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Wetland and Conservation Banking in Transmission Corridor Rights-of-Way: Feasibility Assessment

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1015598

Final Report, December 2008

EPRI Project Manager
J. Goodrich-Mahoney

ELECTRIC POWER RESEARCH INSTITUTE
3420 Hillview Avenue, Palo Alto, California 94304-1338 • PO Box 10412, Palo Alto, California 94303-0813 • USA
800.313.3774 • 650.855.2121 • askepri@epri.com • www.epri.com

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CITATIONS

This report was prepared by

Environmental Law Institute
2000 L Street, NW, Suite 620
Washington, DC 20036

Principal Investigator
J. McElfish, Jr.
S. Wegmueller

This report describes research sponsored by the Electric Power Research Institute (EPRI).

The report is a corporate document that should be cited in the literature in the following manner:

Wetland and Conservation Banking in Transmission Corridor Rights-of-Way: Feasibility Assessment. EPRI, Palo Alto, CA: 2008. 1015598.

PRODUCT DESCRIPTION

Wetland mitigation banking and habitat conservation banking provide legally recognized ways to offset permitted impacts to aquatic resources and wildlife by providing compensatory mitigation "credits" generated by conservation activities. Electric transmission corridor rights-of-way (ROWs) provide potential locations for wetland mitigation banks and conservation banks. This report examines barriers to the use of transmission corridor ROWs for wetland and conservation banks, opportunities to harmonize such banking with ROW management objectives, and key considerations in entering into any banking agreement on ROW lands.

Results and Findings

Electric transmission corridor ROWs offer potential sites for wetland and habitat banking. Although there is virtually no experience with such banks on ROW lands, experiences with non-bank conservation activities on ROWs offer reasons to believe that banking can be made consistent with ROW management.

Wetland mitigation banking deserves consideration when the ROW operator or utility needs or anticipates the need for mitigation credits for impacts to aquatic resources by any part of the power generation or transmission system, and sufficient aquatic resources exist within the ROW to meet or exceed these requirements. Conservation banking deserves consideration when the electric transmission corridor operator or utility needs to satisfy its own Habitat Conservation Plan (HCP) needs and has the opportunity to do additional conservation, or is in an area for which a regional HCP is being or has been prepared. Both wetland and conservation banking deserve consideration when a landowner or land trust identifies lands in and around the ROW that are suitable for banking and is interested in undertaking the procedural steps to obtain approval of the bank, as well as taking responsibility for the restoration, management, and long-term protection of the site. Conditions supporting wetland and conservation banking within ROWs may be found in areas where alternative locations for habitat or aquatic compensatory mitigation are relatively scarce.

Where a transmission corridor ROW is held by easement, using the ROW lands in conservation or wetland banking will be difficult without active participation by the underlying landowner. Few existing ROW easements provide sufficient access, protection from incompatible activities, and long-term conservation management authority for these purposes. Ecological issues may also make banking infeasible, as many transmission corridor ROWs are relatively narrow and occupy a small acreage in comparison with adjacent lands having the same or similar ecological potential for wetland or conservation banking. Achieving regulatory approval of wetland mitigation banks and conservation banks requires a substantial investment of time and interaction with federal and state regulatory agencies. ROW operators may find this investment worthwhile chiefly when they have other reasons for this interaction, such as meeting mitigation

requirements for their own impacts on habitat or aquatic resources or where a government conservation agency or a third party approaches them with a conservation proposal.

Wetland and conservation banking are more likely to be attractive to electric transmission corridor ROW operators where landowners that control adjacent lands can partner in the conservation activity in order to increase the size and ecological functionality of the banking site and thus its cost-effectiveness in credit generation and attractiveness to potential credit purchasers.

Challenges and Objectives

This report is directed at utility and ROW managers, regulators, and policymakers working on electricity transmission planning, including environmental permitting and mitigation. ROW operators will benefit by gaining increased understanding of aquatic and habitat regulations and guidelines that govern wetland and conservation banking. They will be enabled to identify the agreements and conditions that are necessary if such banking is to occur on ROW lands consistent with the use of the ROW for transmission of electric power.

Applications, Values, and Use

Both wetland mitigation banking and conservation banking are likely to increase in the future as various forms of development activities encroach on aquatic resources and habitats. Siting of new transmission lines and work on management of existing ROWs may present opportunities to undertake compensatory mitigation on ROW lands. ROW planners and managers will be enabled to identify what factors to consider in deciding whether to pursue or allow banking on ROW lands and what agreement conditions should be included in banking instruments, easements, and permits.

EPRI Perspective

While there are many challenges to establishing wetland mitigation and conservation banks within existing transmission ROWs, a number of electric utilities may find their development of benefit. Utilities continually strive to improve environmental conditions within ROWs while meeting vegetation management requirements, and the development of bank may complement these goals. For new transmission ROWs, utilities can incorporate language into easement documents, which may more easily facilitate the development of banks.

Approach

The study relies on interviews of ROW managers and others with experience in conducting wetland and habitat conservation within transmission corridor ROWs and consideration of recently adopted regulations and requirements for wetland and conservation banking.

Keywords

Electric transmission line rights-of-way
Wetlands
Wetland mitigation banking
Conservation banking

ABSTRACT

Electric power transmission corridor rights-of-way (ROWs) offer potential locations for wetland mitigation banks and conservation banks. Barriers to use of these ROWs for banking include whether the ROW operator has legal rights of access to lands for these uses and for long term management for conservation; the need to assure successful and reliable operation and maintenance of the ROW transmission facilities; the costs of establishing, permitting and managing wetland and conservation banks; and ecological issues affecting the suitability of relatively linear and narrow ROW corridors for banking. There is virtually no current experience with wetland or conservation banks in transmission corridor ROWs, but experience with wetland mitigation and habitat conservation in a non-bank context indicates that such activities are feasible in ROWs. Essential issues for consideration include the need for active participation by the underlying landowner (in easement contexts) and adjacent landowners. The successful establishment, operation, and long term management of a wetland or conservation bank will ordinarily require management of these nearby lands absent special circumstances, such as linear conservation objectives such as stream corridors, regional conservation plans such as regional Habitat Conservation Plans (HCP), or other compatible adjacent land uses. Wetland and conservation banking are more likely to be attractive to electric transmission corridor ROW operators where landowners that control adjacent lands can partner in the conservation activity in order to increase the size and ecological functionality of the banking site, and thus its cost-effectiveness in credit generation and its attractiveness to potential credit purchasers.

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WETLAND AND CONSERVATION BANKING – AN INTRODUCTION

A previous report, *Wetland and Conservation Banking in Transmission Corridor Rights-of-Way: Policy and Opportunities* (EPRI 2008b), discussed the characteristics of wetland mitigation banks and conservation banks and the general potential for establishing such banks on electric transmission corridor rights-of-way (ROWs). This report examines the constraints and opportunities that will affect such uses in practice.

In order to assess these constraints and opportunities, it is necessary first to identify the core requirements for establishing and operating wetland and conservation banks.

Summary of Wetland Mitigation Banking Requirements

Anyone seeking to establish a wetland mitigation bank on a transmission corridor right-of-way will need to satisfy the federal requirements published in the compensatory mitigation regulations that became effective July 9, 2008 (hereafter "Compensatory Mitigation Rule")(U.S. Dept. of Defense and U.S. EPA 2008).

According to the regulations, a mitigation bank is a "site, or suite of sites, where resources (e.g. wetlands, streams, riparian areas) are restored, established, enhanced, and/or preserved for the purpose of providing compensatory mitigation for impacts authorized by [Corps of Engineers] permits. In general, a mitigation bank sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the mitigation bank sponsor"(U.S. Dept. of Defense and U.S. EPA 2008, 33 C.F.R. §332.2). The general term "wetland mitigation bank" is used in this study to include banks that provide compensatory mitigation for wetlands, streams and other aquatic features protected by law.

Compensatory mitigation projects may be sited on public or private lands, and federal regulations have established a strong preference for compensatory mitigation to be supplied "within the same watershed as the impact site" (U.S. Dept. of Defense and U.S. EPA 2008, §332.3(b)(1)). The Compensatory Mitigation Rule designates mitigation banking as the first choice for compensatory mitigation whenever impacts are within the service area of a bank and the bank has credits available.

For purposes of measuring mitigation and calculating the compensation, a bank credit is defined as "a unit of measure (e.g., a functional or areal measure or other suitable metric) representing the accrual or attainment of aquatic functions at a compensatory mitigation site. The measure of aquatic function is based on the resources restored, established, enhanced, or preserved" (U.S. Dept. of Defense and U.S. EPA 2008, 33 C.F.R. §332.2).

The process for establishing and managing wetland mitigation banks is overseen by a governmental Interagency Review Team (IRT). The IRT generally is composed of representatives from the Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (the "Corps"), the U.S. Fish and Wildlife Service (USFWS), NOAA Fisheries, and the Natural Resources Conservation Service. Other federal, state, local, and tribal representatives may serve on the IRT, as appropriate. State, local, or tribal agencies are likely to serve on the IRT in regions where these groups play a significant role in wetland regulation. In virtually all cases, the Corps serves as the Chair of the IRT (U.S. Dept. of Defense and U.S. EPA 2008, §332.8(b)).

The proposed bank sponsor may submit a series of prospectus drafts to the Corps and the IRT for review and comment before submitting a final banking instrument to the Corps for approval. The banking instrument must contain the following seven elements:

1. A description of the proposed geographic service area of the mitigation bank or in-lieu fee program;
2. Accounting procedures;
3. A provision stating that legal responsibility for providing the compensatory mitigation lies with the sponsor once a permittee secures credits from the sponsor;
4. Default and closure provisions;
5. Reporting protocols;
6. A mitigation plan; and
7. A credit release schedule, which is tied to achievement of specific milestones (U.S. Dept. of Defense and U.S. EPA 2008, §332.8(d)(6)).

The mitigation plan outlines the legal, financial, and design elements of the proposed bank. It must include the following 12 elements:

1. A description of the bank objectives, including the resource types and amounts that will be provided, the method of compensation, and a description of how the bank will support the needs of the watershed;
2. A description of the factors considered during the site selection process, including how site selection took watershed needs into consideration;
3. A description of the real estate and/or legal arrangements that will be used to ensure the long-term protection of the site;
4. A description of the baseline ecological characteristics of the proposed compensatory mitigation project site;
5. A description of the number of credits the bank anticipates providing;
6. A detailed mitigation work plan including such details as the construction methods that will be used and the timing of construction;
7. A description and schedule of maintenance activities that will be carried out at the bank;
8. A description of the ecologically-based performance standards that will be used to determine whether the bank is achieving its objectives;

9. A description of parameters to be monitored at the bank, which should elucidate whether or not the project is on track to meet its performance standards and if adaptive management is needed, as well as a schedule for providing monitoring reports to the Corps;
10. A long-term management plan, which describes how the compensatory mitigation project will be managed after the performance standards have been met;
11. An adaptive management plan, which outlines how the bank sponsor will address unforeseen changes in site conditions or other components of the compensatory mitigation project; and
12. A description of financial assurances that the sponsor will provide and a justification of how assurances are sufficient to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with its performance standards (U.S. Dept. of Defense and U.S. EPA 2008, §332.4(c)(2)-(c)(14)).

The regulations also allow the establishment and approval of a multi-site "umbrella banking instrument." Under this scenario, the bank is approved on the basis of initial plans and specific mitigation sites; then when additional mitigation sites are added to the bank, they are reviewed as modifications to the approved banking instrument (U.S. Dept. of Defense and U.S. EPA 2008, §332.8(h)).

Summary of Habitat Conservation Banking Requirements

Habitat conservation banking is the process of preserving, enhancing, or restoring wildlife habitat or habitat for rare species to compensate for anticipated future impacts to these habitats or species that depend on them (Bean et al. 2008). Habitat conservation banks originated in California under state wildlife and species protection programs, but are now recognized by the U.S. Fish & Wildlife Service (USFWS) as a means of mitigating impacts to threatened and endangered species under the federal Endangered Species Act across the country. USFWS conservation banking requirements are summarized in a guidance document issued in 2003 (U.S. Fish and Wildlife Service 2003). Conservation banks usually are used to provide habitat in order to mitigate for the anticipated "incidental take" of threatened or endangered species as authorized under Habitat Conservation Plans (HCPs). The Endangered Species Act allows the USFWS to issue incidental take permits where an applicant has undertaken to offset or mitigate for activities that might adversely affect listed species. In practice, the USFWS might agree to recognize either direct conservation actions or purchase of conservation credits from a habitat conservation bank.

Habitat conservation banks must address the conservation needs of one or more species listed by state or federal agencies as threatened or endangered. Thus the conserved or restored habitat in the bank must either already support such species or be capable of supporting such species. The USFWS guidance document for conservation banking specifically calls for siting "banks in appropriate areas that can reduce the threat of fragmentation and provide management measures that address other threats that a species might encounter" (U.S. Fish and Wildlife Service 2003, § II.B.1). In general, this means that conservation banks should either encompass large habitat areas, or provide habitat corridors that connect separate habitat patches (Mead 2008).

A conservation banking agreement between the bank operator and the wildlife agency must contain, among other elements:

1. the management plan;
2. title report;
3. description of the "biological value" of the bank;
4. definition of the service area;
5. number and kind of credits;
6. accounting system to track credits;
7. performance standards; and
8. contingency management, ownership, and finance plans.

The agreement also must identify "how the bank will be funded, managed, and protected in perpetuity" (U.S. Fish and Wildlife Service 2003, § II.E.1, § II.E.2). The USFWS guidance document further requires that all bank owners convey a permanent conservation easement for the lands in the bank area to ensure protection of the resource values in perpetuity and that plans for long-term monitoring be submitted (U.S. Fish and Wildlife Service 2003, § II.D.1). To ensure long-term funding for the bank, the guidance recommends a non-wasting endowment fund to ensure permanent financial assurance that bank functions will be carried out (Bean et al. 2008). States that recognize habitat banking have similar requirements (EPRI 2008b).

Bank Use and Feasibility

Both forms of banking may generate credits for sale to unrelated parties, such as developers, miners, transportation agencies, or others. Banks may also be "single-user" banks, where the credits are all intended for future use by the bank sponsor to offset its own permitted activities in various parts of its operations (Environmental Law Institute 2002).

The feasibility of banking for any particular ROW operator will depend upon whether it can meet the approval and operating requirements described above consistent with its legal rights of access to the ROW, its management of the transmission facilities within the ROW, the suitability of the site for conservation or mitigation, costs of establishment and management of the conservation practices that will generate the credits, and its capacity to manage habitat and aquatic resources over time. The feasibility of banking will also depend upon whether there are alternative sources of aquatic or habitat mitigation in the vicinity that are more readily adapted for banking because of their size, location, ecological value, or ease in assembly and approval by the agencies with jurisdiction (the Corps, the USFWS, and state agencies).

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OPPORTUNITIES AND BARRIERS TO WETLAND AND CONSERVATION BANKING ON ROWS

In order to determine the practical feasibility of banking on ROWs, we examined the current regulatory requirements for wetland and conservation banking; the terms of transmission corridor ROW easements; experiences of electric transmission corridor ROW operators with other forms of wetland mitigation and habitat conservation on the ROW; land and facilities management and financial considerations that might affect a right-of-way holder's ability to meet the prescribed requirements; and ecological considerations related to parcel configuration and long-term management.

This study relies primarily on interviews with ROW holders and operators and focuses on the elements of banking and management of electric transmission corridor rights-of-way. Additional information was provided by environmental regulators and by other entities engaged in wetland and habitat banking. We also drew from previous research on wetland and habitat banking.

Authority to Manage ROW Lands for Banking

In order to establish a wetland mitigation bank or habitat conservation bank within a ROW, the bank sponsor will need sufficient access to the lands to generate credits and to carry out the monitoring, management, maintenance, and long-term protection required by the government-approved banking instrument.

Access may vary depending upon whether the ROW is owned outright (in fee simple) by the transmission corridor operator or is held by an easement or, in some instances, a use permit. The key issues for the bank sponsor (the ROW holder or a partner) are ensuring that it has:

1. Legal access to the ROW land to *conduct activities* such as hydrological restoration or habitat enhancement that will generate credits.
2. Legal ability to *prevent activities* including modifications to the ROW that are incompatible with banking.
3. Legal ability to assure *long-term protection* of the ROW banking site and the enforceability of conservation restrictions.

Access for Banking Activities

Where the transmission corridor ROW is owned in *fee simple*, the ROW owner will normally have sufficient access to conduct any conservation and restoration activities that may be needed to generate credits, in addition to transmission line operations and maintenance. In fact, it is not

uncommon for electric utilities to engage in habitat restoration activities and permittee-responsible mitigation on transmission corridor ROWs. For example, CMS Energy in Michigan is engaged in voluntary (non-bank) habitat restoration in partnership with the Michigan Wildlife Conservancy on ROWs it owns in fee simple. Through the Conservancy's "Rights of Way for Wildlife Program," CMS installed Wood Duck nesting boxes every quarter mile on exterior transmission line poles on ROW encompassing more than 100 acres (Dawson pers. comm.).

Most electric transmission corridor ROWs are held by easement rather than in fee simple. And more operators have experience with easement acquisition, which can be more readily negotiated than outright purchase of land in most instances. A recent study of electric utility ROW practitioners revealed that while 98 percent of respondents use easements to obtain ROWs from landowners, just 33 percent purchase ROW lands outright in fee simple. And a still smaller percentage use permits for certain ROWs (Mullins et al. 2008).

ROW easement holders must address the threshold issue regarding whether the proposed conservation activities are authorized by the easement granting them rights in the corridor. As servitudes on land, easements are narrowly construed. To be able to use land for purposes other than to construct, relocate, operate, maintain, protect, repair, or replace transmission line infrastructure, the purpose must be found somewhere in the easement document. Commonly, such easement documents grant a ROW holder a property right of access "to construct, relocate, operate and maintain, … and to protect, repair, replace and remove, in, upon, over and under said easement and right of way any and all poles, towers, lines of poles, lines of towers, supporting structures, cables, cross arms, wires, guys, braces, underground conduits, and all other appurtenances and fixtures necessary or adaptable to the present and future needs, uses, and purposes of [the electric utilities company]." (Central Hudson Gas & Electric Corporation n.d.).

Transmission corridor ROW easement language varies somewhat from company to company and state to state. Based on our review of representative easement language from various utilities and states, electric transmission corridor easements typically provide for:

- rights of access to the ROW;
- a right of ingress and egress;
- rights to construct, relocate, operate, maintain, replace, repair, protect, and remove structures (typically including named structures such as poles, towers, lines, cables, conduits, and "other appurtenant or supporting facilities" or "appurtenances and fixtures necessary or adaptable to the present and future needs and purposes");
- a "permanent right" to cut, trim, remove, and otherwise destroy or clear vegetation within the right-of-way or within a specified distance thereof;
- recognition and protection of certain uses by the owner of the underlying parcel (the servient estate) and the prohibition of certain other incompatible uses (such as mining, structures); and
- sometimes, indemnification to the landowner for negligent or wrongful damages to the underlying property.

Occasionally, an easement will be written more broadly to allow access for "any public utility use" (Central Hudson Gas & Electric Corporation n.d.). This language may provide more flexibility, but will also engender questions about whether a conservation use is encompassed within its terms. One easement we reviewed authorized, as is typical, access for placement and work on transmission line structures and facilities, but went on to add the additional clause "and in connection therewith, for the *purpose of preserving or enhancing the environment* the planting and maintaining of trees and shrubs and other vegetation" (Power Authority of the State of New York n.d.). This clause offers support for affirmative actions on vegetation management beyond those offered by more typical provisions providing for removal of vegetation. Clauses of this sort may provide greater assurance of access to the ROW for conservation and compensatory mitigation. However, even clauses like these may not be sufficient to ensure access to the ROW for the development of wetland or conservation credits where some of the credits will be sold to and used by entities not affiliated with the ROW holder.

Even mitigation practices related directly to offsetting construction impacts of the transmission lines may not always be within the scope of easement documents, although this case is easier to make as it is directly connected with the purposes of the easement. The opportunity to generate credits for sale or use elsewhere appears to be outside the scope of most easements. Thus, in order to engage in banking on a transmission corridor ROW with typical easement language, additional rights will need to be secured from, or in cooperation with, the servient estate landowner.

Ability to Prevent Incompatible Activities

Like any other land owner, the ROW owner of fee simple ROW lands has the practical and legal authority to prevent activities that are incompatible with a mitigation or conservation bank. However, the obligations of the ROW operator to meet its service and reliability requirements as provided by state and federal laws may require it to engage in incompatible activities at some time in the future if required for effective management or as required by utility regulators. Such activities may include integrated vegetation management and herbicide application, seasonal mowing, constructing and maintaining access roads, and using machinery to repair and maintain transmission lines (Miller pers. comm.). Care will need to be taken to ensure that such anticipated activities do not interfere with operation of the bank under the banking approval instruments.

One potential barrier to banking on even fee simple ROW lands is the need to assure agencies, including the Corps, IRT, USFWS, and state wildlife agencies, that wetland or conservation banking activities will not be undermined by maintenance and operational actions necessary to ensure the reliability and safety of transmission lines. For example, an electric utilities company may be required to expand a transmission line, increase voltage, or perform construction necessary to maintain a reliable and safe service. If these actions require the dredging or filling of, or other interference with, a wetland bank, or disturbance of habitat in a conservation bank, the approved mitigation or conservation activities could be impaired. Some transmission corridor ROW holders believe that mitigation requirements resulting from the need to re-disturb bank habitat or aquatic resources could present undue expense to the utilities company (Haines pers. comm., Bridges pers. comm.).

Our examination of ROW easement documents shows that they do not usually provide the corridor operator with rights that would enable it to *prevent* the underlying landowner from conducting activities or making modifications that are incompatible with banking. Typically the easements only prohibit the landowner from erecting structures within the ROW and from activities that would "interfere with the use of, obstruct or endanger the facilities installed" on the ROW. This limitation in the easement documents means that a decision by a transmission corridor ROW easement holder to establish a wetland or conservation bank under the rights of access and maintenance that it holds might:

- interfere with rights on the property within the corridor retained by the landowner (such as farming, harvesting, driving, access), and
- be thwarted by activities conducted by the landowner that are incompatible with the bank.

In order to address these issues, the ROW easement holder will need to collaborate with the underlying property owner in the establishment of the bank (Monaghan pers. comm.). On lengthy ROW segments, multiple landowners may need to be involved.

Cooperation between ROW easement holders and landowners is possible, as illustrated by various non-bank conservation efforts conducted by transmission ROW easement holders. For example, Allegheny Energy has partnered with the Wild Turkey Foundation in West Virginia on habitat restoration work on transmission ROWs held in easements (Fleissner pers. comm.). Generally, when landowners have an interest in restoring or protecting habitat for wildlife, utilities companies can engage in restoration activities.

In certain areas, however, landowners may oppose conservation uses as incompatible with their retained property interests, and even as potentially undesirable with respect to their remaining property not burdened by the easement. For example, in some areas, farmers have viewed wetlands within ROWs as unusable and do not support the restoration of wetlands and habitat conservation (Boyle pers. comm., Fleissner pers. comm.). Electric utilities companies have encountered problems with underlying and adjacent landowners who believe that enhancing habitats will devalue property or interfere with other uses. For example, allowing native grasses to grow higher than a typically mowed length in ROWs is, in some communities, considered obnoxious where community members use ROWs for running or walking paths (Boyle pers. comm.).

It may be necessary for the ROW operator to provide some incentive to the underlying landowner. A potential model is provided by a cooperative conservation program on transmission ROWs in Kentucky. The Kentucky Department of Fish & Wildlife developed the POWER Program (Promoting Our Wildlife and Energy Resources), a program designed after Georgia Power's WINGS initiative. POWER enlists utility companies and landowners in the creation and maintenance of wildlife habitat on ROWs. The Department asks potential utility partners to identify ROWs that have been recently sprayed with herbicide, mowed, or otherwise treated so that woody vegetation has been removed. Then the underlying landowners agree to maintain the specified ROWs for wildlife in accordance with guidelines and with technical assistance from Department biologists (Clark pers. comm.). The program is intended to benefit wildlife species of conservation concern, including wildlife that depends upon grassland habitat, such as the northern bobwhite, the quail, and various songbirds. It provides financial incentives for landowners not to undertake incompatible activities, and is intended to reduce costs of ROW

operations and maintenance for electric utilities companies by engaging the landowners in activities that will benefit ROW maintenance as well as wildlife.

Participating utilities provide a 3-tier incentive structure and enter into a 3-year contract with landowners: At a rate of $50/acre/year, the landowner agrees to sustain a habitat of native grasses; the utility may administer one herbicide application to the designated ROW, and the landowner will cut trees and other vegetation in a controlled manner and allow prairie grasses and other native grasses to grow. Proper management of this site will inhibit trees and tall shrubs, which are restricted from transmission corridors. Alternatively, at a rate of $40/acre/year, a landowner will maintain native grasses and non-invasive annuals. At $30/acre/year the landowner agrees to maintain non-native cool season grasses (Kentucky Dept. of Fish & Wildlife Resources 2008). This program does not provide a revenue source as would be the case with banking, where credits might be sold. Instead, it operates based on the desire of the ROW holder to engage in conservation activities for the public good, and the potential for some reduction of maintenance costs (yet to be demonstrated). One electric utility, the Big Rivers Electric Corporation, has designated funding to sponsor the program on its ROW easements during 2008-2009 as a one-year pilot test (Clark pers. comm.).

Ability to Ensure Long Term Protection of the Site

Transmission corridor ROW operators' ability to assure long-term conservation protection of wetland and conservation bank sites, even on land they own in fee simple, may be uncertain because ROW ownership and management objectives may change with mergers or acquisitions. Thus, executing a conservation easement to another party may be necessary to satisfy the requirements for long term protection – unless the regulatory agency can be persuaded that the utility's ownership of the parcel is itself a sufficient guarantee. According to USFWS and the California Department of Fish & Game, a conservation easement for a habitat conservation bank must place the bank protection as superior to all other activities on the land.

Wetland mitigation has occurred on utility lands previously without always requiring execution of a separate conservation easement for long term protection of the mitigation site, but this opportunity may no longer be available. The 2008 Compensatory Mitigation rule states that the aquatic resources and associated lands that comprise a compensatory wetland mitigation project must be provided "long-term protection through real estate instruments or other available mechanisms, as appropriate." Such instruments include "conservation easements held by entities such as federal, tribal, state, or local resource agencies, non-profit conservation organizations, or private land managers; the transfer of title to such entities; or by restrictive covenants" (U.S. Dept. of Defense and U.S. EPA 2008, §332.7(a)). In order to be adequate, a conservation easement or restrictive covenant should, where practicable, provide for enforcement by a third party such as a conservancy or regulatory agency. The rule states that the real estate instrument used to protect the site must, "to the extent appropriate and practicable, prohibit incompatible uses (e.g., clear cutting or mineral extraction) that might otherwise jeopardize the objectives of the compensatory mitigation project" (U.S. Dept. of Defense and U.S. EPA 2008, §332.7(a)(2)). The required long-term legal site protection requirements "must be finalized before any credits can be released" (U.S. Dept. of Defense and U.S. EPA 2008, §332.8(t)(1)).

On easement ROWs, both the utility and the landowner would need to execute a conservation easement in order to meet these requirements for long-term protection. Conveyance of a conservation easement from the underlying landowner alone may not be sufficient to satisfy regulatory agencies responsible for approving a bank, because the conservation easement conveyance would be subsequent to the transmission corridor easement and hence subordinate to it. Similarly, conveyance of a conservation easement from the ROW easement holder alone might not be sufficient to prevent incompatible activities by the underlying landowner.

It is important for the ROW operator to recognize that, in certain situations, conservation easements might require conditions that could significantly restrict the ability of electric utilities to access and maintain their ROWs for their primary function as electricity transmission corridors. One model conservation easement states that "Bank Property will be retained forever in its natural, restored, or enhanced condition … and to prevent any use of the Bank Property that will impair or interfere with the Conservation Values of the Bank Property" (California Conservation Easement Deed Template 2008). It will be most important to reconcile the operations and maintenance requirements of electric utilities with the preservation requirements in a conservation easement.

The Norfolk District of the Corps of Engineers notes that it has received proposals for wetland mitigation banks that include lands within ROW transmission corridors held by easement. A regulatory official notes that transmission corridor easement holders "are not generally willing to subordinate their [ROW] easements to the conservation easements associated with mitigation banks. Thus, there is no guarantee of protection of aquatic resources within the ROWs. For those reasons, it has been the practice of the Virginia Interagency Review Team….to ensure that ROWs are excluded from mitigation bank limits and mitigation credit is not given for areas within the ROWs even if bank operations entail restoration of aquatic resources within the ROW" (Martin pers. comm.).

If the ROW transmission corridor easement holder works with a third party (for example, a land trust or conservation agency) that has experience with banking, such long term regulatory and bank requirements may be easier to address and meet. The third party bank sponsor may coordinate legal and management relationships with the underlying landowner and the ROW holder to assure both long term site protection and operation of the transmission corridor, and help design a credit-generation program that recognizes that some forms of long-term protection are not suitable for ROW portions of the bank.

Another opportunity for ROW holders may be participation in "umbrella" wetlands mitigation banks, in which the work of establishing the bank is done by the conservation group or other bank sponsor for multiple sites. The transmission easement ROW would then be added as an additional bank site under the existing bank agreement with the consent of the underlying landowner and ROW easement holder, and approval of the regulatory agency.

Case Study: Non-Bank Habitat Conservation on ROW Lands

Collaboration among ROW holders, landowners, and land conservancies can support habitat conservation recognized by the USFWS. For example, PG&E owns approximately 45 acres in southern Santa Clara County on Tulare Hill. The fee simple property contains "a critical power

line corridor consisting of five transmission lines which provide bulk transmission power to the South San Francisco Bay Area. The parcel consists of a narrow strip of serpentine grassland measuring [500 to] 900 feet in width" (PG&E and USFWS n.d.). The Silicon Valley Land Conservancy (SVLC) manages a portion of PG&E's ROW under a grazing license, approved by the USFWS with a "Safe Harbor Agreement" for species habitat conservation in 2008. SVLC in turn entered into an agreement with a local rancher to graze cattle on the ROW lands, thereby maintaining grass habitats to support the recovery of the threatened Bay Checkerspot Butterfly. The cows graze on non-native grasses like Italian Rye and Squirrel Tail; keeping non-native grasses short allows native plants like goldfield and purple owl's clover to grow, which supports the Bay Checkerspot Butterfly. The specific activities described in the Safe Harbor agreement support the issuance of an incidental take permit for PG&E actions to maintain and operate the transmission facilities on Tulare Hill. PG&E continues to have access to the land to maintain the transmission lines (Ross-Leech pers. comm.; Edgerton pers. comm.; SVLC and PG&E 2008). While not a conservation "bank," this cooperative management approach indicates how habitat conservation of species on easement lands can be carried out. The agreement also provides that "[t]he Service and PG&E agree that PG&E retains the ability to obtain mitigation credits for its non-operational properties on Tulare Hill" thus ensuring that additional conservation credits and conceivably even conservation banking might be feasible on the land not already within the ROW (PG&E and USFWS n.d.).

Case Study: Wetland Mitigation Banking on Non-ROW Utility Lands

Florida Power & Light (FPL) obtained the permits for the Everglades Mitigation Bank (EMB) on FPL lands in 1996. The bank provides valuable restored wetlands, and habitat used by threatened and endangered species. The terms of the banking instrument for the restored wetlands require that no transmission lines or distribution lines run through the bank. However, the EMB offers some valuable lessons for electric utility companies considering wetland or habitat conservation banking.

FPL originally bought the land for a potential substation, but did not end up needing the space. In the 1960's, the Corps and a water utilities development group had constructed a levee on some of the wetland acreage in order to protect a neighboring community from flooding problems. In order to establish the wetland bank, with the approval of the Corps, FPL punched holes in the levee, restoring natural hydrology and generating wetlands credits. FPL generates additional credits by restoring wetlands on existing roads and other developed areas within the wetland. More than 13,000 acres of wetlands are being restored in the EMB, and the bank creates a corridor between the Biscayne and Everglades National Parks. FPL continues to buy land for the bank today.

FPL developed the EMB with the USFWS and underwent a strict review process by the Inter-Agencies Review Team for wetlands purposes. The bank was implemented in coordination with the Comprehensive Everglades Restoration Plan. The EMB was the second wetland bank created in Florida, and continues to operate as one of the largest. It was permitted in two phases with the Corps and the Florida Department of Environmental Protection. Originally the land was permitted for use as a bank intended to offset expected wetland impacts of future ROW construction by FPL itself – a "single-user" wetland mitigation bank. Now, however, most of the credits are sold to buyers outside of FPL.

The bank is operated directly by FPL and not as a separate subsidiary or affiliate corporation. Because FPL is a public company, any and all proceeds exceeding costs incurred by the bank redound to the benefit of shareholders. The neighboring communities view the bank as a "win-win" situation: FPL used property it already owns, which had been acquired over a number of years, and used it to restore wetlands, generate revenue, and benefit the community (Sicbaldi, pers. comm.).

Both the Tulare Hill and EMB case studies reveal some reluctance by regulators to recognize banking within active ROWs, but both also show that wetlands and habitat restoration can be accomplished in and around electric utility lands, and that at least some recognized conservation is consistent with ROW operations.

ROW Permits on Government-Owned Lands

Some ROWs traverse government-owned lands. Many of these ROWs are held by the transmission corridor operator under special use permit issued by the government landowner. As is the case with easement lands, the underlying landowner retains substantial influence over activities conducted within the ROW. Some government owners may be particularly receptive to conservation-oriented activities. Since the year 2000, for example, in the Daniel Boone National Forest in Kentucky, the U.S. Forest Service has helped support electric utilities' construction of "a total of 188 ephemeral and emergent wetlands in ROWs managed by East Kentucky Power Cooperative, Inc. and AEP" (Biebighauser pers. comm.). These are small wetlands, not constructed by the utilities for compensatory mitigation or for banking purposes, but for goodwill and conservation purposes as well as to respond to public concerns about new transmission line construction within the National Forest.

Where the land underlying a ROW is government property, long-term protection for wetland mitigation banks may be provided by federal facility management plans or integrated resource plans rather than by dedication of a conservation easement (U.S. Dept. of Defense and U.S. EPA 2008, §332.7(a)(1)). So banking may be feasible on government lands without further execution of a conservation easement. The quantity of credits that might be generated on ROWs located on government lands already protected from conversion to other uses may be somewhat limited in comparison with those on private lands; the value of credits will be created through the restoration or enhancement activities rather than reflecting land protection in the value. "Credits for compensatory mitigation projects on public land must be based solely on aquatic resource functions provided by the compensatory mitigation project, over and above those provided by public programs already planned or in place" (U.S. Dept. of Defense and U.S. EPA 2008, §332.3(a)(3)).

Providing in Banking Instruments for ROW Operations & Maintenance

In order to gain approval of a wetland mitigation bank or habitat conservation bank, a banking instrument must be executed. The banking instrument will need to be drafted to preserve the utility operator's ability to conduct operations and maintenance of the transmission corridor facilities. Concern about whether these operations can be carried on consistently with banking has led some ROW operators to conclude that "mitigation banking, either for wetland mitigation

or species specific reasons is not a compatible use with our transmission rights of way….Mitigation projects and conservation easements have conditions that would significantly restrict our ability to access and maintain our rights of way for their primary function as transmission corridors" (Linton pers. comm.). But it appears that many operations and maintenance (O&M) activities can be consistent with banking requirements.

Access to Transmission Lines

Conservation easements for mitigation projects can have conditions that restrict the ability to access and maintain rights of way for their primary function as transmission corridors. Model conservation easements, for example, include as prohibited uses of bank property the "use of off-road vehicles and use of any other motorized vehicles except on existing roadways" but do allow exceptions in specific case-to-case instances (California Conservation Easement Deed Template 2008). Such exceptions will have to be carefully included in the legal documentation for a conservation easement associated with a banking instrument, if banking within a ROW is anticipated. Necessary access measures include such functions as constructing and maintaining access roads, pulling lines, and constructing and replacing poles. ROW holders should also develop an adaptive management plan that outlines how the bank sponsor will address unforeseen changes in site conditions or other components of the compensatory mitigation project in order to assure continued access to the corridor for power transmission purposes.

Mechanical and Herbicidal ROW Maintenance

Utilities must consider the effects of their anticipated methods of maintenance practices on wetlands or habitats within a bank. Typical operations and maintenance (O&M) actions not tailored to banking sites potentially create the disruption of hydrology, introduction of invasive weeds, and habitat modification, noise, and dust deposition (PG&E 2007). Agencies may certify fewer credits at the bank. Conservation easements might list as prohibited uses of bank property "unseasonable watering; use of fertilizers, pesticides, biocides, herbicides and other agricultural chemicals; weed abatement activities; incompatible fire protection activities" (California Conservation Easement Deed Template 2008).

In some forested wetlands fast-growing willows are hard to control without spraying. But conservation agencies may be reluctant about applying herbicides to wetland sites except for targeted controls of invasive species, and there is public resistance to use of herbicides in some areas (Miller pers. comm.). According to the North American Electric Reliability Council (NERC), if there is more than 50 feet of clearance under the transmission line, trees can be allowed to grow up to 25 feet. However, it may be difficult to maintain ROWs in certain types of wetlands for lines lower than 50 feet. Mechanical and herbicidal maintenance on some ROWs in wetlands or habitats may be considered "incompatible uses," resulting in potential of diminished functions and loss of credits (EPRI 2008b).

There do not appear to be restrictions of the NERC requirements that would prohibit electric utilities from managing wetlands or conservation banks on transmission corridors (Miller pers. comm.). In certain cases, active management of sensitive lands and the successful restoration of wetlands have helped provide the endangered Bog Turtle an improved habitat (Johnstone pers.

comm.). In the New Jersey Pinelands, proper management and control of invasive species through only one application of herbicide resulted in the natural reintroduction of the Pogonia Orchid, a native species (Johnstone pers. comm.). Land management for transmission corridor maintenance often benefits lupine and other grassland species. Typical management includes "mowing for short-term control of woody vegetation, or herbicide use for selective long-term control." Utility ROWs are "some of the few remaining areas that contain native prairie habitats" essential for conservation of the endangered Karner Blue Butterfly (Wisconsin Dept. of Natural Resources 2008, Chapter 2C). However, others suggest that wildlife-friendly vegetation management has become more difficult under the new standards (Dawson pers. comm.; EPRI 2008a).

Case Study: Wetland Mitigation and Coordination with O&M within a ROW

CMS Energy, an electric utilities company in Michigan, is beginning permittee-responsible wetland compensatory mitigation (non-bank mitigation) on a transmission corridor ROW it owns in fee simple. CMS needs to mitigate for its permitted filling of bottomland in connection with its replacement of a coal dock facility. CMS chose to restore wetlands on a transmission corridor ROW because the Michigan Department of Environmental Quality (MDEQ) and Detroit District of the Corps of Engineers require mitigation within the same watershed and there were no existing wetland mitigation banks in the watershed. Neither agency would accept in-lieu fees – payments in place of mitigation. CMS will excavate uplands within the ROW to the grade of adjacent wetlands and will use the resulting 2.7 acres of restored wetland as compensatory mitigation. CMS owns the transmission ROW land on which the mitigation will occur, but the transmission assets (steel and wires, and the rights to construct more) were sold to another company, which was purchased by ITC Transmission, an independent electric transmission company. ROW management is performed by ITC Transmission contractors. The mitigation requires coordination by CMS with ITC Transmission; however, ITC Transmission's standard vegetation management program under federal standards is acceptable to federal and state regulators. At this time, there is no plan to prepare an additional document to control ITC Transmission activities (Dawson pers. comm.).

Anticipating Co-Located Utilities and Emergency Actions

To conserve space and limit access road construction, some utilities and state regulatory agencies require or promote the co-location of utilities in the same ROW. Utilities may construct underground pipes and transmission lines in the same ROW as above-ground electric transmission lines (Boyle pers. comm.). The potential for co-location in some areas may lead to subsequent pressure on ROWs that have been dedicated to mitigation or conservation banks. The banking instrument and conservation easement will need to address limitations on co-locations.

Similar considerations apply to unused or underutilized transmission corridor ROWs that might be called on to support additional or upgraded transmission lines to meet regulatory mandates or other requirements. Anticipating these needs is a consideration in determining whether and how to structure banking on a ROW. PG&E currently is engaged in discussion with the Wildlands Conservation Bank in California concerning a non-active transmission line ROW it owns on a potential banking site under consideration by Wildlands. Whether PG&E may need to use this

corridor in the future is a concern in considering whether to participate in the bank, and what easements or other restrictions can be agreed to if the banking proposal is advanced (Monaghan pers. comm.; Ross-Leech pers. comm.).

Likewise, if emergency construction or action is needed to replace or restore damaged or destroyed facilities in the ROW, utility companies will need to assure their ability to address the need and deal with impacts to banked wetlands or habitats. Where threatened or endangered species are included in the ROW conservation habitat, it will be important to ensure that the relevant conservation banking agreement and HCP covers incidental takes associated with emergency responses.

Costs Associated with Banks on ROWS

In determining whether to initiate a bank on ROW lands, or whether to enter into an agreement with a landowner or third party allowing them to sponsor a bank that includes ROW lands as a credit-generating part of the bank, a transmission corridor operator will need to evaluate its costs. Cost considerations include:

- the administrative costs of starting and completing the regulatory review process for approval of the bank;
- costs of the restoration and other activities that will result in the generation of credits for use or sale;
- division of revenues received by participating parties from sale of credits; and
- costs related to long term management, monitoring, and maintenance of the conserved lands (Denisoff 2008; Teresa 2008).

Total costs for conservation banks vary widely depending upon the species of concern. Costs may be relatively low where activities are associated with ordinary vegetation management approaches such as those associated with the Karner Blue Butterfly, but they may be very high where land suitable for conservation is very scarce and management techniques resource intensive. No studies report or aggregate costs for conservation banking.

A 2002 study of wetland mitigation banks collected limited information from previous studies and found costs to range from $500 to $106,000 per acre/credit (Environmental Law Institute 2002). A later study based on information reported by Corps of Engineers districts found costs of $3,000-$350,000 per acre/credit. Costs are generally lower for non-tidal emergent wetlands. Stream mitigation costs were reported as $45-400 per linear foot (Wilkinson and Thompson 2006; Dept. of the Army 2008). Prices for sale of wetland mitigation bank credits are not regulated but are determined by the bank sponsor (U.S. Dept. of Defense and U.S. EPA 2008, §332.8(o)).

Administrative Costs

Starting and completing the regulatory review process for approval of the bank will necessarily require some party to incur the cost of permitting the bank, preparing reports and legal

documents including easements and management plans, and hiring people to staff the banking project (Lee pers. comm.). Because a well-understood framework for establishing mitigation or conservation banks is not present within most electric utilities companies, some companies note that "banking is not our business" and consider the administrative costs of creating a banking program to be outside those they are willing to bear (Haines pers. comm.). In contrast, however, companies that engage in repeated dealings with regulatory agencies over endangered species and Clean Water Act wetlands permitting often have a sophisticated regulatory compliance and science staff, and will be in a position to weigh the pros and cons of permittee-responsible mitigation, compensatory activities under an HCP, purchase of credits from an outside banker, or establishment of a bank for company use and possible third-party use.

Costs of Restoration and Other Activities

Engaging in onsite restoration can be more expensive than mitigating through a third party bank or paying an in-lieu fee. For example, San Diego Gas & Electric (SDG&E) recently had to offset impacts of ROW construction on 1200 square feet of wetlands. The utility spent $30,000 to offset this impact doing onsite, permittee-responsible mitigation on the ROW (Haines pers. comm.). Where repeated demand for mitigation is likely and there are not other existing banks from which to purchase credits, there may be economies of scale from the establishment of a single-user bank by the utility.

Costs Related to Long-Term Management, Monitoring, and Maintenance of Conserved Lands

The cost of maintaining conserved lands is often not a barrier to electric utilities using integrated vegetation management. The Tennessee Valley Authority (TVA) is working out an agreement to allow wetland banking on a portion of its ROWs. Though legal documents have yet to be drafted, discussion between the proposed bank sponsor and TVA conclude that TVA will not have to maintain these portions of ROW, as the bank will adhere to the standards of vegetation management that are agreed upon (Smithson pers. comm.). If a bank operating on a ROW is owned by the electric utility company, staff will be required to monitor and maintain the bank (Lee pers. comm.). For conservation banks, utilities will need to be able to assure long-term financial responsibility for the bank and be willing and able to set up an endowment fund (Fleischer and Fox 2008).

Alternatives to Banking Affect Costs

"In areas where there are other lower cost alternatives to addressing species mitigation, such as other conservation banks or government-subsidized programs that offer the same service (species mitigation, severance of liability) at a lower cost, a conservation bank may not be financially viable" (Denisoff 2008). Electric utilities companies are familiar with alternatives to wetland or conservation banking, and usually choose to engage in permittee-responsible mitigation, pay in-lieu fees, purchase credits from other banks, or develop a habitat conservation plan, which provides for specific conservation activities.

For example, in connection with its operations and maintenance of transmission corridors in the San Joaquin Valley in California, "PG&E proposes to compensate for species effects through a variety of mechanisms. These mechanisms may be combined in various configurations, including purchase of compensation lands, purchase of mitigation credits from existing mitigation banks, placement of conservation easements on PG&E lands, and purchase of conservation easements. An emphasis will be placed on purchase of compensation lands, purchase of credits from mitigation banks, and placement of conservation easements on PG&E lands" (PG&E 2007, 4-27).

Allegheny TrAIL Co. is constructing a new 185 mile, 500 kV transmission line that will cross three states in the mid-Atlantic region of the U.S. For projects smaller than this 185 mile transmission line, TrAIL Co. does permittee-responsible mitigation on its own property. For the 185-mile project, however, mitigation may be more complex. TrAIL Co. is considering buying a large piece of land upon which to mitigate impacts from the construction process (Fleissner pers. comm.). San Diego Gas & Electric, Pacific Gas & Electric, and Oncor all have purchased land to mitigate impacts from substation and ROW construction. Many utilities consider purchasing credits or buying land easier than mitigating onsite or establishing a bank of their own (Fleissner pers. comm.; Schoeberl pers. comm.). The nature of impacts from ROWs often militates toward choices other than establishing a ROW bank. Impacts from ROWs are often small and isolated, so mitigation projects tend to be small also. This favors the creation of small permittee-responsible compensatory mitigation projects or purchase of credits from other mitigation banks where available.

Previous research on conservation banking suggests that "regional HCPs and in-lieu fee programs run by public agencies or environmental non-profit organizations can supplant the need for private conservation banks. Government run or supported regional HCPs often enjoy a competitive advantage over conservation banks because they can: (1) determine the costs for the product and price it at a level that maximizes revenues, rather than being based on the current cost of mitigation; (2) often have discretion over how and where the mitigation will be satisfied, thus controlling costs; and (3) have regulatory discretion over the permitting process and can direct mitigation to in-house programs" (Denisoff 2008).

Ecological Opportunities & Barriers

Location Limitations and Opportunities

Wetland mitigation banks can only be located in watersheds where there is a demand for credits due to permitted activities that impair or destroy wetlands and other aquatic resources. At the same time, because utilities must to the extent possible avoid wetlands in their construction of ROWs, much of ROW land is not conducive to wetland banking. Where wetland and stream restoration opportunities do exist because of the prevalence of wetlands, there may not always be sufficient demand to support banking.

Habitat conservation banking requires lands that are suitable for conservation and restoration of threatened or endangered species. Many of the lands within ROW have already been disturbed

and so are unsuitable for habitat conservation banking, except for those species that thrive in disturbed habitats.

ROW holders express some concerns about conservation or restoration in particular areas, particularly when the scarcity of the habitat will lead to potential liability if the banking project is successful. For example, some Texas utilities fear the threat of fire if native prairie grasses or other grasses are planted (Boyle pers. comm.). Some utility corridor operators have been reluctant to consider habitat conservation banking that may attract or support bird species within transmission ROWs. In certain cases, birds can be considered a nuisance to transmission facilities, and such facilities may present hazards to birds. In South Dakota, the Western Area Power Administration was approached by a local university and Ducks Unlimited to incorporate a transmission corridor ROW into a larger wetland bank and habitat conservation bank for wood ducks. The university and Ducks Unlimited had gained permission from the underlying and adjacent landowners of the ROW to develop a wetland bank including ROW land; however, the utilities company refused due to fear of incurring incidental take of protected bird species and possible liability under the Migratory Bird Treaty Act if the bank attracted birds that subsequently were adversely affected or "taken" by operations of the transmission facilities on the ROW. The company feared that its necessary operations and maintenance actions could result in the unlawful incidental taking of migratory birds, not authorized under the Migratory Bird Treaty Act (Bridges pers. comm.).

Dimensions of ROW Sites

Both wetlands restoration and habitat conservation projects may encounter problems with the dimensions of transmission corridor ROWs. Performing hydrological restoration necessary for wetland banking may be prohibitively expensive on narrow transmission strips, because of the lack of economies of scale and the difficulty of achieving control hydrology on a narrow parcel (Dawson pers. comm.).

Habitat conservation banking requires a sufficiently large habitat patch, or must constitute a unique habitat corridor linking other habitats (Miller pers. comm.). ROWs are rarely suitably sized or situated. If ROWs can be used, they would most likely be valued in a matrix of protected lands that includes lands adjacent to the ROW. Because of this limitation, it is often necessary to combine ROWs with adjacent lands in order to support a viable habitat conservation bank. For example, Cargill owns fifty acres of land suitable for creating a bank in California which would be managed by the Wildlands Mitigation Bank. Of the fifty acres, approximately five are in a transmission corridor easement held by PG&E. Cargill approached Wildlands Mitigation Bank regarding a wetland banking project on this land, and the three are currently discussing the potential for these five acres to be part of the bank. However, standing alone, the ROW lands could not support a viable bank (Ross-Leech pers. comm.; Monaghan pers. comm.).

Electric utilities companies have been approached by neighboring landowners to incorporate ROW land into habitat conservation banks and protected areas. For example, Wildlands is involved in habitat conservation banks preserving the kit fox near ROWs. The kit fox freely traverses the ROW land, which is not managed as part of the bank. Wildlands Mitigation Bank is investigating whether such ROW land can be incorporated into a habitat conservation bank (Monaghan pers. comm.).

Current Status of Banking in Transmission Corridor ROWs

Currently, many utilities lack the framework, staff, and resources to develop and manage wetland mitigation banking and habitat conservation banking. CMS Energy's experience with permittee-responsible mitigation within its ROW suggests that wetland banking could be feasible, but ecological limitations and cost of restoring more acreage than needed for this particular project are too great to consider banking as a business opportunity. The following examples suggest that banking in ROWs requires more experience.

Proposed Wetland Mitigation Banking on ROWs

The Tennessee Valley Authority is considering participation in wetland mitigation banks that would include parts of TVA transmission corridors held by easements. These banks would be permitted, constructed, and operated by others, but would include management of wetland areas within TVA's ROWs. Primary issues involve ensuring sufficient access by TVA for necessary repairs and maintenance of the transmission facilities. These banks would include lands outside the ROW and would be administered primarily by wetland bankers, whose primary focus will be management of the bank, rather than by the utility ROW holder.

In Tennessee's Pelham Valley, the TVA holds transmission corridor ROW easements that cross the Elk River. Part of the area included in the ROW and adjacent lands is former wetland. The Tennessee Department of Transportation is seeking mitigation for wetland impacts from highway projects. Its consultants approached TVA with a proposal to create a wetland mitigation bank on and around the ROW lands. The consultants would restore scrub/shrub wetland on the ROW under the transmission lines and forested wetland on the lands adjacent to the ROW. The ROW area encompassed within the bank would be about 100 feet wide by 1000 feet in length. TVA currently is drafting the specifications it will need the bank to maintain in order to ensure safe and continuous operation of the transmission lines. These will likely include limitations on the ROW vegetation to a maximum height of 10 feet, and allowance of one foot or less of standing water within the ROW. Discussions are still underway about the access path that will be needed for the TVA and how to schedule and carry out work on the towers. Current plans would not have the TVA share in the financial proceeds from sale of the credits, but would provide that maintenance of the vegetation and conditions in the ROW will be carried out by the wetland mitigation bankers. The terms of any conservation easements or dedications by TVA have not yet been determined (Smith pers. comm.).

TVA is also considering participation in another proposed wetland mitigation bank in Guntersville, Alabama, that would include areas within its ROW easements. The ROW area involved would be about twice the length of the Pelham Valley project (about 7-8 spans). The restoration plan would block drainage from a current ditch to restore wetland hydrology and allow wetland conditions to be restored to scrub/shrub and forested wetlands. It is likely that access roads for the transmission towers will be excluded from the bank, but will occupy a small area (Smith pers. comm.).

Proposed Stream Banking on ROWs

There may be some opportunities for stream mitigation banking in ROW transmission corridors sited in stream corridors. The 2008 Mitigation Rule expressly regularizes the practice of stream mitigation; and the demand for such mitigation may be significant, particularly in urbanized areas where many of the remaining stream sites suitable for restoration lie under overhead transmission facilities rather than in culverts beneath asphalt and buildings. Urban streams may be subject to multiple uses and ownership interests in addition to the ROW. Cities, transportation agencies, sewer and stormwater utility districts, and natural resource agencies may identify the potential for restoration within these ROW sites. Certainly some such sites have been managed cooperatively for bike trails and regional parks in collaboration with utility operators.

We found little information on stream mitigation in electric transmission corridors. The Clark Public Utilities District (ClarkPUD) provides water and electric services in southern Washington State. About a decade ago, the utility decided to implement a watershed restoration program. ClarkPUD provides the seed money for the watershed restoration, leverages funds, applies for grants, and organizes about six hundred volunteers (Wittler pers. comm.). Since the creation of this voluntary watershed program, approximately 600,000 trees have been planted in the 94 square mile Salmon Creek Watershed. However, the Water Utilities division of ClarkPUD does not work with the electric utilities on this project (Wittler pers. comm.).

Proposed Conservation Banking on ROWs

The Wildlands Bank does both wetland and habitat conservation banking at several sites in California. Wildlands and PG&E met in September 2008 to discuss banking that would include a PG&E ROW easement. If it is possible to reach agreement, the credits generated on the ROW land would be shared between the bank sponsor and the utility company. The utility company will consider augmenting its methods of operation and maintenance to allow the bank to span across the ROW. However, according to Wildlands, in this context the mitigation bank cannot generate credits directly on ROW land unless the utility company vacates its easement, subordinating it to the conservation easement (Monaghan pers. comm.).

Conservation banking within ROWs might be based on the experience gained with ROW holder participation in Habitat Conservation Plans by utilities that need to apply for incidental take permits under the Endangered Species Act (Ross-Leech pers. comm.; Monaghan pers. comm.). In addition, utilities have successfully participated in habitat conservation in order to support species recovery in ROWs. This is true not only for the Tulare Hill project to benefit the Bay Checkerspot Butterfly, but also the long-time effort by the USFWS to conserve and restore the endangered Karner Blue Butterfly in the upper Midwest.

Wisconsin's Department of Natural Resources, USFWS, and public and private land managers drafted the Wisconsin Karner Blue Butterfly Habitat Conservation Plan and agreement in September 1999. More than forty private and public land managers are part of the HCP, including utilities such as Alliant Energy, the American Transmission Company, Adams Columbia Electric Cooperative, the Northwestern Wisconsin Electric Company, Oakdale Electric Cooperative, Polk-Burnett Electric Cooperative, and Xcel Energy (Wisconsin Dept. of

Natural Resources 2008). Of these electric utilities companies, the American Transmission Company has major transmission corridors and ROWs affected by the HCP.

The HCP recognizes the need for maintenance activities on ROWs that are also recovery areas for the Karner blue:

> It may be necessary to disturb existing Karner blue butterfly or lupine habitat to facilitate line maintenance. These minor disturbances may enhance the growth of lupine and nectar plants and may indirectly benefit the Karner blue butterfly population. The utility partners will assure staff or contractors are trained to identify the species and habitat. These partners will also schedule maintenance of lines in known occupied sites during the fall and winter months to reduce adverse impacts. Maintenance and repair of overhead and underground transmission lines will follow the same procedures as for new pipeline and underground transmission line construction. However, emergencies resulting from storm damage and line tangling sometimes occur. In these cases, partners will follow the guidelines to the greatest extent practicable (Wisconsin Dept. of Natural Resources 2008, Chapter 2C).
>
> Utility lines cross several regions which previously included barrens and prairie ecosystems. Tree planting, farming and fire control have significantly reduced these habitats. Land management for corridor maintenance often benefits lupine and other shade-intolerant grassland species. Typical management activities include mowing for short-term control of woody vegetation, or herbicide use for selective long-term control. In some cases, utility ROWs are some of the few remaining areas that contain native prairie habitats. While surrounding land use may be managed for forest production or other uses, utility lines have maintained linear remnants of open wild lupine habitat. Many utilities have adjusted their management techniques to reduce impacts on sites of known quality prairie. For instance, many utilities clear corridors when vegetation is dormant in the fall or winter seasons (Wisconsin Dept. of Natural Resources 2008, Chapter 2C).

The Wisconsin Karner Blue Butterfly HCP monitors the program using three measures:

1. Self-monitoring by each partner to observe the effects of management activities,
2. Effectiveness monitoring which is statewide and is designed to measure the positive results intended by the HCP, and
3. Compliance auditing, which will be a continual process to assure that the partners are fulfilling the obligations of their conservation agreements (Wisconsin Dept. of Natural Resources 2008, Chapter 2D).

In addition, as a party to the HCP, ATC as an operator of transmission corridor ROWs must survey land to add data to the WI DNR database for Lupine plants & Karner Blue butterfly (Lee pers. comm.). A “No Surprises” assurance in the HCP provides safety to utility companies concerned with incidental take of species. The Karner Blue HCP is not a conservation bank, but many of the activities, limitations, and agreements could ultimately support banking.

3
CONCLUSIONS AND ADDITIONAL ISSUES

Wetland mitigation banking has been underway since the late 1980s and expanded rapidly after 1995 to more than 450 banking operations across the United States by 2005, including multi-site banks (Wilkinson and Thompson 2006). Habitat conservation banking originated around 1995 and has also expanded across the country, although the majority of the nation's more than 70 conservation banks are in California where conservation banking originated (Bean et al. 2008). There is almost no experience with either type of banking in electric transmission corridor ROWs.

Review of current regulatory requirements for both forms of banking, and experiences of ROW managers with other forms of conservation and mitigation on utility lands suggest opportunities and barriers, and ways to overcome barriers to banking within ROWs.

Opportunities and Barriers

Opportunities

Wetland mitigation banking deserves consideration when the electric transmission corridor operator or utility needs mitigation credits for impacts to aquatic resources by any part of the power generation or transmission system. The 2008 Mitigation Rule privileges banking over other forms of compensatory mitigation (EPRI 2008b). By engaging in creation of a wetland bank, the operator controls its own compliance destiny and has the further opportunity to mitigate for future impacts within its system or sell excess credits. Economies may be realized in planning and mobilizing other resources to restore wetlands – such that a several acre ROW compensatory mitigation project may be expanded to include more acreage at not a great deal of additional cost.

Conservation banking deserves consideration when the electric transmission corridor operator or utility (1) needs to satisfy its own Habitat Conservation Plan (HCP) needs and has the opportunity to do more, or (2) is in an area for which a regional HCP is being or has been prepared (as is the case with many of the counties in California and some other parts of the west). In the former case, the conservation bank can simplify dealing with the U.S. Fish & Wildlife Service and state agencies in meeting anticipated Endangered Species Act compliance requirements. In the latter, much of the planning (and identification of the demand for credits) will have been done by other public entities, and a business opportunity as well as a public service will exist for the utility or ROW operator.

Both forms of banking also deserve consideration when a landowner or land trust or conservancy identifies lands in and around the ROW that are suitable for banking and is interested in

undertaking the procedural steps to obtain approval of the bank, as well as much of the restoration, management, and long-term protection of the site. From a management and financial point of view, the ROW operator may best be a participant rather than bank initiator or sponsor. This scenario may also help overcome some of the impediments to banking in ROWs – the limited amount of habitat or land within the ROW, and the need to deal with other landowners (including the owners of the land underlying a transmission ROW held by easement).

Conditions supporting wetland and conservation banking within ROWs may be found in areas (such as urban or developed areas) where alternative locations for habitat or aquatic compensatory mitigation are relatively scarce. Linear features, such as urban stream restoration, may offer special instances in which ROW wetland or conservation banking should especially be considered. In these instances, the narrow or limited area of the ROW may be less of an obstacle than in other settings. In urbanized areas as well as many steep slope areas ROWs may follow stream corridors. Where stream mitigation is needed, it may be best obtained in these same corridors. In such instances, the local demand for mitigation may be high (more credit purchasers) while the alternatives for mitigation may be low – thus justifying a greater return on investment.

ROWs on publicly owned lands – such as national forests, other state and federal conservation lands, and local government park lands – offer an opportunity for banking. Long term compatibility of the conservation activity with the land use objectives of the public landowner can reduce the complexities for access, restoration and conservation activities, and long-term maintenance of the site. Wetland banking on public lands is allowed under the Compensatory Mitigation Rule; and conservation banking on such lands is not precluded under the USFWS Guidance although it will not be recognized where the conservation values are already protected. Where a government landowner is interested in cooperative conservation activities, banking within the ROW may be achievable; the only limitation is likely to be the number of "credits" that may be recognized as the public already holds the sites in protected status.

Barriers

Where a transmission corridor ROW is held by easement, using the ROW lands in conservation or wetland banking may be difficult unless the underlying landowner can be persuaded of the desirability of banking. Few existing transmission corridor easements provide sufficient access, protection from incompatible activities, and long-term conservation management language to support wetland or conservation banking – even if they are broad enough to support corridor operators' mitigation for their own immediate ROW impacts. Some incentive to the landowner will likely be needed to justify the investment of time, permitting, and necessary conveyances and agreements. The bank sponsor may need to address the conservation objectives of the landowner, provide a financial incentive, or provide appropriate guarantees to the landowner.

Many transmission corridor ROWs are relatively narrow and occupy a small area in comparison with adjacent lands having the same or similar ecological or hydrological potential for wetland or conservation banking. In these situations, it can often be simpler for those seeking to conduct banking to avoid or exclude ROW lands in order to simplify management and reduce potential conflicts or complexity, as several cases in this study indicate. A 2002 study found that only 38 percent of wetland banks were less than 100 acres and that the trend was toward larger banks.

The smallest bank at that time was a six-acre bank (Environmental Law Institute 2002). To create a stand-alone ten-acre bank on a 100-foot ROW would require more than 4,356 linear feet of ROW (excluding the towers, access facilities). ROW lands are more likely to be suitable for banking if they occupy an ecologically important part of the area (a stream bottom, a bog complex, a core habitat), or if they can be combined with adjacent lands in a cohesively managed banking operation.

Achieving regulatory approval of wetland mitigation banks and conservation banks requires a substantial investment of time and repeated interaction with federal and state regulatory agencies. ROW operators may find this investment of resources worthwhile chiefly when they have other reasons for initially undertaking this interaction. Reasons might include meeting mitigation requirements for their own impacts on habitat or aquatic resources, or instances where a government conservation or land management agency or a third party approaches them with a conservation proposal.

Assuring that the ROW can continue to be managed effectively for transmission purposes can pose a barrier to some forms of conservation or mitigation banking. Some forms of wetland or conservation banking will not be suitable for lands actually within the ROW – for example, restoration of hardwood forested wetlands, or endangered species habitat for species such as the red cockaded woodpecker that require standing dead trees. The banking instruments and conveyances of legal interests must ensure that the ROW operator continues to have access to repair, replace, maintain and otherwise carry out its primary obligations. The mitigation plan or habitat plan will need to specify programs of vegetation and hydrologic restoration and management that are compatible with the operation and maintenance of the transmission system, including reliability requirements. Where the bank encompasses lands outside the ROW as well as inside it, there may be greater opportunities to configure the habitat or aquatic resources so that conservation compatible with the ROW purposes can be accommodated within the ROW and others outside the ROW. Many habitat types and wetland types will be compatible with ROW management – such as vernal pools, scrub-shrub wetlands, and habitat for species that prefer herbaceous environments.

Liability for replacing or correcting failed conservation and mitigation presents a potential barrier. ROW operators are familiar with liability issues related to other users of the land and work on the transmission facilities, and existing ROW easements typically provide for resolution of conflicts with underlying landowners. A habitat conservation banking or wetland mitigation banking relationship will require additional clear provisions allocating responsibility for corrective action among the parties if banking is to be carried on.

Overcoming Perceived and Actual Barriers

Conditions for wetland and conservation banking will be most easily managed on transmission ROWs that are owned in fee because of access and long-term management issues. When a ROW transmission corridor is owned in fee, it offers a simpler immediate opportunity for banking if ecological and other factors support consideration of banking. Fee acquisition decisions should include consideration of ecological options and opportunities as well as traditional management requirements.

Because of the narrowness of the language in most standard transmission ROW easements, the ability to engage in conservation and restoration activities on easements is limited. Whenever a new transmission corridor is to be acquired new ROW easements should be written more broadly to encompass ecological and environmental purposes within the ROW that are reasonably related to the utility and its operation. This will not necessarily eliminate the need to consult with and enter into agreements with the underlying landowner if there is to be banking, particularly banking where credits might be used by entities other than the utility or ROW operator. But it will provide a firmer basis for the kinds of activities that are needed to support wetland or habitat conservation and a firmer position for the negotiation. In the coming decade, more corridors are likely to be acquired to improve grid reliability and to improve marketing of power to population centers, as well as to accommodate new generating capacity from various sources and locations. This presents an opportunity to anticipate conservation and wetland needs and to address them within the ROW.

ROW operators should identify lands within ROWs and proposed ROWs that are suitable for restoration/conservation of aquatic resources or habitat for species of conservation concern, especially in coordination with adjacent and surrounding lands. There are external resources to assist with this identification. Every state has prepared a "State Wildlife Action Plan" which identifies habitat areas, species and habitats of concern, and state objectives for conservation (Environmental Law Institute 2007). Wetland banking opportunities may also be apparent through federal and state agencies' interest in watershed planning. The 2008 Compensatory Mitigation Rule provides that bank siting and service areas will be determined using a "watershed approach" which may include various forms of planning and data (U.S. Dept. of Defense and U.S. EPA 2008, §§332.2, 332.8(b)(3)).

Wetland and conservation banking are more likely to be attractive to electric transmission corridor ROW operators where landowners that control adjacent lands can partner in the conservation activity – in order to increase the size and ecological functionality of the banking site, and thus its cost-effectiveness in credit generation and its attractiveness to potential credit purchasers. ROW operators should look for opportunities to partner with nonprofit or for-profit mitigation bankers, conservation organizations, and land trusts. Such a third party bank sponsor may enter into the necessary restoration, management, and permitting obligations with regulators on behalf of the ROW operator and adjacent and underlying landowners. With a third party sponsor, the ROW operator is not shouldering all of the development and administrative burden, nor is it required to become familiar with a field that is not part of its core expertise, in order for its lands to be used for compatible conservation purposes that may produce economic benefits, goodwill, or mitigation credits for some of its own activities. Current efforts that most closely approach conservation or wetland banking within transmission corridor ROWs are those that have been led by entities with experience in this area. A further, potentially attractive approach is to enroll suitable ROW lands as sites within multi-site "umbrella" banking instruments administered by a bank sponsor who has already obtained the necessary regulatory approvals (EPRI 2008b). And even where the ROW operator itself establishes the bank, it may find that transferring long-term management to a third party conservation organization will alleviate management concerns and facilitate the approval process.

The ROW operator should consider adopting ROW management techniques that are compatible with restoration and conservation of wetlands and wildlife habitats. Many utilities and ROW operators are engaged in voluntary conservation and restoration activities. Where vegetation

management can be aligned with these purposes, the ROW operator may be able to simplify management needs, or allow a third-party bank sponsor or long-term manager take over the vegetation management functions to achieve operational cost savings.

Credits for wetland and wildlife banks will only be recognized if the promised results are achieved and sustained over time. Banking documents must provide for liability for correction of defects in credit production, for financial assurances to guarantee successful completion of the plan, and for the dedication of conservation easements to prevent incompatible activities. It may be possible, however, to limit the need for separate financial assurances and for conservation easement dedications if the ROW holder is a public utility and is regarded by the Corps of Engineers and wildlife agencies as having long-term management capacity and virtually perpetual duration similar to that of governmental landowners, from whom such commitments are not required. The Compensatory Mitigation Rule, for example, notes that where a wetland bank is on government property, a federal facility management plan or integrated resource plan can stand in for a conservation easement. Conservation easements may be held by resource agencies, nonprofit conservation organizations, or private land managers (U.S. Dept. of Defense and U.S. EPA 2008, §332.7(a)). It may be enough to have the bank lands owned by the utility or for a landowner to assign a conservation easement to a utility that holds the ROW easement. Liability concerns resulting from successful species conservation may be best addressed through a Safe Harbor Agreement in connection with the bank, or as a prelude to conservation banking.

Other Options for Advancing Banking in ROWs

There are more than 8.67 million acres of transmission corridor ROW (EPRI 2008b). If even a fraction of these lands contain threatened or endangered species habitat or potential aquatic restoration sites, these lands may serve multiple purposes.

Partnerships offer opportunities for ROW managers to explore banking within ROWs while drawing on existing expertise and familiarity with regulatory requirements. One source of information about ongoing wetland banks is the National Mitigation Bankers' Association, and its list of members (http://www.mitigationbanking.org/members/members.html). Further information on banking in a particular state can be found in a study of all active and pending wetland banks (Wilkinson and Thompson 2006).

State fish and wildlife departments and the state offices of the U.S. Fish & Wildlife Service offer additional sources of information on habitat restoration and conservation opportunities (Environmental Law Institute 2007). Eleven state wildlife action plans reference habitat banking as a method of conservation they support (Bean & Wilkinson 2008).

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