

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

CENTER FOR REGULATORY
REASONABLENESS,

Plaintiff,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, *et al.*

Defendants,

and

MINNESOTA POLLUTION CONTROL
AGENCY, and MINNESOTA CENTER
FOR ENVIRONMENTAL ADVOCACY,

Defendant-Intervenors.

Civil Case No. 16-1435 (RJL)

MEMORANDUM OPINION

(March 31, 2019 [Dkt. ## 38, 42])

The Center for Regulatory Reasonableness (“CRR”) is a coalition of municipal and industrial entities from around the United States that seeks to ensure that regulatory requirements are scientifically founded, publicly vetted, and cost-conscious. Compl. at ¶ 11 [Dkt. # 1]. On behalf of its Minnesota members, CRR brought this action against the Environmental Protection Agency and Region V of the Agency (collectively, “EPA” or “Agency”) challenging EPA’s (1) approval under the Clean Water Act (“CWA” or “Act”) of certain water quality criteria promulgated by the Minnesota Pollution Control Agency (“MPCA”), and (2) refusal to withdraw approval in response to CRR’s administrative

petition for reconsideration. *Id.* at ¶ 2. CRR alleges that EPA’s approval and denial of reconsideration were arbitrary and capricious and/or otherwise in violation of the Administrative Procedure Act (“APA”), 5 U.S.C. § 706(2). *Id.* at ¶¶ 88–112. MPCA and the Minnesota Center for Environmental Advocacy (“MCEA”) have intervened to defend the challenged EPA actions. *See* [Dkt. ## 11, 22]; Minute Order (September 25, 2017).

Pending before me are CRR’s and EPA’s cross-motions for summary judgment. [Dkt. ## 38, 42]. Upon due consideration of the pleadings, the relevant law, and the entire record herein, EPA’s motion for summary judgment is **GRANTED** and CRR’s motion for summary judgment is **DENIED**.

BACKGROUND

A. Legal Framework

Congress enacted the CWA “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). To achieve these goals, the Act adopts a “cooperative federalism” framework intended “to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution” and “to plan the development and use (including restoration, preservation, and enhancement) of land and water resources.” *Id.* § 1251(b). Consistent with this “state/federal *pas de deux*,” § 303 of the CWA outlines a process for the adoption and review of water quality standards, under which States are chiefly responsible for promulgating and revising water quality standards in accordance with the Act and EPA implementing regulations. *Am. Paper Inst., Inc. v. EPA*, 996 F.2d 346, 349 (D.C. Cir. 1993); 33 U.S.C. § 1313. This authority includes designating the manner in which the

waters should be used (“designated uses”)—e.g., public water supply, recreation, fish propagation—and establishing water quality criteria that protect those uses. 33 U.S.C. § 1313(c); 40 C.F.R. §§ 131.3(f), (i), 131.10. Under the CWA, waters must be designated fishable and swimmable “wherever attainable.” 33 U.S.C. § 1251(a)(2).

A State’s water quality criteria quantify the amount of pollutants that may be present in a waterbody while still protecting the designated uses. *See* 40 C.F.R. § 131.11; JA387–88¹. The criteria must be at least “sufficient to protect the designated uses,” 40 C.F.R. §§ 131.6(c), 131.11(a)(1), but States are expressly authorized to adopt standards “more stringent” than those required by the CWA and accompanying regulations, 33 U.S.C. § 1370; 40 C.F.R. § 131.4(a). Water quality criteria “come in two varieties: specific numeric limitations on the concentration of a specific pollutant in the water” and “more general narrative statements applicable to a wide set of pollutants.” *Am. Paper Inst.*, 996 F.2d at 349; 40 C.F.R. §§ 131.3(b); *id.* § 131.11. Criteria “must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use.” 40 C.F.R. § 131.11(a)(1). States that promulgate numeric criteria “should . . . [e]stablish” them “based on:” EPA guidance, EPA guidance modified to reflect conditions at the site, or “[o]ther scientifically defensible methods.” *Id.* § 131.11(b).

B. EPA Review and Approval Process

While the CWA allocates to the States the primary authority to develop water quality standards, the States nonetheless must submit all new and revised standards to EPA

¹ This Memorandum Opinion cites to the portions of the administrative record filed with the Court in the parties’ joint appendix, the pages of which are Bates stamped “JA__.”

for approval or disapproval. 33 U.S.C. § 1313(c)(2)–(3). EPA must base its approval or disapproval “on the requirements of the Act as described in [40 C.F.R.] §§ 131.5 and 131.6, and, with respect to Great Lakes States . . . 40 CFR Part 132.” 40 C.F.R. § 131.21(b). During the time period relevant here, § 131.5(a) required EPA to consider whether the State: (1) adopted water uses consistent with the CWA’s requirements; (2) adopted criteria that protect the designated uses; (3) followed its own legal procedures for revising or adopting standards; (4) for standards that do not include uses specified in CWA § 101(a)(2), based its criteria on appropriate technical and scientific data and analyses; and (5) provided a submission that meets the requirements outlined in 40 C.F.R. § 131.6, and for Great Lakes States, the requirements of 40 C.F.R. part 132.

As to the final § 131.5(a) factor, under § 131.6, a State’s submission must contain: (a) designated uses consistent with CWA §§ 101(a)(2) and 303(c)(2); (b) the methods used and analyses conducted to support revisions to existing standards; (c) “water quality criteria sufficient to protect the designated uses”; (d) an anti-degradation policy consistent with § 131.12; (e) certification from the State’s Attorney General or other State legal authority that the standards were duly adopted under state law; and (f) where standards do not include designated uses specified in CWA § 101(a)(2), general information that will aid EPA in determining the adequacy of the scientific basis, as well as general policies that may affect application and implementation. And for Great Lakes States, to satisfy 40 C.F.R. part 132 “[f]or pollutants listed in Table 5 of” part 132, the State must “[a]pply any methodologies and procedures acceptable under 40 CFR part 131 when developing water quality criteria.” 40 C.F.R. § 132.4(g)(1).

If EPA determines that a State's water quality standards and submission meet the foregoing requirements, EPA must approve the standards within 60 days after submission. 33 U.S.C. § 1313(c)(3); 40 C.F.R. § 131.5(b). Upon approval by EPA, the standards become effective under the CWA. 40 C.F.R. § 131.21(c).

C. Eutrophication, Numeric Nutrient Criteria, and Stressor-Response Analysis

Since the late 1990s, EPA has required States to adopt water quality criteria addressing eutrophication in surface waters (e.g., lakes, rivers, streams, wetlands). JA58, 389. Eutrophication is a form of pollution that results from excess nutrients, like phosphorus, entering waterbodies. JA389. The excess nutrients stimulate excessive plant and algae growth, which can harm aquatic life and cause public health issues. JA389; *see also* JA58, 59 n.9, 428.

Longstanding EPA guidance describes “several approaches that, based on EPA’s review of the scientific literature, provide sound scientific rationale for development of nutrient criteria that are protective of aquatic life uses.” JA534. According to EPA, any of three approaches—stressor-response analysis, reference condition approaches, and mechanistic modeling—“can satisfy the requirement of 40 CFR 131.11(a) that criteria must be based on ‘sound scientific rationale’ and ‘protect the designated use.’” JA534; *see also* JA423, 429. Relevant here, in 2010 EPA issued “Using Stressor-response Relationships to Derive Numeric Nutrient Criteria” (hereinafter, “EPA Stressor-Response Guidance”), a guidance document peer reviewed by external scientists and EPA’s Science Advisory Board. JA415–507, 534. The EPA Stressor-Response Guidance sets out a four-step process for State’s to develop numeric nutrient criteria for use in water quality standards:

(1) develop a conceptual model representing the known relationships between concentrations of the nutrients at issue (e.g., phosphorous), the biological responses thereto, and the attainment of the designated use, JA431–41 & Fig. 2-2 (providing example model), 535–37; (2) assemble data and identify variables to represent the relationships in the model—EPA recommends choosing one or more “primary causal variables” that drive the eutrophication process and multiple “response variables” that indicate the occurrence of eutrophication²—and determine whether ecoregions should be identified,³ JA431, 442–59, 545–48; (3) determine the stressor-response relationships between the primary causal and response variables using statistical and other data analyses and use those relationships to derive numeric nutrient criteria, JA431, 459–91; and (4) validate the stressor-response relationships and criteria using additional statistical and other data analyses, JA431, 492–98, 534.

D. Minnesota’s River Eutrophication Criteria

At issue in this case is Minnesota’s adoption of a two-part water quality criteria designed to protect surface waters from eutrophication (“River Eutrophication Criteria” or “Criteria”). *See* JA6–9. The Criteria were adopted by MPCA, the agency charged with enforcing and administering the CWA and its regulations in Minnesota. JA4; 40 C.F.R. § 123.25(a); Minn. Stat. 115.03, subd. 1(a). Minnesota had previously designated rivers

² *See* JA443–44 & Table 3-1.

³ Ecoregions are regions within which differing ecological conditions or other considerations merit the development of distinct sets of numeric criteria. *See, e.g.*, JA30.

and streams for aquatic life protection, *see, e.g.*, JA16, 185, 343–44, 387, 532, and the Criteria “d[id] not include new or revised use designations,” JA531.

In deriving its River Eutrophication Criteria to protect aquatic life, “MPCA followed a process consistent with the four-step process set forth in EPA’s Stressor-response Guidance.” JA534.

Step One. Using field data, empirical observation, and scientific literature, MPCA developed conceptual models for eutrophication in Minnesota’s rivers and streams. JA534–38; *see also* JA188, 189 Fig. 2. MPCA’s conceptual model was consistent with the model provided in the EPA Stressor-Response Guidance. JA537; *see also* JA187–91. According to the model, as the levels of phosphorus and nitrogen rise, the growth of aquatic plants and algae is stimulated—depicted as increased chlorophyll α —which impacts the aquatic environment by, *inter alia*, reducing dissolved oxygen (“DO”) concentration, causing increased fluctuations in DO levels (i.e., diel DO flux), and increasing demand for oxygen, which can be measured as biochemical oxygen demand (“BOD”). JA188–90. As MPCA’s model illustrates, these environmental impacts (and others, like pH fluctuations) stress or even kill sensitive aquatic plants and animals. JA188–90.

Step Two. MPCA identified variables representing concepts from its model that connect the causal values (like phosphorus) and environmental responses (like loss of sensitive aquatic life). JA539–45. From the identified variables, MPCA selected those that are also identified as commonly used in the EPA Stressor-Response Guidance: total phosphorus, DO flux, BOD, and other response metrics that gauge the aquatic health of Minnesota’s rivers. JA539–41. MPCA conducted statistical and other data analyses to

determine that total phosphorus levels are significantly related to increased plant and algae growth (measured as chlorophyll α), JA541 & Table IV.2; *see also* JA221 Fig. 19a, and such growth is significantly related to chemical changes in the water (detectable as, *inter alia*, increased BOD₅ and diel DO flux), which are indicative of eutrophication, JA541 & Table IV.2; *see also* JA221–29 & Figs. 26, 27. After additional analysis, MPCA identified 14 biological response measures of aquatic life harm (e.g., percentage of sensitive fish) that strongly correlated to the response variables (e.g., diel DO flux, BOD₅) and determined the ranges of response values that correlate with harm. JA541–43; *see also* 232–39. These findings validated the conceptual model as well as the causal and response variables that MPCA had identified. JA541–43. In particular, MPCA confirmed that heightened levels of phosphorus directly cause increases in diel DO flux and BOD₅, which, again, relates directly to increased plant and algae growth. JA544; *see also* JA221–31. However, because MPCA's analyses showed that DO flux and BOD₅ increases can result from other factors (e.g., water temperature or shade) in addition to phosphorus, MPCA decided that DO flux and BOD₅ should be incorporated in the water quality criteria as constituent parts of a multi-variable standard rather than as standalone measures of eutrophication. JA544–45. In other words, MPCA took the view that a waterbody should not be considered impaired unless both its total phosphorus level and one (or more) of diel DO flux or BOD₅ (or another response variable) exceed the numeric standards. JA544–45.

Step Three. MPCA conducted analyses to determine whether to divide the State into ecoregions with distinct corresponding numeric nutrient criteria. JA545–48. Relying in part on the EPA Stressor-Response Guidance, MPCA concluded that three ecoregional

criteria distinctions were appropriate due to demonstrated regional variances in baseline phosphorus concentrations and the levels of phosphorus at which certain aquatic life suffered harm. JA546–48. Having identified the appropriate ecoregions, MPCA, using statistical analyses recommended in the EPA Stressor-Response Guidance, assessed the relationships in each ecoregion between the causal and response variables it had identified. JA548–52. MPCA found that aquatic life is harmed over a range of phosphorus levels (the causal variable), and it located the points or “thresholds” at which the maximum amount of harm was caused per unit change in diel DO flux, BOD₅, and the other response variables. JA551–53. MPCA then selected the appropriate numeric values for each of the variables. It determined that “a mean or median statistic would be under protective because the concentration threshold [at which harm is observable] would be exceeded for approximately half of the biological metrics.” JA548, 555; *see also* JA243. Accordingly, MPCA decided to set the numeric criteria at the 25th percentile of the harm thresholds it had identified for each variable in each ecoregion. JA548, 555; *see also* JA243.

Step Four. Using the methods recommended in the EPA Stressor-Response Guidance, MPCA validated the relationships it had observed and confirmed. JA556–57; *see also* JA492–98. MPCA also considered implementation issues, which were addressed by its development of ecoregion-specific values and its dual-indicator approach, both of which would help to ensure that the State’s water quality standard would not be exceeded absent actual phosphorus-driven eutrophication. JA556–57. MPCA documented its data and analytic work throughout the process. JA557.

In their final form, the River Eutrophication Criteria consist of numeric limitations on total phosphorous and each of four measurable responses that are indicative of eutrophication: diel DO flux, BOD₅, pH, and chlorophyll α . JA533. Under the Criteria, a Minnesota waterbody is deemed impaired if the waterbody exceeds simultaneously the numeric value for *both* total phosphorus *and* one or more of the response variables. *Id.* Thus, the Criteria effectively “consist of four separate dual-pollutant criteria”: (1) total phosphorous + chlorophyll α ; (2) total phosphorous + DO flux; (3) total phosphorous + BOD₅; and (4) total phosphorous + pH. JA533. Additionally, the Criteria are distinguished by ecoregion, with different numeric values for waterbodies in the Northern, Central, and Southern parts of the State. JA533; *see also* Minn. R. 7050.0222, subp. 2, 2b, 3, 3b, 4, 4b.

E. EPA Approval and Reconsideration of the River Eutrophication Criteria

In August 2014, MPCA submitted the rule adopting the River Eutrophication Criteria to EPA for approval. JA530.⁴ In addition to the rule, the submission included a certification that the rule was adopted in accordance with State legal procedures, documentation of MPCA’s methods and analyses for developing the rule, and general policies applicable to Minnesota standards. JA3–5, 530–32; *see generally* JA148–77. The

⁴ MPCA’s 2014 submission was far from its first interaction with EPA regarding the River Eutrophication Criteria. In 2009, MPCA provided to EPA Region V a draft technical support document summarizing its findings and proposed criteria for the causal and response variables. JA400. Region V sent the draft to EPA headquarters, which retained independent subject matter experts for peer review. JA400. Several reviewers provided positive comments regarding MPCA’s technical work and scientific approach. JA128 (“basic approach is sound”); JA131 (“one of the most comprehensive technical documents related to nutrient criteria development that I have yet seen”); JA141 (“scientifically defensible criteria”).

rule adopting the Criteria did not amend Minnesota's prior approval of aquatic life as a designated use for rivers and streams, and it did not amend the State's existing anti-degradation policy. JA531–32.

Over the ensuing months, EPA assessed the MPCA's process for developing the River Eutrophication Criteria. EPA evaluated MPCA's conceptual model, its data and analyses, and its scientific conclusions pursuant to the Stressor-Response Guidance. JA535–62. Based on its analysis, EPA determined that MPCA had a "sound scientific rationale" for its conclusions at each step in the Stressor-Response Guidance process and for the multi-indicator values it selected, and that the Criteria protect the designated aquatic life use for Minnesota rivers and streams. JA535–62. In January 2015, EPA approved the Criteria and released a 61-page document detailing the basis for its decision. JA528–88.

On December 10, 2015, CRR submitted an administrative petition to EPA requesting that the Agency reconsider and withdraw its approval. JA589–99.⁵ CRR challenged the MPCA's use of (1) BOD₅ based on alleged testing issues and because BOD₅ itself is not directly toxic; (2) diel DO flux because it allegedly is not scientifically accepted and the selected DO flux value was too stringent; and (3) different numeric criteria for different ecoregions. JA590. In June 2016, EPA denied CRR's reconsideration request in a 13-page response, which explained in detail how the issues raised in CRR's

⁵ This was not the first formal challenge to the River Eutrophication Criteria. *See* MPCA Mem. in Opp'n to CRR Mot. for Summ. J. at 11–12 [Dkt. # 41] (describing challenges in Minnesota Court of Appeals and Minnesota Office of Administrative Hearings raising similar issues to the present case).

reconsideration petition were addressed in the Agency's 2015 approval of the Criteria. JA634–46.

On July 12, 2016, CRR brought this action under the APA challenging EPA's January 2015 approval of the Criteria's total phosphorous, diel DO flux, and BOD₅ components and the Agency's 2016 denial of CRR's petition for reconsideration. [Dkt. # 1].⁶ EPA filed its answer on September 16, 2016, [Dkt. # 5], and a corrected certified index to the administrative record on December 13, 2016, [Dkt. # 12]. MCEA and MPCA moved to intervene as defendants on December 2, 2016 and April 13, 2017, respectively. [Dkt. ## 11, 22]. And on January 20, 2017, CRR moved to supplement the administrative record, [Dkt. # 14], which EPA opposed, [Dkt. # 15]. On September 25, 2017, I permitted MCEA and MPCA to intervene and denied CRR's challenge to the administrative record. Minute Order (Sept. 25, 2017). On July 20, 2018, CRR moved for summary judgment, CRR Mot. for Summ. J. [Dkt. # 38],⁷ which MCEA and MPCA separately opposed on October 17, 2018, [Dkt. ## 40, 41]. On the same day, EPA filed a combined cross-motion for summary judgment and opposition to CRR's motion for summary judgment and supporting brief. EPA Cross-Mot. and Opp'n [Dkt. # 42]; EPA Br. in Supp. of Cross-Mot.

⁶ While EPA actions are often directly reviewed in the Circuit Court, "[t]he approval of water quality standards is initially reviewed by the district courts under the Administrative Procedure Act." *City of Albuquerque v. Browner*, 97 F.3d 415, 421 n.7 (10th Cir. 1996).

⁷ Along with its summary judgment motion, CRR filed a 15-page Statement of Material Undisputed Facts, [Dkt. # 38-3], which it references in its brief. CRR's statement of facts is improper under the Local Rules, as this is a "case[] in which judicial review is based solely on the administrative record." LCvR 7(h)(2). My review is limited to the record before the EPA at the time it made its challenged decisions.

and Opp'n [Dkt. # 42-1].⁸ On December 19, 2018, CRR filed a combined reply in support of its motion for summary judgment and response in opposition to EPA's cross-motion for summary judgment. CRR Reply and Resp. Br. [Dkt. # 47]. On March 13, 2019, EPA filed its reply in support of its cross-motion for summary judgment. EPA Reply Br. [Dkt. # 51]. And on March 27, 2019, the parties filed their joint appendix pursuant to Local Civil Rule 7(n). [Dkt. # 52].

LEGAL STANDARD

At the summary judgment stage, courts typically apply the familiar standard in Federal Rule of Civil Procedure 56(a), granting judgment "if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." But courts assessing agency actions "sit[] as an appellate tribunal." *Am. Bioscience, Inc. v. Thompson*, 269 F.3d 1077, 1083 (D.C. Cir. 2001). In such cases, the complaint "actually presents no factual allegations, but rather only arguments about the legal conclusion to be drawn about the agency action." *Rempfer v. Sharfstein*, 583 F.3d 860, 865 (D.C. Cir. 2009) (internal quotation marks omitted). In other words, "[t]he entire case on review is a question of law." *Am. Bioscience*, 269 F.3d at 1083 (internal quotation marks omitted).

Accordingly, while summary judgment remains "the proper mechanism" for resolving the lawfulness of an agency's action, *Loma Linda Univ. Med. Ctr. v. Sebelius*, 684 F.Supp.2d 42, 52 (D.D.C. 2007), the reviewing court is limited to deciding whether,

⁸ EPA filed a corrected supporting brief on December 10, 2018. [Dkt. # 45-1].

as a matter of law, the evidence in the administrative record supports the agency's decision, *Citizens for Responsibility & Ethics in Wash. ("CREW") v. SEC*, 916 F.Supp.2d 141, 145 (D.D.C. 2013). The agency already has resolved any factual issues in making its decision. *See Stuttering Found. of Am. v. Springer*, 498 F.Supp.2d 203, 207 (D.D.C. 2007). As such "the function of the district court is to determine whether or not as a matter of law the evidence in the administrative record permitted the agency to make the decision it did." *Id.* (quoting *Occidental Eng'g Co. v. INS*, 753 F.2d 766, 769–70 (9th Cir. 1985)).

Under the APA's "default standard" of review, which applies absent a specified standard in the organic or other governing statute, "[a] court must set aside agency action it finds to be 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.'" *Tourus Records, Inc. v. DEA*, 259 F.3d 731, 736 n.10 (D.C. Cir. 2001) (quoting 5 U.S.C. § 706(2)(A)); *see Natural Res. Def. Council, Inc. v. EPA*, 16 F.3d 1395, 1400 (4th Cir. 1993) ("*NRDC*") (applying "arbitrary and capricious" standard to EPA approval of state water quality standards). "The 'arbitrary and capricious' standard of review as set forth in the APA is highly deferential," and the Court must therefore "presume the validity of agency action." *Am. Horse Prot. Ass'n v. Yeutter*, 917 F.2d 594, 596 (D.C. Cir. 1990). The Court must be satisfied only that the agency has "examine[d] the relevant data and articulate[d] a satisfactory explanation for its action including a rational connection between the facts found and the choice made." *Alpha Pharma, Inc. v. Leavitt*, 460 F.3d 1, 6 (D.C. Cir. 2006) (internal quotation marks omitted). "[T]he focal point for judicial review should be the administrative record already in existence, not some new record made initially in the reviewing court." *Camp v. Pitts*, 411 U.S. 138, 142 (1973); *see also Ass'n*

of *Private Sector Colls. & Univs. v. Duncan*, 681 F.3d 427, 441 (D.C. Cir. 2012) (review is “limited to assessing the record that was actually before the agency”).

ANALYSIS

My task in this case “is to scrutinize the EPA’s activity to determine whether the record reveals that a rational basis exists for its decision” to approve the River Eutrophication Criteria. *NRDC*, 16 F.3d at 1400. Scrutiny, of course, does not mean a substantive reexamination of the EPA’s technical and scientific analyses. “[T]he CWA is a lengthy and complex statute and . . . its mandate and policy often require the evaluation of sophisticated data.” *Id.* To paraphrase our Circuit Court, I am not by training or experience a chemist, biologist or statistician, *Ethyl Corp. v. EPA*, 541 F.2d 1, 36 (D.C. Cir. 1976) (en banc), nor am I equipped to “sit as a scientific body, meticulously reviewing all data under a laboratory microscope,” *NRDC*, 16 F.3d at 1400. I am a “reviewing court exercising [my] narrowly defined duty of holding agencies to certain minimum standards of rationality.” *Ethyl Corp.*, 541 F.2d at 36. My role is to ensure that the EPA has “fully and ably explain[ed] its course of inquiry, its analysis, and its reasoning, and show[n] that a rational connection exists between its decision-making process and its ultimate decision.” *NRDC*, 16 F.3d at 1400; see *Environ. Def. Fund, Inc. v. EPA*, 489 F.2d 1247, 1252 (D.C. Cir. 1973) (court is “confronted with a problem in administrative law, not in chemistry, biology, medicine, or ecology,” and must review agency’s decision, not “make the same decision” itself).

As such, I am mindful of the particular deference owed to the EPA’s “scientific determinations,” as they are “presumed to be the product of agency expertise.” *Franks v.*

Salazar, 816 F.Supp.2d 49, 55 (D.D.C. 2011) (quoting *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983)) (alteration omitted). That deference is “great” when an agency decision is “based upon highly complex and technical matters,” and it has been described as “extreme” when the agency is “evaluating scientific data within its technical expertise.” *West Virginia v. EPA*, 362 F.3d 861, 867–68 (D.C. Cir. 2004) (internal quotation marks omitted). I am not, however, a rubber stamp, and mere “technical complexity” does not abrogate an agency’s duty “to consider all relevant factors and to identify the stepping stones to its final decision.” *Sierra Club v. Costle*, 657 F.2d 298, 332 (D.C. Cir. 1981); *see also NRDC*, 16 F.3d at 1401. Judicial deference ends where neglected evidence and conclusory or inadequate explanations begin. *See, e.g., Genuine Parts Co. v. EPA*, 890 F.3d 304, 312 (D.C. Cir. 2018) (“agency cannot ignore evidence that undercuts its judgment” or “minimize such evidence without adequate explanation”).

With these principles in mind, I turn to CRR’s challenge under APA § 706(2) to EPA’s approval under the CWA of Minnesota’s River Eutrophication Criteria and the Agency’s denial of CRR’s administrative petition for reconsideration thereof.⁹

⁹ The parties do not address our Circuit’s “general rule . . . that an agency’s denial of a petition for reconsideration is not subject to judicial review” absent some exception like new evidence or changed circumstances. *AT&T Corp. v. FCC*, 363 F.3d 504, 507–08 (D.C. Cir. 2004). It may be that an exception applies here, given the additional materials that CRR submitted to EPA in its reconsideration petition. *See* CRR Mot. for Summ. J. at 22–24 (detailing CRR’s post-approval FOIA requests and consultation with outside experts). But even if an exception applies, “a court will reverse an agency’s denial of reconsideration only in the most extraordinary circumstances . . . and only if the agency has engaged in the clearest abuse of discretion.” *AT&T Corp.*, 363 F.3d at 509 (internal quotations and citation omitted). In the end, the potential for differential standards of review is immaterial; EPA’s reconsideration denial survives even under the less deferential arbitrary and capricious standard. *See Kennecott Corp. v. EPA*, 684 F.2d 1007, 1012–13

A. EPA's Approval Determination Under 40 C.F.R. § 131.5(a)

While EPA review and approval are important components of the CWA scheme, “Congress clearly intended the EPA to have a limited, non-rulemaking role in the establishment of water quality standards by states.” *Pennaco Energy, Inc. v. EPA*, 692 F.Supp.2d 1297, 1312 (D. Wyo. 2009) (citing *Am. Wildlands v. Browner*, 260 F.3d 1192, 1194 (10th Cir. 2001)). As such, the States maintain “primary responsibility for establishing appropriate water quality standards,” and the “EPA sits in a reviewing capacity of the state-implemented standards, with approval and rejection powers only.” *NRDC*, 16 F.3d at 1399. Here, then, my APA review is not of the decision to adopt the River Eutrophication Criteria. Instead, I must review EPA’s review of the Criteria to “determine whether the record reveals that a rational basis exists for” EPA’s approval, *id.* at 1401, or whether, as CRR contends, “EPA rubber stamped the MPCA submission, even in the face of serious deficiencies,” CRR Mot. for Summ. J. at 22.

While “[t]he CWA provides no fixed criterion that clearly delineates when approval is required,” *Sanitary Bd. of Charleston v. Wheeler*, --- F.3d ---, 2019 WL 1119586, at *4 (4th Cir. Mar. 12, 2019), EPA’s determination is circumscribed: it must “be based on the requirements of the Act as described in [40 C.F.R. §§] 131.5 and 131.6, and, with respect to Great Lakes States . . . 40 CFR Part 132.” 40 C.F.R. § 131.21(b). It is clear from the

(D.C. Cir. 1980) (considering EPA’s denial of reconsideration petition together with substantive review of EPA action); *National Environmental Dev. Ass’n’s Clean Air Project v. EPA*, 686 F.3d 803, 809–13 (D.C. Cir. 2012) (same).

administrative record before me that EPA more than adequately considered the relevant factors and provided a reasoned basis for its approval decision.

Section 131.5 of the implementing regulations required EPA to consider five factors in reviewing the River Eutrophication Criteria for approval or disapproval. EPA first had to assess whether the Criteria adopt designated water uses that are consistent with the CWA. *Id.* § 131.5(a)(1); *see NRDC*, 16 F.3d at 1400 (in adopting water quality standards, “states must first classify the uses for which the water is to be protected”). Minnesota had previously designated aquatic life uses for rivers and streams, *see, e.g.*, JA16, 343–44, 532, which is plainly consistent with the Act, *see* 33 U.S.C. § 1251(a)(2). As the Criteria did not designate any additional uses for EPA to assess, JA531, § 131.5(a)(1) was not relevant to EPA’s review. Similarly, § 131.5(a)(4) is confined to standards that “do not include the uses specified in [CWA § 101(a)(2)],” 40 CFR 131.5(a)(4)—i.e., the protection and propagation of fish, shellfish, and wildlife, 22 U.S.C. § 1251(a)(2). As the Criteria were adopted to protect aquatic life uses, EPA was not required to consider § 131.5(a)(4).

EPA was, however, required to consider whether Minnesota followed appropriate legal procedures. 40 C.F.R. § 131.5(a)(3). It did so. Minnesota’s submission included a letter from an MPCA attorney detailing the State’s compliance with applicable state legal procedures for adopting water quality standards, JA3–5, and EPA determined based on the letter “that Minnesota followed its legal procedures” when it adopted the River Eutrophication Criteria, JA532. Section 131.5(a)(3) therefore was satisfied.

Next, under § 131.5(a)(5), EPA had to assess whether Minnesota’s submission complied with the requirements set out in § 131.6 and, if applicable, the requirements in

40 C.F.R. part 132, which apply to the Great Lakes States. 40 C.F.R. § 131.5(a)(5); *see supra* p. 4. The administrative record makes clear that MPCA's submission satisfied § 131.6. As noted above, Minnesota's preexisting aquatic life use designation comports with the CWA, and the submission included appropriate legal certification. *See* 40 C.F.R. §§ 131.6(a), (e). Additionally, Minnesota had previously approved an antidegradation policy, JA531–32, and CRR does not contend that a new policy was required here. 40 C.F.R. § 131.6(d). MPCA provided substantial technical support documentation in its submission describing its methods and analyses. *E.g.*, JA178–266; *see* 40 C.F.R. § 131.6(b). For the reasons stated below in relation to § 131.5(a)(2), MPCA's water quality criteria are sufficient to protect the designated uses. *See* 40 C.F.R. § 131.6(c). And finally, MPCA's submission included the general policies applicable to Minnesota standards that may affect the implementation and application of the Criteria. JA148–53, 174–77; *see* 40 C.F.R. § 131.6(f). As for 40 C.F.R. part 132, while Minnesota is a Great Lakes State, because the nutrient pollutants at issue here (phosphorus, BOD and DO) are contained in Table 5 of part 132, MPCA was permitted to “[a]pply any methodologies and procedures acceptable under 40 C.F.R. part 131.” 40 C.F.R. § 132.4(g)(1).¹⁰

Having dispensed with the formal box checking, I arrive at the heart of EPA's review. Under § 131.5(a)(2), the Agency was required to determine whether the River Eutrophication Criteria protect the designated water uses. To do so, EPA had to satisfy itself that the River Eutrophication Criteria are “based on sound scientific rationale” and

¹⁰ MPCA's use of the EPA Stressor-Response Guidance process constitutes an “[o]ther scientifically defensible method” in compliance with § 131.11(b)(1)(iii).

contain “sufficient parameters or constituents to protect” the designated uses. *Id.* § 131.11(a)(1); *NRDC*, 16 F.3d at 1402 (EPA’s “duty, under the CWA and the accompanying regulations, is to ensure that the underlying criteria, which are used as the basis of a particular state’s water quality standard, are scientifically defensible and protective of the designated uses”). As the Criteria are numerical, they also “should” be “based on” EPA guidance, EPA guidance modified to reflect conditions at the site, or on other scientifically defensible methods. 40 C.F.R. § 131.11(b); *NRDC*, 16 F.3d at 1400.

Even a cursory review of the administrative record in this case reveals that EPA fulfilled its obligation under the CWA to ensure that the River Eutrophication Criteria are based on sound science and will protect aquatic life. EPA issued a 61-page explanatory approval document, *see* JA528–88, roughly half of which was devoted to detailing EPA’s careful scientific assessment of the four-step Stressor-Response Guidance process that MPCA undertook to develop the Criteria, *see* JA532–62. As EPA explained, that process, “if properly applied, provides a sound scientific rationale for developing nutrient criteria that are protective of aquatic life designated uses.” JA534 (“proper use” of the EPA Stressor-Response Guidance “can satisfy the requirement of 40 CFR 131.11(a) that criteria must be based on ‘sound scientific rationale’ and ‘protect the designated use’”). For the reasons summarized below, EPA concluded that MPCA did, in fact, properly apply the four-step EPA Stressor-Response Guidance.

First, EPA found that MPCA’s conceptual model was “markedly similar to EPA’s conceptual method,” which EPA developed “based on an extensive review of the relevant scientific literature.” JA535. Indeed, MPCA’s model was itself based on published

scientific research, including many of the same sources relied on by EPA in its Stressor-Response Guidance. JA537. MPCA's model appropriately observed that (1) increased nutrient concentrations can adversely impact aquatic systems by altering the chemical habitat and disrupting the food web; (2) the eutrophication process begins with increases in sestonic algal and microbes; (3) "chlorophyll α , daily DO flux, pH, and BOD5 are key indicators of the initial response" in the eutrophication process; and (4) fluctuations in plant and bacterial production can impact aquatic food resources and water chemistry. JA537.

Next, EPA found that MPCA's "use of exploratory data analysis" was in step with EPA's Guidance recommendations. JA540. In brief, MPCA: (1) selected response variables that reflect the concepts and processes underlying its conceptual model and are "significantly correlated to ecological response, determined through measures of aquatic community health"; (2) chose response values that capture the impact on a "diverse array of aquatic life"; and (3) used appropriate graphical and quantitative techniques to perform its data analyses. JA541. EPA's approval document includes a detailed and highly technical assessment of MPCA's analyses, which supports the foregoing. JA541–45.

Third, EPA evaluated MPCA's additional stressor-response relationship analyses and its derivation of criteria. JA545. EPA noted that its Stressor-Response Guidance "recommends the classification of waterbodies by ecoregion to account for other environmental variables," JA545, an approach that MPCA followed when it "divided the state into three nutrient ecoregions" and "conducted the statistical analyses for each ecoregion separately in order to determine defensible eutrophication indicator values," JA546. MPCA's detailed rationale and analysis for the variations in nutrient values across

the State, JA546–47, was “based on sound scientific rationale, JA547. Specifically, it was reasonable for MPCA to conclude that baseline phosphorus levels would decrease moving from the fertile prairieland in southwest Minnesota to the more barren, rocky soil in the northeast. JA548 (noting conformity with relevant scientific literature and EPA recommendations).

Additionally, EPA conducted a thorough, 9-page assessment of the statistical tools that MPCA used to determine the statistically-significant thresholds underlying the selected criteria. JA548–56. The assessment included probing MPCA’s selection of a 25th percentile threshold concentration. JA548, 555. Ultimately, EPA concluded that MPCA’s approach for deriving the threshold was “based on sound scientific rationale,” that the chosen numeric criteria “demonstrate significant relationships to designated use protection (aquatic community health protection),” and the statistical tools used by MPCA—e.g., linear and quantile regression, changepoint analyses—were acceptable “for deriving thresholds to determine the concentrations of [total phosphorus], chlorophyll α , DO flux, and BOD necessary to ensure that aquatic health is protected.” JA556.

Finally, EPA explained that it was satisfied with MPCA’s validation efforts, which included (1) assessing the threshold results against independent estimates of the same indicators; (2) addressing implementation issues through use of ecoregional derivation and multiple indicators that both must be exceeded for impairment; and (3) documenting extensively and transparently its criteria derivation methodology and validation efforts in its technical support documents and public rulemaking. JA556–62.

In sum, because “MPCA followed a process consistent with” the EPA Stressor-Response Guidance “to derive its eutrophication criteria,” JA534, and because MPCA’s work at each step stood up to EPA’s thorough and careful assessment under the applicable regulatory standards, JA535–62, EPA concluded that the Criteria “are based on sound scientific rationale and protective of Minnesota’s aquatic life use designations” “in accordance with 40 CFR 131.5(a)(2) and 131.11(a),” JA562.¹¹

In short, this is a classic example of a case warranting deference to EPA on scientific and technical matters within its sphere of expertise. As the Fourth Circuit observed in a closely related context, “the technical questions embedded within the EPA’s review of state water quality standards require the sort of scientific judgment that is the hallmark of agency discretion.” *Wheeler*, --- F.3d ---, 2019 WL 1119586, at *3. The Agency “br[ought] its own understanding of the” relevant scientific and methodological research and literature “to bear,” and “[t]here is nothing in this record to suggest that the EPA” or MPCA “used the [Stressor-Response Guidance process] in a cursory or pretextual fashion.” *Id.* at *4, *9. Moreover, “EPA adequately documented and explained its reasons for approving [the] water quality standards in” its approval document “and did not merely rubber-stamp [the] proposed standard.” *NRDC*, 16 F.3d at 1402. In sum, EPA exercised the requisite “independent judgment” under the CWA “as to whether the state’s proposed standards are ‘based on sound scientific rationale’ and are actually capable of meeting the environmental

¹¹ Additionally, as noted above, MPCA’s compliance with the Stressor-Response Guidance satisfies the “[o]ther scientifically defensible method” standard in 40 C.F.R. § 131.11(b)(1)(iii). *Cf.* CRR Reply and Resp. Br. 12–16.

ends that have been identified for each body of water.” *Wheeler*, --- F.3d ---, 2019 WL 1119586, at *4 (quoting 40 C.F.R. § 131.11(a)(1)).

Undeterred, CRR nevertheless takes issue with EPA’s performance of its review obligations under § 131.5(a)(2) and § 131.11(a)(1). In CRR’s view, MPCA’s use of BOD₅ and diel DO flux as response criteria for determining waterbody impairment is problematic for a variety of reasons, any one of which renders EPA’s approval decision arbitrary and capricious. CRR Mot. for Summ. J. at 31–41. Several of these criticisms are meritless on their face. For example, there is no legal support for CRR’s contention that “the identification of a reliable aquatic life impairment threshold” for nutrient criteria “is *required* to set a scientifically defensible standard.” *Id.* at 31 (emphasis added). Compelling States to pinpoint the threshold value at which impairment results from a given nutrient indicator—assuming that is even feasible given the demonstrably *indirect* impact of nutrient pollutants¹²—would suggest that the States must set numeric nutrient criteria just shy of the point of impairment—i.e., the highest nutrient pollutant level before aquatic life is harmed. CRR and its members might prefer that such a requirement exist, but it does

¹² See, e.g., JA635–36. The indirect effects of nutrients on aquatic life disposes of CRR’s related argument that the State must demonstrate a direct causal relationship between each nutrient criteria and aquatic life harm. *E.g.*, CRR Reply and Resp. Br. at 9–17, 19–24, 26–28. As EPA explained in its reconsideration response, “[u]nlike pollutants that are directly toxic, nutrients impact aquatic organisms indirectly,” and, therefore, “the approach used for deriving criteria for toxic pollutants (measuring the exposure that directly causes an adverse impact . . .) does not work for nutrients.” JA635–36. In any case, MPCA did find a causal relationship between phosphorous, eutrophication, and harm to aquatic life. See JA638 (discussing MPCA’s finding “that water bodies with both elevated BOD₅ [or diel DO flux] and [total phosphorous] tended to exhibit aquatic life impacts consistent with nutrient pollution as predicted by the conceptual model”).

not, and if it did it would conflict with the States' prerogative under the CWA to adopt "standards *more* stringent than required," 40 C.F.R. § 131.4(a) (emphasis added)—meaning States are expressly empowered to adopt criteria substantially *below* any hypothetical "impairment threshold." *See NRDC*, 16 F.3d at 1405 (rejecting plaintiff's unsupported argument that "states have an obligation under the CWA or its accompanying regulations to adopt a single numeric criterion for dioxin that protects against all identifiable effects to . . . aquatic life").¹³

CRR argues at length that BOD₅ and diel DO flux are inadequate nutrient indicators because neither independently causes eutrophication and because both are "confounded parameters," meaning factors other than eutrophication can cause the values to elevate. *E.g.*, CRR Mot. for Summ. J. at 31–35. CRR's criticisms of these response indicators do not persuade me that EPA's approval was arbitrary or otherwise unlawful, "[a]nd this is not just because of the deference [I must] give to EPA when it evaluates 'scientific data within its technical expertise.'" *Edison Elec. Institute v. EPA*, 391 F.3d 1267, 1270 (D.C. Cir. 2004) (quoting *City of Waukesha v. EPA*, 320 F.3d 228, 247 (D.C. Cir. 2003)). It is also because CRR's arguments lack merit. As to the former critique, it is abundantly clear on this record that EPA and MPCA *agree* that neither BOD₅ nor DO flux are *per se* drivers of eutrophication. For that precise reason, the River Eutrophication Criteria establish a dual-indicator regime, under which a waterbody is not impaired unless it exceeds the values

¹³ For the same reasons, there is no merit to CRR's argument that States are restricted to establishing criteria that are "necessary" to protect the designated uses. *See* CRR Reply and Resp. Br. at 10–11.

for *both* total phosphorus *and* BOD₅ or DO flux (or another response variable). This approach is well supported: as EPA summarized in its reconsideration response, MPCA's "extensive water quality and biological monitoring and statistical analyses showed that, when [total phosphorus] and BOD₅ [or DO flux] are found in water bodies at elevated levels, aquatic life are adversely affected." JA639, 641.

As to CRR's latter concern about "confoundedness," EPA explained in detail in its reconsideration response that MPCA "accounted for site-specific factors (identified in the letter from CRR as 'confounding factors') by adopting combined criteria, with stressor and response components that both must be exceeded" and "dividing the state into three different ecoregions for purposes of the eutrophication standards." JA638; *see also* JA644–46 (rejecting CRR's suggestion that a separate "confounding factors analysis" was necessary); MPCA Mem. in Opp'n to CRR Mot. for Summ. J. at 17–20 (describing in detail the foundation in the administrative record that supports EPA's conclusion that MPCA addressed CRR's "confounding factor" concern). To the extent that CRR's position reflects an alternative school of thought on this issue, "[h]appily, it is not for the judicial branch to undertake comparative evaluations of conflicting scientific evidence." *Natural Res. Def. Council v. EPA*, 824 F.2d 1211, 1216 (D.C. Cir. 1987).¹⁴

¹⁴ CRR also claims that DO flux cannot be a "standalone aquatic life impairment metric," as the minimum DO amount and not the DO "flux"—which measures the difference between the maximum and minimum daily DO concentration—is the relevant DO variable. CRR Mot. for Summ. J. at 37–40. As MPCA explains in its brief, *see* MPCA Mem. in Opp'n to CRR Mot. for Summ. J. at 20, this criticism was raised during the state administrative hearing process, and MPCA conducted additional analysis that confirmed the negative impact of DO flux on aquatic life, *see* JA324–25. I cannot conclude that EPA's approval was unreasonable on this basis.

What remains is CRR's challenge to MPCA's selection and use of ecoregional criteria. CRR's argument is, in sum and substance, that MPCA lacked a rational basis for setting different numerical nutrient criteria for the causal and response indicators across each of the three chosen ecoregions. CRR Mot. for Summ. J. at 41–43. As detailed above, EPA's approval document includes an extensive explanation of why it found MPCA's selection and use of ecoregional criteria to be founded in sound scientific rationale. JA545–48. I “simply [am] not in a position to second-guess the technical decision by administrative experts” on this issue. *NRDC*, 16 F.3d at 1404.

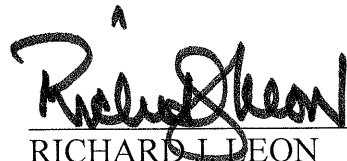
In practical terms, CRR seeks judicial reconsideration of the scientific and technical underpinnings of the River Eutrophication Criteria—i.e., CRR wants me to afford EPA no deference in scrutinizing its approval decision and to disregard any deference that EPA afforded MPCA in conducting its review. Courts, however, have roundly refused to conduct *de facto de novo* review under a statutory scheme that contemplates structural deference. *See, e.g., NRDC*, 16 F.3d at 1401 (rejecting argument “that EPA, as well as the district court, had a duty under the CWA to assert a more dominant role in the review process”); *Browner*, 97 F.3d at 426 (rejecting argument “that the EPA was required to reject” water quality standards “unless the EPA had established its own record based on a sound scientific rationale”). Indeed, “[i]n view of the vigorous federalism of the Clean Water Act, the EPA may not tell a state how to achieve its water quality standards.” *Defenders of Wildlife & Forest Guardians v. EPA*, No. CIV 02-150, 2004 WL 7337744, at *17 (D.N.M. May 21, 2004) (internal quotation marks omitted). And vis-à-vis the courts,

“the EPA is not simply a fact-finder or special master . . . , providing us with the data we need to reach our own judgment.” *Wheeler*, 2019 WL 1119586, at *10.

Nothing in the administrative record before me suggests that EPA’s decisions to approve Minnesota’s River Eutrophication Criteria and to deny reconsideration were arbitrary, capricious, or contrary to law. Quite the opposite, the record here reflects precisely the sort of cooperative federalism that the CWA envisions.

CONCLUSION

Thus, for all of the foregoing reasons, EPA’s motion for summary judgment is **GRANTED**, and CRR’s motion for summary judgment is **DENIED**. An order consistent with this Memorandum Opinion is separately and contemporaneously issued herewith.

A handwritten signature in black ink, appearing to read "Richard L. Leon", written over a horizontal line.

RICHARD L. LEON
United States District Judge