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# Restoring the Nation's Wetlands: Can the Clean Water Act's Dredge And Fill Guidelines Do the Job?

JOAN M. FERRETTI\*

## I. Introduction

In the past, wetlands<sup>1</sup> were seen as unproductive lands which could only be valuable when drained or filled and

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### 1. For Clean Water Act purposes, wetlands are defined as:

[T]hose areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

33 C.F.R. § 323.2 (c) (1983); 40 C.F.R. § 122.2 (1983); 40 C.F.R. § 230.3 (t) (1983). *See also* 40 C.F.R. § 230.41(a)(1) (1983).

Mangrove swamps and salt marshes and even small temporary wet areas such as prairie pot holes and vernal pools are wetlands. Some wetlands are relatively barren such as the wet tundra in Alaska and Canada, while others are richly vegetated. They can be associated with open waters like lakes, rivers, and estuaries. They also occur in apparent isolation from surface water sources. *See generally* Our Nation's Wetlands, An Interagency Task Force Report, Coordinated by the Council on Environmental Quality, 1978 [hereinafter cited as Our Nation's Wetlands]; L. Cowardin, V. Carter, F. Volet and E. La Roe, Classification of Wetlands and Deepwater Habitats of the United States, U.S. Fish and Wildlife Serv., Biological Service Program, FWS/OBS-79/31, December 1979; S. Shaw and G. Fredine, Wetlands of the United States, U.S. Fish and Wildlife Serv., Circular 39, 1956; J. & M. Teal, Life and Death of the Salt Marsh, (1969). *See also* Avoyelles Sportsman's League v. Alexander, 511 F. Supp. 278 (W.D. La. 1981), *aff'd in part, rev'd in part*, 715 F.2d 897 (5th Cir. 1983) (certain southern bottomland hardwood forests are wetlands regulated under the Clean Water Act (CWA)), 33 U.S.C. §§ 1251-1376 (1976 & Supp.V 1981); United States v. Eastgate Miramar Associates, Civ. No. 80-0756-E(M) (S.D. Cal., 1980) (consent decree in civil enforcement action under the CWA indicated that vernal pools are wetlands regulated under the CWA).

then used for agricultural, residential, recreational, or industrial purposes. It is not surprising, then, that by 1976, forty percent of all existing wetlands in the United States had been destroyed.<sup>2</sup> This loss became a source of national concern and the subject of extensive regulations.<sup>3</sup> Since the 1970's the vital roles that wetlands play in our ecosystem have become better known. Wetlands provide numerous and diverse benefits such as pollution and flood control, sediment trapping, groundwater recharge, physical buffering of shorelines, and commercial and recreational fisheries and fish nurseries. They also provide thriving and productive nesting, resting, breeding, and feeding grounds for a wide variety of mammals, birds, reptiles, and amphibians.<sup>4</sup> This knowledge, however, has not discouraged economic pressures to use wetlands for other purposes.<sup>5</sup> Consequently, the need for regulation to protect this valuable natural resource continues.

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2. See Lynn A. Greenwalt, Director, U.S. Fish and Wildlife Serv., speech to National Wildlife Federation Annual Conference, Louisville, Ky., Department of Interior News Release, at 2 (March 20, 1976) (cited in *Our Nation's Wetlands*, *supra* note 1, at 1.) See also *Wetland Deterioration: Before the House Subcomm. on Fisheries and Wildlife Conservation and the Environment of the House Comm. on Merchant Marine and Fisheries*, 97th Cong., 1st Sess. 214 (1981) (statement of Robert A. Jantzen, Director, U.S. Fish and Wildlife Service). Mr. Jantzen estimated that 82 million acres remain from an original 127 million acres, and that some localized losses are proportionately higher. For instance, California has less than 450,000 acres remaining out of an original 3,500,000 acres. See generally W. Frayer, T. Monahan, D. Bowden, F. Graybill and B. Willen, *Status and Trends of Wetlands and Deepwater Habitats in the United States, 1950's to 1970's*, Office of Biological Services, U.S. Fish and Wildlife Serv., (Sept. 1982).

3. Exec. Order No. 11,990, 3 C.F.R. § 121 (1977) (setting forth a national policy that federal agencies avoid causing wetland losses). See also 3 A *Legislative History of the Clean Water Act* at 417, 484, 494, 523 (1978).

4. See, e.g., Greeson, Clark and Clark, eds., *Wetlands Functions and Values: The State of Our Understanding*, Proceedings of a Symposium, Nov. 1978; American Water Resources Association, *Lake Buena Vista, Florida, 1979*; *Our Nation's Wetlands*, *supra* note 1, at 19-29; 33 C.F.R. § 230.4(b) (1983); 40 C.F.R. § 230 (1983); Note, *Putting Wetlands to Work*, 8 *National Science Foundation Mosaic* 3 (1977).

5. See *United States v. Lambert*, 695 F.2d 536 (11th Cir. 1983); *United States v. Sabine Shell*, 674 F.2d 480 (5th Cir. 1982); *United States v. Sunset Coves, Inc.*, 514 F.2d 1089 (9th Cir. 1975); *United States v. Joseph G. Moretti, Inc.*, 478 F.2d 418, 430 (5th Cir. 1973); *Zabel v. Tabb*, 430 F.2d 199 (5th Cir. 1970), *cert. denied*, 401 U.S. 910 (1971); *United States v. Tull*, No. 81-688-N, slip op. (E.D. Va. Sept. 28, 1983); *United*

Chief among the potentially useful tools<sup>6</sup> for regulating activities harmful to wetlands is the federal Clean Water Act,<sup>7</sup> whose stated objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters.<sup>8</sup> The Act applies to all "waters of the United States," including wetlands, no matter who owns them.<sup>9</sup> It applies to

*States v. Board of Trustees of Florida Keys Community College*, 531 F. Supp. 267 (S.D. Fla. 1981); *Avoyelles Sportsman's League v. Alexander*, 511 F. Supp. 278 (V. D. La. 1981); *Deltona v. United States*, No. 370-76 (Ct. Cl. Aug. 1981) 16 Env't Rep. Cas. (BNA) 1482 (1981), 11 Env't L. Rep. (Env't L. Inst.) 20905 (1981).

6. See, e.g., Federal Statutes: Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464 (1976 & Supp. V 1981), National Environmental Policy Act, 42 U.S.C. §§ 4321-4370 (1976 & Supp. V 1981), Rivers and Harbors Act, 33 U.S.C. §§ 401-476 (1976 & Supp. V 1981); See e.g., New York State Statutes: The Freshwater Wetlands Act, N.Y. Env'tl. Cons. Law §§ 24-0101-24-0107 (McKinney Supp. 1984); The Tidal Wetlands Act, N.Y. Env'tl. Cons. Law §§ 25-0101-25-0601 (McKinney Supp. 1983-1984); The State Environmental Quality Review Act, N.Y. Env'tl. Cons. Law §§ 8-0101-8-0117 (McKinney Supp. 1983-1984).

7. 33 U.S.C. §§ 1251-1376 (1976 & Supp. V. 1981).

8. 33 U.S.C. § 1251(a) (1976 & Supp. V 1981).

9. The Clean Water Act applies to "navigable waters" which are defined in the Act as "waters of the United States, including the territorial seas." 33 U.S.C. § 1362 (7) (1976 & Supp. V 1981). The term "waters of the United States" is defined in the Environmental Protection Agency's (EPA) Regulations and the Corps of Engineers' (COE) Regulations as:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) All interstate waters, including interstate "wetlands;"

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters;

(1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) Which are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters identified in paragraphs (a)-(d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)-(f) of this definition...

40 C.F.R. § 122.2 (1983).

See also 33 C.F.R. § 323.2(a) (1982) (COE regulations dealing with permits for

private and governmental actions, and has administrative, civil, and criminal enforcement provisions with substantial penalties for noncompliance.<sup>10</sup> It has express provisions for a nationwide program to regulate discharges of dredged and fill materials.<sup>11</sup> Since those discharges are most often the vehicles for converting wetlands to other uses, the Clean Water Act's regulatory jurisdiction over discharges has the potential to insure rational decisionmaking in the use of the nation's wetlands.

The substantive bases for that decision process are set forth in the dredge and fill guidelines promulgated to implement section 404 of the Clean Water Act (the Guidelines).<sup>12</sup> This article considers whether the Guidelines are capable of achieving the Act's objective of restoring the nation's wetlands.

## II. The Regulatory Framework

Section 404 establishes a program for the issuance of permits by the Secretary of the Army, or a designated permitting authority,<sup>13</sup> for discharges of dredged or fill materials into all waters of the United States, including wetlands.<sup>14</sup> In evaluating applications for permits, the

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discharges of dredged or fill material); 48 Fed. Reg. 21,474 (1983) (reorganization of definition of "waters of United States" proposed May 12, 1983) (final regulations expected in 1984); EPA 404 State Program Regulations, 40 C.F.R. §233.3 (1983); 40 C.F.R. § 230.3(a) (1983).

10. 33 U.S.C. § 1319(a)-(f) (1976 & Supp. V 1981).

11. Section 404(a)-(t) of the CWA, codified at 33 U.S.C. §1344(a)-(t) (1976 & Supp. V 1981); section 404(a) provides in pertinent part: "The Secretary [of the Army] may issue permits, after notice and opportunity for public hearing for the discharge of dredged or fill material into the navigable waters at specified disposal sites."

12. 40 C.F.R. Part 230 (1983).

13. Pursuant to 33 U.S.C. §§ 1344(g)-(1) (1976 & Supp. V 1981), the Administrator of the EPA may delegate to qualifying states certain responsibilities for administering the section 404 program. These responsibilities include issuing permits for discharges into certain waters, using the criteria set forth in the Guidelines. This article uses the term "permitting authority" to indicate the relevant decision maker for section 404 permit purposes. To date, no state has assumed the section 404 program responsibility.

14. 33 U.S.C. §§ 1344(a), 1362 (1976 & Supp. V 1981). See *supra* notes 2 and 7.

Secretary applies the Guidelines developed and promulgated by the Administrator of the United States Environmental Protection Agency (EPA), in conjunction and consultation with the Secretary.<sup>15</sup> The Guidelines were first issued by EPA in interim final form on September 5, 1975.<sup>16</sup> They were revised after public notice and comment and issued in final form on December 24, 1980.<sup>17</sup>

The Guidelines provide the substantive environmental criteria used to determine if a section 404 permit will be issued. They specify four restrictions on discharges.<sup>18</sup> Proposals may only be permitted if there is no practicable alternative,<sup>19</sup> if there will be no significant adverse impacts,<sup>20</sup> if all reasonable mitigation is employed,<sup>21</sup> and if no other statutory violations will occur.<sup>22</sup>

The general proposition for application of the restrictions set forth in the Guidelines directs that:

[T]he manner in which these Guidelines are used depends on the physical, biological, and chemical nature of the proposed extraction site, the material to be discharged, and the candidate disposal site, including any other important components of the ecosystem being evaluated.<sup>23</sup>

To achieve the Guidelines' stated objective of insuring the biological, chemical, and physical integrity of the nation's waters, especially wetlands and other sensitive aquatic types,<sup>24</sup> the permitting authority must analyze three basic

15. 33 U.S.C. § 1344(b) (1976 & Supp. V 1981). The settlement agreement entered in *National Wildlife Federation v. Marsh*, indicates that the Guidelines are binding on the permitting authority. Civ. No. 82-3632 (D.D.C. Feb. 10, 1984).

16. 40 Fed. Reg. 41,292 (1975).

17. 40 C.F.R. Part 230 (1983); *See also* 45 Fed. Reg. 85,360-85,367 (1980) (proposed Testing Requirements for the Specification of Disposal Sites for Dredged or Fill Materials).

18. 40 C.F.R. §§ 230.10(a)-(d) (1983).

19. 40 C.F.R. § 230.10(a) (1983).

20. 40 C.F.R. § 230.10(c) (1983).

21. 40 C.F.R. § 230.10(d) (1983).

22. 40 C.F.R. § 230.10(b) (1983).

23. 40 C.F.R. § 230.6(a) (1983).

24. *See* 40 C.F.R. §§ 230.40-.45 (1983).

components of a discharge activity. These are the source and composition of the material to be discharged, the nature of the discharge activity, and the characteristics of the receiving water.<sup>25</sup>

Understanding the source and composition of the materials to be discharged is necessary to prevent the application of toxic or other unacceptable materials to wetlands or other waters. The proposed testing provisions of the Guidelines specify the threshold testing required to ascertain the suitability of dredged materials for discharge into water.<sup>26</sup> This series of tests requires knowledge of the extract site or source of materials. Follow-up biological, chemical, and physical tests are designed to determine levels of substances probably present.<sup>27</sup>

The nature of the discharge activity raises many issues. The permitting authority must know whether the activity is permanent or temporary, large scale or *de minimis*, continuous or intermittent. It must be made aware of the types of equipment to be used and the seasons during which the activity will occur.<sup>28</sup>

Finally, as the Guidelines expressly provide, the permitting authority must determine the "physical, biological and chemical nature of the...candidate disposal site."<sup>29</sup> The permitting authority would be unable to assess the effect of a proposed activity on the receiving waters without knowledge of the following factors: indigenous populations of plants and animals, rates of waterflow, circulation and dispersion, and rates of evapotranspiration and gas exchange.<sup>30</sup> This final analysis, however, opens the door to the possibility that waters already degraded as a result of pollution or other intrusions will be assessed differently for permitting purposes than waters that are

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25. 40 C.F.R. § 230.6(a) (1983); 40 C.F.R. § 230.11 (1983).

26. 45 Fed. Reg. 85,360 (1980).

27. See *supra* note 17; See also 40 C.F.R. §§ 230.60-.61, 230.71 (1983).

28. See, e.g., 40 C.F.R. §§ 230.72-.76 (1983).

29. 40 C.F.R. § 230.11 (1983).

30. See *supra* note 28.

more pristine.<sup>31</sup> Although there is some logic in a process that selects preservation of pristine areas over preservation of degraded ones,<sup>32</sup> such a selection is inconsistent with the Clean Water Act's objective of restoring and maintaining the biological, chemical, and physical integrity of the nation's waters.

In the case of wetlands, such a selection process is disadvantageous for two reasons. First, a large percentage of the nation's wetlands have already been irretrievably lost because of numerous irreversible changes.<sup>33</sup> Therefore, restoring the remaining degraded ones assumes an increased importance. Second, wetlands are complicated, robust ecological systems often capable of self-restoration under appropriate conditions.<sup>34</sup> Permitting decisions based

31. For purposes of this article, "pristine" wetlands are wetlands that are biologically intact and undiminished in primary productivity by natural or unnatural causes.

32. For purposes of this article, "degraded" wetlands are wetlands wholly or partially impaired in natural function in terms of diminished primary productivity, species diversity, and retarded growth of indigenous wetland species.

33. See *supra* note 2.

34. Wetlands are complex ecosystems representing complicated arrays of interacting physical, chemical, and biological components. That wetlands are biologically complex is manifested by the rich diversity of plants and animals which inhabit them. See *generally* note 4, *supra*. That wetlands are complex chemically and physically is manifested by the wide variety of functions they are thought to serve. See *generally* note 4, *supra*. It is an often cited maxim in theoretical ecology that complexity increases stability, or the ability of the biological system to return to its steady state after disturbance. See, e.g., W.T. Keeton, *Biological Science* 670-671 (2d ed. 1972). For wetlands the possibility of self-restoration is more than a theoretical one, provided the chemical, physical or biological disturbances have not been too severe. In some cases wetlands will restore themselves over time through natural succession if the source of disturbance is eliminated. See, e.g., *Hoyt Hayes v. Corps of Engineers*, Civ. Act. No. 79-2828B (W.D. Tenn. Aug. 24, 1982). In other cases, re-seeding or other affirmative actions are necessary to hasten or improve the likelihood of success. See, e.g., *National Audubon Society v. Hartz Mountain Dev. Corp.*, No. 83-1534D (D.N.J. October 24, 1983). Presently, there is a great need for replicable studies on the degree to which severely disturbed wetlands are restorable. See, e.g., *United States v. Eastgate Miramar Associates*, No. 80-0756-E(M) (S.D. Cal. 1980). See also *United States v. Sexton Cove Estates, Inc.*, 526 F.2d 1293, 1301 (5th Cir. 1981); *United States v. Weisman*, 489 F. Supp. 1331 (5th Cir. 1981).



on a contemporaneous degraded condition do not reflect true wetlands values or functions.

The Guidelines, however, are replete with opportunities for the permitting authority to distinguish between degraded and pristine wetlands. As discussed below, the concept of "significant degradation" may even require such a distinction.<sup>35</sup> Because issuance of a permit may ultimately be determined by this distinction, the consequences of this dichotomy for wetlands protection under the Clean Water Act may be enormous.

### III. The Decision Criteria

#### A. *The Presumption of Practicable Alternatives*

The first restriction on discharges set forth in the Guidelines is that discharges shall not be permitted if there exists a practicable alternative that would have a "less adverse impact" on the aquatic ecosystem and that does not have other adverse environmental consequences.<sup>36</sup> The Preamble to the final Guidelines explains the concept of practicable alternatives.

[It] emphasize[s] that the only alternatives which must be considered are *practicable* alternatives. What is practicable depends on cost, technical and logistical factors...[The Agency's] intent is to consider those alternatives which are reasonable in terms of the overall scope/cost of the proposed project. (Emphasis in original.)<sup>37</sup>

The Preamble also considered it implicit that, "to be practicable, an alternative must be capable of achieving the basic purpose of the proposed activity."<sup>38</sup>

For wetlands and other "special aquatic sites,"<sup>39</sup>

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35. See *infra* notes 52 and 53.

36. 40 C.F.R. § 230.10(a) (1983).

37. 45 Fed. Reg. 85,339 (1980).

38. *Id.*

39. 40 C.F.R. §§ 230.3(q)-(1) (1983).

however, the Guidelines provide a rebuttable presumption that practicable alternatives do exist, if the proposed discharge is for a non-water-dependent activity. To rebut the presumption, an applicant must "clearly demonstrate" that practicable alternatives do not exist.<sup>40</sup>

In setting up this scheme, EPA concluded that the rebuttable presumption would give special protection to wetlands.<sup>41</sup> Placing the burden of a clear demonstration on applicants is a measure of protection. Precatory language which emphasizes the high value placed on wetlands lends credibility to the presumption.<sup>42</sup> However, EPA expressly acknowledged the variability among aquatic sites and types of discharge activities. Recognizing these distinctions, EPA concluded that the rebuttable presumption would avoid the "unreasonable hardships" on applicants that an irrebuttable presumption would have posed.<sup>43</sup>

Because the Guidelines are to be applied taking into account the characteristics of the candidate disposal site, it is arguable that the permitting authority may consider the present condition of a proposed discharge site in determining whether the presumption of alternatives has been rebutted. The result of such consideration may be that the threshold for clearly demonstrating lack of alternatives may be lower where the wetlands proposed for alteration are already degraded. In effect, the presumption may be less of a presumption because it is more easily rebutted.

The first judicial review of the Army Corps of Engineers' (the Corps') application of the Guidelines' criteria occurred in *National Audubon Society v. Hartz Mountain Development Corp.*<sup>44</sup> Citizens' groups challenged the

40. 40 C.F.R. § 230.10(a)(3) (1983); *See also*, 40 C.F.R. §§ 230.40-.45 (1983).

41. 45 Fed. Reg. 85,338-85,339 (1980).

42. 40 C.F.R. § 230.1(d) (1983).

43. *See supra* note 41.

44. *National Audubon Society v. Hartz Mountain Dev. Corp.*, No. 83-1534D (D.N.J. Oct. 24, 1983). [hereinafter cited as Transcript] This unreported decision was a case of first impression. The court reviewed the Corps' issuance of a section 404 permit with analysis of the substantive provisions of the EPA Guidelines as

efficacy of a large development project in the New Jersey Hackensack meadowlands. The meadowlands are tidal wetlands that are waters of the United States under the Clean Water Act.<sup>45</sup> Among other things, the plaintiffs asserted that Hartz Mountain had failed to clearly demonstrate a lack of practicable alternatives to its development project in the meadowlands.<sup>46</sup> The parties agreed that the project was not water-dependent,<sup>47</sup> and that the rebuttable presumption applied to the proposal.<sup>48</sup>

The court concluded that Hartz Mountain had clearly demonstrated a lack of practicable alternatives.<sup>49</sup> The court emphasized Hartz Mountain's need for a unified parcel of land in proximity to Manhattan, large enough to accommodate its proposed multi-use project at a single "core" location.<sup>50</sup> This emphasis reflects the Guidelines' concern that they be flexible enough to accommodate different types of discharge activities. Although the court did not discuss the quality of the wetlands in its analysis of practicable alternatives, it did elaborate on the stressed, polluted, degraded quality of the Hartz wetlands in its statement of facts and its analyses of significant degradation and mitigation.<sup>51</sup>

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applied by the Corps. The court found that issuance of the permit was reasonable. The case provides guidance to the regulators and the regulated community regarding the necessary elements for compliance with the Guidelines. For a view of the impact of this decision on the regulated community, see R.S. Compton and D. Hackett, *District Court Upholds Corps' Interpretation of EPA's Dredge and Fill Guidelines*, *Env. Forum* at 24, (Feb., 1984). The author was on brief for Hartz Mountain Development Corp. together with Ms. Compton and New Jersey counsel.

45. *See supra* note 1.

46. Plaintiff's Memorandum of Points and Authorities in Support of Plaintiff's Motion for Preliminary Injunction at 2, *National Audubon Society v. Hartz Mountain Dev. Corp.*, No. 83-1534D (D.N.J. Oct. 24, 1983); *see also* Plaintiff's Exhibit G at 2.

47. 40 C.F.R. § 230.10(a)(3) (1983).

48. Transcript *supra* note 44, at 49, 52, 53, 55, 56, 57, 85, 86.

49. *Id.* at 91.

50. *Id.* at 88, 89.

51. *Id.* at 53, 81, 82, 84.

Unstated in the court's analysis of alternatives, but consistent with its reasoning, is the premise that if the wetlands had been pristine and pleasing, the threshold for rebutting the presumption could have been much higher. Such a premise would not be inconsistent with the Guidelines or their Preamble, which require consideration of site characteristics in the application of each Guideline restriction.

#### B. *Prevention of Significant Degradation*

The restriction set forth at 40 C.F.R. § 230.10(c) provides that a discharge permit may not be issued if the proposed activity would, individually or collectively, cause or contribute to significant degradation of the nation's waters.<sup>52</sup> The Preamble to the final Guidelines provides some insight into what is meant by "significant":

Section 230.10(c) provides that discharges are not permitted if they will have significantly adverse effects on various aquatic resources. In this context, "significant" and "significantly" mean more than "trivial," that is, significant in a conceptual rather than a statistical sense. Not all effects which are statistically significant in the laboratory are significantly adverse in the field.<sup>53</sup>

The Guidelines do not define the term "degradation," but plain English and the Guidelines are consistent with a usage that signifies some *change* having adverse effects or resulting in lower quality or value.<sup>54</sup> The Guidelines do provide that "[f]indings of significant degradation shall be based upon appropriate factual determinations, evaluations, and tests."<sup>55</sup> Other than the testing provision for quality of materials to be discharged set forth in subpart

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52. 40 C.F.R. § 230.10(c) (1983).

53. 45 Fed. Reg. 85,343-85,344 (1980).

54. See, e.g., Webster's Seventh New Collegiate Dictionary (1972).

55. 40 C.F.R. § 230.10(c) (1983).

G,<sup>56</sup> the Guidelines do not specify particular methodologies to be used in determinations or evaluations of significant degradation. Instead, compliance with the restriction may be determined by procedures "appropriate" to the circumstances of the proposal.<sup>57</sup>

Not surprisingly, evaluating significant degradation in practice involves the simple comparison of "before" and "after." For example, in evaluating significance of degradation in the proposed project challenged in *Hartz Mountain*, the Corps derived a numerical score for the present wetland values on the site and another for the wetland values predicted for the site after completion of the entire project.<sup>58</sup> The Corps compared the two scores, concluded that the decrease in value was not too substantial, and determined that the "degradation" was not "significant."<sup>59</sup>

Central to this type of assessment is the derivation of a meaningful score for present wetland values.<sup>60</sup> If the wetland is clean and well functioning, it will have a high score. If it is degraded or stressed, its pre-project value will necessarily be lower. Using this regimen, the score for a very degraded wetland could be so low that complete and irrevocable destruction could be proposed without a finding of significant degradation.

If degradation of wetlands was always irrevocable, that would be an appropriate result. Wetlands, however, are complex biological systems with numerous ecological feedback mechanisms that permit recovery, even after severe disturbance.<sup>61</sup> Therefore, this decisionmaking process, which fails to account for the end result of natural

56. 40 C.F.R. §§ 230.60-.61 (1983); 45 Fed. Reg. 85,360 (1980).

57. *Id.*

58. Transcript *supra* note 44, at 58, 59, 61-67.

59. *Id.* at 66-67.

60. For example, in *Hartz Mountain*, the Corps applied with modifications the methodology set forth in Reppert, *Wetlands Values, Concepts and Methods for Wetlands Evaluation* (1979). Transcript *supra* note 44, at 58.

61. See *supra* note 32.

restoration, is inconsistent with the Act's goal of restoring the nation's waters.<sup>62</sup>

In *Hartz Mountain*, for example, the wetlands at issue were the severely degraded Hackensack meadowlands in northern New Jersey.<sup>63</sup> The Corps' evaluation of the pre-project values was based on a consensus reached by a team of experts.<sup>64</sup> Each expert evaluated the wetlands' present functional abilities in terms of eleven factors, including wildlife habitat, pollution control, sediment trapping, and aesthetics.<sup>65</sup> Because the record showed that the wetlands were highly stressed, many of the "present" values selected were low.<sup>66</sup> Therefore, the Corps could assign a lower overall wetland value for the post-project wetlands without a finding of "significant degradation." Indeed, the court expressly cited the degraded condition of the wetlands when it ruled that the Corps' finding of non-significance was reasonable:

The environmental assessment finds that the project site is in an environmentally degrading, economically depressed area. The Cromakill Creek Basin is bordered by a light industrial zone, the eastern extension of the New Jersey Turnpike, Route 3, and West Side Avenue. The wetlands on the project site are dominate (sic) by dense stands of common reed; representing 94 percent of the vegetation on the site. Other types of wetlands vegetation is present in very limited quantities. Water quality is poor, sources of water pollution are numerous. Aquatic resources in the project site are limited.<sup>67</sup>

The record in *Hartz Mountain*, however, also contained evidence that the degraded wetlands were, in fact, experiencing improvements. Earlier unregulated discharges of sewage and other pollutants into the river and

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62. See *supra* note 8.

63. See *supra* note 51.

64. Transcript *supra* note 44, at 58.

65. Id. at 84.

66. See Id. at 58-67 for discussion of the Corps' "present" value methodology.

67. Id. at 84.

the wetlands were diminishing.<sup>68</sup> Based on the record, there was no reason to believe that those wetlands would not continue to improve, albeit slowly, over time.<sup>69</sup> The Corps' decisional process, under the Guidelines' notion of significant degradation as applied by the Corps, was unable to account for this potential for self-improvement.<sup>70</sup> Its essentially static rubric could not incorporate the dynamic concepts of natural change or succession and, therefore, robbed a fair measure of reality from the permit evaluation. For this reason, the Corps' evaluation also failed to fully comport with the Act's objective of restoring wetlands, itself a dynamic concept.

Under the Guidelines, the permitting authority's consideration of significant degradation extends not only to the individual effects of the proposed activity, but also to the cumulative effects other "known and/or probable" activities will have on the aquatic ecosystem.<sup>71</sup> Section 230.11(g) of the Guidelines defines those effects as follows: "Cumulative impacts are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill materials."<sup>72</sup>

In evaluating the significance of cumulative impacts, the permitting authority must assess "the probable impacts of other activities [on] the ecosystems of concern."<sup>73</sup> This evaluation also involves a comparison of "before" and "after" and is therefore hampered by the same problems which affected the assessment of individual effects.

### C. *Mitigation of Potential Adverse Impacts*

The restriction set forth by the Guidelines at 40 C.F.R. § 230.10(d) provides that a permit may not be issued unless

68. See, e.g., Plaintiff's Exhibits A at 1, E at 2, K at 19-20.

69. See *supra* note 34.

70. See *supra* note 66.

71. 40 C.F.R. §§ 230.1, 230.11(a),(b),(c),(e),(g) (1983).

72. 40 C.F.R. § 230.11(g) (1983).

73. 40 C.F.R. § 230.1(c) (1983).

"appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge of the aquatic ecosystem."<sup>74</sup> Again, the Guidelines' Preamble provides insight into the intended interpretation of the restriction:

Section 230.(d) uses the term "minimize" to indicate that all reasonable reduction in impact be obtained. As indicated by the "appropriate and practicable" provision, steps which would be unreasonably costly or would be infeasible or which would accomplish only inconsequential reductions in impact need not be taken.<sup>75</sup>

The Guidelines do not specify methodologies for quantifying levels of minimization, nor do they mandate any formula for measuring adequacy of reduction in impact. They do, however, indicate that all such reasonable steps must be taken.<sup>76</sup>

As with the other restrictions on discharges, the mitigation requirement is applied with due consideration of

74. 40 C.F.R. § 230.10(d) (1983). Subpart H, 40 C.F.R. §§ 230.70-.77 (1983), lists some of the actions which may be undertaken to minimize the adverse effects of discharges of dredged or fill material. These sections involve the location of the discharge, controlling the material after discharge, the method of dispersion, the choice of technology, the effect on plant and animal populations, and the effects on human use. For example, §§ 230.70(a)-(c) provides:

The effects of the discharge can be minimized by the choice of the disposal site. Some of the ways to accomplish this are by: (a) Locating and confining the discharge to minimize smothering of organisms; (b) Designing the discharge to avoid a disruption of periodic water inundation patterns; (c) Selecting a disposal site that has been used previously for dredged material discharge;...

and §§ 230.75(a)-(c) provides:

Minimization of adverse effects on populations of plants and animals can be achieved by: (a) Avoiding changes in water current and circulation patterns which would interfere with the movement of animals; (b) Selecting sites or managing discharges to prevent or avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge ecologically over indigenous plants or animals; (c) Avoiding sites having unique habitat or other value, including habitat of threatened or endangered species.

75. 45 Fed. Reg. 85,344 (1980).

76. *Id.*



the present condition of the candidate discharge site. In practice, the quality of the existing wetland is important in assessing the adequacy of proposed mitigation measures. In addition to traditional mitigation measures like preventing erosion and using tracks and skids, "mitigation" as currently applied now encompasses the affirmative enhancement of degraded wetlands. This can include such methods as seeding, re-grading, and artificial irrigation techniques. The theory is that, by improving a spoiled wetland and enhancing its functional value, the applicant offsets and thereby mitigates the irrevocable loss of other wetlands in the project.<sup>77</sup> "Mitigation" areas can be on the project site or elsewhere.

In *Hartz Mountain*, for example, the applicant proposed to set aside and enhance certain wetland acres at the project site to compensate for the loss of other wetland acres through filling operations.<sup>78</sup> On this basis, the court found reasonable the Corps' conclusion that mitigation was adequate. Stressing the already degraded quality of the wetlands, the court noted:

The Corps found on the basis of a substantial record that the mitigation plan would substantially compensate for the loss of acreage through the fill operations. At present, the entire wetlands portion of the tract is highly polluted. It supports little in the way of plant, fish, or wildlife. Dense and unproductive reedgrass grows throughout. Although 127 acres of this low quality wetlands will be filled, the mitigation plan calls for major efforts to preserve 151 acres of wetlands and convert them into freshwater and brackish marsh providing a varied and productive plant, fish, and bird habitat.... On the basis of this record it cannot be said that the Corps' conclusion that the mitigation plan substantially compensates for expected lost wetland

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77. See generally Guidelines for Specification of Disposal Sites for Dredged or Fill Material, 45 Fed. Reg. 85,344 (1980) (codified at 40 C.F.R. pt. 230).

78. Transcript *supra* note 44, at 57-60.

value is unreasonable, notwithstanding the fact that certain but not all, other government agencies strongly disagree with this conclusion.<sup>79</sup>

Based on this reasoning, it is clear that adequacy of "mitigation" under the Guidelines is inversely proportional to quality of wetlands. If the Guidelines were structured as a fee schedule for permission to pollute, this would be sensible. One pays a lower price for damaged merchandise. The Guidelines, however, are expressly designed to achieve the Act's objectives.<sup>80</sup> Restoring damaged wetlands is more difficult than maintaining healthy ones. Perhaps the Guidelines should require extra mitigative measures where damaged wetlands are proposed for alteration.

#### D. *Conformance With Other Statutory Requirements*

The final Guideline restriction on discharge is designed to insure that discharges under section 404 do not interfere with the operation of certain other federal or state statutes, notably those involving sanctuaries, endangered species, coastal zones, and discharges of toxics.<sup>81</sup>

79. *Id.* at 81-82. EPA, U.S. Fish and Wildlife Service, and the U.S. National Marine Fisheries Service disagreed. Hackensack Meadowland Development Commission and New Jersey Department of Environmental Protection agreed.

80. 40 C.F.R. § 230.1 (1983) provides as follows:

- (a) The purpose of these Guidelines is to restore and maintain the chemical, physical, and biological integrity of waters of the United States through the control of discharges of dredge or fill material.
- (b) Congress has expressed a number of policies in the Clean Water Act. These Guidelines are intended to be consistent with and to implement those policies.
- (c) Fundamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern.
- (d) From a national perspective, the degradation or destruction of special aquatic sites, such as filling operations in wetlands, is considered to be among the most severe environmental impacts covered by these Guidelines. The guiding principle should be that degradation or destruction of special sites may represent an irreversible loss of valuable aquatic resources.

81. The statutory violation provision specifies at 40 C.F.R. §§230.10(b) (1)-(4) (1983):

- (b) No discharge of dredged or fill material shall be permitted if it: (1) Causes or

## IV. Conclusion

The four Guidelines restrictions provide the substantive criteria for permit issuance under section 404. By design, "a certain amount of flexibility is... intended.... [T]he Guidelines allow some room for judgment in determining what must be done to arrive at a conclusion that those conditions have or have not been met."<sup>82</sup> Although flexibility may ultimately be desirable, the Guidelines, as written and as applied, fall short of providing a regulatory device capable of achieving the Act's objectives. Although the mitigation provision has demonstrably encouraged restoration of some wetlands, the Guidelines' inherent distinction between degraded and pristine wetlands poses a significant obstacle to restoration. This inherent distinction invites the regulator to more readily permit discharges into degraded wetlands by emphasizing their present values and ignoring their potential ones. Unless the Guidelines eliminate this dichotomy by express directive, they will be unable to provide a workable basis for restoring the biological, chemical, and physical integrity of the nation's wetlands.

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contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard; (2) Violates any applicable toxic effluent standard or prohibition under section 307 of the Act; (3) Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be critical habitat under the Endangered Species Act of 1973, as amended. If an exemption has been granted by the Endangered Species Committee, the terms of such exemption shall apply in lieu of this subparagraph; (4) Violates any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972.

82. 45 Fed. Reg. 85,336 (1980).