Financial Incentives for Wetland Protection and Restoration

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Contents

Abstract

Wetland protection policies across the world lack specific, comprehensive national wetland laws. Relying on laws intended for other purposes, federal statutes regulating or protecting wetlands have evolved over the years. This chapter explores financial incentives for wetland protection and restoration.

Keywords

Ramsar convention · Economics · Regulation · Wetland mitigation

Introduction

Wetland protection policies across the world lack specific, comprehensive national wetland laws. Instead federal statutes regulating or otherwise protecting wetlands have evolved over the years, using laws originally intended for other purposes (Mitsch and Gosselink 1993). Generally, jurisdiction for wetland protection is spread over several agencies, and federal wetland protection is not as effective or cohesive as it could be.

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Market-oriented environmental regulation can encourage innovation for new management techniques in wetland protection and restoration (Bosselman 2009). Among the issues to consider are the size of the geographic area to be addressed, the identification of the biogeochemical processes, the translation of the policy objectives, and the choice of management technologies to achieve these objectives (Bosselman 2009). The most serious issue is whether newly formed markets can acquire the same reputation for integrity as well-established markets (Bosselman 2009).

Financial Incentives

Wetlands provide protection from flood, improve water quality through filtering, stabilize shorelines, recharge groundwater quality through filtering, and enhance biodiversity (Harness 1991; Tiner 1984). As particularly efficient converters of solar energy, biomass in a wetland environment serves as food for a wide variety of terrestrial and avian species, which makes a **wetland** the ideal environment for resident birds, providing both a year-round habitat and a critical breeding ground (McHugh 1966).

Wetlands, in their natural state, contribute a variety of environmental and socioeconomic values to society. For example, **wetlands** help maintain water quality, control erosion, discharge and recharge groundwater, and provide opportunities for the harvest of indigenous products including timber, fish, shellfish, peat, cranberries, and wild rice (Tiner 1984). **Wetlands** also provide valuable recreational opportunities, such as bird watching, canoeing, hunting, and fishing (Tiner 1984).

On account of the important functions of wetlands, state policymakers are no longer questioning whether wetlands should be protection, but instead are looking to how to protect freshwater wetlands (Harness 1991). New **wetland** protection programs are successful when they are based on comprehensive long-range planning. Another consideration is the establishment of incentives for private protection in the form of tax **incentives**, subsidies, or inducements to leave **wetlands** intact (Harness 1991).

The economic benefits of **wetland** protection manifest to society as a whole, while the costs of conservation fall on the property owner in the form of lost investment opportunities, reinforcing negative attitudes toward **wetland** conservation (Babcock 1991). The public benefits of leaving the resource in its natural state are not as easily quantified as are lost investment opportunities (Babcock 1991).

Ramsar Convention

The Convention on Wetlands of International Importance Especially as Waterfowl Habitat (the Ramsar Convention) defines wetlands as “areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish, or salt including areas of marine water, the depth of which at low tide does not exceed 6 meters” (Mitsch and Gosselink 1993).

The Ramsar Convention's Small Grants Program offers financial incentives for wetland restoration to developing nations and those in economic transition. Several of the projects have focused on **restoration** activities, notably in Armenia (Lake Sevan), Ghana (mangroves and coastal **wetlands** in the Lower Volta Delta), Moldova (**wetlands** downstream of the Dniester River), and the Slovak Republic (**wetlands** adjacent to the Morava River) (Gardner 2003).

Other Funding Sources

A government may establish a trust fund that has multiple funding sources (Gardner 2003). The **Wetlands** Conservation Project, administered by the North American **Wetlands** Conservation Council, relies on appropriations, interest earned on trust fund monies, and fines and penalties collected for violations of the Migratory Bird Treaty Act (16 U.S.C. § 4406 2000). The National Coastal **Wetlands** Conservation Grant Program is funded by taxes on fishing equipment and motorboat and small engine fuels (16 U.S.C. § 3954 2000). A government may also use its bonding authority to raise money for **restoration** projects, as New York State did under its environmental bond act (Odell 2001). New York's Department of Environmental Conservation raised more than $2.5 million by selling items such as prints, posters, and stamps (Odell 2001).

Nongovernmental organizations in the United States and Canada frequently contribute funds to programs that encourage private landowners to **restore wetlands** (Gardner 2003). Under the North American **Wetlands** Conservation Act, the US federal government may provide no more than half of a project's costs (16 U.S.C. § 4407 2000). Provincial, state, and local governments, NGOs, and landowners must provide matching funds (16 U.S.C. § 4407 2000).

The private sector may also provide funding for **restoration** projects. In the United States, the Corporate **Wetlands Restoration** Partnership is a mechanism by which corporate contributions are matched 4:1 by federal and state agencies (Corporate **Wetlands Restoration** Partnership). In return for the donations, corporations are recognized as "corporate sponsors" of the **restoration** projects.

Individual landowners play a pivotal role in biodiversity preservation, open-space conservation, and wetlands management (Stern 2006). Three-quarters of all threatened or endangered species depend on private land for habitat, food, or breeding grounds (Defenders of Wildlife 1996). The majority of wetlands, which filter impurities and provide other ecosystem services, are located on private rather than publicly owned land (Morrisette 2001).

Wetland Mitigation

Wetland mitigation comes in two forms, on-site or off-site, and it is managed in three different ways: developer banks, public banks, and private banks (Whitsitt 1997). On-site mitigation forces the developer to (a) hire another who is in the

business of environmental **restoration**, (b) monitor the growth and stability of the on-site **wetland** creation project, and (c) pay for added costs of the permit requirement (Sokolove and Thompson 1994).

Mitigation protects **wetlands** in three ways (Bolger 2000). First, it provides an **incentive** for landowners with **wetlands** on their property to maintain the **wetlands** (Dunec 1998). It **financially** compensates **wetland** property owners who want to develop their land, but cannot obtain a permit (Dunec 1998). **Wetland** property owners can preserve, enhance, or **restore** their **wetlands** and then sell tax credits to developers in other areas who need to purchase tax credits as part of their permit requirement (Dunec 1998). Second, it prevents takings litigation by developers (Whitsitt 1997). Mitigation allows the government to control the use of the property without voiding it of all its purpose and function, thereby infusing the **wetlands** with economic value (Whitsitt 1997). Third, mitigation banking **restores** high-grade **wetlands** that have been polluted or degraded, preserves healthy and functional **wetlands** in existence, and even enhances **wetland** areas to promote their expansion and growth (Sapp 1995).

Mitigation banking attempts to remedy problems associated with traditional, permittee-provided mitigation (Gardner 1996). The federal agencies define a mitigation bank as "**restoration**, creation, enhancement and, in exceptional circumstances, preservation of **wetlands** and/or other aquatic mitigation in advance of authorized impacts to similar resources" (Federal Guidance 1995). The key concept is the timing of the mitigation action; by definition, the **restoration** (or creation and enhancement) activities should occur before development impacts (Gardner 1996). Since the mitigation is provided in advance of impacts, there is less uncertainty about the success of the mitigation (Federal Guidance 1995). Mitigation banks are typically located on larger parcels, and "[i]t may be more advantageous for maintaining the integrity of the aquatic ecosystem to consolidate compensatory mitigation into a single large parcel" (Federal Guidance 1995). Another reason that mitigation banks may be more successful than traditional, permittee-provided mitigation is that banks "can bring together **financial** resources, planning and scientific expertise not practicable to many project-specific compensatory mitigation proposals" (Federal Guidance 1995). Furthermore, a consolidated mitigation site, such as in the case of mitigation banks, "increases the efficiency of limited agency resources in the review and compliance monitoring of mitigation projects, and thus improves the reliability of efforts to **restore**, create or enhance **wetlands** for mitigation purposes" (Federal Guidance 1995).

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