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Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers: The Failure Of “Navigability” as a Proxy in Demarcating Federal Jurisdiction for Environmental Protection

Tobias Halvarson*

In Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, the United States Supreme Court ended the ability of the Corps to rely on the Migratory Bird Rule in asserting its jurisdiction over intrastate, non-navigable waters. The Court limited the jurisdiction of the Corps in regulating waters that are not “navigable” in the traditional sense of the word, and left unanswered how far the Commerce Clause extends in allowing federal regulation of the environment. The Court’s holding illustrates that navigability is poorly suited for determining the appropriate scope of federal regulatory jurisdiction. Instead, linking federal jurisdiction to the environmental value of the resource at issue, through an ecosystem services assessment, would dispense with the current disconnect between environmental protection and “navigability” under the Clean Water Act.

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INTRODUCTION:

In Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, 531 U.S. 159 (2001), the U.S. Supreme Court held that the U.S. Army Corps of Engineers (Corps) lacked jurisdiction under Section 404(a) of the Clean Water Act (CWA) to regulate a series of abandoned sand and gravel pits. The Court asked "whether the provisions of § 404(a) may be fairly extended to these waters, and, if so, whether Congress could exercise such authority consistent with the Commerce Clause." In a five to four decision, it answered the first question in the negative and did not reach the second.

The SWANCC case has already received much attention. One commentator called it "the most devastating judicial opinion..."
affecting the environment ever," while others view it as less catastrophic. The case highlights quite prominently how the current method of conveying jurisdiction under the CWA is inconsistent with the CWA's lofty objectives. A very promising solution to this problem would be to integrate an ecosystem services analysis into a new framework for conferring jurisdiction, limiting jurisdiction to bodies of water based on the ecosystem services they provide. This Note presents the SWANCC decision, outlines the effect it has had thus far on wetlands protection under the CWA, and discusses how ecosystem services valuations can be used to repair the jurisdictional component of the Act.

I

SWANCC: FACTUAL SUMMARY

The Solid Waste Agency of Northern Cook County (SWANCC) is a consortium of 23 Chicago area cities that collectively sought to develop a disposal site for baled, nonhazardous solid waste. SWANCC acquired an abandoned sand and gravel pit mining site and filed for various permits with Cook County, the State of Illinois, and the U.S. Army Corps of Engineers (Corps) in order to transform the site into a landfill. It secured the required permits from the relevant State agencies and then applied for a § 404(a) discharge permit from the Corps.

Initially, the Corps concluded that it lacked jurisdiction over the site “because it contained no ‘wetlands,’ or areas which support ‘vegetation typically adapted for life in saturated soil conditions.’” However, after receiving reports from the Illinois Nature Preserves Commission that many migratory bird species used the site, the Corps asserted jurisdiction under a mechanism called the “Migratory Bird Rule.”

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3. Section 101 of the Clean Water Act states that its goal is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Federal Water Pollution Control Act. 33 U.S.C. § 1251 (a) (1994).
4. The mining site had been abandoned for about 40 years and had reverted to a successional stage forest, and some of the pits had filled with water and become seasonal ponds. SWANCC, 531 U.S. at 163.
5. 531 U.S. at 165.
6. 531 U.S. at 164.
7. Ultimately, the Corps determined that 121 bird species were seen at the site, several of which were dependent on aquatic environments. Id. at 164. It determined that “the seasonally ponded, abandoned gravel mining depressions located on the project site, while not wetlands, did qualify as ‘waters of the United States’...” based upon the following criteria: (1) the proposed site had been abandoned as a gravel
After asserting jurisdiction, the Corps denied SWANCC's permit for the discharge of dredge or fill material into the navigable waters of the U.S. The Corps based its denial on the grounds that SWANCC had failed to establish that its proposed project "was the least environmentally damaging, most practicable alternative for disposal of nonhazardous solid waste; that SWANCC's failure to set aside sufficient funds to remediate leaks posed an unacceptable risk to the public's drinking water supply; and that the impact of the project upon area-sensitive species was unmitigatable since a landfill surface cannot be redeveloped into a forested habitat."  

II  
U.S. ARMY CORPS OF ENGINEERS JURISDICTION OVER "NAVIGABLE WATERS"  

The Clean Water Act defines the term "navigable waters" as "the waters of the United States, including the territorial seas" and, in Section 404(a), confers jurisdiction over discharges into those waters to the U.S. Army Corps of Engineers. Pursuant to this authority, the Corps adopted a new definition of "navigable waters" in 1977, which extended "waters of the United States" to include, among other things, "isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not part of a tributary system to interstate waters or to navigable waters of the United States, the degradation or destruction of which could affect interstate commerce." In an effort to clarify its jurisdiction under Section 404(a) of the Clean Water Act, the Corps articulated the "Migratory Bird Rule" in 1986. This rule...
interacted the Corps' jurisdiction to include intrastate waters "[w]hich are or would be used as habitat by birds protected by Migratory Bird Treaties: ...[w]hich are or would be used as habitat by other migratory birds which cross state lines: ...[w]hich are or would be used as habitat for endangered species; or...[which are] used to irrigate crops sold in interstate commerce." 13

III

PROCEDURAL HISTORY:

SWANCC brought suit in the Northern District Court of Illinois under the Administrative Procedure Act, 14 challenging both the Corps' jurisdiction over the site and the merits of its denial of the section 404(a) discharge permit. 15 The District Court granted summary judgment to the Corps on the jurisdictional issue, and, after dropping its challenge on the merits, SWANCC appealed.

The Court of Appeals for the Seventh Circuit affirmed the District Court's ruling. Viewing the Corps' "Migratory Bird Rule" as a "reasonable interpretation of the Act," it held that Congress had authority to regulate such sites based on the "cumulative impact doctrine" 16 and that "the CWA reaches as many waters as the Commerce Clause allows." 17

activities greatly affecting interstate commerce, would be diminished or destroyed by the loss of migratory fowl." Funk, supra note 2, at 10741.

13. 51 Fed. Reg, 41,217 (Nov. 13, 1986). The Court in SWANCC noted:

the so-called 'migratory bird' rule, upon which the Corps based its assertion of jurisdiction in this case, is merely a specific application of the more general jurisdictional definition first adopted in the 1975 and 1977 rules.

The 'rule,' which operates as a rule of thumb for identifying the waters that fall within the Corps' jurisdiction over phase 3 waters, first appeared in the preamble to a 1986 repromulgation of the Corps' definition of 'navigable waters.' As the Corps stated in the preamble, this repromulgation was not intended to alter its jurisdiction in any way. Instead, the Corps indicated, the migratory bird rule was enacted simply to 'clarify' the scope of existing jurisdictional regulations.

SWANCC, 531 U.S. at 185 n.12 (citations omitted).


15. 531 U.S. at 165.

16. The cumulative impact doctrine states that a "single activity that itself has no discernible effect on interstate commerce may still be regulated if the aggregate effect of that class of activity has a substantial impact on interstate commerce." Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 191 F.3d 845, 850 (7th Cir. 1999).

17. 531 U.S. at 166.
MAJORITY ANALYSIS:

A. The Original Meaning of “Navigable Waters”

Writing for the Majority, Chief Justice Rehnquist focused on whether the migratory bird rule extended jurisdiction to waters not included in the statutory definition of navigable waters, and concluded that the “migratory bird rule” impermissibly overextended that statutory definition. Rehnquist first turned to United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985), where the Court determined that CWA § 404(a) jurisdiction reached “wetlands that actually abutted on a navigable waterway.”18 This determination rested largely on Congress’s “acquiescence to, and approval of, the Corps’ regulations interpreting the CWA to cover wetlands adjacent to navigable waters.”19 The Court held that “the term navigable is of limited import and that Congress evinced its intent to ‘regulate at least some waters that would not be deemed ‘navigable’ under the classical understanding of that term.’”20 However, the Court stated that Congress did not give any “intimation of what those waters might be; it simply refers to them as ‘other . . . waters.’”21 As such, Riverside Bayview left open the “question of the authority of the Corps to regulate discharges of fill material into wetlands that are not adjacent to bodies of open water . . . .”22

Attempting to resolve this question, the majority in SWANCC next examined the legislative history of the CWA. There, it found nothing signifying “that Congress intended to exert anything more than its commerce power over navigation.”23 Thus, the Court found that neither the statute’s plain meaning nor its
legislative history extends the definition of navigable waters far enough to cover the bodies of water owned by SWANCC.\textsuperscript{24}

\textbf{B. Congressional Acquiescence to the Corp's Definition of Navigable Waters}

The majority dismissed the argument that Congress acquiesced to the 1977 Corps definition of "navigable waters," which was sufficiently broad to cover the "Migratory Bird Rule." Despite 1977 congressional amendments to the CWA\textsuperscript{25} as well as failed legislative proposals to limit the 1977 Corps definition, the Court did not find Congressional acquiescence to expanded Corps jurisdiction. Rather, the Court explained that "a bill can be proposed for any number of reasons, and it can be rejected for just as many others."\textsuperscript{27} The majority saw nothing in the legislative history indicating that this legislative proposal was advanced "in response to the Corps' claim of jurisdiction over nonnavigable, isolated intrastate waters or that its failure indicated Congressional acquiescence to such jurisdiction."\textsuperscript{28}

In light of the interpretive history of the term "navigable waters," the Court declined "respondents' invitation to take what they see as the next ineluctable step after Riverside Bayview Homes: holding that isolated ponds, some only seasonal, wholly located within two Illinois counties, fall under § 404(a)'s

\textsuperscript{24} The majority cites to the Corps' original interpretation of the CWA to support its interpretation of the "plain meaning" of the statute. There, in 1974, the Corps interpreted "navigable waters" to include "those waters of the United States which are subject to the ebb and flow of the tide, and/or are presently, or have been in the past, or may be in the future susceptible for use for purposes of interstate or foreign commerce." 33 C.F.R. § 209.120(d)(1) (1974). Also, the Corps emphasized that a "determinative factor" was the "water body's capability of use by the public for purposes of transportation or commerce." 33 C.F.R. § 209.260(e)(1) (1974).

\textsuperscript{25} 33 C.F.R. § 323.2(a)(5) (1978). See infra notes 45-47 and accompanying text.

\textsuperscript{26} See infra notes 45-47 and accompanying text.

\textsuperscript{27} 531 U.S. at 170. For example, the Court articulates why the passage of § 404(g) in the 1977 amendments to the CWA did not indicate Congressional acquiescence to the Corps definition of "navigable waters." That section allows States to administer permit programs over navigable waters "other than those waters which are presently used...as a means to transport interstate or foreign commerce." 33 U.S.C. § 1344(g)(1) (1994). Responding to the claim that § 404(g) indicates "Congress recognized and accepted a broad definition of 'navigable waters' that includes nonnavigable, isolated, intrastate waters," the Court stated, "as it did in Riverside Bayview Homes, that § 404(g)(1) does not conclusively determine the construction to be placed on the use of the term 'waters' elsewhere in the Act (particularly in § 502(7), which contains the relevant definition of 'navigable waters')..." SWANCC, 531 U.S. at 169, 171, (quoting Riverside Bayview Homes, 474 U.S. at 138).

\textsuperscript{28} 531 U.S. at 171. Many commentators have taken issue with this finding. See, e.g., Funk, supra note 2.
definition of "navigable waters" because they serve as habitat for migratory birds." 29

C. Chevron Deference and Commerce Clause Aggregation

In response to the Court's limited reading of the definition of "navigable waters," the Corps asserted that "at the very least . . . Congress did not address the precise question of § 404(a)'s scope with regard to nonnavigable, isolated, intrastate waters, and that, therefore, [it] should give deference to the "Migratory Bird Rule" under Chevron U.S.A. Inc. v. Natural Resources Defense Council, 467 U.S. 837 (1984)." 30 The Court refused to defer to the agency, however, since it found § 404(a) "to be clear." 31 More significantly, even if the Court had not found § 404(a) clear, it would have refused to defer to the agency under a seemingly new Chevron-limiting principle: "Where an administrative interpretation of a statute invokes the outer limits of Congress' power, we expect a clear indication that Congress intended that result." 32 Granting deference in this case would have gone against the Court's "prudential desire not to needlessly reach constitutional issues" and its "assumption that Congress does not casually authorize administrative agencies to interpret a statute to push the limit of Congressional authority;" a concern which is "heightened where the administrative interpretation alters the federal-state framework by permitting federal encroachment upon a traditional state power." 33

Finally, the Court rejected the argument that the Corps has jurisdiction over isolated, intrastate waters based on aggregation of the "substantial effects" that regulating migratory birds has under the Commerce Clause. 34 The majority saw this argument as "a far cry . . . from the 'navigable waters' and 'waters of the

29. 531 U.S. at 171-72 (quoting Tr. of Oral Arg. 28). The majority announced that "it is one thing to give a word limited effect and quite another to give it no effect whatever," and that "Congress' separate definitional use of the phrase 'waters of the United States'" does not constitute "a basis for reading the term 'navigable waters' out of the statute." Id. at 172.

30. Id. at 172.

31. Id. Finding that a statute is silent or ambiguous with respect to specific issue is the first part of the test for deferring to the statutory interpretation of an administrative agency under Chevron. Chevron U.S.A., Inc. v. Natural Resources Defense Council, 467 U.S. 837, 842-43 (1984).

32. 531 U.S. at 172.

33. Id. at 172-73.

34. For recent discussion on the topic of aggregation under the Commerce Clause, see United States v. Lopez, 514 U.S. 548 (1995), and United States v. Morrison, 529 U.S. 598 (2000).
United States' rationale, to which the statute by its terms extends." 35 Granting jurisdiction, it stated, "would result in a significant impingement of the States’ traditional and primary power over land and water use." The Court thus opted to read the statute so as "to avoid the significant constitutional and federalism questions raised by [the Corps'] interpretation." 36

V

DISSENT

A. An Emphasis on Clean Water, not Navigation

The dissent concluded that, while previous legislation had limited the jurisdiction of the Army Corps of Engineers to "navigable waters," under the Clean Water Act Congress sought to broaden "the Corps' mission to include the purpose of protecting the quality of our Nation’s waters for esthetic, health, recreational, and environmental uses," thereby expanding the jurisdiction of the Corps beyond waters that require "actual or potential navigability." 37 Further, the dissent stated that the finding of congressional acquiescence in Riverside Bayview Homes, Inc. "applies equally to the . . . parcel at issue here." 38 The dissent argued that "once Congress crossed the legal watershed that separates navigable streams of commerce from marshes and inland lakes, there is no principled reason for limiting the statute's protection to those waters or wetlands that happen to lie near a navigable stream." 39

Justice Stevens began his analysis by focusing on the political climate behind the passage of the CWA. The CWA represented, he claimed, a "shift in the focus of federal water regulation from protecting navigability toward environmental protection," the major purpose of which "was to establish a comprehensive long-range policy for the elimination of water

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35. 531 U.S. at 173.
36. Id. at 174.
37. Id. at 175.
38. Id. at 176. Specifically, the Court in Riverside Bayview Homes found "that the Corps' broadened jurisdiction under the CWA properly included an 80-acre parcel of low-lying marshy land that was not itself navigable, directly adjacent to navigable water, or even hydrologically connected to navigable water, but which was part of a larger area, characterized by poor drainage, that ultimately abutted a navigable creek." Id. at 175-76.
39. Id. at 176.
pollution." The goal of the Act was "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters," and "strikingly absent from its declaration of 'goals and policy' is any reference to avoiding or removing obstructions to navigation." Instead, the Act required federal agencies to give "due regard...to improvements which are necessary to conserve such waters for the protection and propagation of fish and aquatic life and wildlife [and] recreational purposes."42

Regarding the definition of "navigable waters" in the Act, Stevens concluded, "although Congress opted to carry over the traditional jurisdictional term 'navigable waters' from [prior legislation], it broadened the definition of that term to encompass all 'waters of the United States.'"43 In fact, a Conference Report explaining the definition of "navigable waters" set out how that term was "intended to be given the broadest possible constitutional interpretation."44

B. Congressional Acquiescence to a Broad Definition of Navigable Waters

The dissent also suggested that even if the CWA did not convey authority over isolated, intrastate wetlands in its original formulation, subsequent regulation by the Corps and acquiescence by Congress have operated to enlarge the jurisdiction of the Corps under the CWA.45 Justice Stevens


41. Id. at 180 (quoting 33 U.S.C. § 1251 (1994)).

42. Id. at 180 (quoting 33 U.S.C. § 1252 (1994)).


44. Id. at 181 (quoting in part S. CONF. REP. NO. 92-1236, at 144 (1972), reprinted in 1 LEG. HIST., supra note 40, at 327).

45. Id. at 183–91. In 1975, the Corps adopted new regulations under the CWA that understood "waters of the United States to include not only navigable waters and their tributaries, but also nonnavigable intrastate waters whose use or misuse could affect interstate commerce." Id. at 184 (internal quotations omitted). In the final version of these regulations, adopted in 1977, the Corps understood their jurisdiction to reach "isolated lakes and wetlands, intermittent streams, prairie potholes, and other waters that are not part of a tributary system to interstate waters or to navigable waters of the United States, the degradation or destruction of which could affect interstate commerce." 42 Fed.Reg. 37,127 (1977), as amended, 33 C.F.R. § 328.3(a)(3) (1977). With these new regulations came opposition, and in 1977 Congress sought to limit the jurisdiction under § 404 of the CWA to "waters that are used, or by reasonable improvement could be used, as a means to transport interstate of foreign commerce and their adjacent wetlands." 531 U.S. at 185. See H.R. 3199, 95th Cong. § 16(f) (1977). Even though this effort failed in Congress, the
asserted that this issue should have been foreclosed by the Court's decision in *Riverside Bayview Homes, Inc.*, and that the majority's refusal to acknowledge this in *SWANCC* constitutes a "troubling" break with precedent. 46 Justice Stevens also stated that the 1977 CWA amendments demonstrated Congressional acquiescence to the Corps' jurisdiction over isolated, nonnavigable, intrastate waters. In those revisions, Congress specifically prevented Corps jurisdiction from reaching specific types of isolated waters, suggesting that Congress recognized that "similarly isolated waters not covered by the exceptions would fall within the statute's outer limits." 47

Stevens also pointed to language in § 404(g), another portion of the revisions, which corroborated this conclusion. 48 He interpreted section 404(g) language referring to waters "other than those waters which are presently used, or are susceptible to

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46. 531 U.S. at 186-187. The Court in *Riverside Bayview Homes, Inc.*, held that:

The scope of the Corps' asserted jurisdiction over wetlands was specifically brought to Congress' attention, and Congress rejected measures designed to curb the Corps' jurisdiction in large part because of its concern that protection of wetlands would be unduly hampered by a narrowed definition of 'navigable waters.' Although we are chary of attributing significance to Congress' failure to act, a refusal by Congress to overrule an agency's construction of legislation is at least some evidence of the reasonableness of that construction, particularly where the administrative construction has been brought to Congress' attention through legislation specifically designed to supplant it.

531 U.S. at 186 (quoting *Riverside Bayview Homes, Inc.*, 474 U.S. at 137).

47. 531 U.S. at 188. Specifically, the 1977 revisions to the CWA expressly excluded the Corps ability to regulate the discharge of fill material under § 404 that was undertaken "for the purpose of construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance of drainage ditches, and for the purpose of construction of temporary sedimentation basins on a construction site which does not include placement of fill material into the navigable waters." *Id.* (quoting 33 U.S.C. § 1344(f) (1994) (internal quotation omitted)).

48. In part, § 404(g) authorizes the States to "administer [their] own individual and general permit program for the discharge of dredged or fill material into the navigable waters [other than those waters which are presently used, or are susceptible to use in their natural condition or by reasonable improvement as a means to transport interstate or foreign commerce . . . including wetlands adjacent thereto]." 531 U.S. at 188 (quoting 33 U.S.C. § 1433(g)(1) (1994)).
use in their natural condition or by reasonable improvement as a means to transport interstate or foreign commerce . . .” as indicating “that Congress viewed (and accepted) the Act’s regulations as covering more than navigable waters in the traditional sense.”

The inclusion of § 404(g), in conjunction with the other 1977 revisions, the Court’s decision in Riverside Bayview Homes, Inc., and the failed efforts to limit Corps jurisdiction over isolated waters led the dissent to conclude that “Congress believed - and desired - the Corps’ jurisdiction to extend beyond just navigable waters, their tributaries, and the wetlands adjacent to each.”

C. Deference to Agency Interpretation and Federalism Concerns

In addition to the majority’s construction of the CWA itself, the four dissenting Justices disagreed with the majority’s refusal to defer to the agency’s construction of the statute, arguing that this refusal ran counter not only to Chevron but also to Riverside Bayview. The dissent also disagreed with the majority’s suggestion that the Corps’ interpretation of its jurisdiction under the CWA represents “federal encroachment upon a traditional state power” in directing the States on how to engage in land use planning. Justice Stevens countered by stating that “the CWA is not a land-use code,” and that, like other environmental regulation, it “does not mandate particular uses of . . . land but requires only that, however land is used, damage to the environment is kept within prescribed limits.” Furthermore, under § 404(g) of the CWA, the states are given the option to take a lead role in protecting their own waters; Justice Stevens argued that this rendered the majority’s federalism concern as “misplaced.”

49. Id. at 188-89. Stevens also pointed to Babbitt v. Sweet Home Chapter of Communities for Great Oregon, 515 U.S. 687(1995), where the Supreme Court held that the proper meaning of a term in the Endangered Species Act of 1973 was to be taken from the definition provided in the statute instead of an alternate common-law definition, and argued that the same type of conclusion is proper with regard to “navigable water.” See id. at 182. Based on this analysis, the minority concluded that “the term ‘navigable waters’ operates in the statute as a shorthand for ‘waters over which federal authority may properly be asserted.’” Id.

50. Id. at 190.

51. Id. at 191. In Chevron U.S.A. Inc. v. Natural Resources Defense Council, 467 U.S. 837 (1984), the Court held that “the agency’s construction of the statute that it was charged with enforcing was entitled to deference.” Chevron U.S.A. Inc. v. Natural Resources Defense Council, 467 U.S. 837 (1984).

52. 531 U.S. at 173.

53. Id. at 191.

54. Id. at 192.
SWANCC's implications are uncertain, thanks primarily to the large zone of ambiguity left by the Court. The majority clarified "that a nonnavigable (in the traditional sense) wetland directly adjacent to a navigable body of water falls within the purview of the CWA, and that. . . being visited by migratory birds is not enough to bring [an isolated] wetland within the purview of the CWA."55 Interpreting the decision, EPA and the Corps agree that they may still regulate adjacent waters, but concede that SWANCC prevents them from using the existence of migratory bird habitat as the sole basis for asserting regulatory jurisdiction over waters that are "nonnavigable, isolated, [and] intrastate."56 Between these two extremes, where many sites conventionally thought of as wetlands reside, jurisdiction is unclear.57 The federal agencies seem inclined toward a narrow interpretation of SWANCC and a broad retention of jurisdiction;58 the Association of State Wetland managers, by contrast, suggests that "30% to 79% of total wetland acreage may be affected" by the decision.59

Lower courts decisions are providing some indications about the post-SWANCC world.60 In April 2001, the U.S. Court of

56. Id. at 3.
57. United States v. Krilich suggests that the gap left in SWANCC is further narrowed by the fact that SWANCC suggests "that wetlands likely need to have a substantial connection to interstate commerce or a connection to navigable waters (in the traditional sense) in order to be waters of the United States that fall within the CWA term navigable waters." 152 F. Supp. 2d. at 988.
59. Memorandum from Jon Kusler, Association of State Wetland Managers, The SWANCC Decision and State Regulation of Wetlands 8, available at http://www.aswm.org/swancc/aswm-int.pdf (last updated Dec. 18, 2001) (document written to help states understand SWANCC). If, however, the courts interpret the decision to restrict the CWA to "only traditionally navigable waters and their adjacent wetlands," then "perhaps as little as 20% of the Nation’s wetlands would be subject to federal regulation." Id. at 7. In contrast, "if the Corps and EPA were to regulate not only navigable waters and their adjacent wetlands, but also tributaries and wetlands adjacent to tributaries . . . [then total] regulated wetlands will likely increase to 40%-60%, or more." Id. The Association concludes that "state and local wetland regulation will partially fill the gap in federal wetland regulation" left in the wake of SWANCC in fourteen states, and in the absence of federal regulation "little protection will be provided in the rest." Id. at 8.
60. This presentation of lower court opinions is intended to survey the post-SWANCC field, and by no means represents all of the judicial and administrative opinions that have emerged on the topic. For another brief outline of cases
Appeals for the 9<sup>th</sup> Circuit decided Headwaters, Inc. v. Talent Irrigation District<sup>61</sup>, dealing with a series of irrigation canals that had leaked various toxins into adjacent tributaries of "a number of natural streams and at least one lake."<sup>62</sup> The court held that since the canals were connected to rivers and a lake, they constituted "waters of the United States," and the discharges thus required a permit under the CWA.<sup>63</sup>

In United States v. Interstate General Company,<sup>64</sup> a U.S. District Court in Maryland held that the defendant's convictions, under 33 CFR § 328.3(a)(1), (a)(5), and (a)(7), for "placing fill on four parcels of land... [that were] 'adjacent to the headwaters' of two non-navigable creeks" were unaffected by the SWANCC decision.<sup>65</sup> The court characterized SWANCC as "a narrow holding dealing with the Migratory Bird Rule and 33 CFR § 328.3 (a)(3)," and not the sections under which the defendants pled guilty.<sup>66</sup>

Finally, in United States v. Krilich,<sup>67</sup> a District Court in Illinois denied the motion of alleged Clean Water Act violators to vacate a consent decree, which they had entered into with the U.S., in light of the SWANCC decision. The court held that "[t]here is no contention that the [property at issue] does not contain wetlands subject to CWA regulation, even in light of SWANCC."<sup>68</sup> Further, it held, that "[i]t would not matter that the Decree also has provisions imposing obligations as to wetlands that are not subject to CWA regulation. Under a consent decree, a party can agree to greater obligations than could be achieved if the suit were to go to trial."<sup>69</sup>

Although post-SWANCC cases have yet to seriously curtail federal jurisdiction, a gap remains between the statute's goals and its current means of conferring federal authority, and SWANCC's uncertain precedent could turn that gap into a serious problem. A better means of basing federal authority is needed if the CWA is going to truly meet its objectives.

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<sup>62</sup> Id.
<sup>63</sup> Id.
<sup>65</sup> Id. at 844.
<sup>66</sup> Id. at 849.
<sup>68</sup> Id. at 993.
<sup>69</sup> Id.
SOLUTION: AN ECOSYSTEM SERVICES APPROACH

SWANCC demonstrates the disconnect between the goals of environmental protection in the CWA and the use of "navigation" as a means for jurisdictional implementation. The expressed objective of the CWA, to protect "the chemical, physical, and biological integrity of the nation's waters," is constrained by SWANCC's adoption of navigation as a limiting concept in the definition of "waters of the United States." A sensible way to correct this disconnect would be to change the way that jurisdiction is conferred under the CWA by linking federal jurisdiction over aquatic resources to the ecological value of the particular resource to be regulated. The emerging filed of ecosystem services valuation would provide the necessary tools to undertake such an assessment. By using such an approach, Congress would provide a firmer foundation for the protection of U.S. waterways.

A. Ecosystem Services Generally

Ecosystem services are "the conditions and process through which natural ecosystems, and the species that make them up,
sustain and fulfill human life." Such services include "the production of goods (such as seafood and timber), life support processes (such as pollination, flood control, and water purification), and life-fulfilling conditions (such as beauty and serenity), as well as the conservation of options for the future (such as genetic diversity)." Guidance issued by the Office of Federal Activities within the EPA captures accurately the intersection between ecosystem services analyses and environmental protection:

Clean air and clean water depend not only on the control of hazardous discharges, but on the maintenance of ecosystem services that assimilate wastes. . . Ecosystems provide not only valuable products and essential services, but also opportunities for recreation and aesthetic enjoyment. Examples of ecosystem services include purifying air and water, providing flood control, building fertile soils, and producing food, fiber, and other natural resources for human consumption. Healthy forests, for example, provide wood products, sequester man-made gasses that cause global warming, and control erosion that degrades water quality and fisheries, and support wildlife and rare species.

The benefits of these services are provided "for free" and are generally of such a large scale and complexity that humanity would be unable to practically engineer substitutions for them. However, because these services are provided for free (meaning that they have no capturable market value), they are largely taken for granted. In fact, "ecosystem services have largely been ignored in environmental law and policy," and are only rarely considered in "cost-benefit analyses, preparation of environmental impact statements, wetlands mitigation banking, Superfund remediations, and oil spill clean-ups."

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77. Id. at 334.
79. Heal et al., supra note 76, at 334.
80. Professor Salzman explains this problem as follows: "We explicitly value and place dollar figures on "ecosystem goods" such as timber and fish. Yet the services underpinning these goods generally have no market value—not because they are worthless, but rather because there is no market to capture and express their value directly." James Salzman, Valuing Ecosystem Services, 24 ECOLOGY L.Q. 887, 888 (1997).
81. Salzman et al., supra note 70, at 311-12.
B. Why an Ecosystem Services Rationale is a Better Basis for Jurisdiction

From its inception, the Clean Water Act (CWA) was designed to act as an environmental protection statute, devoted to nationwide restoration of our water resources. As such, the broad purposes of the CWA ought to allow for federal regulation over water resources whose degradation would have nationwide implications. Many water bodies, even if isolated from navigation, provide nationwide benefits, whether through providing habitat for wildlife or by maintaining water quality through their hydrological connectivity with other resources. The services provided by these non-navigable, isolated waterways, in ecological terms, serve the very purposes that the CWA sets out to achieve. Through an ecosystem service analysis, we not only become aware of these critical resources, and how dependent life is on them, but also we become able to fix a value on service that might otherwise be overlooked by the market system.

In contrast, using "navigability" as a concept for conferring federal jurisdiction, and ultimately deciding what can be protected under the CWA, prevents the ability of the federal government to exercise regulatory authority over those ecological resources that should be protected under the broad purposes of the Act. Thus, in order to carry out those broad purposes, we need to confer federal jurisdiction over resources in a way that allows for the protection of resources on the basis of their ecological value, and not just their susceptibility to be navigated. Adopting a method for conferring jurisdiction on the basis of an ecosystem services analysis would eliminate the problem of determining the meaning of "navigable waters," and the problem of trying to base federal jurisdiction on this concept. In terms of water pollution, the use of such an analysis could allow for the regulation of "isolated" waters that have large-scale ecosystem effects.

82. Professor Funk illustrates this disconnect between the objectives of the CWA and its use of "navigable waters" as a gateway for jurisdiction. He states "if one looks to the purposes of the CWA [that] one must conclude that "waters of the United States" contains no limiting concept of navigability." Further, "the objective of the Act clearly is not to protect the nation's waters of navigation," but instead "to restore and maintain the health of the nation's waters." Funk, supra note 2, at 10741-12.

83. The dissent in SWANCC keyed into this disconnect in their discussion of the goals of the Act, as well as their analysis of the habitat role that these "isolated" waters played. They note that the water's "role as habitat for migratory birds, birds that serve important functions in the ecosystems of other waters throughout North America, suggests that—ecologically speaking—the waters at issue in this case are anything but isolated." 531 U.S. at 176 n.2.
Finally, there is a significant danger posed by not integrating an ecosystem services type analysis into the CWA, and into environmental law generally. It is now widely accepted that "the services... ecosystems provide are both wide-ranging and critical."\textsuperscript{84} However, our overall understanding of ecosystem services "is poor," and "the substitute technologies for most ecosystem services are either prohibitively expensive or non-existent."\textsuperscript{85} These limitations on our understanding and abilities, in conjunction with the life-dependent reliance we place on these systems, and their "extraordinarily high values,"\textsuperscript{86} suggest that protecting potential ecosystem services is a wise investment.

\textbf{C. The Difficulties of Integrating an Ecosystem Services Analysis into the CWA}

Integrating an ecosystem services analysis into the CWA will not be easy.\textsuperscript{87} First, critics will decry improper federal interference with states' rights and state land use decisions. Second, such a system would invariably have to surmount the Court's reinvigorated interest in the limits of federal power under the Commerce Clause. Finally, and most importantly from a practical standpoint, integration of ecosystem services valuation into the CWA would require developing standardized techniques for determining the value of a service, and setting an appropriate threshold level above which federal protection over the ecosystem would be invoked.

\textsuperscript{84} Salzman, \textit{supra} note 80, at 891. Others have commented that:

Natural cycles, though taken for granted, provide the basis for human existence. If, for instance, natural pest control services ceased—for example, if the life cycles of natural pest enemies were altered, or if natural enemies were eliminated in some areas—there could be disastrous crop failures. If populations of bees and other pollinators crashed, society could face similar dire consequences. If the carbon cycle were badly disrupted, rapid climatic change could threaten whole societies.

Heal et al., \textit{supra} note 76, at 338.

\textsuperscript{85} Salzman, \textit{supra} note 80, at 891; see also Salzman et al., \textit{supra} note 70, at 310-11 (noting "recent research [which] has demonstrated the extremely high costs to replace many of these services if they were to fail, on the order of many billions of dollars in the United States for water purification alone.").

\textsuperscript{86} Salzman, \textit{supra} note 80, at 891 (referencing a study that placed the aggregate value of ecosystem services at "between $16-54 trillion per year").

\textsuperscript{87} See Salzman et al., \textit{supra} note 70, at 327. The authors state that part of the problem "is legal, since we have little experience with institutional design and regulatory instruments to protect services. And part is economic. We need to better value services and identify the institutional barriers to their commodification." \textit{Id.}
1. **Locating Control at the Federal Level**

Distrust of federal power, particularly where it impinges upon a state's traditional power over land-use decisions, will fuel critiques of this type of modification to the CWA. Effective management of large-scale ecosystems requires comprehensive authority, however. Water resources, even if geographically isolated, typically play roles in larger ecological systems; “because district jurisdictions rarely track ecological or watershed boundaries, efforts in one district to enhance ecosystem services can be weakened or, in some cases, frustrated by activities in another district working at cross-purposes.” This rationale applies to states independently managing resources without the benefit of a coordinating body.

Aside from ensuring comprehensive and efficient management of resources, federal management may ensure a higher level of environmental quality. As Professor Revesz notes, “the presence of interstate externalities is [often] a powerful reason for intervention at the federal level: because some of the benefits of a state's pollution control policies accrue to downwind states, states have an incentive to underregulate.” This rationale applies to waterways discharge decisions made by state actors just as it does to air pollution, and supports the idea of federal control in protecting the nation's waterways as a means to avoid the proliferation of interstate environmental externalities.

The threat of a ‘Race-to-the-Bottom,’ a common motivation for federal environmental law, also provides support for the notion that federal control is needed in the area of ecosystem management. A race-to-the-bottom develops when interstate competition for industry causes a race between the states to move “from the desirable levels of environmental quality that states would pursue if they did not face competition for industry...”

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88. In fact, this concern resonated quite loudly with the majority in SWANCC. The Court stated that “regulation of land use [is] a function traditionally performed by local governments,” and “unless Congress conveys its purpose clearly, it will not be deemed to have significantly changed the federal-state balance.” SWANCC, 531 U.S. 159, 173-74 (2001).

89. Heal et al., supra note 76, at 356.


91. Note, however, that the legitimacy of this “widely accepted justification for environmental regulation at the federal level” has come under attack recently, and may not be as powerful a rationale for federal control as it once was. See id. at 1210. For a discussion on the legitimacy of race-to-the-bottom arguments, see generally id.
to the increasingly undesirable levels that they choose on the face of such competition."92 Federal intervention "prevents states from competing for industry by offering pollution control standards that are too lax" by limiting their discretion in setting the appropriate standards.93

Public choice theory also supports the position that federal control over ecosystem management is required. This theory suggests that legislative protection of the environment is more likely to occur at the federal level due to "failures in the political process at the state level and of the better functioning of the political process at the federal level."94 Such a conclusion is based on finding in a particular situation that "not only are environmental groups more effective at the federal level, but also that the state political processes in fact undervalue the benefits of environmental protection, or overvalue the corresponding costs, whereas the calculus at the federal level is more accurate."95 Thus, for a host of policy reasons, an approach that maintains broad federal jurisdiction, and ties that jurisdiction to environmental services, will lead to better protection of the environmental values the CWA seeks to uphold.

2. Limitations Imposed By The Commerce Clause

Even if expanding federal jurisdiction by implementing an ecosystem services analysis type of approach seems wise, Congress's power to do so under the Commerce Clause96 is uncertain. The Supreme Court in SWANCC left open the question of whether Congress has authority under the Commerce Clause to regulate waterways discharges on the basis of the Migratory Bird Rule. This holding provides little guidance on whether the Migratory Bird Rule, let alone a new jurisdictional rule based on ecosystem services, would be constitutionally sufficient to allow federal jurisdiction.

Under Commerce Clause jurisprudence, wholly intrastate activities can be regulated when, in the aggregate, they have a substantial effect on interstate commerce, a principle that historically allowed for broad regulatory power.97 The limitations

92. Id. at 1210.
93. Id.
94. Id. at 1223.
95. Id.
96. U.S. CONST. art. I, § 8 cl. 3.
of the Commerce Clause, however, were recently revitalized in two cases where federal regulations were struck down for targeting activities that did not involve an "economic activity" that substantially affected interstate commerce. 98 These cases appear to add a new "economic activity" component to the traditional aggregation principle first articulated in Wickard v. Filburn. 99

Despite the revitalization of Commerce Clause jurisprudence, the federal government's ability to protect even isolated waters should not be vulnerable. As the dissent notes, the fact that "the discharge of fill material into the Nation's waters is almost always undertaken for economic reasons" suggests that the aggregation of discharges would satisfy the "economic activity" criteria added to the aggregation principle under Morrison and Lopez. 100 To fit under the Commerce Clause power an activity must "substantially affect interstate commerce," 101 which many water-based activities do. The SWANCC dissent, discussing the validity of the Migratory Bird Rule under the Commerce Clause, stated that "literally millions of people regularly participate in birdwatching and hunting," and that those activities "generate a host of commercial activities of great value." 102 Further, the dissent noted "the power to regulate commerce among the several States necessarily includes and properly includes the power to preserve the natural resources that generate such commerce." 103 This directly supports the proposition that the use of ecosystem management under the Clean Water Act, with respect to discharges in to U.S. waters, would succeed a challenge to Congress' authority to enact such a program under the Commerce Clause.

3. Valuation

Implementing an ecosystem services approach will require some difficult judgments. The regulating authority would need to measure its jurisdiction by distinguishing between those water bodies that provide enough ecosystem services to merit federal

99. See Morrison, 529 U.S. 598.
101. See Morrison, 529 U.S. 598; Lopez, 514 U.S. 549.
103. Id. at 196; see also Gibbs v. Babbitt, 214 F.3d 483, 506 (4th Cir. 2000).
Drawing these distinctions will create obvious line-drawing problems, and will likely implicate deeper questions of social value. Moreover, the science of valuing ecosystem services is still new and very incomplete. Before a comprehensive change to the CWA can be made, a standardized system for valuing ecosystem service resources is necessary. In his article, Valuing Ecosystem Services, Professor Salzman suggests that there are three challenges to incorporating ecosystem services analyses into decision making: "identifying services on a local scale, measuring the value of these services, and projecting their future value." He also suggests that environmental law can promote the understanding of ecosystem services "through the creation of information markets that drive scientific research," such as incorporating these analyses into environmental regulations.

Others have suggested that methods for ecosystem valuation to date have failed because they do not "sufficiently address differences in the value of wetland services provided at different locations." Still others have suggested that "what is needed is a methodological middle ground: evaluation tools that can be easily implemented by non-economists using existing data sources to identify, based on sound economic principles, likely differences in the social benefits of ecosystems." In the end, fixing the existing valuation problems present in contemporary ecosystem services analyses will be necessary before wide-scale implementation can take place under the CWA.

104. An easier, more immediate solution might be for the courts to read into the "inseparably bound up with the 'waters' of the United States" language of Riverside Bayview Homes, the possibility of proving the existence of a nexus between the two water bodies at issue through the use of an ecosystem services analysis. However, it should be noted that such an approach does not solve the underlying disconnect in the CWA between 'navigability' and environmental protection.

105. A version of the line-drawing problem is identified in James Boyd et al., supra note 75, at 396, where in the field of ecosystem trades, "the valuation of ecosystem assets and the 'scoring' of ecosystem trades require the integration of economic principles and ecological science." A similar type of cost-benefit analysis will likely be needed in this context as well, both in order to understand the value of the service in question, but also to identify that value as being important enough to warrant federal protection.

106. Salzman, supra note 80, at 894.

107. Id. at 898.


CONCLUSION

The impact of the SWANCC decision on environmental protection under the Clean Water Act, although not entirely clear, promises to be significant. This case demonstrates the need for a new set of criteria upon which to base federal jurisdiction within the Act. The use of ecosystem services has the potential to provide those criteria. By basing federal jurisdiction on the degree of impact that a particular waterway discharge decision would have on the environment, the CWA will be better equipped to meet its objectives. Filling the void left in the CWA after SWANCC will require attention to environmental protection at all stages in the decision-making process set forth under the Act. Regardless, using navigability as a proxy for determining what ecological resources are in need of protection is simply nonsensical.