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## The Improvement of Water and Water-Dependent Resources under the Great Lakes Charter Annex

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## THE IMPROVEMENT OF WATER AND WATER-DEPENDENT RESOURCES UNDER THE GREAT LAKES CHARTER ANNEX

*Sandra Zellmer, David Gecas and Kori Anne Mann*<sup>1</sup>

### I. INTRODUCTION

In 1985, the eight Great Lakes Governors and the Premiers of Ontario and Quebec signed the Great Lakes Charter, a non-binding agreement for managing Great Lakes water resources.<sup>2</sup> The overarching objectives of the Charter are “to protect and conserve the [water] levels and flows . . . [and] the environmental balance of the Great Lakes Basin Ecosystem” while also “provid[ing] a secure foundation for future investment and development within the region” through cooperative management.<sup>3</sup>

Principle IV of the Charter declared the signatories’ intent with respect to diversions of water from the Basin:

No Great Lakes State or Province will approve or permit any major new or increased diversion or consumptive use of Great Lakes water without the consent and concurrence of all affected Great Lakes States and Provinces.<sup>4</sup>

For the most part, the Charter, along with the federal Water Resources Development Act of 1986<sup>5</sup> and the Boundary Waters Treaty of 1909,<sup>6</sup> have been sufficient to serve the needs of this temperate region, where water shortages and disputes over water management are relatively rare. In 1998, however, the Nova Group of Sault Ste. Marie, Ontario proposed to export approximately 159 million gallons of water annually from the Great Lakes to Asia.<sup>7</sup> The Nova proposal was

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<sup>2</sup>The Great Lakes Charter, Feb. 11, 1985 (visited Dec. 14, 2002) <<http://www.cglg.org/pub/charter/index.html>>.

<sup>3</sup>*Id.*

<sup>4</sup>*Id.* at Principle 4.

<sup>5</sup>Water Resources Development Act of 1986, 42 U.S.C. §1962d-20 (amended 2000).

<sup>6</sup>*See* Treaty Between the United States and Great Britain Relating to Boundary Waters Art. III, Jan. 11, 1909, 36 Stat. 2448 (generally requiring International Joint Commission approval of use, diversion, or obstruction of boundary waters if levels or flows on the other side of the boundary are affected).

<sup>7</sup>International Joint Comm’n, Protection of the Waters of the Great Lakes: Final Report to the Governments of Canada and the United States § 10 ¶ 13 (Feb. 22, 2000) (visited Nov. 8, 2002)

highly controversial, and it prompted a re-examination of Great Lakes water management policies.

Against this backdrop, the Governors and Premiers signed a supplementary agreement to the Charter on June 18, 2001.<sup>8</sup> This agreement, known as the Annex or Annex 2001, established principles for a new decision making framework for reviewing proposed withdrawals of Great Lakes water. Annex 2001 is the first step toward a set of binding water management agreements to be negotiated by June 2004.<sup>9</sup>

Directive 3 of the Annex provides that proposals to withdraw water will not be approved unless they will produce "an improvement to the waters and water dependent natural resources of the Great Lakes Basin."<sup>10</sup> The Annex uses the term "improvement" with reference to ecosystem integrity rather than economic or other societal values.<sup>11</sup> Related themes are found in a variety of international, federal and state laws, but few if any provisions require ecosystem improvement as an explicit end goal.

In a modest attempt to further define this standard, this paper will review existing statutes and regulations in search of analogous legal requirements. Our assessment is intended to provide some initial direction and guidance for the interested public and for decision-makers faced with the task of implementing the improvement standard. As the scope of our endeavor is limited to existing law, we must leave it for ecologists and experts from other disciplines to establish clear, quantifiable goals and measurements to ensure that the improvement standard is articulated and met.<sup>12</sup>

In order to limit our inquiry to laws that were most on point, and therefore most likely to provide meaningful guidance, we rejected several possible legal analogues when we began this assessment. First, sustainability and sustainable development is a common theme of a variety of international environmental agreements.<sup>13</sup> Federal forestry and public land management statutes also direct

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<<http://www.ijc.org/ijcweb-e.html>>; Gary Ballesteros, *Great Lakes Water Exports and Diversions: Annex 2001 and the Looming Environmental Battle*, 32 *Envtl. L. Rep.* 10611 (2002).

<sup>8</sup>See Council of Great Lakes Governors, *Great Lakes Water Management Governance* (visited Nov. 8, 2002) <<http://www.cglg.org/projects/water/>>.

<sup>9</sup>*Id.* Once completed, binding agreements would have to be approved by the appropriate State and Provincial legislatures before they become legally binding. In addition, Congress must approve binding compacts among the States. See U.S. Const. art. I, § 10; Suzanne Zazycki, *Compact = Contract*, *LakeLinks* (Newsletter of the Legal Institute of the Great Lakes) (Spring/Summer 2002).

<sup>10</sup>Great Lakes Charter Annex: A Supplementary Agreement to the Great Lakes Charter, Directive #3, June 18, 2001 (visited Dec. 13, 2002) <<http://www.cglg.org/projects/water/Annex2001.pdf>>.

<sup>11</sup>*Id.* at 3. See *infra* Section II.

<sup>12</sup>Further refinement of the improvement standard will require multi-disciplinary efforts, such as that being undertaken by the Great Lakes Commission in developing a Water Resources Management Decision Support System, which will include annual water use inventories and ecological evaluations of the Great Lakes system. See Water Resources Management Decision Support System (visited Jan. 31, 2003) <<http://www.glc.org/wateruse>>. See also Jeffrey E. Edstrom, et al., *An Approach for Identifying Improvements under the Great Lakes Charter Annex 2001*, 4 *J. Great Lakes' L. Sci. & Policy* 335 (2002).

<sup>13</sup>See Rio Declaration on Environment and Development, U.N. Doc. A/CONF/151/5/Rev. 1, 31

that natural resources be utilized in a sustainable fashion.<sup>14</sup> The concept turns on providing sustained yields of various resource outputs, however, and while it may promote conservation of resources, it does not require ecosystem improvement.

Similarly, provisions of certain federal pollution control statutes are somewhat analogous, but are not directly on point.<sup>15</sup> The Clean Air Act requires that new sources obtain offsets, or reductions in air pollutants, before commencing construction in areas that do not attain national ambient air quality standards.<sup>16</sup> The Comprehensive Environmental Recovery, Compensation and Liability Act (CERCLA or Superfund) requires restoration of natural resources, such as fisheries, damaged by the release of hazardous substances.<sup>17</sup> Yet neither of these regulatory programs includes ecosystem improvement as a requirement of permit or project approval or clean-up efforts.

We ultimately selected provisions of the Endangered Species Act (ESA) and the Clean Water Act (CWA) for detailed analysis, as they appeared to be the most analogous to "improvement" as the term is utilized in Annex 2001. Particular emphasis is given to the requirements associated with two permit programs: (1) "Incidental Take Permits" (ITPs) issued by the U.S. Fish and Wildlife Service (FWS) or the National Marine and Fisheries Service (NMFS) under ESA §10,<sup>18</sup> and (2) CWA § 404 permits, issued by the Army Corps of Engineers for the discharge of dredged or fill materials into navigable waters, including wetlands.<sup>19</sup>

ESA § 10 requires a habitat conservation plan before an entity may obtain an ITP for a project that might "take" a member of a protected species.<sup>20</sup> Conservation plans typically include long-term ecosystem protection and restoration measures.<sup>21</sup> Such measures could be considered improvements over baseline conditions at the time of project implementation.

CWA § 404 requires avoidance or mitigation of losses to wetlands caused by dredging or filling in the course of development and other activities.<sup>22</sup> Wetlands

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I.L.M. 874 (1992), and Agenda 21, U.N. Doc. A/CONF.151.26 (1992) (calling for development that maximizes human potential while protecting the environment); Convention on Biological Diversity Art. 6(a), 31 I.L.M. 818 (1992) (entered into force Dec. 29, 1993) (committing members to "develop national strategies for conservation and sustainable use of biodiversity").

<sup>14</sup>See National Forest Management Act, 16 U.S.C. §§ 1601(d), 1604(g) (1999); Federal Land Policy and Management Act, 43 U.S.C. §§ 1712(c)(1), 1732(a) (1995).

<sup>15</sup>See *Resource Improvement Standard Briefing Paper to the Great Lakes Commission* (visited Oct. 11, 2002) <[http://www.glc.org/wateruse/pdf/Briefing\\_Paper\\_October.pdf](http://www.glc.org/wateruse/pdf/Briefing_Paper_October.pdf)> (providing case studies of various federal and state programs that utilize concepts similar to "improvement").

<sup>16</sup>42 U.S.C. § 7503(c) (1997).

<sup>17</sup>42 U.S.C. § 9607(f) (1997).

<sup>18</sup>16 U.S.C. § 1539(a)(2) (1999).

<sup>19</sup>33 U.S.C. § 1344(a) (2001).

<sup>20</sup>16 U.S.C. § 1539(a)(2) (1999).

<sup>21</sup>See U.S. Fish and Wildlife Service and National Marine Fisheries Service, *Endangered Species Habitat Conservation Planning Handbook* 1-15, 3-20 (1996).

<sup>22</sup>33 U.S.C. § 1344(a). See 40 C.F.R. § 230.10 (2002).

restoration or "banking" may be required in order to obtain a § 404 permit. Requirements for on-site restoration, in particular, may be comparable to an improvement standard. Wetlands banking could also improve environmental conditions by requiring a net gain of quantity and overall quality of wetlands, and by creating and maintaining relatively large wetland parcels to replace smaller wetland areas lost to development.<sup>23</sup>

We begin in Section II by defining the word "improvement" as it is used in the Annex. This is followed by a discussion of the overarching goals of the ESA and its key provisions in Section III. We then draw analogies between the ITP mitigation requirements and the improvement standard by assessing agency interpretations and judicial challenges with respect to the ITP permitting process. Section IV compares the improvement standard to CWA §404. Both the ESA and CWA permitting programs contain language that is analogous to the improvement standard, especially when viewed in light of the overarching, proactive objectives of the two statutes. Implementation of ESA §10 and CWA § 404, however, does not always yield results that promote overall program goals. We therefore conclude in Section V with a discussion of the lessons learned from these programs, and some preliminary observations regarding the implementation of the improvement standard.

## II. THE IMPROVEMENT STANDARD OF THE GREAT LAKES CHARTER ANNEX

The Annex defines "improvement" as:

Additional beneficial, restorative effects to the physical, chemical and biological integrity of the Waters and Water-dependent natural resources of the basin, resulting from associated conservation measures which include, but are not limited to, . . . mitigating adverse effects of existing water withdrawals, restoring environmentally sensitive areas or implementing conservation measures in areas or facilities that are not part of the specific proposal undertaken by or on behalf of the withdrawer.<sup>24</sup>

The phrase "additional beneficial, restorative effects" presumably means that to qualify as an "improvement", the required conservation measures must provide ecosystem benefits beyond a one to one compensation for the effects of the proposed withdrawal. In other words, mitigation that simply preserves the status quo or causes "no net loss" as a direct effect of the proposed withdrawal will be insufficient.<sup>25</sup> There must be a net gain, measured from environmental conditions immediately preceding the withdrawal. This presumption about the

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<sup>23</sup>See Congressional Research Service, *Wetlands Mitigation Banking: Status and Prospects* (1997), 97-849 ENR (visited Nov. 8, 2002) <<http://cnie.org/NLE/CRSreports/Wetlands/wet-8.cfm>>.

<sup>24</sup>Great Lakes Charter Annex, *supra* note 10, at 3.

<sup>25</sup>"No net loss" is a goal of the CWA § 404 wetlands program, discussed below, *see infra* Part IV (analyzing 33 U.S.C. § 1344(b)(1) (2001)).

intended baseline from which to measure improvements seems justified because the drafters included a separate “no net loss”

provision, also in Directive 3, stipulating that there be “no significant adverse impacts to the quantity or quality of the waters and water-dependent natural resources. . . .”<sup>26</sup> This provision is immediately followed by the improvement requirement.<sup>27</sup>

### III. THE ENDANGERED SPECIES ACT (ESA)

President Richard Nixon signed the ESA into law in 1973.<sup>28</sup> The Supreme Court has described the ESA as “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.”<sup>29</sup> Prior federal efforts to protect imperiled species had not been successful in preventing species extinctions.<sup>30</sup> The ESA was Congress’s decisive solution.<sup>31</sup>

#### A. *The Overarching Goals of the ESA*

The plain intent of Congress in enacting the ESA “was to halt and *reverse* the trend toward species extinction, whatever the cost.”<sup>32</sup> This desire is reflected not only in the stated policies of the Act, but in nearly every section of the statute.<sup>33</sup> The Supreme Court has found that “the omission [from the ESA] of the type of qualifying language previously included in endangered species legislation reveals a conscious decision by Congress to give endangered species priority over the ‘primary missions’ of federal agencies.”<sup>34</sup> In other words, the ESA elevates the needs of listed species over nearly all other concerns. This ambitious overarching objective suggests a parallel between the ESA and the improvement standard, in that the maintenance of existing ecological conditions, without more, falls short of satisfying the objectives of either. A closer examination of the ESA, however, reveals that this analogy is not perfect, particularly when it comes to the issuance of Incidental Take Permits (ITPs).

#### B. *Key Provisions of the ESA*

Three sections of the ESA, operating as part of a single permitting process, appear at least somewhat analogous to the improvement standard. Section 9 of

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<sup>26</sup>Great Lakes Charter Annex, *supra* note 10, at 2 Directive #3.

<sup>27</sup>*Id.*

<sup>28</sup>Richard Nixon, Statement on Signing the Endangered Species Act of 1973, 1973 Pub. Papers 1027, 1027-28.

<sup>29</sup>Tennessee Valley Authority v. Hill, 437 U.S. 153, 180 (1978).

<sup>30</sup>Daniel J. Rohlf, *The Endangered Species Act: A Guide to its Protections and Implementation*, Stanford Environmental Law Society, 21-23 (Stanford 1989).

<sup>31</sup>Tony A. Sullins, *Endangered Species Act: Basic Practice Series 2* (2001).

<sup>32</sup>Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 515 U.S. 687, 699 (1995) (citing *TVA v. Hill*, 437 U.S. at 184) (emphasis added).

<sup>33</sup>*Id.*

<sup>34</sup>*TVA v. Hill*, 437 U.S. at 185.

the ESA prohibits the "taking" of listed species.<sup>35</sup> Section 10 provides an exception to this prohibition under which private individuals may obtain an ITP as long as they meet certain requirements.<sup>36</sup> Section 7 prohibits the government from issuing ITPs, or engaging in any other federal action, if such action is likely to jeopardize the continued survival of listed species in the wild.<sup>37</sup> This part examines each of these provisions separately.

At least one additional ESA provision is arguably comparable to an improvement standard, but we ultimately determined that it did not warrant in-depth treatment. Section 4 requires recovery plans for listed species, unless the Secretary finds that such plans "will not promote the conservation of the species."<sup>38</sup> Both the adoption and contents of recovery plans are highly discretionary.<sup>39</sup> Although the ESA directs the agency to "consider the distinct needs of separate ecosystems" occupied by the species, most courts view recovery plans as guidance documents only, undermining the likelihood of actual ecosystem improvement.<sup>40</sup>

#### 1. The "Take" Prohibition of Section 9

Section 9 of the ESA prohibits the "take" of fish and wildlife species listed as "endangered" under the ESA.<sup>41</sup> Federal regulation extends this prohibition to most species listed as threatened but not endangered.<sup>42</sup> "Take", as defined by the ESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."<sup>43</sup> Among these terms, the word "harm" has been given the broadest interpretation and is defined by the FWS to include habitat modifications that "significantly [impair] essential behavior patterns, including breeding, feeding, or sheltering."<sup>44</sup>

Regulated parties have argued that the Secretary should limit the purview of "harm" to direct applications of force against protected species, and not to

<sup>35</sup> 16 U.S.C. § 1538 (a)(1)(B) (1999).

<sup>36</sup> 16 U.S.C. § 1539(a)(1)(B) (1999).

<sup>37</sup> 16 U.S.C. § 1536(a)(2) (1999).

<sup>38</sup> 16 U.S.C. § 1533(f) (1999). A separate provision of § 4 requires the designation of critical habitat for listed species, but its efficacy is limited by an exception from designation when economic or other harms outweigh the benefits of designation. *See* 16 U.S.C. § 1533(a)(3)(A) (1999). The FWS believes that "critical habitat designation provides little or no conservation benefit despite the great cost to put it in place." Final Determination of Critical Habitat for the Southwestern Willow Flycatcher, 62 Fed. Reg. 39129, 39131 (1997).

<sup>39</sup> *See Strahan v. Linnon*, 967 F.Supp. 581 (D. Mass. 1997), *aff'd*, 187 F.3d 623 (1st Cir. 1998); *Morrill v. Lujan*, 802 F.Supp. 424 (S.D. Ala. 1992).

<sup>40</sup> *See, e.g., Strahan*, 967 F.Supp. at 598; *Fund for Animals, Inc. v. Rice*, 85 F.3d 535, 547 (11th Cir. 1996). As of 2002, slightly more than half of all listed species had recovery plans, and only a handful of species have been removed from the list because of recovery. *See* FWS, Threatened and Endangered Species System (visited Jan. 30, 2003) <<http://ecos.fws.gov/servlet/TESSWebpageDelisted?listings=0>>.

<sup>41</sup> 16 U.S.C. § 1538 (a)(1)(B).

<sup>42</sup> 50 C.F.R. § 17.31(a) (1998).

<sup>43</sup> 16 U.S.C. § 1532 (19) (1999).

<sup>44</sup> 50 C.F.R. § 17.3 (1994).

activities which adversely affect the species' habitat.<sup>45</sup> The Supreme Court, however, disagreed: "the dictionary definition [of harm] does not include the word 'directly' or suggest in any way that only direct or willful action that leads to injury constitutes 'harm.'"<sup>46</sup> It also found that "the broad purpose of the ESA support[ed] the Secretary's decision to extend protection against activities that cause the precise harms Congress enacted the statute to avoid," specifically, harms that reduce the likelihood of a listed species surviving in the wild.<sup>47</sup> Habitat modifications that cause injury to listed species are therefore prohibited by § 9.

## 2. Section 10(a): HCPs and ITPs

In 1982 Congress amended the ESA and added section 10.<sup>48</sup> One of the purposes of the amendment was to alleviate the potentially draconian effect of §9 on habitat alteration and development. Section 10(a) gives the Secretary of the Interior authority to issue "Incidental Take Permits" (ITPs).<sup>49</sup> ITPs are an exception to the § 9 takings prohibition. Once a landowner has determined that a take of a listed species is likely to occur during her proposed activity, she may apply for an ITP. To obtain a permit, the applicant must develop and submit a Habitat Conservation Plan (HCP), which specifies: (1) the likely impact from the taking; 2) the steps the applicant will take to minimize and mitigate the impacts to the species; 3) alternative actions considered and the reasons for not choosing them; and 4) any other measures the Secretary may require as necessary or appropriate.<sup>50</sup>

After submission of a completed application, and after opportunity for public comment, an ITP will be issued if the Secretary finds that: (1) the taking will be incidental (i.e., not the purpose of the proposed activity); 2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; 3) the applicant will ensure that adequate funding for the plan will be provided; 4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (5) other required measures will be met.<sup>51</sup>

## 3. Section 7(a)(2): Consultation and the "God Squad"

ESA Section 7(a)(2) requires that federal agencies:

In consultation with and with the assistance of [NMFS or FWS],  
assure that any action *authorized*, funded, or carried out by such

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<sup>45</sup>See *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 697 (1995).

<sup>46</sup>*Id.*

<sup>47</sup>*Id.* at 698.

<sup>48</sup>16 U.S.C. § 1539 (1999).

<sup>49</sup>16 U.S.C. § 1539(a)(1) (1999).

<sup>50</sup>16 U.S.C. § 1539(a)(2)(A) (1999).

<sup>51</sup>16 U.S.C. § 1539(a)(2)(B) (1999).



agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species . . .<sup>52</sup>

Issuance of an ITP under §10 is subject to this consultation requirement because it is considered an "action authorized" by a federal agency. The word "action" includes "actions intended to conserve listed species . . . [as well as] the granting of licenses, contracts, [and] leases."<sup>53</sup> The term "Federal agency" means "any department, agency, or instrumentality of the United States."<sup>54</sup> This definition encompasses both FWS and NMFS. To "jeopardize" a species is "to engage in an action which reasonably would be expected . . . to reduce appreciably the likelihood of both the survival and recovery of the species in the wild . . ."<sup>55</sup>

In the case of ITPs, the FWS is the federal agency, and authorization of the permit is the agency action. Therefore, the FWS must consult with itself before issuing an ITP to a developer to ensure compliance with the § 7 consultation requirement. This involves a three step process: (1) the agency must determine whether listed species reside in the affected area; 2) if there are listed species in the affected area, the agency must prepare a biological assessment to determine whether the species is likely to be affected by the development; and 3) if so, the agency must prepare a Biological Opinion (BO) stating whether or not the proposed action will jeopardize the listed species. If the proposed development action is expected to jeopardize the listed species, the action may not proceed absent an exemption granted by the Endangered Species Committee (ESC).<sup>56</sup>

The ESC is a panel composed of the Secretaries of Agriculture, the Army, and the Interior, as well as the EPA Administrator, the Chairman of the Council of Economic Advisors, the Administrator of the National Oceanic and Atmospheric Administration, and one individual from each affected state.<sup>57</sup> This panel is referred to as the "God Squad" because of its power to authorize actions likely to jeopardize listed species, and perhaps even to result in extinction. Exemptions from the §7 no-jeopardy requirement are very rare.<sup>58</sup>

Parts of sections 7 and 10 may appear duplicative. For example, § 10's requirement that issuance of the ITP not "appreciably reduce the likelihood of the survival and recovery of the species in the wild" is almost a restatement of the definition of jeopardy: "to engage in an action which reasonably would be expected . . . to reduce appreciably the likelihood of both the survival and recovery of the species in the wild . . ."<sup>59</sup> The agencies have stated that

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<sup>52</sup> 16 U.S.C. §1536(a)(2) (1999) (emphasis added).

<sup>53</sup> 50 C.F.R. § 402.02 (1999).

<sup>54</sup> 16 U.S.C. §1532(7) (1999).

<sup>55</sup> 50 C.F.R. § 402.02 (2001).

<sup>56</sup> 16 U.S.C. § 1536(a)(2) (1994).

<sup>57</sup> 16 U.S.C. §1536(e)(3) (1999).

<sup>58</sup> See Sullins, *supra* note 31, at 104.

<sup>59</sup> 50 C.F.R. § 402.02. See U.S. Fish and Wildlife Service and National Marine Fisheries Service, Endangered Species Habitat Conservation Planning Handbook, 3-20 (1996).

compliance of an HCP with §10 and §7 “should be regarded as a concurrent and integrated process . . . not independent and sequential.”<sup>60</sup>

*C. The Improvement Standard as Analogous to the ITP Requirements*

As noted above, §10 requires applicants to submit an HCP that meets certain criteria to receive an ITP. These criteria are similar to an improvement standard. Although the improvement standard in the Annex explicitly contains the word improvement and the HCP criteria do not, for the most part, the two are analogous on paper. When it comes to implementation, however, the HCP criteria fall short of an improvement, primarily because agency interpretations of §10 encourage, but do not require, improvements, and because improvements that are required in HCPs do not always materialize as planned.

1. The Impact of the ITP: Survival versus Recovery

Section 10 conditions the issuance of ITPs on, among other things, approval of a HCP that will “minimize and mitigate” the impacts of the proposed action to the “maximum extent practicable.”<sup>61</sup> This requirement is at least somewhat analogous to the Annex’s improvement standard, which conditions water withdrawals from the Great Lakes on “an improvement to the waters and the water dependent resources of the Great Lakes Basin.”<sup>62</sup> In comparison to the improvement standard, the § 10 requirement is less clearly a mandate to produce a net environmental gain. ITPs were designed by Congress to authorize incidental take and allow development to go forward, not to be mandatory recovery tools.<sup>63</sup> This does not mean, however, that recovery of listed species is not a consideration in HCP design. To the contrary, recovery is an important consideration because “a poorly designed HCP could readily trigger the ‘appreciably reduce’ or ‘jeopardize’ standards . . . thus contribution to recovery is . . . an integral product of an HCP.”<sup>64</sup> Along these lines, even though FWS and NMFS may not mandate that HCPs contribute to the recovery of listed species, their HCP Handbook does direct that applicants for ITPs be “encouraged to develop HCPs that produce a net positive effect on a species.”<sup>65</sup> This is

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<sup>60</sup>*Id.* at 1-17. The relationship between sections 7 and 10 is explored in *Environmental Protection Information Center, Inc. v. Pacific Lumber Co.*, 67 F.Supp.2d 1113 (N.D. Cal. May 05, 1999), *vacated in part on other grounds*, *Environmental Protection Information Center, Inc. v. Pacific Lumber Co.*, 257 F.3d 1071 (9<sup>th</sup> Cir. 2001). *See id.* at 1121 (citing Notice of Availability of Final Handbook for Habitat Conservation Planning, 61 Fed.Reg. 63854, 63856 (1996), which explains that “section 7 and its regulations introduce several considerations into the HCP process that are not explicitly required by section 10—specifically, indirect effects, effects on federally listed plants, and effects on critical habitats”).

<sup>61</sup>16 U.S.C. § 1539 (a)(2)(B)(ii) (1999).

<sup>62</sup>Great Lakes Charter Annex, *supra* note 10, at 3.

<sup>63</sup>*See* U.S. Fish and Wildlife Service and National Marine Fisheries Service, *Endangered Species Habitat Conservation Planning Handbook* 3-20 (1996).

<sup>64</sup>*Id.*

<sup>65</sup>*Id.* at 1-15. *See also* Notice of Availability of a Final Addendum to the Handbook for Habitat Conservation Planning and Incidental Take Permitting Process, 65 Fed. Reg. 35242 (June 1, 2000).

consistent with the overarching objective of the ESA to "halt and reverse the trend toward species extinction."<sup>66</sup>

Unfortunately, the goals of the ESA are not always met. The FWS has been criticized for holding HCPs to a minimal "prevention of extinction" standard, instead of an "enhancement" standard.<sup>67</sup> Critics maintain that the FWS demands "precious little" by way of mitigation measures when it approves ITPs, and that what is "practicable" drives the choice of mitigation measures without regard for whether the mitigation will fully offset the harm allowed by the ITP.<sup>68</sup> Thus, while FWS expressly encourages applicants to develop HCPs that will produce a net positive effect on listed species, approved HCPs do not always produce such an effect.

## 2. Mitigation

Section 10's requirement that an HCP mitigate adverse affects to the "maximum extent practicable" indicates that an applicant must prevent and minimize harm to a species and its habitat to a high degree, but need only take those steps that are economically and technologically feasible. When asked, for example, whether its mitigation policy could "call for a recommendation as extreme as reflooding the Mississippi Valley," the FWS responded:

The mitigation policy would not lead to so extreme a recommendation because it does not apply to development actions completed prior to enactment of service authorities . . . *in those cases where the policy does apply, there will be no recommendations for mitigation over and above the level of impacts associated with a project.* This policy acts to minimize impacts of projects not reverse them.<sup>69</sup>

In other words, rather than an improvement standard, it appears that FWS

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<sup>66</sup>*Sweet Home*, 515 U.S. at 699 (citing *TVA v. Hill*, 437 U.S. at 184).

<sup>67</sup>Melinda E. Taylor, *Promoting Recovery or Hedging a Bet Against Extinction: Austin Texas' Risky Approach To Ensuring Endangered Species Survival in the Texas Hill Country*, 24 *Envtl. L.* 581 (1994).

<sup>68</sup>David S. Wilcove et. al., *Rebuilding the Ark: Toward a More Effective Endangered Species Act for Private Land* 11 (Environmental Defense Fund 1996) (visited Jan. 30, 2003) <[http://www.environmentaldefense.org/documents/483\\_Rebuilding%20the%20Ark%2Ehtm](http://www.environmentaldefense.org/documents/483_Rebuilding%20the%20Ark%2Ehtm)>.

Along the same lines, the FWS has been criticized for allowing the developer to proceed in the face of uncertainty, and for including a "no surprises" or "safe harbor" provision in HCP's, thereby providing developers with protection from more onerous provisions in the future. See 50 C.F.R. § 17.22(b)(5) (2000); Notice of Availability of a Final Addendum to the Handbook for Habitat Conservation Planning and Incidental Take Permitting Process, 65 *Fed. Reg.* 35242 (June 1, 2000). Professor Doremus explains that the "no surprises" policy undermines the FWS's ability to change or increase an HCP's protective measures in the event that "initial guesses . . . prove too optimistic." Holly Doremus, *Adaptive Management, the Endangered Species Act, and the Institutional Challenges of "New Age" Environmental Protection*, 41 *Wash. L.J.* 50, 71 (2001).

<sup>69</sup>U.S. Fish and Wildlife Service Mitigation Policy, 46 *Fed.Reg.* 7644, 7647 (1981) (emphasis added).

interprets §10 as a “no net loss” requirement somewhat similar to CWA §404, which is discussed below in Section IV.<sup>70</sup>

Permittees who wish to engage in activities that will result in habitat loss often mitigate damages caused to listed species by “acquiring or otherwise protecting replacement habitat . . .”<sup>71</sup> This is referred to as “habitat mitigation” and is acceptable under the HCP process “so long as such mitigated habitat losses are consistent with the §10 issuance criteria.”<sup>72</sup> Types of habitat mitigation include: acquisition of existing habitat; protection of existing habitat through conservation easements or other legal instruments; enhancement or restoration of disturbed former habitats; prescriptive management of habitats to achieve specific biological characteristics; and creation of new habitats.<sup>73</sup> Different types of habitat mitigation are appropriate in different cases. For example, where the habitat type takes years to develop (*e.g.* old-growth forests), acquisition of existing high quality habitat may be the best approach. However, the FWS acknowledges that “if such habitat is continually being lost, this method alone could result in a net loss of habitat value.”<sup>74</sup>

### 3. Alternatives and Other Measures

ESA § 10 prohibits the Secretary from issuing an ITP to any applicant whose HCP fails to specify what “alternative actions” to the taking of listed species were considered and the reasons why such alternatives were not utilized.<sup>75</sup> Section 10 also precludes the issuance of an ITP to any applicant whose HCP fails to specify such “other measures” that the Secretary requires as being necessary or appropriate for purposes of the plan.<sup>76</sup>

The FWS can rely on these two provisions to justify denials of ITPs, but they are rarely at issue in the ITP process, and have received little attention. As it happens, the majority of cases involving HCPs have been brought by third parties to challenge the FWS’s approval of an HCP and the subsequent issuance of an ITP on the grounds that the HCP’s mitigation measures are inadequate.<sup>77</sup> One case that did arguably arise out of FWS’s denial of an HCP was a regulatory takings claim that was dismissed because the landowner had not accepted the agency’s offers to assist in the design of a satisfactory HCP.<sup>78</sup> The court found

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<sup>70</sup>See *infra* Section IV (discussing 33 U.S.C. § 1344).

<sup>71</sup>U.S. Fish and Wildlife Service and National Marine Fisheries Service, *Endangered Species Habitat Conservation Planning Handbook*, 3-20 (1996).

<sup>72</sup>*Id.*

<sup>73</sup>*Id.* at 3-22.

<sup>74</sup>*Id.*

<sup>75</sup>16 U.S.C. § 1539 (a)(2)(A)(iii) (1999).

<sup>76</sup>16 U.S.C. § 1539 (a)(2)(A)(iv) (1999).

<sup>77</sup>See, *e.g.*, *Loggerhead Turtle v. County Council of Volusia County*, 120 F. Supp. 2d 1005 (M.D. Fla. 2000); *Nat’l Wildlife Fed’n v. Babbitt*, 128 F. Supp. 2d 1274 (E.D. Cal. 2000); *Sierra Club v. Babbitt*, 15 F. Supp. 2d 1274 (S.D. Ala. 1998); *Friends of Endangered Species v. Jantzen*, 760 F.2d 976 (9<sup>th</sup> Cir. 1985).

<sup>78</sup>See *Seiber v. United States*, 53 Fed. Cl. 570 (2002) (relying in large part on *Boise Cascade Corp. v. Board of Forestry*, 991 P.2d 563 (Or. App. 1999), a case with similar facts but that involved a

the agency action was not final, and the dispute was therefore not ripe.<sup>79</sup>

*D. Judicial Challenges to HCPs*

There have not been many legal challenges to habitat conservation planning in general or to individual HCPs.<sup>80</sup> The few cases that have been brought illustrate how the ITP mitigation requirements, while analogous to the improvement standard on paper, may fall short of a net ecological gain when they are implemented. Nonetheless, courts are highly deferential to FWS's conclusions in the adoption of an HCP, and typically uphold HCP's so long as the agency provides an adequate administrative record to support its decision.

In the first of these cases, the Ninth Circuit upheld an ITP authorizing the "taking" of Mission Blue Butterflies in an area where the permittees wished to construct residential housing.<sup>81</sup> The plaintiff, an environmental group, alleged that FWS violated both §10 and §7 of the ESA in issuing the ITP.<sup>82</sup> According to the plaintiff, FWS violated §10(a) by not meeting the required mitigation requirements. FWS argued that the mitigation requirements were satisfied because the HCP would actually enhance the survival of the Mission Blue Butterfly.<sup>83</sup> The FWS's argument was based in part on the HCP's commitment to combat encroachment of the invasive juniper brush into the butterfly's grassland habitat, a problem that a prior study predicted would cause extinction of the species even in the absence of human development on the land.<sup>84</sup>

The plaintiff also argued FWS failed to satisfy a provision of §7 that requires agencies to "use the best scientific and commercial data available" during the consultation process.<sup>85</sup> FWS responded that the data, though concededly derived from methods inherently resulting in a high level of uncertainty, represented the best data available.<sup>86</sup> The court applied the narrow "arbitrary and capricious" standard of review, under which FWS's issuance of the ITP would be upheld so long as FWS had "considered the relevant factors and articulated a rational connection between the facts found and the choice made."<sup>87</sup> As a result, the court upheld the agency's decision to issue the ITP.<sup>88</sup>

In a more recent case, an environmental group initiated a lawsuit against then-Secretary Babbitt for allegedly violating the ESA by granting an ITP to the

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landowner that had not submitted an HCP).

<sup>79</sup>*Id.*

<sup>80</sup>Shi-Ling Hsu, *A Game Theoretic Approach to Regulatory Negotiation and a Framework for Empirical Analysis*, 26 Harv. Envtl. L. Rev. 33, 60-61 (2002).

<sup>81</sup>*Friends of Endangered Species v. Jantzen*, 760 F.2d 976 (9<sup>th</sup> Cir. 1985).

<sup>82</sup>*Id.* at 981, 983.

<sup>83</sup>*Id.* at 982.

<sup>84</sup>*Id.* at 979.

<sup>85</sup>16 U.S.C. §1536(a)(2) (1994).

<sup>86</sup>*Friends of Endangered Species*, 760 F.2d at 979.

<sup>87</sup>*Id.* at 981 (citing *Baltimore Gas and Electric Company v. Natural Resources Defense Council, Inc.*, 462 U.S. 87, 105 (1983)).

<sup>88</sup>*Id.* at 981, 988.

County of Volusia, Florida.<sup>89</sup> The county used the permit to build lights along a beach that was a nesting ground for threatened sea turtles. When baby sea turtles hatched many of them instinctively followed the artificial light instead of the moonlight and never made it to sea.<sup>90</sup> The county also allowed vehicular traffic on the beach, which resulted in garbage and tire ruts, and “generally disturb[ed] the natural condition of the beach and its sand.”<sup>91</sup>

FWS argued in part:

The total extent of sea turtle nesting on all of Volusia County’s beaches accounts for 2.8 percent of all loggerhead, 3 percent of all green, and less than 1 percent of all leatherback. . . . Volusia’s coastline is not considered essential nesting area for any of the species at issue . . . [and ] the total number of turtle nests found in the County are insignificant in relation to the recovery and survival of the species.<sup>92</sup>

The court agreed that granting the ITP was proper because the HCP contained “minimizing” factors such as diminishing the total beach area over which vehicles were allowed to travel, reducing times of day when vehicles were allowed on the beach, and restricting commercial fishermen and concessionaires.<sup>93</sup> The court also approved the HCP’s attempt to “mitigate” the adverse impacts on the turtles by incorporating a Beach Lighting Management Plan.<sup>94</sup> This involved modifying all county-controlled lights if necessary to bring them into compliance with guidelines established by the Florida Department of Environmental Protection (FDEP); agreeing to come up with a plan to correct lights not owned by the county; and increasing enforcement efforts for the Volusia County Lighting Ordinance.<sup>95</sup> The court found that these factors satisfied the “maximum extent practicable” mitigation standard of § 10.<sup>96</sup> It ultimately concluded that the ITP was not arbitrary and capricious due largely to the “insignificant” number of affected turtles and the FWS’s assertion that “closing the beaches entirely during the spring and summer months was patently impracticable” because of the serious economic and community impacts that any reduction in beach usage would have in the County.<sup>97</sup>

These cases indicate that courts are highly deferential to agency determinations

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<sup>89</sup>Loggerhead Turtle v. the County Council of Volusia County, Florida, 120 F. Supp. 2d. 1005 (M.D. Fla. 2000).

<sup>90</sup>*Id.* at 1008.

<sup>91</sup>*Id.*

<sup>92</sup>*Id.* at 1015.

<sup>93</sup>*Id.* at 1020.

<sup>94</sup>*Id.*

<sup>95</sup>*Id.* at 1015.

<sup>96</sup>*Id.* at 1020.

<sup>97</sup>*Id.*

that an HCP has satisfied §10 and §7. They also suggest that the “best scientific data” upon which the agency bases a § 7 no-jeopardy opinion may yield results with a high degree of uncertainty, and thus impede the agency’s ability to accurately predict the impact of a proposed HCP. Finally, the maximum extent of mitigation that an agency considers “practicable” in light of economic considerations may amount to a net reduction in habitat value as measured from the ecological baseline, rather than improvement.

*E. Political influences on the ITP Permitting Process*

Social factors can have a pervasive influence on the ITP permitting process, in addition to, or perhaps in spite of, the legal requirements addressed above. In particular, political forces play a significant role in ESA implementation and can diminish its efficacy, particularly in the ITP context.

Only 14 ITPs were issued between 1982 and 1992, but 193 were issued between 1994 and 1997.<sup>98</sup> Possible reasons for the dramatic increase in the number of ITPs issued during the mid-1990s include proposals by the 104<sup>th</sup> Congress to amend the ESA, a relatively conservative Supreme Court, judicial decisions limiting Congress’s Commerce Clause powers, and the risk to the federal government presented by Fifth Amendment regulatory takings claims by private landowners.<sup>99</sup> As for the last item, successful claims could require the United States to pay just compensation to the landowner and establish adverse precedent with nationwide ramifications.<sup>100</sup>

A leading example involves Charles Hurwitz, the chairman of the Houston company Maxxam. Hurwitz sued the FWS in 1996, claiming that logging restrictions stemming from the ESA amounted to a regulatory taking of property owned by the Pacific Logging Company (a Maxxam company).<sup>101</sup> The land in question was occupied by at least two listed species, the marbled murrelet and the coho salmon. The takings issue was never resolved and the case was ultimately settled out of court, with the public paying \$492 million to purchase 10,071 acres of California Redwoods owned by Pacific Lumber, and the company agreeing to an HCP covering all of the forest that it still owned (approximately 211,000 acres).<sup>102</sup> Under the terms of the plan and ITP, the company would be allowed to

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<sup>98</sup>Shi-Ling Hsu, *The Potential and Pitfalls of Habitat Conservation Planning Under the ESA*, 29 *Envtl. L. Rep. (Envtl. L. Inst.)* 10592, 10594 (1999).

<sup>99</sup>*Id.* Professor Pat Parenteau describes the increased use of HCP’s in the mid-1990’s, and the “no surprises” policy incorporated in the HCP process, as a strategy “cooked up by people under stress from the mindless Contract with America . . . something had to be done to stave off a full-scale attack on the Endangered Species Act” by Representative Newt Gingrich and others in Congress. See Jon Margolis, *Critics Say ‘No Surprises’ Means No Protection*, *High Country News* (Aug. 4, 1997) (visited Feb. 4, 2003) <[http://www.hcn.org/servlets/hcn.Article?article\\_id=3481](http://www.hcn.org/servlets/hcn.Article?article_id=3481)>.

<sup>100</sup>U.S. Const. Amend. V.

<sup>101</sup>Paul Rogers, *Deal Saves Ancient Trees; Papers Filed Two Minutes Before Midnight Deadline*, *San Jose Mercury News* (March 2, 1999). For environmental groups’ challenges to the Hurwitz ITP, see, e.g., *Environmental Protection Information Center*, 67 F.Supp.2d 1090, 1113 (N.D. Cal. 1999).

<sup>102</sup>Rogers, *supra* note 101.

cut no more than 179 million board feet a year, 31 million less than what the company had planned.<sup>103</sup>

Under different political circumstances, the government may have opted for a trial rather than a settlement in the Hurwitz case. In other words, FWS could have proceeded with a vigorous enforcement action under ESA § 9 to deter Hurwitz from logging, and taken its chances with respect to Hurwitz's Fifth Amendment claim. Instead, it responded to the private landowner's regulatory takings claim with the approval of a 50-year HCP and the purchase of a substantial tract of forest-land from Pacific Lumber.<sup>104</sup> Some scholars have argued that FWS was unwilling to gamble in a lawsuit against Hurwitz because a loss would set an adverse precedent and "significantly constrain the services' future ability to regulate land use to protect listed species."<sup>105</sup>

It is difficult to say whether the above HCP constitutes an unnecessary compromise and over-concession on the part of the FWS or whether it amounts to an improvement for murrelet and salmon habitat. The answer depends on several unknown factors: (1) whether Hurwitz would have prevailed in his regulatory takings claim had it gone to trial; (2) if not, whether he would have logged the land in spite of the ESA restrictions; (3) whether unauthorized § 9 takings would have occurred during the logging; and (4) whether the FWS would have prevailed in a subsequent enforcement claim against Hurwitz.

If Hurwitz would have prevailed in his defense of a government enforcement action, it seems reasonable to describe the HCP and the land purchase as improvements over the probable alternative: a precedent-setting Supreme Court decision saying that environmental restrictions on private land amount to regulatory takings requiring just compensation. Hurwitz and other private landowners would then have much less to fear from the enforcement provisions of the ESA, and an increase in the frequency of unauthorized §9 takings could reasonably be expected to occur. The actual outcome in the Hurwitz case could therefore be called an overall improvement over the probable alternative, but it appears to be a net loss when viewed strictly from the perspective of listed species, and thus does not constitute an *ecological* improvement as the term is used in the Annex.

#### IV. SECTION 404 OF THE CLEAN WATER ACT

The purpose of the Clean Water Act ("CWA") is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."<sup>106</sup> CWA § 404<sup>107</sup> promotes water quality and overall hydrological integrity by prohibiting the discharge of dredged or fill material into navigable waters, including certain

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<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

<sup>105</sup> Shi-Ling Hsu, *supra* note 80, at 60-61.

<sup>106</sup> 33 U.S.C. § 1251(a) (2001).

<sup>107</sup> 33 U.S.C. § 1344 (2001).



wetlands, unless authorized by a CWA permit.<sup>108</sup>

This section of the analysis provides an overview of the permit process under CWA Section 404 and the mitigation requirements necessary to receive a permit. The compensatory mitigation requirements, which often require enhancement or creation of wetlands, are roughly analogous to the "improvement" standard in the Great Lakes. Like the ITP requirements of the ESA, however, CWA § 404 falls short of the mark in implementation.

*A. Obtaining a Permit Under Section 404(a) of the Clean Water Act*

Section 404(a) of the CWA authorizes the Secretary of the Army, acting through the chief of the Corps of Engineers, to issue permits after notice and public hearings "for the discharge of dredged or fill material into the navigable waters at specified disposal sites."<sup>109</sup> Navigable waters are defined broadly, and include certain marshy areas and other wetlands.<sup>110</sup> Individual permits are evaluated on a case-by-case basis, and require completion of a multi-step process.<sup>111</sup> Although the statute itself is silent on the specific permitting requirements, regulatory guidelines have been developed by the Corps and the Administrator of the Environmental Protection Agency (EPA).<sup>112</sup>

A three-step sequence of steps is required to obtain a permit: avoidance; minimization; and compensatory mitigation. These steps are detailed in the Corps-EPA Mitigation Memorandum of Agreement (Mitigation MOA).<sup>113</sup> To receive a permit, the first step a party must take is to demonstrate that there are no practical alternatives to the destruction of wetlands, and the least environmentally damaging alternative will be used.<sup>114</sup> The regulatory agencies will presume there is a practical alternative if the project is not water dependent.<sup>115</sup> Second, appropriate and practical steps must be taken to minimize the adverse effects of the development on the wetlands.<sup>116</sup> Finally, if there is damage to the wetlands that cannot be avoided or minimized, the permittee is required to compensate for the damages.<sup>117</sup>

1. The "No Practical Alternative" Requirement: Avoiding and Minimizing

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<sup>108</sup>*Id.* See 33 U.S.C. § 1311(a)(2001) (prohibiting the discharge of pollutants into navigable waters without a permit).

<sup>109</sup>33 U.S.C. § 1344(a) (2001).

<sup>110</sup>33 C.F.R. § 329.3 (2003); *see generally* U.S. v. Riverside Bayview Homes, Inc., 474 U.S. 121, 123-25 (1985).

<sup>111</sup>40 C.F.R. pt. 230.

<sup>112</sup>*Id.* at §230.10.

<sup>113</sup>Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines, 55 Fed. Reg. 9210, 9212 (Mar. 12, 1990) (hereinafter Mitigation MOA).

<sup>114</sup>See 40 C.F.R. § 230.10(a); Mitigation MOA, *supra* note 113, at 9212.

<sup>115</sup>40 C.F.R. § 230.10(a)(3).

<sup>116</sup>*Id.* at §230.10(d).

<sup>117</sup>Mitigation MOA, *supra* note 113, at 9212.

### Damage

The discharge of dredge or fill material is prohibited if there is a practicable alternative that would have less of an impact on the aquatic ecosystem, so long as the alternative does not have other considerable adverse environmental consequences.<sup>118</sup> An example of an alternative is if the project can be moved to an area that does not affect wetlands, such as creating a golf course on higher ground rather than developing the wetlands.<sup>119</sup> That alternative would be considered practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.<sup>120</sup> If the project in question is not water-dependent, it will be assumed that an alternative is available “unless clearly demonstrated otherwise.”<sup>121</sup>

Finding a practical alternative is, without doubt, the best way to avoid adverse impacts on wetlands. If no practicable alternative is found, however, wetlands may be developed, but only if “appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.”<sup>122</sup> Before obtaining a permit one must avoid or minimize damage to the water, plants and animals in the affected wetlands area.<sup>123</sup>

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<sup>118</sup>40 C.F.R. § 230.10(a).

<sup>119</sup>See *Bersani v. U.S. E.P.A.*, 850 F.2d 36, 42-44 (2d Cir. 1988) (A developers request for a permit to put a shopping mall on wetlands was denied because of the availability of more practical alternatives) *cert. denied*, 489 U.S. 1089 (1989).

<sup>120</sup>40 C.F.R. § 230.10(a)(2).

<sup>121</sup>40 C.F.R. § 230.10(a)(3). The developer must show that no other property could “reasonably” be obtained to fulfill the “basic purpose of the proposed activity.” *Bersani*, 850 F.2d at 44 (affirming EPA’s veto of a Section 404 permit on the grounds that the developer had failed to prove that there was no alternative to its proposal to build a shopping mall in a wetlands area, when there were other suitable properties available for purchase at the time the developer entered the real estate market); *National Wildlife Federation v. Whistler*, 27 F.3d 1341 (8<sup>th</sup> Cir. 1994) (upholding the issuance of a permit for a “water dependent” project where the project’s purpose was defined as providing boat access for a housing development).

<sup>122</sup>40 C.F.R. § 230.10(d).

<sup>123</sup>40 C.F.R. § 230.75. The 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 avoid creating habitat conducive to the development of undesirable predators or species which have a competitive edge over indigenous plants or animals;
- (c) Avoiding sites having unique values, including threatened or endangered species habitat;
- (d) Using planning and construction practices to institute habitat development and restoration to produce a new or modified environmental state of higher ecological value;
- (e) Timing discharge to avoid spawning or migration seasons and other biologically critical time periods; and
- (f) Avoiding the destruction of remnant natural sites within areas already affected by development.

## 2. The Compensatory Mitigation Requirement

The Mitigation MOA provides guidance for compensatory mitigation. It expresses a preference for on-site mitigation as well as in-kind mitigation.<sup>124</sup> The Mitigation MOA favors restoration and enhancement, rather than creation or preservation, as acceptable forms of compensatory mitigation.<sup>125</sup> The Mitigation MOA also approves mitigation banking as an option for compensatory mitigation.<sup>126</sup>

To obtain a permit, a party must submit compensatory mitigation plans that promise future enhancement, restoration, or creation of wetlands.<sup>127</sup> These objectives should promote improvement of wetlands habitat. Implementation experience, however, has not been encouraging. A recent report by the National Research Council of the National Academy of Sciences concludes that mitigation plans are often unsuccessful largely because developers fail to follow through with the plans to mitigate and regulators are often unable or unwilling to track permits to make certain that developers are meeting their promises and to punish those who do not.<sup>128</sup>

A study conducted by the Florida Department of Environmental Regulation (FDER) provides detailed evidence of the deficiencies of compensatory plans.<sup>129</sup> The study was ordered by the Florida legislature in 1990 to assess the effect of mitigation projects within the state.<sup>130</sup> The FDER evaluated sixty-three permits that required wetland creation as mitigation for wetland impacts between 1985 and 1990.<sup>131</sup> The FDER's study revealed a soaring rate of noncompliance. Of the parties with permits that were required to mitigate, only four (6.3%) had complied with their mitigation requirements.<sup>132</sup> The study also found that thirty-four percent of parties with permits failed to begin their creation projects before

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<sup>124</sup>Mitigation MOA, *supra* note 113, at 9212.

<sup>125</sup>*Id.*

<sup>126</sup>Mitigation MOA, *supra* note 113, at 9212. See 1995 Federal Guidance for the Establishment, Use and Operation of Mitigation Banks, 60 Fed. Reg. 58,605 (Nov. 28, 1995); J.B. Ruhl and R. Juge Gregg, *Integrating Ecosystem Services into Environmental Law: A Case Study of Wetlands Mitigation Banking*, 20 Stan. Envtl. L. J. 365, 372 (2001).

<sup>127</sup>Mitigation MOA, *supra* note 113, at 9212; *Sierra Club v. Slater*, 120 F.3d 623, 636 (6th Cir. 1997) (citing cases where courts have held that it is not necessary to have a final, detailed mitigation plan in place prior to approval of a § 404 permit; instead, it is acceptable for the Corps to approve a permit conditioned on future implementation of a mitigation plan).

<sup>128</sup>See National Research Council, Committee on Mitigating Wetland Losses, Board on Environmental Studies and Toxicology - Water Science and Technology Board, *Compensating for Wetland Losses under the Clean Water Act* (2001) (hereinafter National Research Council); See also U.S. Gen. Acct. Office, *Wetlands: The Corps of Engineers' Administration of the Section 404 Program 55-73* (1988) (finding that Corps and EPA enforcement efforts are not effective).

<sup>129</sup>Royal C. Gardner, *Banking on Entrepreneurs: Wetlands, Mitigation Banking, and Takings*, 81 Iowa L. Rev. 527, 540 (1996) (citing Florida Dep't of Envtl. Reg., Report on the Effectiveness of Permitted Mitigation Sites (Mar. 1991) [hereinafter FDER]).

<sup>130</sup>Fla. Stat. Ann. §403.918(2)(b) (West 1994).

<sup>131</sup>Gardner, *supra* note 129, at 540.

<sup>132</sup>*Id.*

impacting the wetlands.<sup>133</sup>

The FDER recommended enhancement of degraded wetlands or restoration of former wetlands when compensatory mitigation is to be used.<sup>134</sup> If enhancement or restoration is not possible, preservation may be successful if used in combination with other mitigation measures.<sup>135</sup> Finally, wetland creation should be used when it is the only remaining option.<sup>136</sup>

The EPA and the U.S. Fish and Wildlife Service (FWS) also reported dismal outcomes in their 1994 assessment of seventeen creation and restoration sites in the state of Washington.<sup>137</sup> The EPA and FWS found that two of the seventeen developers did not even begin the required compensatory mitigation, eleven sites (65%) were not at the required level of ecological function,<sup>138</sup> and only four mitigation sites (24%) were functioning well.<sup>139</sup>

The EPA and FWS report concluded that the failure of the mitigation sites was not necessarily due to the inadequate science of wetland restoration and creation.<sup>140</sup> Instead, success depended largely on human and economic factors. More specifically, human factors such as "commitment to plan, implement, monitor, adjust, and maintain mitigation"<sup>141</sup> play a pivotal role in the success of compensatory mitigation, as does having the financial resources and regulatory incentive to access competent technical expertise. The regulatory bodies have been criticized for allowing the "most simple and expedient" approach, which usually turns on fixed ratios between wetlands lost and wetlands restored rather than a sophisticated evaluation of wetland functions and values.<sup>142</sup> In addition, the EPA and FWS acknowledged that some of the failures of the developers were due to poor enforcement efforts.<sup>143</sup>

Failure of the Corps to enforce the 404 guidelines has had devastating impacts on wetlands. The Corps often only requires a mitigation plan to obtain a permit, and fails to monitor the site to see if the mitigation requirements are met.<sup>144</sup> Without the Corps' watchful eye, developers fail to initiate or follow through with the mitigation plans.<sup>145</sup> Even if the sites were carefully monitored, in most cases there is no pre-designated party responsible for correcting the failure to

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<sup>133</sup> *Id.*

<sup>134</sup> *Id.* at 541.

<sup>135</sup> *Id.*

<sup>136</sup> *Id.*

<sup>137</sup> *Id.* (citing U.S. E.P.A. and U.S. Fish and Wildlife Serv., Interagency Follow-Through Investigation of Compensatory Wetland Mitigation Sites (May 1994)).

<sup>138</sup> *Id.*

<sup>139</sup> *Id.*

<sup>140</sup> *Id.*

<sup>141</sup> *Id.*

<sup>142</sup> Ruhl, *supra* note 126, at 379.

<sup>143</sup> See Gardner, *supra* note 129, at 540; National Research Council, *supra* note 128.

<sup>144</sup> Jonathan Silverstein, *Taking Wetlands to the Bank: The Role of Wetland Mitigation Banking in a Comprehensive Approach to Wetlands Protection*, 22 B.C. Env'tl. Aff. L. Rev. 129, 133 (1994).

<sup>145</sup> *Id.* at 133.

comply with the compensatory mitigation plan.<sup>146</sup> Developers have not been held responsible for long-term monitoring or maintaining the mitigation sites to ensure they are successful in the future.<sup>147</sup>

A more recent report by the Indiana Department of Environmental Management (IDEM) confirms the deficiencies of compensatory mitigation in the Great Lakes region.<sup>148</sup> The *Indiana Wetland Compensatory Mitigation: Inventory* addressed compliance with mitigation projects primarily in the northern part of Indiana, with clusters around Lake Michigan, Fort Wayne, and Indianapolis.<sup>149</sup> Thirty-seven percent of the 345 mitigation sites were in watersheds that feed into Lake Michigan and Lake Erie.<sup>150</sup> Of the 345 sites, 214 (62%) had been constructed, 70 (20%) were incomplete, 49 (14%) had failed to initiate compensatory mitigation, and 12 (3%) did not have sufficient information to be evaluated.<sup>151</sup> Of the mitigation sites that were not constructed, many of the parties responsible for mitigation had completely ignored the requirements, while other parties began mitigation but failed to complete the required project.<sup>152</sup>

The consensus is that compensatory mitigation is a proven failure when undertaken by the developers after their permit has been issued. Studies spanning over a decade of experience by state departments and federal agencies depict discouraging statistics regarding failure rates, which ultimately translate into a damaged ecosystem. The dismal track record should serve as a cautionary lesson for the Great Lakes community as it moves forward with implementation of the Annex.

### *B. Mitigation Banking*

To counter the failures of on-site compensatory mitigation, mitigation banks have been developed. Mitigation banking is a process where wetland sites are held in reserve as the mitigation "bank".<sup>153</sup> Mitigation bankers can earn credits for restoration, creation or enhancing the wetland "bank," and developers can buy the credits from the mitigation bankers.<sup>154</sup>

The use of a banking approach allows the applicant to purchase "improvement credits" in advance, before the environmentally degrading activity is conducted. Wetlands mitigation banks have been relatively successful in ensuring that there

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<sup>146</sup>*Id.*

<sup>147</sup>*Id.*

<sup>148</sup>Indiana Dep't of Env'tl. Management, Section 401 Water Quality Certification Program, Wetland Compensatory Mitigation Study, <[http://www.state.in.us/idem/owm/planbr/wqs/mitigation\\_monitoring.htm](http://www.state.in.us/idem/owm/planbr/wqs/mitigation_monitoring.htm)> (visited October 22, 2002) (copy on file with author) (The study did not address the success or function of these mitigation sites).

<sup>149</sup>*Id.* at 2.

<sup>150</sup>*Id.* at 10.

<sup>151</sup>*Id.* at 2.

<sup>152</sup>*Id.* at 7.

<sup>153</sup>Jennifer Neal, *Paving the Road to Wetlands Mitigation Banking*, 27 B.C. Env'tl. Aff. L. Rev. 161 (1999).

<sup>154</sup>Gardner, *supra* note 129, at 552-553.

is "no net loss" of total wetland area.<sup>155</sup> The downside, however, is that functional, unique wetlands are allowed to be destroyed as long as a developer buys wetland credits from a mitigation bank, some of which are located in totally different watersheds.<sup>156</sup> Moreover, there is no assurance that the "banked" wetlands are the functional equivalent or provide the same ecosystem values and services as those that are lost to development.<sup>157</sup>

The mitigation banking experience demonstrates that there is greater potential for success if governmental agencies are involved in certifying the banks as true "improvements," using ecologically sound, quantifiable criteria, in advance of development, instead of leaving the burden on the permittees to effectuate mitigation requirements after the fact. A vital element of an effective banking system is that parties cannot count on "credits" that have not yet been earned, which means that the improvement, enhancement or restoration must be completed *before* wetlands are destroyed or water is allowed to be withdrawn.<sup>158</sup> Selling "improvement credits" in the form of established banks can greatly increase the ecological success of the program because measurable improvement must have already occurred before the permit may issue. If mitigation banking were adopted as a means of securing an improvement to waters and water-dependent resources in the Great Lakes basin, these issues must be addressed to ensure successful implementation of the Annex 2001 standard.

## V. CONCLUSION

Annex 2001 states that proposals to withdraw water from the Great Lakes must not only prevent or minimize water loss, avoid adverse effects on water quantity or quality and comply with state and federal laws, but they must also improve the waters and natural resources of the Basin. Thus, like ESA §10 and CWA § 404, Annex 2001 requires minimization of adverse ecological effects, but it goes beyond existing regulatory programs to require resource improvement. This is an innovative and proactive standard, in keeping with the status of the Great Lakes

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<sup>155</sup>"No net loss" has been a long-standing goal of the wetlands program. See National Wetlands Mitigation Action Plan (Dec. 27, 2002) (visited April 1, 2003).

<<http://www.epa.gov/owow/wetlands/guidance/map1226withsign.pdf>>. It is intended to ensure that there is no net loss in quantity of total wetlands area. See Mitigation MOA, *supra* note 113.

<sup>156</sup>Lawrence R. Liebesmana and David M. Plott, *The Emergence of Private Wetlands Mitigation Banking*, 13 NR & E 341, 343 (1998); Michael C. Blumm, *The Clinton Wetlands Plan: No Net Gain in Wetlands Protection*, J. Land Use & Env. L. 203, 227-28 (1994). Although the agencies have adopted a policy that banks should be in the same geographic area as the wetlands lost to development, the use of a bank in adjacent areas may be allowed "when practicable and environmentally desirable." Federal Guidance for the Establishment, Use and Operation of Mitigation Banks, 60 Fed. Reg. 58,605, 58,611 (1995). The National Research Council recommends that "site selection for wetland conservation and mitigation should be conducted on a watershed scale in order to maintain wetland diversity and to enhance the long-run viability of wetland and riparian systems." National Research Council, *supra* note 128.

<sup>157</sup>See Ruhl, *supra* note 126, at 379, 387-89 (noting that the assessment of wetlands function has not improved significantly over the past decade). The banking program may result in an excess of certain types of wetlands because they are easier and cheaper to create than others.

<sup>158</sup>See National Research Council, *supra* note 128.

aquatic ecosystem as the world's largest freshwater source.

The CWA and ESA are two of our nation's premiere environmental laws, and they have done a great deal to protect water quality and imperiled species. Yet they come short of requiring actual, long-term ecosystem improvement. The CWA § 404 program fails to adequately monitor and enforce the developer's promises to mitigate wetland losses. Meanwhile, the ESA requires that HCPs include only those mitigation measures that are "practicable" in light of economic considerations, often resulting in a net reduction in habitat values. Moreover, the FWS has only limited ability to predict the impact of a proposed HCP over time and to adjust HCP requirements to reflect changes in environmental conditions or the needs of species.

Years of experience in implementing the CWA and ESA permitting programs provide the following insights regarding Annex 2001. First, actual, measurable improvement should be required *before* the removal of water occurs. Monitoring will still be necessary to ensure that the effects of the project are as anticipated, and that the improvement "banks" or other measures continue to function. The inability to enforce measures adopted as improvements, or to follow through with comprehensive monitoring requirements, could have devastating impacts on the Great Lakes. In addition, specific technical and legal requirements must be established to refine the improvement standard and guide the decisionmakers who must implement it. The standard should be based on ecosystem values and services rather than mere quantity or net replacement ratios. Last but not least, Great Lakes authorities must provide sufficient incentives and funds to ensure that technical expertise is developed and made available to regulators and the regulated community. The improvement standard of Annex 2001 will, no doubt, prove to be a challenging standard for all concerned, but one that is well worth meeting.