compensatory mitigation plans.

expressly define the phrase "function of the aquatic ecosystem," but they do identify a variety of factors the Corps' should consider, including "potential changes in substrate characteristics and elevation, water or substrate chemistry, nutrients, currents, circulation, fluctuation, and salinity, on the recolonization and existence of indigenous aquatic organisms or communities." 40 C.F.R. § 230.11(e) (2008).

In February 1990, the Corps and EPA developed a Memorandum of Agreement to make clear what kind of functional analysis the Corps was required to conduct. Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines, 55 Fed. Reg. 9210 (Mar. 12, 1990) [hereinafter "MOA"]. The MOA sets out a common approach for evaluating stream function, calling for functional values to be assessed "by applying aquatic site assessment techniques generally recognized by experts in the field and/or the best professional judgment of Federal and State agency representatives, provided such assessments fully consider ecological functions included in the Guidelines." *Id.* In 2002, the Corps issued a Regulatory Guidance Letter that called upon Corps district offices "*when possible*" to "use functional assessments by qualified professionals to determine impacts and compensatory mitigation requirements." United States Army Corps of Engineers Regulatory Guidance Letter, No. 02-2 (Dec. 24, 2002) [hereinafter "RGL 02-02"]. RGL 02-02 provided that assessment techniques should be "generally accepted by experts or the best professional judgment" of federal and state agency representatives. *Id.*¹⁴

¹⁴In April 2008, an amendment to the Guidelines superseded RGL 02-02 as guidance on implementation of the Corps' compensatory mitigation policy. *See* 40 C.F.R. § 230.91(e)(1) (2008). It also superseded the MOA with respect to any provisions "relating to the amount, type, and location of compensatory mitigation projects," though all other provisions of the MOA remain in effect. *See* 40 C.F.R. § 230.91(e)(2) (2008). Because the MOA and RGL 02-02 were valid guidance in place at the time of the Corps' permitting decisions, however, we must consider the agency's action in light of those guidance documents to determine whether the Corps acted in an arbitrary or capricious manner.

The Corps currently does not have a functional assessment protocol in place for use in West Virginia, though it is in the process of developing one. As a result, the Corps relies on the best professional judgment of its staff to assess aquatic impacts and potential mitigation measures. This generally means assessing stream structure as a surrogate for function.

OVEC argues that the plain language of the Guidelines requires that the Corps analyze both the structural and the functional effects of fill permits on the affected streams. In their view, this means that a full functional assessment is required. The Corps' failure to complete such an assessment, OVEC continues, is inconsistent with the plain language of its regulation,¹⁵ and the Corps' substitute method of using its "best professional judgment" was arbitrary and capricious because it lacked any objective standards.

Appellants argue that because the CWA Guidelines provide no definition of "function" or any specific methodology for evaluating function, the Corps' interpretation and implementation of the regulation is entitled to deference. According to Appellants, the methodologies used by the Corps were an effective surrogate for functional assessment, and these techniques are compliant with the Guidelines, the MOA, and RGL 02-02.

The district court agreed with Appellants that a functional assessment was not required and that the Corps was entitled to deference on how to measure stream structure and function. It further found that the Corps was entitled to use its "best professional judgment" in accordance with the MOA and RGL 02-02 in evaluating functional loss. Nonetheless, the court concluded that, even under a "best professional judgment" standard, the Corps was obligated, and failed, to fully assess all ecological functions; to take a "hard look" at the

¹⁵OVEC further contends that, consistent with the CWA Guidelines, the MOA also compels a full functional assessment.

evidence; and, to provide a reasoned basis for its conclusions. Based on our review of the administrative record, however, we cannot say that the Corps' assessments of stream functions in the challenged permits were arbitrary and capricious.

Contrary to OVEC's position that the CWA Guidelines mandate a full functional assessment, the Guidelines in fact offer no definition of the word "function" or any explanation of how "structure" and "function" are to be assessed. The MOA and RGL 02-02 attempt to fill this gap by encouraging use of a functional assessment but allowing Corps engineers to use their best professional judgment when such an assessment is not possible. An agency's interpretation of its own regulations is due significant deference, *Kentuckians for the Commonwealth Inc.*, 317 F.3d at 439, and the MOA/RGL 02-02 approach does not appear plainly erroneous or inconsistent with the Guidelines.

In this case, the Corps, using its best professional judgment, used stream structure as a surrogate for assessing stream function.¹⁶ Taking Black Castle as an example, the Corps used detailed measurements provided by Intervenors on the benthic macroinvertebrate population¹⁷ to draw conclusions about the level of stream function at the proposed fill sites. *Black Castle*

¹⁶The dissent misconstrues the significance of the Corps' use of structural measurements as a surrogate for a full functional analysis. The Corps' methodology does not, as the dissent suggests, make 'function' "merely a redundancy for 'structure.'" *Infra* at 77. Instead, the Corps has determined, using its best professional judgment, that structural measurements can provide adequate indications of stream function where a full functional assessment is not possible. Given the highly deferential standard under which we review administrative action, we cannot say that this approach is "plainly erroneous or inconsistent with the regulation." *Auer*, 519 U.S. at 461 (internal quotations omitted). Acknowledgement of this basic principle of *Seminole Rock* deference is conspicuously absent from the dissent.

¹⁷Benthic macroinvertebrates are nonvertebrate, aquatic organisms that are large enough to be seen with the naked eye.

CDD 102 ("Biological measurements (metrics) represent elements of the structure and function of the bottom-dwelling macroinvertebrate assemblage. . . Such a measure of structure and function of the biota . . . is an appropriate indicator of ecological quality, the integrity of soil and water chemistry, geological processes, and land use changes.").¹⁸ The Corps also used the EPA's Rapid Bioassessment Protocol for Use in Streams and Wadeable Rivers ("RBP") to assess aquatic habitat, it used the EPA-developed West Virginia Stream Condition Index ("WV-SCI") for measuring the types and proportions of benthic insects, and it followed the EPA's field manual for measuring the ecological condition of streams.

OVEC identifies nutrient cycling as one of the factors the Corps is instructed, but failed, to consider under 40 C.F.R. § 230.11(e) (2008). The Corps' CDDs themselves acknowledge this shortcoming, noting that the effects of filling ephemeral streams on nutrient cycling are difficult to measure and that there is a lack of consensus among the relevant agencies about how best to collect quantitative evidence regarding these functions. To compensate for these effects, however, the Corps' permitting decisions call for limiting impacts to channels that do not sustain long periods of flow and for establishing a riparian buffer around mitigation sites.

In fact, in each of its CDDs, the Corps provides its complete findings under 40 C.F.R. § 230.11(e) (2008), including a section on "Physical and Chemical Characteristics of the Aquatic Ecosystem," which covers substrate characteristics, water quality, current patterns and water circulation, water fluctuations, and salinity gradients; and a section on "Biological Characteristics of the Aquatic Ecosystem," which covers threatened and endangered species and their habitat, aquatic organisms in the food web, and other wildlife. *Camp Branch*

¹⁸Similar language can be found in the CDDs for the other permits. See *Camp Branch CDD (Supplement)* 5-6; *Laxare East CDD* 106-07; *Republic No. 2 CDD* 43-44.

CDD 10-16; Black Castle CDD 13-31; Laxare East CDD 15-28; Republic No. 2 CDD 15-19. The Corps is entitled to use its best professional judgment for assessing the structure and function of the affected aquatic ecosystem, and its CDDs address the required considerations under the Guidelines, 40 C.F.R. § 230.11(e) (2008).¹⁹ Thus, these findings were not inconsistent with the Corps' regulations and cannot be characterized as arbitrary, capricious, or otherwise not in accordance with the law.

The district court placed great weight on the Appellees' expert testimony at trial in finding that the Corps' functional evaluation was lacking. We acknowledge the importance of extra-record evidence in NEPA cases to inform the court about environmental factors that the agency may not have considered. While review of agency action is typically limited

¹⁹The dissent suggests that we have "failed to identify the stream functions to be measured under § 230.11(e)," and thus "cannot meaningfully evaluate the adequacy of the stream assessment protocols that were used." *Infra* at 75. But the only clues § 230.11(e) offers regarding the stream functions to be measured are the § 230.11(e) factors—"potential changes in substrate characteristics and elevation, water or substrate chemistry, nutrients, currents, circulation, fluctuation, and salinity, on the recolonization and existence of indigenous aquatic organisms or communities," 40 C.F.R. § 230.11(e) (2008) — and each of the Corps' CDDs undisputedly address these factors.

For the Court to attempt to define stream function beyond these guidelines would certainly be inappropriate judicial intrusion into the Corps and EPA's sphere of authority. Yet that is precisely what the dissent attempts to do. The dissent looks to the functional assessment protocol that is currently being developed by the EPA and divines from that a list of functions that the Corps should have evaluated. *See infra* at 79-82. At this stage, however, the EPA protocol is still only in development. The dissent provides no explanation of why "the most logical place to begin an inquiry into the meaning of the term 'function,'" *infra* at 79, would be with a protocol that still has not been developed as opposed to the already existing internal guidance documents issued by the EPA and the Corps. In fact, it is difficult to understand how the Corps could have abused its discretion by not following guidance that did not even exist at the time it issued the permits.

to the administrative record that was available to the agency at the time of its decision, *Camp v. Pitts*, 411 U.S. 138, 142 (1973) (per curiam), a NEPA suit is inherently a challenge to the adequacy of the administrative record, see *County of Suffolk v. Sec'y of the Interior*, 562 F.2d 1368, 1384 (2d Cir. 1977). That is why, in the NEPA context, "courts generally have been willing to look outside the record when assessing the adequacy of an EIS or a determination that no EIS is necessary." *Webb v. Gorusch*, 699 F.2d 157, 159 n.2 (4th Cir. 1983) (citing *County of Suffolk*, 562 F.2d at 1384).

Such consideration of extra-record evidence in a NEPA case does not, however, give courts license to simply substitute the judgment of plaintiff's experts for that of the agency's experts.²⁰ *Hughes River Watershed Conservancy v. Johnson*, 165 F.3d 283, 289-90 (4th Cir. 1999). "Agencies are entitled to select their own methodology as long as that methodology is reasonable," and we must defer to such agency choices. *Id.* at 289; see also *Native Ecosystems Council v. United States Forest Serv.*, 428 F.3d 1233, 1244 (9th Cir. 2005) (finding, in the context of a NEPA challenge, that because the Forest Service had provided a "thorough and reasoned explanation" for its position, the court would not "take sides in a battle of the experts" (internal quotations omitted)); *Spiller v. White*, 352 F.3d 235, 244 (5th Cir. 2003) (same).

Having found that the Corps was not obligated to engage in a full functional assessment, it is not our place to dictate how the Corps should go about assessing stream functions and losses. In matters involving complex predictions based on special expertise, "a reviewing court must generally be at its most deferential." *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 103 (1983). When presented with

²⁰Moreover, whatever concerns OVEC's experts had regarding the sufficiency of the Corps' functional analysis were expressed in their comments to the Corps during the notice-and-comment period for the permits, and were incorporated into and responded to in the CDDs.

conflicting evidence, courts must generally defer to the agency evaluation because "an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive." *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378 (1989). The CDDs issued with each permit include substantial analysis and explanation about the Corps' impact findings. These determinations are within the agency's special expertise and were based on Corps staff's "best professional judgment." As such, the Corps cannot be said to have acted arbitrarily or capriciously.

2.

OVEC next questions the sufficiency of the mitigation plans contained in the CDDs for each of the challenged permits. OVEC charges that the proposed mitigation measures are insufficient both to satisfy the Corps' requirements under the CWA and to justify the issuance of a mitigated FONSI in lieu of a full EIS under NEPA.

Under the Corps' CWA Guidelines, a § 404 permit cannot issue "unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge [of fill material] on the aquatic ecosystem." 40 C.F.R. § 230.10(d) (2008). In their MOA of 1990, the EPA and Corps make "no overall net loss" the goal of the § 404 regulatory program,²¹ and agree that mitigation has three components: avoidance, minimization, and compensatory mitigation. 55 Fed. Reg. 9210 (Mar. 12, 1990). Avoidance is defined as the selection of the least environmentally damaging practical alternative. *Id.* Minimization is achieved through practicable project modifications and permit conditions that minimize

²¹"No overall net loss" is classified only as a "goal" because the agencies "recognized that no net loss of wetlands functions and values may not be achieved in each and every permit action." 55 Fed. Reg. 9210 (Mar. 12, 1990).

adverse impacts. *Id.* Finally, compensatory mitigation is used where appropriate to compensate for unavoidable adverse impacts after all avoidance and minimization measures have been taken. *Id.*

Compensatory mitigation can include the restoration of existing wetlands or the creation of new wetlands, and is to be done as close to the discharge site as possible ("on-site mitigation"). *Id.* Where on-site mitigation is not possible, off-site mitigation is permitted but should take place in the same geographic area if possible. *Id.* The MOA specifically directs that the functional values lost should be carefully considered when determining compensatory mitigation, and that, generally, in-kind mitigation should be used. *Id.* Noting the continued uncertainty of success in wetland creation, the MOA further instructs that restoration options should be considered before creation options. *Id.*

The mitigation measures specified for the four challenged fill projects include stream enhancement,²² stream restoration, and stream creation. Each of the proposed compensatory mitigation plans would, according to the Corps, lead to no net loss of habitat.²³

²²Enhancement may take the form of planting of native species of trees and plants along and in streams, establishing proper stream crossings, stabilizing banks, and/or cleaning stream beds to improve the streams' habitat, aquatic diversity, and water quality.

²³For the Camp Branch project, the Corps' mitigation plan requires restoration of 2,035 linear feet of impacted streams, including the sediment ponds and the stream segments running between the fill and the sediment pond. It also requires creation of 41,271 linear feet of stream, both at the mining site and at an adjacent off-site location within the same watershed. A minimum 50-foot vegetated riparian zone would be established along all of the restored and created stream areas.

For the Black Castle project, the Corps' mitigation plan includes plans to compensate for temporary impacts caused by construction of the sediment ponds by restoring 7,590 linear feet of stream. Permanent impact mitigation will include enhancement of 18,000 linear feet of perennial

Much of OVEC's concern over the proposed compensatory mitigation plans focuses on the potential impacts on headwater streams. As noted earlier, the role of headwater streams in downstream ecology is a matter of some debate in the scientific community and among the parties to this litigation. According to OVEC's experts, headwater streams function uniquely in stream ecology, collecting and transporting organic matter to nourish aquatic life downstream, allowing higher levels of nutrient uptake than perennial streams, and serving as a habitat for a variety of benthic organisms. Intervenor, on the other hand, offered expert testimony that, while headwater streams are "very important" to stream ecology (J.A. 4345), downstream waters could still maintain a healthy benthic community even when headwater streams were filled, as long as the water quality below the fill remained good.²⁴

streams. The Corps further estimates that the placement of alkaline overburden from the mining project into the fills will actually improve another 5,420 feet of stream below the fills by decreasing the acidity and aluminum levels found in those waters as a result of prior mining activity and construction.

In the case of the Laxare East project, the Corps developed a mitigation plan calling for restoration of 7,101 linear feet of temporarily impacted streams, as well as creation of 13,621 linear feet of stream and enhancement of another 16,000 linear feet.

Finally, the Corps' mitigation plan for the Republic No. 2 project calls for restoration of 2,276 linear feet of temporarily impacted stream, as well as enhancement of 10,777 linear feet of Long Branch, a tributary adjacent to the permit area. As with the Black Castle project, the Corps found that the streams that would be filled already suffered from poor to fair water quality due to previous, pre-SMCRA mining activities.

²⁴The Intervenor's expert, Mr. Kirk, did acknowledge that mayfly populations in downstream waters have been reduced as a result of the placement of valley fills in headwaters, but he characterized mayflies as particularly "sensitive" organisms and indicated that the reduction in their numbers was "one of the only dramatic changes that occurs, if the water quality still is fairly good downstream" (J.A. 4352.) Another expert for the Intervenor, Dr. Donald Cherry, testified however that the functions served by the mayflies in these waters were fulfilled by other organisms.

Another expert for the Intervenors further testified that, in fact, ephemeral streams "will not provide as much benefit as downstream reaches," because their ephemeral nature does not allow them to "be giving the same type of value and processes as the one that's functioning all the time." (J.A. 4381.)

The Corps, meanwhile, seems to take the position that, whatever the functional uniqueness of headwater streams, nothing in NEPA, the CWA, or the Corps' regulations prevents them from allowing mitigation of headwater stream destruction through enhancement, restoration, or creation of a downstream perennial system.

The district court, again relying heavily on the trial testimony of OVEC experts, concluded that the Corps had failed to fully assess the impacts of destroying headwater streams. Taking OVEC's view of the unique role of headwater streams, the district court found that the mitigation plans failed to explain how a valley fill's destruction of headwater streams could be compensated for simply by the creation, enhancement, or replacement of an equal or greater length of some other stream type. The court further suggested that the Corps' failure to conduct a full functional assessment meant that it ignored a number of critical headwater stream values in its evaluation of adverse impacts, and therefore the mitigation plans could not possibly be adequate to offset adverse impacts.

The Corps defends the mitigation plans by arguing that nothing in the CWA Guidelines requires compensatory mitigation measures that precisely replicate the functions of the impacted streams. Having reviewed the Guidelines, this Court concludes that, whatever the role of headwater streams in overall watershed ecology, the Corps is not required to differentiate between headwater and other stream types in the determination of mitigation measures.

In reaching this conclusion, we look to the Corps' guidance in RGL 02-02, which provides that "[d]istricts should require

compensatory mitigation projects for streams to replace stream functions where sufficient functional assessment is feasible. However, where functional assessment is not practical, mitigation projects for streams should generally replace linear feet of stream on a one-to-one basis."

As we have already noted, a full functional assessment protocol is not yet available to the Corps, and the Corps is thus entitled to use its best professional judgment to assess structural and functional losses for purposes of the Guidelines. Similarly, RGL 02-02 advises that, where a full functional assessment is not feasible, the only compensatory mitigation measure the Corps must require in a permitting decision is stream replacement on a one-to-one basis.²⁵ Nothing in the Corps' CWA guidance requires that only in-kind, on-site mitigation measures be used. By this standard, the Corps' permitting decisions have exceeded the mitigation requirements by creating mitigation plans involving greater than one-to-one replacement schemes. The Camp Branch project, for example, involved 15,514 linear feet of direct impacts, and the permit requires mitigation of 43,306 feet.

The Corps' guidance does instruct that "functional values lost by the resource to be impacted must be considered" in developing a mitigation plan. MOA, 55 Fed. Reg. 9210 (Mar. 12, 1990). But the guidance also provides that compensatory mitigation must be "practicable." *Id.* The Corps' guidance documents indicate that, in "determining 'practicability,' Dis-

²⁵The dissent contends that this provision of the RGL is inconsistent with 40 C.F.R. § 230.11(e) and thus "illegal." *Infra* at 87. But this contention is grounded on the dissent's faulty assumption that a full functional assessment is required in order to satisfy § 230.11(e). The fact remains that § 230.11(e) provides no guidance as to how 'function' is to be assessed beyond identifying several factors which the Corps should consider. *See* 40 C.F.R. § 230.11(e). All four of the challenged CDDs address each of these factors. Given that the Corps' guidance documents are not plainly contrary to the meaning of the Guidelines, the dissent's efforts to undermine their legitimacy are unavailing.

tracts will consider the availability of suitable locations, constructability, overall costs, technical requirements, and logistics." RGL 02-02. "In certain circumstances of regions of the country, on-site compensatory mitigation opportunities are limited," and the Corps must look instead to other compensatory options. Thomas F. Caver, Deputy Dir. of Civil Works, U.S. Army Corps of Eng'rs, Internal Guidance on Mitigation for Impacts to Aquatic Resources from Surface Coal Mining (May 7, 2004). In other circumstances, the stream functions being lost on-site may be "ubiquitous in the watershed," while "wetland functions are rare or degraded." *Id.* In such a situation, "it may be appropriate to replace lost stream functions with wetlands functions." *Id.* Thus, where on-site or in-kind functional mitigation is not practicable or even ecologically preferable, the Corps' guidance allows compensation plans that employ off-site or out-of-kind mitigation based on improvements to the overall aquatic health of the watershed.

For example, in the case of the Laxare East and Black Castle permits, the Corp's mitigation plans aimed to improve the water quality of already severely distressed streams in portions of the Laurel Creek watershed. Similarly, in the case of the Republic No. 2 mine, the mitigation plan was designed to address stability issues along the Long Branch tributary, based on an assessment that "this section of stream could contribute to improved aquatic habitat and ultimately aquatic diversity. . . . by attempting to replace the chemical, hydrologic, and geomorphic functions of the impacted channels." *Republic No. 2 CDD* 13. Each of these mitigation plans accords with the holistic watershed approach called for in the Corps' guidance documents.

Moreover, each of the mitigation plans for the challenged permits included requirements for continued monitoring of the efficacy of the mitigation measures, in some cases for as much as 10 years.²⁶ Each permit also contains detailed special

²⁶If minimum criteria are not met at the end of the established monitoring period, further monitoring may be required.

conditions that impose numerous performance standards to measure and ensure the success of mitigation.²⁷

OVEC also takes issue with the use of stream creation as a mitigation measure. The Camp Branch and Laxare East plans both employ stream creation as a significant component of their compensatory mitigation schemes. Under these plans, sediment ditches used during mining to collect runoff, control drainage, and collect sediment, will be converted into new stream channels. OVEC's experts have questioned these stream creation proposals, calling them scientifically untested and unsound.

The Corps' support for its claim that the proposed stream creation measures have good potential for success is admittedly limited. The Corps cites one example of stream creation in a mining area in Kentucky as well as an Ohio State University study on the potential for enhancing the natural ecology of drainage ditches. *See Camp Branch CDD 44; Laxare East CDD 98-101*. However, the novelty of a mitigation measure alone cannot be the basis of our decision to discredit it. When an agency is called upon to make complex predictions within its area of special expertise, a reviewing court must be at its most deferential. *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 103 (1983); *see also Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378 (1989) ("When spe-

²⁷OVEC takes issue with the mitigation measurement standards employed by the Corps, claiming that, for three of the four challenged permits, the Corps relies improperly on the Stream Habitat Unit ("SHU") model developed by the applicants to determine mitigation. According to OVEC, the SHU lacks a scientific basis and distorts the evaluation of streams by focusing on habitat measures and physical appearance and giving insufficient weight to stream function measures and to the unique role of headwater streams in watershed ecology. But, the Corps did rely not on the SHU to determine required mitigation. The Corps' baseline standard for mitigation is the one-to-one linear feet replacement called for by the Corps' guidance documents. The SHU model was used to provide supplemental data regarding habitat and as a measurement standard to help monitor the success of habitat creation, enhancement, or restoration efforts.

cialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive."). The Corps admits that "[t]ime is required with any new, scientifically based development as well as monitoring and evaluation to show the success and/or failures of the project." *Camp Branch CDD (Supplement)* 3. And, the monitoring plans in place for Camp Branch and Lax-are East allow the Corps to reevaluate their efficacy determinations as the stream creation projects progress.

Because the mitigation measures reflect the Corps' determinations of the most appropriate and practicable means of compensating for anticipated impacts and losses of value, we cannot say that the Corps' conclusion that compensatory mitigation would offset the adverse effects of the fill activity was arbitrary, capricious, or otherwise not in accordance with the requirements of the CWA. *Cf. Fla. Keys Citizens Coal., Inc. v. U.S. Army Corps of Eng'rs*, 374 F. Supp. 2d 1116, 1158-59 (S.D. Fla. 2005); *Airport Cmtys. Coal. v. Graves*, 280 F. Supp. 2d 1207, 1227-28 (W.D. Wash. 2003).

The Corps' proposed mitigation plans are also sufficient to justify issuance of a mitigated FONSI for purposes of NEPA. In *O'Reilly v. U.S. Army Corps of Engr's*, 477 F.3d 225 (5th Cir. 2007), the Fifth Circuit found that the Corps' EA and mitigated FONSI for a § 404 permit application were inadequate because the Corps failed to establish that identified adverse impacts of wetland filling would actually be corrected by its proposed mitigation measures.²⁸ The court noted that generally "proposed mitigation measures need not be laid out to the finest detail," but they also could not be purely perfunctory or conclusory. *Id.* at 231 (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989)).

²⁸Given our earlier finding that the Corps reasonably restricted the scope of its NEPA analysis, the Corps did not need to consider mitigation efforts beyond those aimed at countering the impacts of the filling of jurisdictional waters.

In this case, by contrast, the Corps did explain how mitigation would compensate for fill impacts. In the *Black Castle CDD*, for example, the Corps explains that:

[t]he applicant's mitigation plan would be expected to result in the replacement of the appropriate type and quantity of aquatic functions lost due to project impacts. The goal of the applicant's CMP [Compensatory Mitigation Plan] is to re-establish, restore, and/or enhance the values of each habitat parameter (i.e. embeddedness and sediment deposition, velocity/depth regime, riparian cover, bank stability and vegetative protection), in order to promote a general improvement in the area's existing benthic conditions. Before impacts, the streams proposed to be impacted by the proposed activities were measured for detailed Rosgen-type morphological parameters,

aquatic resources, habitat, substrate, and riparian parameters in order to reconstruct these sections of channels to their approximate original state . . . , thus utilizing an ecological restoration approach on these sections of channels by replacing the physical and geomorphic functions This approach focuses on replacing the corridor structure and function, therefore, enabling communities to recover to a sustainable level. Stream functions were identified and quantified as part of the conducted benthic surveys, water sampling, habitat assessments, and [West Virginia Stream Condition Index] WVSCI and were used in the design of the applicant's CMP. A variety of components that address aquatic habitat functions such as improvement to water quality and temperature, organic input, and macroinvertebrate, fisheries, and riparian habitat has been incorporated into the applicant's mitigation plan. The applicant's specific goals include reducing sediment runoff, improving marginal aquatic habitats for benthic macroinvertebrates and fish both functionally and aesthetically, and restoring functions by eradicating invasive species, stabilizing eroded and collapsed banks, installing proper road crossings, placing or repositioning boulders, and planting native riparian vegetation. These improvements would ultimately improve aquatic habitat for fauna within the Laurel Creek watershed.

*Black Castle CDD 42-43; see also id. at 102-03.*²⁹

The Corps is thus able to "articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'" *Motor Vehicle Mfrs. Ass'n*

²⁹Similar explanations were provided in the other challenged CDDs. *See Camp Branch CDD 61-62; Laxare East CDD 41-42, 108-09; Republic No. 2 CDD 13-14.*

v. State Farm Mut. Auto Ins. Co., 463 U.S. 29, 43 (1983) (quoting *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962)); see also *Ohio River Valley Envtl Coal., Inc. v. Kempthorne*, 473 F.3d 94, 102-103 (4th Cir. 2006). Given this, we conclude that the compensatory mitigation plans contained in the CDDs for each of the challenged permits were sufficient both for purposes of satisfying the Corps' requirements under the CWA and for justifying issuance of a mitigated FONSI under NEPA.

3.

Under both NEPA and the CWA, the Corps is required to consider the cumulative impacts of an applicant's proposed project. Under NEPA, the Corps must evaluate "[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts." 40 C.F.R. § 1508.27(b)(7) (2008). Under the CWA, the Corps' Guidelines instruct that a project should not receive a § 404 permit "unless it can be demonstrated that [the project] 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." 40 C.F.R. § 230.1(c) (2008). In each of the four challenged permitting decisions, the Corps found that no cumulatively significant impacts would occur.

OVEC argues that the Corps' cumulative impact analysis failed in two respects. First, OVEC claims that, because the Corps improperly limited the scope of its NEPA analysis to the streams alone, it also failed to assess the cumulative impacts of the fills on the valleys themselves. Given our earlier finding that the Corps was entitled to deference in its decision to limit the scope of its NEPA analysis to the impacts from the filling of jurisdictional waters, this first argument by OVEC must fail.

Second, OVEC argues that the Corps' conclusions about cumulative impacts with regard to the streams and watersheds

themselves were insufficient. Appellants respond that the Corps complied with relevant regulations and guidance in its cumulative impact analysis. For each CDD, the Corps included an evaluation of (1) present conditions and probable future conditions if fill activity is not allowed; (2) the direct and indirect effects that fill activity would have on those conditions; and (3) how fill activity would interact with past or future impacts from other activity in the area. *See Camp Branch CDD* 24-30; *Black Castle CDD* 43-53; *Laxare East CDD* 43-56; *Republic No. 2 CDD* 21-24.

The district court found the Corps' cumulative impact analysis faulty because it presumed that the Corps' determination relied improperly on mitigation to eliminate adverse impacts. The district court is correct that a "mitigated to insignificance" analysis does not suffice to demonstrate an absence of cumulatively significant impacts. The Fifth Circuit rejected just such an approach in *O'Reilly*, 477 F.3d at 234-35.

In *O'Reilly*, the Corps had issued a CWA § 404 permit to a residential developer after issuing a mitigated FONSI. The court agreed with plaintiffs, area residents who opposed the planned subdivision being developed, that the Corps acted arbitrarily in issuing the mitigated FONSI because it failed both to properly articulate how adverse effects were mitigated to insignificance and to adequately consider cumulative effects. *Id.* at 227. On this latter shortcoming, the Corps had stated that "mitigation for impacts caused by the proposed project, possible future project phases, and all Corps permitted projects will remove or reduce e[x]pected impacts." *Id.* at 235 (alteration in original) (internal quotations omitted). The court rejected this argument, observing that, without further explanation from the Corps, it could not accept the presumption that "when the individually 'mitigated-to-insignificant' effects of this permit are added to the actual post-dredge and fill effects of 72 other permits issued to third parties by the Corps in the area, that the result will not be *cumulatively* significant." *Id.* (emphasis in original).

This case is different. While the Corps' finding of no cumulative adverse impacts does lean, to some extent, on mitigation, it is not in the same perfunctory, conclusory way that was found inadequate in *O'Reilly*. For one thing, the Corps' findings rely in part on both the WVDEP's CWA § 401 certification and SMCRA permitting process. Under CWA § 401, the WVDEP must certify that proposed mining activity will not cause or contribute to a violation of state water quality standards. *See* 33 U.S.C. § 1341 (2000). The § 401 certification process involves, among other things, consideration of:

impacts of the project in light of other activities in the watershed . . . and anti-degradation requirements . . . [which] work to reduce or eliminate cumulative impacts by providing a process to maintain existing water quality levels to meet intended uses. . . . Therefore, the Corps views the state water quality certification as satisfying the water quality portion of cumulative impact analysis

Laxare East CDD 122. A § 401 certification is considered conclusive, and no independent analysis of the certification is required. 33 C.F.R. § 320.4(d) (2008); *see also Bering Strait Citizens for Responsible Res. Dev. v. U.S. Army Corps of Eng'rs*, 524 F.3d 938 (9th Cir. 2008).

The SMCRA permitting process also requires the director of WVDEP to prepare an assessment of the probable cumulative impact of all anticipated (past, present, and future) mining on the hydrologic balance in the area of the mine and make a finding that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area. W. Va. Code § 22-3-18(b)(3) (2005). This Cumulative Hydrologic Impact Assessment ("CHIA") is part of the administrative record for each of the challenged permits. *See, e.g., Laxare East CDD 134*.

In finding the Corps' cumulative impact analysis inadequate, the district court charged that "[t]he Corps does not

explain how the cumulative destruction of headwater streams already affected by mining in these watersheds will not contribute to an adverse impact on aquatic resources." *Ohio Valley Env'tl Coal. v. U.S. Army Corps of Eng'rs*, 479 F. Supp. 2d 607, 659 (S.D. W. Va. 2007). In fact, each of the Corps' permits directly addresses the cumulative impact issue. In the *Republic No. 2 CDD*, for example, the Corps acknowledges that the impact of pre-SMCRA mining has degraded the upper Cabin Creek watershed. *See Republic No. 2 CDD* 23. However, the Corps notes that mining in the same seams as proposed for Republic No. 2 has not resulted in any acid mine drainage problems. *Id.* at 16. The Corps also notes that as part of the CWA § 402 NPDES program, anti-degradation standards have been calculated for each pond outlet to ensure no material impacts to water quality downstream and to ensure water quality standards are met. *Id.* Significantly, the CHIA prepared by WVDEP, which considered the impact of the Republic No. 2 operation and all other past, present, and future mining in the watershed, determined there would be no cumulative adverse impact. *Id.*

Thus, the Corps concluded that

while there would be short-term impacts to the aquatic and terrestrial environment as a result of the proposal, it is anticipated the proposed mining activities would have no adverse cumulative environmental impacts within the subwatershed or the overall Cabin Creek watershed. The proposal, if implemented as described, should improve the overall ecological balance of the area. Further, the proposal and resultant mitigation and reclamation requirements are expected to improve the overall health of the Cabin Creek watershed.

Id. at 24.³⁰

³⁰Similar language can be found in the other permits. *See, e.g., Black Castle CDD* 43-53; *Laxare East CDD* 43-56.

Because the Corps has analyzed cumulative impacts in each of the challenged permits and has articulated a satisfactory explanation for its conclusion that cumulative impacts would not be significantly adverse, we find that the Corps did not act arbitrarily or capriciously in conducting its required cumulative impact analysis.

V.

Appellants also challenge the district court's June 13, 2007, order granting OVEC declaratory relief on the question of whether stream segments connecting valley fills to downstream sediment ponds are properly classifiable under the CWA as waters of the United States and thus not within the Corps' § 404 authority to allow. We conclude that stream segments, together with the sediment ponds to which they connect, are unitary "waste treatment systems," not "waters of the United States," and that the Corps' has not exceeded its § 404 authority in permitting them.

A.

At the outset of our analysis on this issue, we must deal with the Intervenor's argument that the doctrine of res judicata precludes OVEC's claim of entitlement to declaratory relief. Intervenor's argue that plaintiffs could and should have raised this claim in the course of the *Bragg v. Robertson* litigation, and their failure to do so bars them from raising it now. The district court rejected this argument in a memorandum opinion and order dated August 10, 2006; we review de novo, see *Q Int'l Courier, Inc. v. Smoak*, 441 F.3d 214, 216 (4th Cir. 2006).

In *Bragg v. Robertson*, 54 F. Supp. 2d 653 (S.D. W. Va. 1999), *aff'd in part, rev'd in part sub nom. Bragg v. W. Va. Coal Ass'n*, 248 F.3d 275 (4th Cir. 2001), the plaintiffs—including several individuals and the West Virginia Highlands Conservancy, one of the plaintiffs in this

case—brought suit against, inter alia, the Corps and WVDEP for various alleged violations of their statutory duties under SMCRA, the CWA, and NEPA in the course of their mountaintop removal permitting activities. With respect to the Corps, the plaintiffs' complaint alleged that the agency did not have authority under the CWA to regulate valley fills because mining spoil did not meet the definition of "fill material" under the CWA.

Plaintiffs subsequently entered into a settlement agreement with the Corps that resolved their claims regarding the Corps' past alleged violations under the CWA and NEPA.³¹ *See id.* Under the terms of the agreement, the plaintiffs gave up their right to challenge the Corps' authorization of valley fills under the theory that mining spoil is not fill material. *See id.* at 657 n. 5. The agreement expressly reserved for the plaintiffs, however, "the right to challenge under the APA any future Corps' CWA section 404 authorization for any valley fill in waters of the United States that may be authorized by the Corps after the Effective Date of this Settlement Agreement." (J.A. 139-40); *see also Bragg*, 54 F. Supp. 2d at 657. The district court approved the settlement agreement and dismissed all outstanding claims against the Corps with prejudice. *Bragg*, 54 F. Supp. 2d 653-54.

Intervenors claim that the district court's orders in the *Bragg* litigation were final adjudications for purposes of claim preclusion and that principles of res judicata bar OVEC from now challenging the Corp's permitting of the use of stream

³¹The district court in *Bragg*, having determined that the settlement agreement was "fair, adequate, and reasonable," dismissed plaintiffs' claims against the federal defendants with prejudice, but granted leave for the plaintiffs to file a second amended complaint. 54 F. Supp. 2d at 670. In a separate memorandum opinion and order, *see Bragg v. Robertson*, 83 F. Supp. 2d 713 (S.D. W. Va. 2000), the court resolved all outstanding claims (which involved only WVDEP and claims under SMCRA), by accepting a consent decree between the plaintiffs and WVDEP.

segments to connect fills to downstream sediment ponds. We find this argument unpersuasive.

Res judicata or claim preclusion bars a party from suing on a claim that has already been "litigated to a final judgment by that party or such party's privies and precludes the assertion by such parties of any legal theory, cause of action, or defense which could have been asserted in that action." 18 James Wm. Moore et al., *Moore's Federal Practice* § 131.10(1)(a) (3d ed. 2008). For res judicata to prevent a party from raising a claim, three elements must be present: "(1) a judgment on the merits in a prior suit resolving (2) claims by the same parties or their privies, and (3) a subsequent suit based on the same cause of action." *Aliff v. Joy Mfg. Co.*, 914 F.2d 39, 42 (4th Cir. 1990).³² In finding that the second suit involves the same cause of action, the court need not find that the plaintiff in the second suit is proceeding on the same legal theory he or his privies advanced in the first suit. *See id.* at 43. As long as the second suit "arises out of the same transaction or series of transactions as the claim resolved by the prior judgment," the first suit will have preclusive effect. *Id.* (internal quotations omitted).

OVEC argues that the claims involved in this case and in *Bragg* are different, because in *Bragg* the plaintiffs challenged the Corps' authority to permit valley fills and in this case the plaintiffs have challenged the Corps' authority to authorize pollutant discharge into stream segments. This argument, as Intervenors point out, misunderstands the principles of claim preclusion. Even claims that were not raised in the original suit may be precluded if they arose from the same transaction or occurrence as those raised in the first suit and were available to the plaintiff at the time of the first suit. *See Aliff*, 914 F.2d at 42-43.

³²OVEC does not challenge in its arguments that the "same parties or their privies" requirement is met.

Nonetheless, claim preclusion does not apply in this case for two reasons. First, the *Bragg* settlement agreement explicitly reserved plaintiffs' right to challenge the Corps' valley fill permit authority in the future. The *Bragg* plaintiffs conceded only that they would not raise such a challenge on the theory that mining spoil is not fill material. Settlement agreements operate on contract principles, and thus the preclusive effect of a settlement agreement "should be measured by the intent of the parties." 18A Charles Alan Wright, Arthur R. Miller, & Edward H. Cooper, *Federal Practice and Procedure* § 4443 (2d ed. 2002). Here it seems clear that the parties intended to retain for the plaintiffs the right to challenge the Corps' permitting of future valley fill projects on any grounds other than the one specifically raised in *Bragg*.

Second, OVEC is challenging a different set of permits in this case than those at issue in *Bragg*. The Corps had not even issued the permits in question here at the time of the *Bragg* litigation. Intervenor's argument that OVEC should have raised its stream segment claim during the *Bragg* litigation falls flat because the claim here concerns four permits that were not even in existence at the time of *Bragg*. The fact that the two suits involve challenges to very similar courses of conduct does not matter; a prior judgment "cannot be given the effect of extinguishing claims which did not even then exist . . ." *Lawlor v. Nat'l Screen Serv. Corp.*, 349 U.S. 322, 328 (1955). A contrary finding would confer "partial immunity from civil liability for future violations." *Id.* at 329.

For these reasons, we affirm the lower court's finding that OVEC's stream segments claim is not barred by principles of res judicata.

B.

The district court's June 13, 2007, order granted OVEC's motion for partial summary judgment on its claim that the Corps did not have authority under § 404 of the CWA to

authorize the discharge of fill sediment into the stream segments that link the fill to a downstream sediment pond. The court found that the stream segments were "waters of the United States" and not part of "waste treatment systems," as the Corps characterized them. While acknowledging the deference traditionally due an agency's interpretation of its own regulations, the court found that in this case the Corps' interpretation was a post hoc rationalization, created for the purposes of this litigation. As a result, the court held that discharges from the fill into the segment streams were impermissible without a separate CWA § 402 NPDES permit. We review this question of law de novo. *United States v. Deaton*, 332 F.3d 698, 703-04 (4th Cir. 2003).

Because this is an issue of statutory and regulatory interpretation, we must apply the framework for review laid out in *Chevron U.S.A. Inc. v. Natural Res. Def. Council*, 467 U.S. 837, 843 (1984) and *Bowles v. Seminole Rock & Sand Co.*, 325 U.S. 410, 413-14 (1945).

In determining whether the Corps' interpretation is entitled to deference, this Court must first look to the language of the authorizing statute. *Chevron*, 467 U.S. at 842-43 (1984). An agency's reasonable interpretation of a statute is entitled to deference, unless Congress has already expressed a clearly contrary intent. *Id.*

The CWA prohibits the discharge of any pollutant unless done in compliance with statutory requirements. 33 U.S.C. § 1311 (2000). It goes on to define the phrase "discharge of a pollutant" to include "any addition of any pollutant to navigable waters from any point source" 33 U.S.C. § 1362(12)(A) (2000). The term "navigable waters," in turn, is defined as "the waters of the United States." 33 U.S.C. § 1362(7) (2000).

The Corps' regulations implementing the CWA have defined the "waters of the United States" to include interstate

waters as well as "all other waters such as intrastate lakes, rivers, [and] streams (including intermittent streams). . . ." 33 C.F.R. § 328.3(a)(3) (2008); 40 C.F.R. § 232.2 (2008). The regulations also include in the definition "[a]ll impoundments of waters otherwise defined as waters of the United States under the definition." 33 C.F.R. § 328.3(a)(4) (2008); *see also* 40 C.F.R. § 232.2 (2008). The regulations, however, exclude from the definition "waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA." 33 C.F.R. § 328.3(a)(8) (2008); *see also* 40 C.F.R. § 232.2 (2008).

In *Deaton*, 332 F.3d at 709, this Court found that Congress' decision to define "navigable waters" broadly as "waters of the United States" evinced an intent to regulate at least some waters that would not be considered navigable. The Court went on to find, however, that the Act was not clear what non-navigable waters it intended to cover, and thus that the phrase "waters of the United States" was "sufficiently ambiguous to constitute an implied delegation of authority to the Corps" to determine the scope of the phrase. *Id.* at 709-10.

Given that the Corps has the authority to determine which waters are covered by the CWA, this Court must next look to the Corps' regulations implementing the CWA. *Id.* at 710. If the regulation defining "waters of the United States" is ambiguous, then the Corps' interpretation of that definition is entitled to *Seminole Rock* deference and controls unless plainly erroneous or inconsistent with the regulation. *Id.* at 711.

Appellants and OVEC agree that, in the absence of the valley fill, the stream segments in question would be considered "waters of the United States" because they would be part of a natural stream pursuant to 33 C.F.R. § 328.3(a)(3). OVEC contends that, even after the streams have been co-opted for use in conjunction with valley fills, the segments are still "impoundments of water otherwise defined as waters of the United States" and thus treated as "waters of the United

States" under 33 C.F.R. § 328.3(a)(4). If OVEC is correct, any discharge of sediment into these stream segments from the valley fills would require a CWA § 402 NPDES permit. The Corps, however, counters that the stream segments and the sediment ponds to which they connect form a "waste treatment system" under 33 C.F.R. § 328.3(a)(8). Thus, in the Corps' view, the stream segments are exempt from the "waters of the United States" definition and a § 404 permit suffices to authorize them.

The Corps' definition of "waters of the United States" relies heavily on that adopted by the EPA in its CWA § 402 regulations. Compare 33 C.F.R. § 328.3 (2008) and 40 C.F.R. § 232.2 (2008) with 40 C.F.R. § 122.2 (2008). In its exemption of waste treatment systems, the EPA regulations provide that "[t]his exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States . . . nor resulted from the impoundment of waters of the United States." 40 C.F.R. § 122.2. Significantly, however, that sentence was suspended by the EPA in 1980. See 45 Fed. Reg. 48620 (July 21, 1980). At the time, the agency indicated that it intended to promptly issue a revised definition, see *id.*, but it never did. Without that definitional sentence for the term "waste treatment system," it is not obvious from the plain language of the regulation what the term is intended to cover. Because the Corps' definition relies on the EPA definition, and because the EPA definition is ambiguous, the intent behind the Corps' "waste treatment exception" is ambiguous.

The issue, then, is to determine whether the Corps' interpretation of 33 C.F.R. § 328.3(a)(8) (2008) is "plainly erroneous or inconsistent with the regulation." *Seminole Rock*, 325 U.S. at 414 (1945). Appellants argue that the Corps is entitled to *Seminole Rock* deference because it has consistently treated stream segments and sediment ponds as "waste treatment systems" in accordance with longstanding EPA guidance on the matter. OVEC contends, however, that we should follow the

district court and find that the Corps' position is a post hoc rationalization, created for the purposes of defending this litigation, and is thus entitled to no deference. As support for this argument, OVEC points to the fact that none of the CDDs for the four challenged permits included any reference to the "waste treatment" exception when originally issued; only when the permits were reissued after voluntary remand to the Corps did the waste treatment language appear.

Notwithstanding the *Seminole Rock* principle that significant deference is due an agency's interpretation of its own regulations, such deference may not be required when the agency's advocated interpretation is one that it has just adopted for the purpose of litigation and that is "wholly unsupported by regulating, rulings, or administrative practice." *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 212 (1988). The interpretation must reflect the agency's fair and considered judgment on the matter. *See Auer v. Robbins*, 519 U.S. 452, 462 (1997). To the extent that Appellees are right, and the Corps only adopted this position as a litigation defense, it is not entitled to *Seminole Rock* deference. However, the Corps argues that its position has been consistent and consonant with longstanding EPA guidance.

As with much in this case, the history of the EPA's and the Corps' positions on this issue is complicated. As noted earlier, in 1980, the EPA suspended its definition of the term "waste treatment system," found originally in 40 C.F.R. § 122.2, and did not issue a revised definition. Almost a decade later, in *West Virginia Coal Association v. Reilly*, 728 F. Supp. 1276 (S.D. W. Va. 1989)—a challenge by two coal mining associations and several mining companies to the EPA's policies strictly limiting the use of in-stream treatment of mining waste—the EPA took the position that in-stream sediment ponds and the waters above them are included in the definition of "waters of the United States" because they are an impoundment of waters of the United States. The court upheld this position, finding that it was not plainly erroneous or

inconsistent with the EPA's regulations or with the CWA itself. *Id.* at 1290-91.

The *Reilly* plaintiffs argued that the stream segments and sediment ponds were excepted from § 402 regulation because they fell under the Corps' § 404 authority instead. *Id.* at 1285. The court rejected this argument finding that, while the regulations themselves offered confusing guidance on the matter, the Corps and the EPA had agreed that sediment-laden runoff from the valley fills was subject to § 402 permitting requirements.³³ *Id.* This Court affirmed the district court's opinion in an unpublished opinion. *See West Virginia Coal Ass'n v. Reilly*, Nos. 90-234, 90-2040, 1991 U.S. App. LEXIS 9401, at *14 (4th Cir. May 13, 1991) (agreeing with district court that in-stream sediment ponds and the waters above them are "waters of the United States").

Then, in a 1992 guidance document, the EPA indicated, in the context of advising on an Alaskan gold mining project, that impoundments "created by the discharge of fill material . . . if permitted by the Corps under Section 404 for purposes of creating a waste treatment system, would no longer be waters of the U.S." Memorandum from LaJuana S. Wilcher, Assistant Administrator for the EPA, to Charles E. Findley, Director, Water Division, Region X, United States Army Corps of Engineers, on Clean Water Act Regulation of Mine Tailings Disposal (Oct. 2, 1992).

Finally, in March 2006, after this litigation began, the EPA sent the Corps a letter in which the EPA states that, in the context of Appalachian surface mining, "the waste treatment system exclusion *continues* to apply to the creation or use of a waste treatment system in waters below a valley fill permit-

³³The creation of the sediment ponds themselves fall within the Corps' § 404 authority because their embankments are created through the placement of fill material at the bottom of the streams. *See Reilly*, 728 F. Supp. at 1288.

ted by the Corps under CWA § 404." Letter from Benjamin H. Grumbles, Assistant Administrator for the EPA, to the Hon. John Paul Woodley, Assistant Secretary of the Army (Civil Works) (Mar. 1, 2006) (emphasis added) [hereinafter "the EPA Letter"]. The EPA Letter goes on to note that, because it is often impracticable to locate sediment ponds directly below valley fills, the use of a stream segment to connect the fill and pond is "an unavoidable and necessary component of the treatment system." *Id.* The Corps then relied on this letter to introduce the "waste treatment system" language into the permits on voluntary remand.

The district court found, and OVEC now argues, that the EPA Letter was a post hoc rationalization and did not constitute the "fair and considered judgment" of the EPA or, in turn, the Corps. In support of its argument that the "waste treatment system" interpretation was not a post hoc rationalization, the Corps points to the fact that, over the twenty-five years that the EPA and WVDEP have been issuing § 402 NPDES permits, those agencies have never required an NPDES permit for the stream segments that are used in numerous surface mining operations to link § 404-permitted valley fills to downstream sediment ponds. Moreover, the WVDEP, which has been operating an EPA-approved NPDES program since 1982, has also taken the position that the permitting of segment streams is within the Corps' authority. (*See* Joint Amicus Brief of the West Virginia Department of Commerce and the West Virginia Department of Environmental Protection as Amici Curiae Supporting Appellants at 16.)

This kind of consistent administrative practice suggests that the Corps' and EPA's position is not a post hoc rationalization. *Cf. Bowen*, 488 U.S. at 212 ("We have never applied the principle [of deference] . . . to agency litigating positions that are wholly unsupported by regulations, rulings, or administrative practice."). The EPA's position in *Reilly*, at first glance, seems difficult to reconcile with the position it and the Corps now claim. But, the distinction lies in the fact that the *Reilly*

case arose in the context of the EPA's oversight of West Virginia's § 402 program. *See* 728 F. Supp. 1276.

In *Reilly*, the EPA was objecting to the fact that West Virginia, in issuing § 402 permits that allowed in-stream treatment ponds, had analyzed discharges from the ponds but had not analyzed the impacts of creating the ponds themselves. The EPA was not confronted in *Reilly* with a situation where the treatment system was authorized by a § 404 permit issued by the Corps.³⁴ When the Corps exercises its § 404 authority to permit the use of a stream segment as part of the treatment system for fill runoff, it has allowed the temporary removal of these waters from the definition of "waters of the United States" only after analyzing the impacts of creating the system and mitigating those impacts as necessary. Thus, a sediment pond and stream segment waste treatment system authorized by a § 404 permit is a treatment system "designed to meet the requirements of the CWA." 40 C.F.R. § 232.2 (2008).

Even if the Corps' "waste treatment system" argument was a post hoc rationalization when it was first raised, once the

³⁴The mining company plaintiffs in *Reilly* argued, in a motion for summary judgment, that the EPA did not have jurisdiction to regulate in-stream treatment facilities because regulatory authority rested with the Secretary of the Army under CWA § 404. 728 F. Supp. at 1282. In response, the EPA took the position that the ponds and the waters above them were "waters of the United States" and within their regulatory jurisdiction because they were an impoundment of waters that would otherwise be "waters of the United States." *Id.* at 1289-90. But the mining company plaintiffs had not obtained a § 404 permit for their in-stream treatment facilities, and it was not Corps action, but the actions of West Virginia's § 402 NPDES regulatory authority, to which the EPA was taking exception.

In fact, the EPA's policy for in-stream treatment that the court was considering in *Reilly* allowed that exceptions to the EPA-mandated prohibition on in-stream treatment ponds would be made where there were no other feasible alternatives to in-stream treatment and where the mine operator complied with the Corps' CWA Guidelines. 728 F. Supp. at 1279-80 nn. 1-2.

Corps reconsidered and reissued the permits on voluntary remand, the justification was no longer post hoc and it is entitled to deference.³⁵ When a court reviews an agency action, the agency is entitled to seek remand "without confessing error, to reconsider its previous position." *SKF USA Inc. v. United States*, 254 F.3d 1022, 1028 (Fed. Cir. 2001). "[A]n agency must be allowed to assess 'the wisdom of its policy on a continuing basis.'" *Id.* at 1030 (quoting *Chevron*, 467 U.S. at 864). As the Supreme Court recently found in *Long Island Care at Home, Ltd. v. Coke*, 127 S. Ct. 2339, 2349 (2007), "as long as interpretive changes create no unfair surprise . . . the change in interpretation alone presents no separate ground for disregarding the Department's present interpretation." Decades worth of administrative practice cannot constitute an "unfair surprise." Because, to the extent there was a "change" in written administrative policy, that change reflected the considered views and longstanding practice of the Corps and the EPA, the Corps' interpretation of the "waste treatment" exception to its regulatory definition of "waters of the United States" is entitled to deference. *See id.* at 2349.

The final step in the combined *Chevron* and *Seminole Rock* analysis is to determine whether the agency's interpretation of the statute is reasonable and entitled to deference. In this case, we must determine whether, considering Congress' intent for the CWA, it was reasonable for the Corps to conclude that stream segments connecting valley fills to sediment ponds are "waste treatment systems" and not "waters of the United States."

In making this determination, we must first appreciate the statutory tightrope that the Corps walks in its permitting decisions. In passing the CWA, Congress aimed "to restore and maintain the chemical, physical, and biological integrity of

³⁵The CDDs accompanying the reissued permits expressly reference the applicability of the waste treatment exception to the stream segments. (*See* J.A. 1252, 1729, 2267, 3562-63.)

the Nation's waters." 33 U.S.C. § 1251(a) (2000). But, in passing SMCRA, Congress sought to "strike a balance between protection of the environment and agricultural productivity and the Nation's need for coal as an essential source of energy." 30 U.S.C. § 1202(f)(2000). The Corps, in permitting sediment ponds and accompanying stream segments under its § 404 authority, is attempting to harmonize the two statutes' goals: ensuring that mining operations can proceed while maintaining the highest level of water quality possible outside of the mining area.

Sediment ponds represent the "best technology currently available" for the treatment of sedimentary runoff from surface mining valley fills. In fact, the regulations of the Department of the Interior's Office of Surface Mining specifically contemplate the use of in-stream sediment ponds. 30 C.F.R. § 816.46(c) (2008). While ideally these ponds would be located immediately adjacent to the fills, the steep Appalachian terrain often does not allow this result. The topographical realities of the area make stream segments a necessary component of the construction of a waste treatment system for valley fill runoff. (*See, e.g.,* J.A. 653.) This system, in turn, is necessary to ensure that water released from the mining area into existing streams meets CWA § 402 standards.

It is undisputed in this litigation that the Corps has the authority under CWA § 404 to permit the filling of jurisdictional waters to move runoff away from valley fills. *See Kentuckians for the Commonwealth v. Rivenburgh*, 317 F.3d 425 (4th Cir. 2003). It is also undisputed that the Corps has authority to permit the construction of sediment ponds to treat that runoff before it is discharged back into jurisdictional waters. OVEC asks us now to take the position that it would be an unreasonable construction of the CWA to allow the Corps to also use its § 404 authority to permit the stream segments that must, as a practical reality, be used to move runoff from the fill to the sediment ponds. We decline to do so, and find instead that the Corps' interpretation of its authority was

reasonable in light of the CWA and entitled to deference. The district court's grant of partial summary judgment on OVEC's claim for declaratory relief is reversed.

VI.

Since the district court's rulings in this case, the Corps has issued five new individual CWA § 404 permits for surface coal mines in West Virginia. OVEC now requests that this court take judicial notice of these permit decision documents, as public records relevant to the matter at issue. The Corps does not object to our taking notice of the existence of the documents, but points out that OVEC actually seeks notice of its own interpretation of the contents of those documents. The parties clearly and reasonably disagree about the meaning to be ascribed to these new decision documents, and we therefore decline to judicially notice them. *See* Fed. R. Evid. 201(b); *Colonial Penn Ins. Co. v. Coil*, 887 F.2d 1236, 1239 (4th Cir. 1989).

VII.

For the foregoing reasons, we reverse and vacate the district court's March 23, 2007, opinion and order rescinding the four challenged permits and vacate the district court's injunction of activity under those permits. We also reverse the district court's June 13, 2007, order granting declaratory relief to OVEC on the issue of whether the stream segments used to connect valley fills to downstream sediment ponds are properly characterized as "waters of the United States." Finally, we deny OVEC's motions for judicial notice. We remand for further proceedings consistent with this opinion.

IT IS SO ORDERED

MICHAEL, Circuit Judge, dissenting in part and concurring in part:

The U.S. Army Corps of Engineers (Corps) has authorized the filling of twenty-three valleys and more than thirteen

miles of headwater streams in Southern West Virginia in connection with four mountaintop removal mining operations. Despite its failure to fully assess the impact that the proposed valley fills will have on the aquatic ecosystem, the Corps claims that, after mitigation measures have been implemented, the valley fills will not significantly degrade the waters of the United States or have a significant adverse impact on the human environment. Because the record in this case does not support the Corps' claims that the assessments conducted and the mitigation measures imposed were adequate to fulfill the requirements of the Clean Water Act (CWA) and the National Environmental Policy Act (NEPA), I respectfully dissent from part IV.B of the majority's opinion.

The Corps' regulations implementing the CWA's § 404(b) dredge and fill program require the Corps to assess the effect that a proposed fill will have "on the structure and function of the aquatic ecosystem and organisms." 40 C.F.R. § 230.11(e). In upholding the Corps' interpretation of its obligations under § 230.11(e), the majority declines to give effect to the unambiguous requirements of the regulations. The majority—agreeing with the Corps—concludes that an evaluation of stream structure may substitute for an evaluation of function. This interpretation, however, is impossible to reconcile with the plain language of the regulations, which clearly mandates that the Corps assess both structure and function. The majority then accepts the Corps' alternative argument that the (non-functional) stream assessment protocols used by the Corps provided sufficient information about stream function to satisfy the demands of § 230.11(e). But because the majority has failed to identify the stream functions to be measured under § 230.11(e), the majority cannot meaningfully evaluate the adequacy of the stream assessment protocols that were used.

The majority's analysis of the mitigation approved by the Corps also overlooks the plainly stated requirements of § 230.11(e). Rather than basing its decision on the (binding)

language of the regulations, the majority focuses instead on the Corps' compliance with an internal guidance document that is at odds with the regulations' clear requirements. The effect is to completely undermine the goal of mitigation: replacement of what is being lost. Because the Corps has offered no basis on which to conclude that the environmental impacts of the valley fill projects as mitigated will be insignificant, this court should reject the mitigation as inadequate under the CWA and NEPA.

For these reasons, I would affirm the district court's judgment rescinding the permits and direct that court to remand the permits to the Corps for further consideration consistent with the requirements of § 230.11(e) and NEPA.

I concur in the parts of the majority opinion upholding the scope (or physical boundary) of the Corps' NEPA analysis (part IV.A) and the Corps' interpretation of its regulatory definition of "waters of the United States" (part V).

I.

Before the Corps can issue a dredge or fill permit, it must determine, pursuant to its § 404(b) regulations, the "nature and degree of effect that the proposed discharge will have, both individually and cumulatively, on the structure and function of the aquatic ecosystem and organisms." 40 C.F.R. § 230.11(e). As the Corps points out, "[t]he Guidelines [or regulations] do not . . . define the 'function of the aquatic ecosystem' or provide any guidance on how that function is to be measured." Corps' Br. at 35. The Corps therefore contends that under its internal guidance documents, its district officials may "discharge their responsibility to analyze stream function by exercising their 'best professional judgment' when it is not feasible to conduct a full functional assessment." Corps' Br. at 35.

A.

The Corps, purporting to exercise its "best professional judgment," claims initially that stream structure can be measured as a surrogate for function. Corps' Br. at 36. The majority accepts the Corps' argument, stating that "[i]n this case, the Corps, using its best professional judgment, used stream structure as a surrogate for assessing stream function". *Ante* at 35. Neither the Corps nor the majority explains how the assessment of structure as a surrogate for function can be squared with the plain language of the regulations. If stream structure were truly an adequate surrogate for stream function, the Corps and the majority should offer some explanation as to why § 230.11(e) explicitly requires assessments of the effects of proposed fills on both the structure *and* function of the aquatic ecosystem and organisms. One of the most basic rules of statutory interpretation is that all of the words in a statute must be given effect. *PSINet, Inc. v. Chapman*, 362 F.3d 227, 232 (4th Cir. 2004) ("General principles of statutory construction require a court to construe all parts to have meaning and to reject constructions that render a term redundant."); *Reiter v. Sonotone Corp.*, 442 U.S. 330, 339 (1979) ("In construing a statute we are obliged to give effect, if possible, to every word Congress used."). It is not within the bounds of permissible interpretation to say that the word "function" as used in § 230.11(e) is merely a redundancy for "structure."¹

¹The majority contends that I have not afforded the Corps the appropriate level of deference in interpreting its regulations. *Ante* at 35 n.16. The majority does acknowledge, however, that the Corps may not proffer an interpretation that is "plainly erroneous or inconsistent with the regulation." *Auer v. Robbins*, 519 U.S. 452, 461 (1997). Of course, "[t]he agency's interpretation need not be the best or most natural one by grammatical or other standards. Rather, it need only be a reasonable construction of the regulatory language." *Dist. Mem'l Hosp. of Southwestern North Carolina, Inc. v. Thompson*, 364 F.3d 513, 518 (4th Cir. 2004) (internal quotations and citations removed).

The argument that "structure" is a surrogate for "function" is further undermined by the fact that a separate functional stream assessment protocol is currently being developed by the Environmental Protection Agency (EPA). Once the protocol is completed, the Corps will use it to conduct § 230.11(e) functional analyses for new permit applications. This functional stream protocol will direct the assessment of numerous stream functions (including nutrient uptake and transport, organic matter retention, and downstream export of organic matter) that the Corps did not measure for any of the permit applications at issue in this appeal. If existing schemes used by the Corps to assess stream structure were adequate surrogates for a functional assessment protocol, it would make little sense for the EPA to be currently undertaking the expensive and time-consuming effort of developing an independent functional protocol.

The Corps' determination that stream structure can be used as a surrogate for function under § 230.11(e) constitutes a clear abuse of discretion. This court should not uphold a construction that gives no effect to a central term in the controlling regulations.

B.

The Corps, perhaps recognizing the weakness of its position, does not rely entirely on the argument that structure is a surrogate for function. It contends at times in its opening brief that the stream assessments conducted here were suffi-

As I have explained, the Corps' contention that a structural assessment may substitute for a functional one is wholly inconsistent with § 230.11(e)'s clear mandate that the Corps assess both structure *and* function. Further, in light of the Corps' failure to define "function" for purposes of § 230.11(e), its unsubstantiated assertion that the structural assessments used in this case provide adequate information about stream function cannot be upheld as a reasonable construction of its regulations. *See Dist. Mem'l Hosp.*, 364 F.3d at 518.

cient to satisfy both the structure and function inquiries mandated by § 230.11(e). The majority attempts to uphold the Corps on this alternative ground as well. Unfortunately, because the majority does not come to grips with the plain language of § 230.11(e), its review lacks both a defined scope and a clear legal standard.

The majority credits the Corps for using "detailed measurements provided by [permit applicants] on the benthic macroinvertebrate population to draw conclusions about the level of stream function at the proposed fill sites." *Ante* at 35. The majority also credits the Corps for making use of the EPA's Rapid Bioassessment Protocol (RBP) and the West Virginia Stream Condition Index (WVSCI or Index). But because the majority has not identified the relevant stream functions to be measured, it is not possible to say whether these assessment protocols provide relevant information. Further, by failing to acknowledge or employ in its review the relevant language from the regulations that requires the Corps to assess the "nature and degree of effect" that the proposed fills will have on stream function, the majority affords itself no legal basis for testing the sufficiency of any assessment of stream function.

To the extent that the record provides some indication of the appropriate meaning of "function" as used in § 230.11(e), the Corps' assessment of function was demonstrably inadequate. There is some dispute among the parties as to which stream functions are appropriately covered by § 230.11(e). However, as mentioned above, the EPA (with Corps' approval) is in the process of developing a functional assessment protocol for streams in West Virginia's Huntington District that will serve as the standard for future § 230.11(e) functional assessments. Hence, the most logical place to begin an inquiry into the meaning of the term "function" in

§ 230.11(e) is with EPA's proposed (or draft) stream assessment protocol.² Under the proposed protocol:

²The majority points out that any attempt by this court "to define stream function beyond these guidelines [that is, the language in § 230.11(e) itself] would certainly be inappropriate judicial intrusion into the Corps and EPA's sphere of authority." *Ante* at 37 n.19. I do not disagree. The majority's observation underscores precisely why the proper judicial resolution of this issue would have been to conclude that the Corps abused its discretion in failing to offer an interpretation of the term "function" as used in § 230.11(e) that is not "plainly erroneous or inconsistent with the regulation." *Auer*, 519 U.S. at 461. So long as the Corps declines to provide a construction that gives meaning to the operative terms in its regulations, this court cannot uphold the Corps' actions.

I have engaged in what the majority calls an "inappropriate judicial intrusion" only to point out the shortcomings of the majority's analysis. The majority has determined that the Corps did not abuse its discretion in approving the stream assessments conducted in this case. The majority upholds the Corps in spite of the agency's unwillingness to define the term "function." Any evaluation of the majority's (or the Corps') determination that the assessment of stream function was adequate, however, necessarily requires giving *some* meaning to the term "function."

According to the majority, *ante* at 37 n.19, "the only clues § 230.11(e) offers regarding the stream functions to be measured are the . . . factors" listed in one sentence in § 230.11(e). The sentence provides in full: "Consideration shall be given to the effect at the proposed disposal site of potential changes in substrate characteristics and elevation, water or substrate chemistry, nutrients, currents, circulation, fluctuation, and salinity, on the recolonization and existence of indigenous aquatic organisms and communities." 40 C.F.R. § 230.11(e) (2006). The majority mistakes the significance of these "factors." They are not stream functions. The term "function" refers to the "role, duty, work" or "purpose" of a thing. *Webster's Third New Int'l Dictionary* 920 (2002). The factors listed in § 230.11(e) are merely stream characteristics (or attributes), and § 230.11(e) requires the Corps to analyze the effects that changes to these stream characteristics will have on the "recolonization and existence of indigenous aquatic organisms and communities." Compliance with this sentence cannot be determinative of whether the Corps has adequately analyzed the effects of the proposed fills on stream function.

Since the factors identified by the majority cannot constitute the stream functions contemplated by § 230.11(e), there is no reason to discount the relevance of the proposed functional protocol currently under development

Contractor activities would involve field and laboratory studies aimed at conventional measurement of headwater stream functional processes in mined and un-mined watersheds. These functional processes can include, but are not limited to: 1) organic matter decomposition rates; 2) nutrient transport and uptake; 3) primary production and metabolism; 4) secondary production; and 5) organic matter retention and transport.

J.A. 1836.³

A look at only those functions listed by the EPA in its proposed functional stream assessment protocol reveals that the assessments carried out by the Corps were deficient. The data provided by the EPA's RBP and the WVSCI, the protocols used by the Corps in this case, are insufficient to assess the

for the Huntington District of West Virginia. Until the Corps itself identifies a specific set of functions to be measured, nothing could be more relevant to determining the meaning of "function" in § 230.11(e) than the list of the stream functions proposed to be measured in future § 230.11(e) functional analyses. Consequently, nothing could be more useful in reviewing the adequacy of the assessment protocols used in this case than this proposed list of stream functions. The Corps should not be rewarded for its recalcitrance in defining function and for its lengthy delay in developing a usable functional assessment protocol for West Virginia.

³If we pieced together the stream functions that the Corps itself identifies in the Combined Decision Documents (CDDs) in this case, the list is, if anything, *more* inclusive than the preliminary list proposed to be measured by the EPA. Specifically, the Corps in the Black Castle CDD states that: "Some important functions of . . . headwater streams include the maintenance of natural discharge regimes, the regulation of sediment export, the retention of nutrients, the processing of terrestrial organic matter, and the exportation of water nutrients and organic matter to downstream areas." J.A. 1823; *see also*, Camp Branch CDD, J.A. 1319 (same language). The Corps also observes in its § 230.11(e) analysis in the Republic No. 2 CDD that nutrient cycling, organic matter dynamics, respiration, and primary and secondary production are functions "typically found in scientific research analysis." J.A. 3570.

bulk of the functions listed by the EPA to a degree that satisfies the requirements of § 230.11(e).

Indeed, the Corps, in its CDD for the Republic No. 2 mine, acknowledges the limitations of using the EPA's RBP to assess stream function:

While the rapid bioassessment protocol does not provide a detailed analysis of nutrient cycling, organic matter dynamics, respiration, measurement of primary/secondary production, as is typically found in scientific research analysis[,] it does provide baseline data that can be used to analyze chemical, physical, and biological conditions of the stream channel.

J.A. 3570. The functions about which the RBP fails to provide detailed analysis are the very functions the EPA's proposed functional analysis would evaluate. And the plain language of § 230.11(e)—requiring an assessment of the "*nature and degree of effect* that the proposed discharge will have . . . on the structure and function of the aquatic ecosystem and organisms"—makes clear that stream function must be assessed in some detail. The Corps does not explain how the baseline data on stream condition generated by the RBP will assist in any way in measuring the (actual) stream functions for which the RBP provides no detailed analysis. Accordingly, the RBP appears to be an inadequate substitute for a functional assessment protocol.

The WVSCI fares only slightly better. The Index purports to measure stream "quality" and notes that its surveys "are used to measure the attainment of biological integrity." A Stream Condition Index for West Virginia Wadeable Streams, at 3 (July 21, 2000), *available at* http://www.wvdep.org/Docs/536_WV-Index.pdf. The Index asserts that it is "an appropriate indicator of ecological quality, reflecting biological responses to changes in physical habitat quality, the integrity of soil and water chemistry, geologic processes, and land use

changes (to the degree that they affect the sampled habitat)." *Id.* at 4. It makes no mention of organic matter processing or retention, primary or secondary production, nutrient retention, cycling, transport or uptake, or respiration. And nowhere does it claim to be a functional assessment protocol.

It is not enough that the Corps' expert Dr. Mindy Armstead testified that the WVSCI's EPT Index "was a good surrogate for the functional measurement of secondary biomass," J.A. 4424-25, one of the functions to be covered by the EPA's functional assessment protocol. Measurement of a single function does not make the Index an adequate replacement for the required functional assessment. For decomposition and primary production, two other functions to be measured under the EPA's proposed functional assessment protocol, the Corps' experts claim only that the WVSCI provides information about their presence or absence. The mere ability of an assessment protocol to detect the presence or absence of a stream function is insufficient to fulfill the more exacting "[d]etermine the nature and degree of effect" language of § 230.11(e). And for the remaining functions slated to be measured under the EPA's functional stream assessment protocol—nutrient uptake and processing, organic matter retention, and downstream export of organic matter—the Corps makes no claim that the WVSCI provides any relevant information at all.

The majority opinion considers only one stream function—nutrient cycling—and concedes that the Corps' assessment of that function was deficient: "The Corps' CDDs themselves acknowledge this shortcoming, noting that the effects of filling ephemeral streams on nutrient cycling are difficult to measure and that there is a lack of consensus among the relevant agencies about how best to collect quantitative evidence regarding these functions." *Ante* at 36. The majority excuses this deficiency, noting that: "[t]o compensate for these effects . . . the Corps' permitting decisions call for limiting impacts to channels that do not sustain long periods of flow and for

establishing a riparian buffer around mitigation sites." *Ante* at 36. Unfortunately, the Corps' attempt to minimize impacts to stream functions that it has failed to assess sufficiently has no bearing on whether it has met its obligations under § 230.11(e) to "[d]etermine the nature and degree of effect" on stream function.

Finally, and most fundamentally, in asserting that the proposed mitigation measures meet regulatory requirements, the Corps implicitly concedes that the stream assessment protocols used in this case failed to sufficiently assess stream function. The Corps' Regulatory Guidance Letter (RGL) provides that "Districts should require compensatory mitigation projects for streams to replace stream functions where sufficient functional assessment is feasible." J.A. 1174. Where sufficient functional assessment is not feasible, the RGL permits the Corps to rely on a substitute one-to-one linear stream foot mitigation that does not specifically account for lost stream function. In this case, the Corps does not claim that its mitigation measures will replace lost stream functions. The Corps asserts in its opening brief that its "approach is not arbitrary and capricious just because the precise functions of ephemeral or intermittent streams are not being replaced" by the mitigation measures required in this case. Corps' Br. at 47. Instead, the Corps elects to rely on the substitute one-to-one mitigation ratio. By choosing to rely on one-to-one mitigation rather than attempting to replace lost function, the Corps implicitly but clearly concedes that the EPA's RBP and the WVSCI did not provide for an adequate assessment of stream function. If these protocols had generated the requisite data for a sufficient functional assessment, the Corps could not have logically invoked the RGL's one-to-one mitigation provisions. Since the Corps' actions show that it does not believe its own contention that it has sufficiently assessed stream function, this court is under no obligation to believe it either.

II.

On the issue of the adequacy of the Corps' proposed mitigation measures, the majority again errs in overlooking the

plain language of the relevant regulations. The majority chooses to rely on internal Corps guidance documents that are inconsistent with, and must therefore yield to, the clear requirements of the regulations.

A.

The valley fills will bury more than 68,000 feet of intermittent and ephemeral headwater streams. The Corps does not dispute that, absent mitigation measures, the adverse impacts of the proposed projects would be significant, and an Environmental Impact Statement (EIS) would therefore be required under NEPA. The Corps instead asserts that the mitigation measures it has approved are sufficient to reduce adverse impacts of the fills below the threshold of significance and avoid significant degradation of waters of the United States.⁴

⁴The majority quotes 40 C.F.R. § 230.10(d)—providing that a § 404 permit cannot issue "unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge [of fill material] on the aquatic ecosystem"—but does not mention other relevant provisions of section 230.10 that should also inform its analysis. *See ante* at 39.

Read in its entirety, 40 C.F.R. § 230.10 requires that a permitted dredge or fill activity not only include appropriate and practicable steps to minimize potential adverse impacts, but also that the discharge result in no significant degradation of waters of the United States, taking into account required mitigation.

Section 230.10 describes four restrictions on discharge, all of which must be met before a dredge or fill permit can issue. Section 230.10(c) provides that "no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States." 40 C.F.R. § 230.10(c) (2006).

Section 230.12(a)(2) (2006) allows the Corps to permit a dredge or fill activity as "complying with the requirements of these Guidelines with the inclusion of appropriate and practicable discharge conditions (see Subpart H) to minimize pollution or adverse effects to the affected aquatic ecosystems." But paragraph (a)(3) makes clear that a project must be "[s]pecified as failing to comply with the requirements of these Guidelines

The Corps bases these assertions on the anticipated success of a combination of stream creation and enhancement of existing stream channels. The Corps does not claim that the proposed mitigation will replace lost stream function; rather the mitigation will replace or enhance at least as many stream feet as the valley fills will bury.

To justify allowing the Corps to approve this so-called one-to-one mitigation in lieu of requiring the replacement of lost stream function, the majority relies on the language of a Memorandum of Agreement (MOA) between the Corps and the EPA and an internal Corps' Regulatory Guidance Letter (RGL).

From a legal standpoint, the majority's discussion of the MOA and RGL is largely beside the point. To the extent that the MOA and RGL are inconsistent with the plain language of the regulations, the regulations control. The MOA itself states that it "does not change the substantive requirements of the Guidelines [regulations]. It is intended to provide guidance regarding the exercise of discretion under the Guidelines." J.A. 1165. Similarly, RGLs are "issued without notice and comment and do not purport to change or interpret the regulations applicable to the section 404 program . . . [and] are not binding, either upon permit applicants or Corps District Engineers." *Northwest Bypass Group v. U.S. Army Corps of Eng'rs*, 470 F.Supp.2d 30, 51 (D. N.H. 2007) (quoting *Env'tl. Def. v. U.S. Army Corps of Eng'rs*, No. 04-1575(JR), 2006 WL 1992626 at *7 (D.D.C. July 14, 2006).

where . . . (ii) [t]he proposed discharge will result in significant degradation of the aquatic ecosystem under § 230.10(b) or (c)"

Consequently, when § 230.10 is taken as a whole, it is apparent that for a discharge of dredge or fill material into waters of the United States to be permitted, not only must appropriate steps have been taken to minimize adverse impacts, but the Corps must also find that, once appropriate mitigation measures are accounted for, the discharge will not significantly degrade the waters of the United States.

An analysis of the sufficiency of the mitigation in this case must begin with the provisions that are truly mandatory: those in the regulations. Compliance with 40 C.F.R. § 230.11(e) is non-discretionary. The Corps cannot issue a § 404(b)(1) permit without first assessing the "nature and degree of effect that the proposed discharge will have, both individually and cumulatively, on the structure and function of the aquatic ecosystem and organisms." Thus, when confronted with a decision about the appropriate mitigation measures to require, the Corps should never find itself in a position where it has failed to sufficiently assess stream function; § 230.11(e) always requires the Corps to conduct this assessment. Considered in light of the clear requirement of § 230.11(e), the provision in the Corps' RGL that purports to permit one-to-one mitigation where a sufficient stream functional assessment is not feasible can never be properly triggered. Simply put, the Corps cannot rely on an illegal provision in its RGL to justify a failure to mitigate for lost stream functions.

The majority's analysis skirts the requirements of § 230.11(e). First, the majority observes that "a full functional assessment protocol is not yet available to the Corps." *Ante* at 43. It then concludes that under the Corps' RGL, "where a full functional assessment is not feasible, the only compensatory mitigation measure the Corps must require in a permitting decision is stream replacement on a one-to-one basis." *Ante* at 43. The majority's approach is unsupportable. Whatever it means to sufficiently assess stream function, it should mean the same thing under both § 230.11(e) of the regulations and the Corps' MOA and RGL. To allow the Corps to interpret sufficiency of assessment differently for purposes of measuring function and determining appropriate mitigation wholly undermines the purposes of mitigation. Indeed, the MOA itself states that "[t]he determination of what level of mitigation constitutes 'appropriate' mitigation is based solely on the values and functions of the aquatic resource that will be impacted." J.A. 1166. It is paradoxical to conclude that the (largely structural) assessments carried out as part of the

Corps' § 230.11(e) analysis adequately measured stream function and to simultaneously conclude that these same assessments provided insufficient data on stream function to require mitigation to replace lost function. The majority's construction of the Corps' functional assessment and mitigation requirements defeats the basic goal of the MOA, the RGL, and compensatory mitigation.

B.

Since the Corps cannot properly rely on its RGL to avoid mitigating for lost stream function, we would ordinarily look next at whether the mitigation measures required by the Corps will adequately replace lost function. This inquiry is premature in the present instance, however, because the Corps did not engage in the functional analysis required by 40 C.F.R. § 230.11(e). Thus, even if we credited the Corps' almost wholly unsubstantiated assertion that the new stream creation projects required in the CDDs will create working streams, the CMPs and CDDs offer no guarantees that the newly created streams will replace lost headwater stream functions the Corps has failed to quantify. The Corps therefore acted in direct contravention of the applicable regulations.⁵

Furthermore, even under the majority's construction of the Corps' mitigation duties (allowing for one-to-one mitigation where sufficient functional assessment is not feasible), there

⁵The Corps does in various places make claims that the mitigation it requires will replace lost stream functions. However, the functions that the Corps claims will be replaced—movement of water, movement of sediment, nutrient cycling, and organic matter retention—only partially coincide with the headwater functions that the Corps admits will be lost under the valley fills, namely, maintenance of natural discharge regimes, regulation of sediment export, retention of nutrients, processing of terrestrial organic matter, and exportation of water nutrients and organic matter to downstream areas. Further, the Corps has offered virtually no evidence to support its claim that the mitigation measures will replace lost stream functions.

is good reason based on the record before us to question whether the mitigation will prevent significant degradation of waters of the United States. As the majority concedes, *ante* at 45, the Corps offers virtually no scientific support for the viability of creating working streams from scratch, particularly headwater streams. The Corps provides evidence of a single successful stream creation project in Kentucky, but this was not a headwater stream. Here, the bulk of the proposed stream creation in the mitigation plans is to take place in the sediment ditches on the valley fills, where the former headwater streams were located. According to the Draft EIS for Mountaintop Removal Mining and Valley Fills, a document jointly authored by the Corps and other agencies:

to date functioning headwater streams have not been re-created on mined or filled areas as part of mine restoration or planned stream mitigation efforts. Most on-site mitigation construction projects have resulted in the creation of palustrine wetlands that resembled ponds.

J.A. 862. The Draft EIS adds that "it is not known whether the organic matter processing that occurs in created wetlands would mimic the processing found in a natural stream system." J.A. 863.

In addition to the lack of evidence about the viability of stream creation, the U.S. Fish and Wildlife Service (USFWS) and its West Virginia Field Office (WVFO) submitted a joint comment on the Laxare East permit expressing a continued belief that it is not possible to fully replace the critical aquatic and terrestrial ecosystem functions of healthy headwater streams. These agencies also commented that they were unaware of any scientific support for the concept that on-bench sediment ditches can be considered biologically equivalent to, or even rough approximations of, flowing streams. These comments undercut the Corps' contention that the mitigation will produce its advertised results.

In sum, the regulations in 40 C.F.R. Part 230 do not allow the Corps to engage in one-to-one mitigation in this case to claim it has achieved no significant degradation of waters of the United States. Even if they did, the Corps has not provided sufficient evidence to allow this court to conclude that the impacts of the fills will truly be insignificant.

C.

Pursuant to NEPA an agency engaging in a major federal action may decline to issue a comprehensive environmental impact statement (EIS) only if, after mitigation measures are accounted for, the agency concludes the action (or project) will result in no significant adverse impact to the human environment. *See* 42 U.S.C. § 4332(2)(C), 40 C.F.R. § 1501.4(e). Because, as I have explained, the Corps has failed to establish that the permitted valley fill projects will not significantly degrade the waters of the United States, I must also conclude that the Corps has likewise failed to establish that the projects will have no significant adverse environmental impact. Consequently, the Corps has not justified its decision to decline to issue an EIS for the fill projects, and NEPA's requirements have not been satisfied.

III.

Today's decision will have far-reaching consequences for the environment of Appalachia. It is not disputed that the impact of filling valleys and headwater streams is irreversible or that headwater streams provide crucial ecosystem functions. Further, the cumulative effects of the permitted fill activities on local streams and watersheds are considerable. By failing to require the Corps to undertake a meaningful assessment of the functions of the aquatic resources being destroyed and by allowing the Corps to proceed instead with a one-to-one mitigation that takes no account of lost stream function, this court risks significant harm to the affected watersheds and water resources. We should rescind the four

permits at issue in this case until the Corps complies with the clear mandates of the regulations. First, the Corps must adequately determine the effect that the valley fills will have on the function of the aquatic ecosystem. Second, based on this determination, the Corps must certify that the fills, after mitigation is taken into account, will result in no significant degradation of waters of the United States and no significant adverse impact to the human environment.