

## **Regulatory Safeguards for Accountable Ecosystem Service Markets in Wetlands Development**

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### **I. Introduction**

#### **A. The Role and Promise of Markets in Environmental Law**

1. The use of market-based approaches to protect the environment has deep roots in the economics literature, dating at least as far back as A.C. Pigou’s proposals to adopt pollution taxes.
2. In the 1970s, economists began arguing that environmental protection goals could be achieved more efficiently if the so-called “command-and-control” regulatory programs that were the foundation of laws such as the Clean Air Act and the Clean Water Act were replaced or supplemented with reliance on markets.
3. One market-based option is emissions trading, which provides incentives for a source capable of reducing pollution at low-cost to over-control. Over-controlling will be profitable as long as the revenue receive from the sale of a credit resulting from over-control is greater than the extra cost incurred in generating excess reductions.
4. Property rights proponents provided additional support for a shift toward markets, claiming that laws creating property rights in natural resources or in efforts to protect them would align the interests of property owners with the goals of environmental protection laws, to the benefit of all.

#### **B. Skeptical Reaction**

1. The first calls for greater reliance on markets in environmental protection were met with skepticism by environmental public interest groups and some policymakers, who feared that participants could manipulate markets for private gain and mask noncompliance with regulatory obligations.
2. Some even questioned the morality of creating tradeable rights to pollute or otherwise damage the environment.

3. Gradually, however, opposition to environmental markets weakened, and groups like the Environmental Defense Fund became champions of using markets to achieve environmental protection goals efficiently. *See, e.g.,* Environmental Defense Fund, *How Cap and Trade Works*, <http://www.edf.org/climate/how-cap-and-trade-works> (“Cap and trade is the most environmentally and economically sensible approach to controlling greenhouse gas emissions, the primary driver of global warming.”).

### **C. The Entrenchment of Markets in U.S. Environmental Law**

1. The turning point came with the enactment of the 1990 Clean Air Act Amendments, whose acid deposition control title created a cap-and-trade program for coal-burning electric utilities that emit sulfur dioxide.
2. Congress doled out pollution “allowances” to regulated utilities, who were free to meet their emission control obligations by reducing emissions to meet the cap, over-controlling and selling excess allowances to utilities unable or unwilling to meet their own obligations, or under-controlling and purchasing someone else’s “excess” allowances. 42 U.S.C. §§ 7651 to 7651o.
3. The acid deposition control program has worked well, achieving significant reductions in acid rain precursors at a lower cost than would have been possible without an emissions trading component, and at a lower cost than most observers predicted when the program was adopted.
4. As a result of the program’s success, emissions trading has been built into other U.S. domestic environmental programs, as well as into international endeavors such as the Kyoto Protocol on greenhouse gas emission control.
5. Ironically, when Congress considered the adoption of climate change legislation in 2009, progressives, who initially had opposed the use of market mechanisms in environmental law, strongly supported a cap-and-trade program for domestic emitters of greenhouse gases. Conservatives opposed cap-and-trade, characterizing it as “cap-and-tax,” even though Republican politicians (including George H.W. Bush) were largely responsible for the adoption of the acid deposition control’s cap-and-trade experiment.

### **D. Market-Based Environmental Tools: What Role Should They Play?**

1. Despite such opposition, the role of market-based mechanisms in U.S. environmental law has increased in recent years.
2. Examples of allowance trading regimes abound in U.S. environmental law, covering regulatory programs such as renewable fuel production mandates, fuel additive reduction requirements, development of endangered species habitat, and intra-watershed pollution reduction.

3. Some of these programs have worked well, while other have floundered, because either robust markets have failed to develop or participants have figured out ways to exploit the system, legally or illegally, in ways that undercut both efficiency and program effectiveness goals.
4. The latter flaw highlights the need for the careful design of market-based programs to minimize opportunities for participants to exploit markets for financial gain at the expense of the broader public interest.

### **E. The Market-Based Component of Wetlands Preservation Regulations**

1. The wetlands protection program of the federal Clean Water Act (CWA), also known as the § 404 or dredge and fill permit program, 33 U.S.C. § 1344, provides insights into how regulators may be able to design programs that achieve the efficiency that environmental markets promise, while rooting out abuses of the system.
2. Any market-based environmental program should include five critical safeguards to ensure accountability and minimize opportunities for abuse: financial safeguards, verifiable performance standards, transparency and public participation safeguards, regulatory oversight mechanisms, and rule of law safeguards.
3. The dredge and fill program has succeeded in incorporating effective accountability safeguards in some of these areas, but not others.

## **II. Ecosystem Services and Markets**

### **A. Ecosystem Services**

1. Healthy natural systems have great value to humans. These values are often referred to as “ecosystem services,” or the benefits that people obtain from natural ecosystems. 3 MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING: POLICY RESPONSES, at vii (Kanchan Chopra et al. eds., 2005), <http://www.maweb.org/documents/document.772.aspx.pdf>.
2. To the extent that environmental laws preserve valuable ecosystem services, they enhance, not detract from economic value.
3. Ecosystem services fall into four categories: (1) supporting services, (2) provisioning services, (3) regulating services, and (4) cultural services.
4. As one scholar has explained, “[t]he concept behind ecosystem services is very simple — the environment offers critically important services for free that, if we had to pay for substitutes in markets, would command extremely high prices. Government policies that recognize this basic fact, and that [aim] to ensure and provide services, could result in increased social welfare.”

James Salzman, *Creating Markets for Ecosystem Services: Notes from the Field*, 80 N.Y.U. L. REV. 870, 877 (2005).

## **B. Protection of Ecosystem Services through Markets**

1. Market-based programs in ecosystem services seek to protect the value of these services from development or pollution by commodifying them.
2. Payments for ecosystem services can occur through business-to-business deals, the development of mitigation markets, the provision of government subsidies, or competitive grant programs.
3. Landowners who agree not to develop resources which they are otherwise free to develop free of legal constraint receive development “credits,” which can then be sold to other regulated entities. The purchasers can use the credits to satisfy regulatory obligations that otherwise would have precluded them from developing their own land.

## **C. Protecting Wetlands to Preserve Ecosystem Services**

1. Wetlands – once called swamps or bogs – used to be regarded as foul smelling and unhealthy breeding grounds for mosquitos, vermin, and disease. They were also seen as obstacles to economically beneficial development. Governments therefore made efforts to drain them, as quickly as possible.
2. Both scientists and policymakers now realize that wetlands provide many valuable ecosystem services, including storm surge buffering, flood prevention, soil retention, water purification, aquifer recharge, fish and wildlife habitat, and carbon absorption.

## **D. The § 404 Dredge and Fill Permit Program**

1. Wetlands protection in the U.S. is driven largely by § 404 of the federal CWA, 33 U.S.C. § 1344, the source of the dredge and fill permit program.
2. Section 404 prohibits the development through dredging or filling of privately owned wetlands without a permit from the U.S. Army Corps of Engineers. The Corps administers the § 404 permit program using guidelines developed by the federal EPA, which has the authority to veto individual § 404 permits. *Id.* § 1344(b), (j).
3. The Corps may not issue a permit if there is a practicable alternative to the proposed site that would have a less adverse impact on the aquatic ecosystem, or if permit issuance would not be in the public interest, based on a balancing of project benefits and detriments. 33 C.F.R. § 320.4; 40 C.F.R. § 230.10.
4. The Corps must condition permits on appropriate and practicable steps to minimize adverse impacts on aquatic ecosystems. 40 C.F.R. § 230.10(d).

## **E. Mitigation Markets and the Dredge and Fill Permit Program**

1. Some land developers provide their own mitigation on-site, but the Corps allows § 404 permit holders to comply with their regulatory mitigation duties by participating in a form of emissions trading.
2. Private entrepreneurs have created “banks” of wetlands which they have preserved so as to generate credits that can be sold to land developers. *See Philip Womble & Martin Doyle, The Geography of Trading Ecosystem Services: A Case Study of Wetland and Stream Compensatory Mitigation Markets*, 36 HARV. ENVTL. L. REV. 229, 235-36 (2012).
3. Developers may meet their § 404 obligations by using the credits they purchase from such banks to offset the wetlands they develop.
4. Such a transaction shifts legal responsibility for compliance with regulatory mitigation duties from the permit-holding developer to the mitigation banker.
5. This program is capable of achieving wetlands protection more efficiently than a system without trading because the banker can take advantage of economies of scale to provide relatively low-cost compensatory mitigation.
6. Developers need not purchase mitigation credits from for-profit wetlands banks. They may instead meet compensatory mitigation requirements by purchasing credits from non-governmental organizations (NGOs) or by paying into an “in lieu” fee trust fund used to protect existing wetlands or create new ones. *See Kentuckians for the Commonwealth v. U.S. Army Corps of Eng’rs*, 2013 WL 4516774, \*17-19 (W.D. Ky. 2013).
7. Wetlands mitigation markets have thrived. By 2009, wetland mitigation banking accounted for about a third of all regulatory mitigation conducted under the § 404 program. J.B. Ruhl, James Salzman & Iris Goodman, *Implementing the New Ecosystem Services Mandate of the Section 404 Compensatory Mitigation Program – A Catalyst for Advancing Science and Policy*, 38 STETSON L. REV. 251, 254 (2009).

## **III. The Risks of Regulatory Ecosystem Service Markets**

### **A. Opportunities for Fraud**

1. The collapse of the savings and loan industry and of mortgage markets has made policymakers well acquainted with the dangers of markets, especially in newly created, intangible goods. The risk of manipulation is inherent in the operation of markets, and environmental regulatory markets are no exception.
2. Participants in environmental trading markets have sometimes been paid for making environmental improvements they would have made anyway (and sometimes were already required to make), “double-dipping” by making

improvements for which they have already been fully paid in the same or another market, or engaging in purely “paper trades” based on no real world environmental improvements. *See* Womble & Doyle, *supra*, at 291-92.

3. Although many such examples of fraud have arisen under pollution control programs with market-based components, the risks are similar for ecosystem service markets such as the § 404 wetlands mitigation program.

## **B. Fraud, Fraud, and More Fraud**

1. Profit motives can induce cheating that impairs environmental regulatory markets in the absence of regulatory safeguards.
  - a. For example, to reduce the nation’s dependence on foreign oil, help grow the nation’s renewable energy industry, and reduce greenhouse gas emissions, the Energy Policy Act of 2005 requires that transportation fuel sold in the U.S. be composed of at least a minimum volume of clean, renewable fuel. EPA , Renewable Fuel Standard (RFS), <http://www.epa.gov/otaq/fuels/renewablefuels/index.htm>. *See* 42 U.S.C. § 7545(o).
  - b. EPA regulations require petroleum refiners and importers (called “obligated parties”) to demonstrate compliance with individualized Renewable Volume Obligations (RVOs). Obligated parties may comply with their RVOs by purchasing credits from renewable fuel producers. Credits that are not based on the actual production of renewable fuel are invalid. 40 C.F.R. § 80.1431(a)(1)(vi).
  - c. EPA recently issued at least two dozen notices of violation to obligated parties alleged to have used invalid biomass-based diesel credits to comply with their RVOs. One company that sold over 32 million credits allegedly failed to produce even a single gallon of renewable fuel. The company’s owner was charged with wire fraud, money laundering, and violating federal environmental laws. EPA , Civil Enforcement of the Renewable Fuels Standard (RFS) Program, <http://www.epa.gov/compliance/civil/caa/fuel-novs.html>.
2. A second example of manipulation in environmental regulatory markets involves the manufacture of a chemical (HFC-23) that is nearly 12,000 times more potent in its impact on climate change than CO<sub>2</sub>. *See* Elisabeth Rosenthal & Andrew W. Lehren, *Profits on Carbon Credits Drive Output of a Harmful Gas*, N.Y. TIMES, Aug. 8, 2012, <http://www.nytimes.com/2012/08/09/world/asia/incentive-to-slow-climate-change-drives-output-of-harmful-gases.html?pagewanted=all& r=0>.
  - a. The Clean Development Mechanism (CDM), the Kyoto Protocol’s carbon credit trading program, values carbon credits according to the impact on global warming and the staying power in the atmosphere of

particular GHGs. *See generally* Michael Wara, *The Clean Development Mechanism's Performance and Potential*, 55 UCLA L. REV. 1759 (2009).

- b. HFC-23 is a chemical byproduct of manufacturing refrigerants and feedstocks for certain plastic products. Between the initiation of the trading program and mid-2012, 46% of all CDM credits were awarded to coolant factories, mostly in developing countries. Ryan Cooper, *What the Heck is HFC-23?*, WASHINGTON MONTHLY, Aug. 9, 2012, [http://www.washingtonmonthly.com/political-animal-a/2012\\_08/what\\_the\\_heck\\_is\\_hfc23039115.php](http://www.washingtonmonthly.com/political-animal-a/2012_08/what_the_heck_is_hfc23039115.php).
  - c. Asian companies produced HFC-23 so that they could destroy it to generate credits that could be sold under the CDM. These companies had no interest in manufacturing coolants, and intentionally used inefficient manufacturing processes to generate as much waste HFC-23 as they could. They even shut down each year as soon as they sold the maximum amount of HFC-23 credits allowed under the program.
  - d. The companies produced so much coolant in generating HFC-23 credits that the price of coolants fell, which discouraged air-conditioning companies from developing more efficient and less environmentally damaging alternatives to the coolant.
3. A third example of marketable permits gone wild arose under a California air pollution emission trading program. *See* Richard Toshiyuki Drury et al., *Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy*, 9 DUKE ENVTL. L. & POL'Y F. 231 (1999).
    - a. To combat smog in southern California, state regulators adopted Rule 1610, which allowed emission trading between mobile and stationary sources, both of which emit ozone precursors that contributed to noncompliance with the Clean Air Act's national ambient air quality standards. 42 U.S.C. § 7409(b).
    - b. Rule 1610 allowed factories to avoid installing expensive pollution controls by purchasing credits generated by the destruction of high-polluting cars (and measured by the projected avoided emissions from the destroyed vehicles).
    - c. The trading program sought to induce the owners of high-polluting, older vehicles to take them off the road, which reduces emissions more cheaply than requiring factories to curtail smokestack emissions through technological fixes.
    - d. But many of the cars whose avoided emissions generated credits were already destined for destruction for reasons having nothing to do with

pollution control. Some of those who sold credits crushed the bodies of the cars but sold the engines for reuse in other cars still on the roads.

- e. As a result, instead of achieving equivalent reductions at a lower cost, the trading program increased ozone precursor emissions. *See also* Nicklas A. Akers, *New Tools for Environmental Justice: Articulating a Net Health Effects Challenge to Emissions Trading Markets*, 7 HASTINGS W.-N.W. J. ENVTL. L. & POL'Y 203 (2001).
4. In short, market-based mechanisms create financial incentives to trade non-existent credits that cost nothing to generate.
5. This dynamic means that market-based programs will achieve efficient and effective environmental protection only if they are designed to enable the government to identify, halt, and punish those who profit from phony reductions or otherwise game the system.

#### **IV. Accountability Safeguards**

##### **A. Market-Based Programs: Potential and Pitfalls**

1. The prerequisites to well-functioning markets of any kind include a stable political environment, well-defined private property rights, and adequate financial support for proper administration. Absent these factors, markets may appear to be unpredictable and unreliable, which will impair trading and reduce its capacity to promote efficiency-inducing exchanges.
2. But an efficient and effective market for protecting ecosystem services requires more to avoid exploitation that subverts regulatory goals. Environmental markets should include institutional safeguards in the form of financial responsibility requirements, verifiable performance standards, transparency and public participation standards, regulatory oversight mechanisms, and rule of law safeguards.

##### **B. Financial Safeguards**

1. Traditional environmental regulatory programs often condition issuance of permits and other regulatory benefits on compliance with financial safeguards developed by agencies such as EPA.
2. For example, the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6922k, requires evidence of financial responsibility (such as insurance) as a prerequisite to issuance of a permit for a facility that treats, stores, or disposes of hazardous waste. *See* 42 U.S.C. 6924(a)(6); 40 C.F.R. §§ 264.140-264.151.
3. Ecosystem services trading programs such as the CWA's wetlands mitigation banking program should include similar financial responsibility protections.

4. CWA wetlands banking rules do require the suppliers of credits to provide financial assurances such as performance bonds, casualty insurance, letters of credit, or escrow accounts. 33 C.F.R. § 332.3(n)(2). Mitigation bankers must maintain a ledger to account for all credit transactions, and must notify the Corps of Engineers every time a credit transaction occurs. *Id.* § 332.8(p)(1).

### **C. Verifiable Performance Standards**

1. Most traditional U.S. environmental regulatory programs rely on performance standards, which require regulated entities to achieve the level of pollution control or environmental protection needed to achieve regulatory goals, but afford those entities the discretion to choose how they will do so. *See* SIDNEY A. SHAPIRO & ROBERT L. GLICKSMAN, *RISK REGULATION AT RISK: RESTORING A PRAGMATIC APPROACH* 151-52 (2003). A well-designed environmental market-based program should also incorporate standards against which to judge the performance of market participants, especially credit sellers.
  - a. The agency responsible for administering a trading program must promulgate general rules establishing the minimum conditions for trading that will achieve desired levels of protection, and determine whether individual proposed trades satisfy those requirements and will actually provide the promised environmental services.
  - b. Detailed rules can reduce flexibility and hamper useful trades. In addition, extensive review of individual trades will generate high transaction costs, blocking some beneficial trades that are too costly to arrange and implement. But the absence of regulatory detail and meaningful review of individual trades creates opportunities for abuse.
2. Corps of Engineers regulations include performance standards for wetlands mitigation trades under the § 404 program.
  - a. Trading parties must prepare baseline inventories of existing aquatic resources and identify immediate and long-term resource needs that can be met through mitigation projects. 33 C.F.R. § 332.3(c)(2)(iv).
  - b. The regulations prohibit the same credits being used to provide mitigation for more than one permitted activity. But they allow compensatory mitigation projects, where appropriate, to “be designed to holistically address requirements under multiple programs and authorities for the same activity.” *Id.* § 332.3(j)(1)(ii). It is not clear whether such “holistic” endeavors leave the program open to manipulation.
  - c. The Corps’ rules require identification of the parties responsible for implementation and long-term management of compensatory mitigation projects. *Id.* § 332.3(l)(1).

- d. Permit applicants must prepare a mitigation plan to ensure long-term protection of the compensatory mitigation project site. Each plan must describe the legal arrangements and instrument that will be used to ensure long-term protection of the mitigation project site; include an adaptive management plan to address unforeseen changes in site conditions; and provide other information needed to determine the appropriateness, feasibility, and practicability of the compensatory mitigation project. *Id.* § 332.4(c).
- e. The plan also must include verifiable performance standards that can be assessed using the best available science so that regulators may determine whether compensatory mitigation is providing the desired and expected wetlands functions, and is attaining applicable metrics (e.g., # of viable wetlands acres). *Id.* § 332.5(a).
- f. These “objective and verifiable” standards may be based on measures of functional capacity described in terms of hydrological or other aquatic resource characteristics, or comparisons to reference aquatic resources of similar type and landscape position. *Id.* § 332.5(b).

#### **D. Transparency and Participation Safeguards**

1. According to the Millennium Ecosystem Assessment, insufficient participation and transparency have been major barriers to ecosystem protection, through market-based mechanisms and otherwise. 3 MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING: POLICY RESPONSES, at 3 (Kanchan Chopra et al. eds. 2005).
  - a. Transparency allows the public to gauge whether trades are consistent with regulatory goals and standards.
  - b. The dangers of lack of transparency are illustrated by a rapid rise in the price of credits for the manufacture or importation of gasoline blended with ethanol or other renewable fuels in 2013. The market for these credits is connected to the renewable fuels standards adopted under the Energy Policy Act of 2005, discussed above.
  - c. The price of ethanol credits jumped 20-fold in 2013. Some attribute the steep rise to hoarding of credits by big banks and other financial institutions precisely when the petroleum industry was reaching the limit of the amounts of ethanol that could be blended into gasoline without requiring the installation of new corrosion prevention systems. *See* Gretchen Morgenon & Robert Gebeloff, *Wall St. Exploits Ethanol Credits, and Prices Spike*, N.Y. TIMES, Sept. 14, 2013.
  - d. EPA does not engage in the kind of fraud prevention oversight that is characteristic of regulators of securities and other financial markets. Nor does it require disclosure by market participants themselves, citing

the need to protect the confidentiality of refiners and other market participants.

- e. The steep rise in the price of renewable fuels credits may result in corresponding increases in the price of gasoline to consumers. *Id.*
2. One way to enhance transparency in wetlands development credits would be to create a publicly accessible registry that allows interested persons to track transactions. *See* ECOSYSTEM MARKETPLACE, STATE OF WATERSHED PAYMENTS: AN EMERGING MARKETPLACE 53-54 (Tracy Stanton et al., eds., June 2010), available at [http://www.forest-trends.org/documents/files/doc\\_2438.pdf](http://www.forest-trends.org/documents/files/doc_2438.pdf). It may make sense to create a federal registry on environmental subsidies and trades, including wetlands mitigation transactions, and authorize citizen suits when required information is not submitted by participants or disclosed by the government.
  3. Government overseers benefits from public participation, which can generate information about the costs and benefits of both general trading rules and individual trades of which the agency may not be aware.
    - a. Public input may illuminate the comparative merits and opportunity costs of developing alternative sites may be assessed. Public participation also tends to enhance legitimacy and social acceptance.
    - b. The wetlands banking program fares well in terms of some aspects of public participation but not others.
    - c. Compliance with the federal Administrative Procedure Act's procedures for informal rulemaking, 5 U.S.C. § 553(b)-(c), should accommodate public input at the rules creation stage.
    - d. Opportunities to provide input on individual trades is not always as good, but the CWA wetlands mitigation regulations require that the Corps provide public notice of (and solicit public comment on) a proposed permit, including a description of any proposed compensatory mitigation or intent to use a mitigation bank or in-lieu fee program. 33 U.S.C. § 332.4(b)(1).
    - e. The regulations also allow other federal and state agencies with environmental expertise to provide comments on proposed trades, and the Corps has created a dispute resolution process to resolve disagreements between the Corps and other agencies such as EPA or the Fish and Wildlife Service. 33 C.F.R. § 332.8(e).

#### **E. Regulatory Oversight Mechanisms (Monitoring and Inspections)**

1. Access to information is a prerequisite to effective oversight by either the government or the public. That access can include mandatory monitoring,

reporting, government inspections, and verification that the promised ecosystem services actually are being provided. Without accurate monitoring data, the integrity of the allowance market is compromised.

2. The Corps' § 404 regulations require each mitigation plan to contain monitoring requirements to help determine whether mitigation is on track to meet performance standards and whether mid-term adjustments through adaptive management are needed. *Id.* §§ 332.4(c)(1), 332.6(a)(1).
  - a. Federal, tribal, state, and local resource agencies, and the public are entitled to copies of monitoring reports on request. *Id.* § 332.6(c)(3).
  - b. The CWA regulations authorize the Corps to conduct site inspections at least annually to evaluate mitigation site performance. *Id.* § 332.6(a)(2).
3. The Government Accountability Office, however, concluded in 2005 that the Corps' guidelines for compliance inspections were vague on key issues such as how to determine whether mitigation is substantial and what information had to be included in reports. U.S. Government Accountability Office, *Corps of Engineers Does Not Have an Effective Oversight Approach to Ensure That Compensatory Mitigation Is Occurring*, GAO-05-898 (2005), <http://www.gao.gov/products/GAO-05-898>
  - a. The GAO also found that the Corps performed limited oversight to determine the status of required compensatory mitigation, and it raised questions whether the Corps actually required permit holders to perform compensatory mitigation or conducted timely compliance inspections. *Id.* at 5.
  - b. The Corps largely relied on the good faith of permit holders to comply with compensatory mitigation requirement. At times, the Corps did not even enter agreements with third-party sponsors to ensure it had legal recourse if compensatory mitigation was not being performed.
  - c. As a result, some mitigation projects were unfinished and. According to a report by Resources for the Future, only about 20% of sites met the ecological equivalent of the displaced wetlands (using measures such as vegetative cover and hydrological function). Margaret Walls & Anne Riddle, *Biodiversity, Ecosystem Services, and Land Use: Comparing Three Federal Policies* 9-10 (Resources for the Future 2012), <http://www.rff.org/RFF/Documents/RFF-DP-12-08.pdf>.
  - d. The GAO concluded: "Until the Corps takes its oversight responsibilities more seriously, it will not know if thousands of acres of compensatory mitigation have been performed and will be unable to ensure that the section 404 program is contributing to the national goal of no net loss of wetlands." GAO, *supra*, at 27.

- e. It is not yet clear whether 2008 revisions to the Corps' guidance have adequately addressed these problems. Compensatory Mitigation for Losses of Aquatic Resources, 73 Fed. Reg. 19,594 (Apr. 10, 2008).
4. Other kinds of operational safeguard systems are possible, such as third party verification, but the government must oversee the verification bodies to ensure the accuracy of their findings and reports. *See generally* Lesley K. McAllister, *The Enforcement Challenge of Cap-and-Trade Regulation*, 40 ENVTL. L. 1195 (2010).
  5. The recent discovery of flaws in another ecosystem-based market program highlights the need for monitoring and inspections to verify performance.
    - a. The approval by the Fish and Wildlife Service (FWS) of a landowner's habitat conservation plan can shield developers from enforcement of the Endangered Species Act's prohibition on taking of listed species. 16 U.S.C. §§ 1538(a)(1)(B), 1539(a)(2).
    - b. In exchange for the FWS's agreement to withdraw a proposal to list the sagebrush lizard as endangered, Texas promised it would restrict surface disturbances in the lizard's habitat through such a plan.
    - c. In May 2013, the state reported to the FWS that no surface disturbances were occurring. In June, the FWS Director praised the state, calling the agreement "the best outcome for the species."
    - d. Only two months later, a report from the Defenders of Wildlife documented through satellite images and aircraft photos that many disturbances had occurred in connection with oil and gas development. Defenders of Wildlife, *Glaring Mismanagement Found in Administration of Texas Imperiled Species Conservation Plan by State Comptroller* (Aug. 19, 2013), <http://www.defenders.org/press-release/glaring-mismanagement-found-administration-texas-imperiled-species-conservation-plan>; Defenders of Wildlife, *Habitat Disturbances Under the Texas Habitat Conservation Plan for the Dunes Sagebrush Lizard* (2013), <http://www.defenders.org/sites/default/files/publications/dunes-sagebrush-lizard-mapping-report.pdf>.

## **F. Rule of Law Safeguards**

1. Accountability of both market participants and government officials is critical if manipulation and subversion of § 404's goals are to be avoided.
2. Judicial review provides one form of accountability.

- a. An accountable trading program should provide access to the courts to review the establishment of ground rules for trades, and of individual transactions for compliance with those rules.
- b. Allowing citizen suits by environmental public interest groups or other stakeholders to enforce statutory and regulatory provisions such as monitoring and reporting obligations may be helpful.
- c. But the courts are divided on whether citizen suits may be brought under the CWA concerning the dredge and fill permit provisions.
- d. Some courts have allowed citizen suits only against developers alleged to have discharged dredged or fill material into wetlands without a permit, *see, e.g.*, *Envtl. Def. Fund v. Tidwell*, 837 F. Supp. 1344 (E.D.N.C. 1992), but not against those alleged to have violated permit terms and conditions. *See, e.g.*, *Atchafalaya Basinkeeper v. Chustz*, 682 F.3d 356 (5<sup>th</sup> Cir. 2012); *Stillwater of Crown Point Homeowner's Ass'n v. Kovitch*, 820 F. Supp. 2d 859, 873-74, 895 (N.D. Ill. 2011); *Nw. Env'tl. Def. Ctr. v. U.S. Army Corps of Eng'rs*, 118 F. Supp. 2d 1115 (D. Or. 2000).
- e. The courts also disagree on whether the CWA waived the federal government's sovereign immunity to suits alleging violations of agencies duties relating to the § 404 program. *Compare* *Avoyelles Sportsmen's League, Inc. v. Marsh*, 786 F.2d 631 (5<sup>th</sup> Cir. 1986) (allowing suit); *Golden Gate Audubon Soc'y v. U.S. Army Corps of Eng'rs*, 717 F. Supp. 1417 (N.D. Cal. 1988) (same), *with* *Preserve Endangered Areas of Cobb's History, Inc. v. U.S. Army Corps of Eng'rs*, 87 F.3d 1241, 1249-50 (11<sup>th</sup> Cir. 1996) (sovereign immunity barred suit). Some courts have opined that suits under the APA may be available even if CWA citizen suits are not. *See* *Cascade Conservation League v. M.A. Segale, Inc.*, 921 F. Supp.2d 692 (W.D. Wash. 1996) (dictum).

### 3. Sanctions

- a. The creation of credible deterrents is essential to minimize cheating in market-based trading programs.
- b. These deterrents can result from financial penalties, injunctions to shut down activities or require restoration, and criminal sanctions for behavior such as willful misreporting.
- c. Simply having laws that authorize these sanctions is not enough, however. The government must adequately finance investigation and enforcement initiatives and government officials must retain their independence from those who would profit from flouting the rules.

- d. An attractive option is to make a credit purchaser legally responsible for its seller's failure to meet performance standards or comply with other program requirements, so that someone other than the government has a stake in successful ecosystem protection actions.
- e. The Corps can assess administrative penalties for violating wetlands protection regulations or permits, require forfeiture of bonds, suspend or revoke permits, and recommend the imposition of harsher sanctions by the Department of Justice.
- f. Whether the Corps actually uses these powers effectively is a separate question. There is evidence that CWA enforcement actions concerning pollutant discharges often fail to extract from violators the economic benefits of noncompliance. *See, e.g.,* Robert Glicksman & Aimee Simpson, *No Profit in Pollution: A Comparison of Key Chesapeake Bay State Water Pollution Penalty Policies*, Center for Progressive Reform Briefing Paper # 1305 (April 2013), [http://www.progressivereform.org/articles/No\\_Profit\\_Pollution\\_1305.pdf](http://www.progressivereform.org/articles/No_Profit_Pollution_1305.pdf). If Corps penalties suffer the same defect, slippage can be expected if it is more profitable to violate and pay penalties than to comply with regulatory obligations attached to trading authorizations.

## **V. Conclusion**

### **A. Protecting Ecosystem Services through Markets**

1. The use of markets in ecosystem protection programs can promote efficiency, but also entails risks. Trading participants may engage in abuses that escape the attention of regulatory overseers.
2. The need for program elements that promote accountability is therefore perhaps even more important than for other regulatory programs that may be premised on better understandings of the causes and effects of environmental harms.

### **B. A Work in Progress**

1. The final word on the efficacy of § 404 trades in protecting the ecosystem services provided by wetlands has yet to be written.
2. The § 404 mitigation trading program has many of the elements of an accountable market device, but the agency's supervision and enforcement of compensatory mitigation plans appear to need beefing up if abuses are to be avoided, and congressional funding cuts may hamper the ability of both EPA and the Corps to create effective deterrents to actions that undercut the program's protective goals.