



*NATIONAL WETLAND MITIGATION
BANKING STUDY
Watershed-based Wetlands Planning:
A Case Study Report*

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[This work is among others of the National Wetland Mitigation Banking Study and represents an example of possible options for wetland mitigation banking. The findings and recommendations do not represent the position of the Department of the Army.]

National Wetland Mitigation Banking Study

This report is part of a series of reports that are being published during the National Wetland Mitigation Banking Study. Among the reports already published, in addition to this report include:

Wetlands Mitigation Banking Concepts IWR Report 92-WMB-1, July 1992, prepared by Richard Reppert, Institute for Water Resources. This report provides general background information and concepts pertaining to wetland mitigation banking.

Wetlands Mitigation Banking: Resource Document IWR Report 94-WMB-2, January 1994, prepared by the Institute for Water Resources and the Environmental Law Institute. This report presents bank-specific information obtained in an inventory of banks and detailed case study histories, and an annotated wetland mitigation banking bibliography.

Expanding Opportunities for Compensatory Mitigation: The Private Credit Market Alternative IWR Report 94-WMB-3, January 1994, prepared by Leonard Shabman, Dennis King, and Paul Scodari. This study looks at economic forces affecting markets for mitigation credits.

First Phase Report IWR Report 94-WMB-4, January 1994, prepared by Robert Brumbaugh and Richard Reppert, Institute for Water Resources. Presents findings of phase one of the National Study.

Examination of Wetland Programs: Opportunities for Compensatory Mitigation IWR Report 94-WMB-5, March 1994, prepared by Apogee Research, Inc. Sixty-eight programs that conduct or facilitate wetland restoration or creation were identified that might be applicable to compensatory wetland mitigation. Fourteen programs were profiled in more detail.

Wetland Mitigation Banking IWR Report 94-WMB-6, February 1994, prepared by the Environmental Law Institute (ELI). This report examines the wetland mitigation banking experience in detail. The U.S. EPA and IWR co-funded this study. (This report is a very slight revision of a report published by ELI in 1993).

Commercial Wetland Mitigation Credit Markets: Theory and Practice IWR Report 95-WMB-7, November 1995, prepared by Paul Scodari, Leonard Shabman, and David White. This report examines existing and proposed commercial ventures (e.g., wetland mitigation banks) and area-wide and watershed rules governing the operation of commercial credit markets.

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EXECUTIVE SUMMARY

This report describes case studies of watershed-based wetlands planning. The goals, scope, and circumstances surrounding these watershed-based wetland plans differ greatly. Therefore, this report makes no single and comparative assessment of the case studies. In fact, the cases were selected because they illustrate a range of issues associated with integrating wetland management and watershed planning, and a variety of planning approaches. Also, all of the case studies have a wetland component, which is not true of watershed planning in general.

Different agencies and interest groups have different conceptions of what watershed based wetland planning entails, although there is broad-based support for the concept. For example, EPA is a strong advocate of the “Watershed Protection Approach.” It supports a variety of planning approaches, but particularly promotes the process component of planning, that is, bringing in multiple stakeholders to set priorities and decide upon management actions. The Corps of Engineers regulatory-driven Special Area Management Plan (SAMP) program generally tends to support plans that contain significant analytical elements. The EPA works together with the Corps in these efforts. The Corps often encourages planning efforts to culminate in a definitive regulatory product, such as abbreviated permitting procedures or a Programmatic General Permit that allows a local entity to make wetland management decisions consistent with a plan. Interest groups vary in their support of watershed-based planning. For example, some environmental groups support the concept with the hope that it will lead to greater protection and expanded regulatory effectiveness. Others protest the delegation of Federal regulatory authority to local governments.

Although most of the watershed plans examined in this report were initiated by local governments, state and local governments are not always enthusiastic about the prospect of undertaking planning efforts. Different states have different land use planning traditions, which may influence local willingness to develop a watershed-based wetlands plan. Because of costs involved with developing and implementing a plan, local governments must foresee significant benefits in return. In all of the case studies there was a strong incentive for the local entity to lead the effort, such as the threat of a Federal regulatory action which would severely limit economic growth. However, such incentives may not be present in many localities.

As the case studies in this report illustrate, the term watershed planning is commonly used to describe many organizational forms. For example, many watershed planning efforts are labeled Special Area Management Plans (SAMPs), or are similar in structure. SAMPs occur when there is a significant conflict between economic growth and environmental protection. Although originally authorized by the Coastal Zone Management Act and overseen by the National Oceanic and Atmospheric Administration, the Corps of Engineers applies the term to inland areas as well. As illustrated by many of the case studies, the Corps participation in SAMPs has often been motivated by the desire for a definitive regulatory end-product, such as the issuance of a General Permit. While the scope and conditions surrounding SAMPs varied, SAMPs generally include wetland classification, a high degree of public participation, and a variety of implementation methods. Some other efforts, such as EPA watershed demonstration projects, appear to be more process oriented and did not attempt to replace regulatory protocols. However, the level of public participation, technical detail, and implementation methods differed from case to case.

Executive Summary

This report suggests that watershed-based wetland planning efforts might be loosely grouped into those that are “protection-oriented” versus those that are “management-oriented.” Protection-oriented plans are defined as those with a primary focus on the wetlands resource. By contrast, a central theme of management-oriented plans aims to accommodate development with wetlands management, trying to achieve a particular watershed vision for all land use, including net loss of wetland functions. This “protection-oriented” vs “management-oriented” distinction was apparent in the examination of the case studies. Plans that were management-oriented tended to have a significant technical analysis component and contained classification rules as an end product of the plan; those that were protection-oriented did not.

The case studies of watershed-based planning in this report illustrate a range of planning approaches and issues that are important to consider when further developing or applying the concept of watershed-based wetlands planning. The West Eugene Wetlands Plan illustrates the potentially resource-intensive nature of planning efforts. That planning effort involved much public participation and a high level of technical detail. Wetland parcels were rigidly mapped, and plan implementation is being facilitated through land purchase. The Juneau wetlands plan also mapped wetland management categories in advance of permit applications. However, this effort illustrates the fragility of planning efforts, as implementation of this effort, particularly the Corps issuance of a General Permit to the City and Bureau of Juneau to regulate two categories of wetland, was hampered by environmentalist opposition. The Hackensack Meadowlands planning effort illustrates the difficulty of carrying out a planning effort. Because land values were high and greatly affected by wetland regulation, satisfying all relevant state, local, and Federal regulatory requirements, and localities took many years. The difficulty of completing a plan to the satisfaction of all parties is further underscored by the experience in Mill Creek,

Washington. A commercial credit supply venture was abandoned late in the planning process due to local disagreement.

Two older planning efforts provide additional lessons regarding plan implementation. The Anchorage, Alaska planning effort has been in existence for over 10 years and is one of the few that has an implementation record. The City has been happy with the effort claiming that it has streamlined the regulatory process. However, opponents of the planning effort claim that the past classification regime and permitting procedure led to unmitigated wetland losses. The plan is currently being revised. The Grays Harbor Management Plan, the first Special Area Management Plan undertaken, reinforces the difficulty of implementing a plan and finding agreement among multiple stakeholders.

The planning effort carried out in DuPage County and the Special Area Management Plan in Dade County illustrate slightly different types of management-oriented planning than the other case studies. Rather than rigidly classifying wetlands into management categories in advance of permit applications, the plans establish development and mitigation rules. The mitigation requirements established by the plan have apparently been accepted by all parties, and implementation appears to be proceeding smoothly.

Finally, the planning efforts in Canaan Valley and Green Bay illustrate more process-oriented, protection-oriented planning efforts. The effort in Canaan Valley was successful at generating support for the establishment of a wildlife refuge. The planning effort in Green Bay, Wisconsin, is notable because wetland categorization efforts were explicitly not undertaken. The Green Bay planning effort is also notable because of implementation problems it has experienced, due to the lack of sufficient regulatory mechanisms and funding sources.

Summary of Findings

- Different agencies and interest groups hold different perceptions of the goals, scope, and role of watershed based planning for wetlands.
- Watershed-based wetland planning efforts can be costly and time consuming and the plans may be difficult to implement. Some planning efforts were unable to successfully reach a compromise among different stakeholders; some plans lacked regulatory mechanisms for implementation; some efforts lacked sufficient funds.
- Plans that performed wetland categorization (for management purposes) by establishing general rules that could be applied as individual permits were applied for appeared to experience less difficulty in plan preparation and implementation than did plans that performed more rigid advance wetland categorizations.

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In the course of evaluating the feasibility of wetland mitigation banking as part of the National Study, IWR identified the need to assess the utility of watershed planning in achieving wetland management success. IWR tasked Leonard Shabman and David White to conduct case studies of watershed-based wetlands planning to address the potentials and limitations of achieving successful watershed-based wetlands management strategies.

Relevant participants in the respective planning efforts were interviewed during the case studies, among them:

Carrie Fox (Corps of Engineers, Portland District);
Ken Bierly (Oregon Division of State Lands);
Jan Caufield (City and Bureau of Juneau);
Mary Lee Plumb-Mentjes (Corps, Alaska District);
Ken Scarlatelli (Hackensack Meadowlands Development Commission);
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CHAPTER ONE. INTRODUCTION

This report describes case studies of watershed-based wetlands planning. The goals, scope, and circumstances surrounding watershed-based wetland plans differ greatly. Therefore, this report makes no single and comparative assessment of the case studies. In fact, the cases were selected because they illustrate a range of issues associated with integrating wetland management and watershed planning, and a variety of planning approaches.¹ Also, all of the case studies have a wetland component, which is not true of watershed planning in general. Many watershed planning efforts focus on other water resources management objectives, most commonly water quality.

This report was prepared as part of the National Wetland Mitigation Banking Study (National Study) conducted by the U.S. Army Corps of Engineers Institute for Water Resources (IWR). Many agencies and reports have called for a linkage between wetland mitigation banking and watershed-based planning (Brumbaugh and Reppert, 1994). Another report prepared for the National Study focuses on that linkage. This report focuses on the product of the wetland planning efforts themselves.

This report first summarizes different perspectives of watershed planning for wetlands that tend to be held by particular agencies or groups (Chapter 2).

¹ Some of the case studies were selected because they included commercial credit ventures, which is the focus of a related report (Scodari et al. 1995).

The report then presents some of the different approaches to watershed-based planning, including organizational forms such as Special Area Management Plan (SAMP) and Advance Identification (ADID) efforts (Chapter 4). After outlining a descriptive and analytical framework (Chapter 3), the report in Chapter 5 describes ten different watershed planning efforts, including those in: West Eugene, Oregon; Juneau, Alaska; Hackensack Meadowlands, New Jersey; Mill Creek, Washington; Grays Harbor, Washington; Anchorage, Alaska; Dade Co, Florida; DuPage Co, Illinois; Canaan Valley, West Virginia; and Green Bay, Wisconsin. Besides general information on the major components of each plan, Chapter 5 addresses questions regarding: the initiating factor of the plan, the nature of Corps of Engineers involvement with the plan, special characteristics or problems associated with the plan; and the plan's current status.

The case studies were researched using published information (such as planning documents, and descriptive reports), and telephone interviews, conducted in 1994 and 1995. Some type of planning document was available for most of the case studies, along with related studies, public notices, or other types of information, which are referred to in the case study summaries in Chapter 5. A list of persons interviewed by telephone is provided at the end of the report.

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CHAPTER TWO. PERSPECTIVES ON WATERSHED PLANNING FOR WETLANDS

Early in the process of preparing this report it became apparent that there are many views of watershed planning. Perspectives on planning vary across individuals, but there are some common views expressed by different agencies, organizations, and interest groups. Understanding the case studies (and the phenomenon of watershed planning in general) is facilitated by an understanding of the different perspectives, which is the purpose of this chapter. Although conceptions of watershed planning differ, two contrasting perspectives toward watershed planning—a *protection-oriented perspective* versus a *management-oriented perspective*—became apparent from reviewing the case studies and written information from different agencies and interest groups.

Generally speaking, a *protection-oriented* perspective is primarily focused on maintaining the existing wetland resource (in a watershed or area-wide plan). The plan would support regulatory protocol of sequencing. Compensatory mitigation is viewed as an alternative of last resort. If a protection-oriented plan is completely successful, mitigation might not be needed because development would avoid wetlands impacts, even in cases where there are wetlands of low functional value on economically valuable sites. When inevitably a permit is issued, mitigation is to be done by the applicant on-site and in-kind, not necessarily according to a watershed plan.

A central theme of *management-oriented* plans is that wetland parcels should be categorized for management purposes in order to achieve a watershed vision that includes development needs and no net loss of wetlands function. That is, in consideration of economic and ecological goals, a plan should specify which areas (within a watershed or area-wide plan) should be protected, where development should occur, and where restoration

should occur. The claim is that this offers opportunities to ensure no net loss of wetlands functions because it provides an opportunity to exchange development in low value wetlands for restoration of wetlands of higher ecological value.

With the above dichotomy as a backdrop, the rest of this chapter summarizes different agency and interest group perspectives on watershed planning.

Federal Government

Watershed Protection Approach: The EPA's Office of Water, Oceans, and Watersheds (OWOW) is a strong advocate of what it calls the "Watershed Protection Approach," which it describes as containing three main principles: (1) risk-based targeting; (2) stakeholder involvement, and (3) integrated solutions. This is a broad definition; many types of efforts could be described as including these three components. However, EPA insists that flexibility is a key component of watershed approach, that the approach will necessarily vary in order to address problems specific to a particular watershed.

EPA clearly advocates watershed planning as part of the watershed approach. For instance, in 1994 the agency supported amending the Clean Water Act to offer states the opportunity to develop watershed plans, with EPA's oversight. EPA has suggested offering states incentives, such as more flexibility in National Pollutant Discharge Elimination System permit applications and some planning grant money, to undertake planning efforts. Although much of EPA's advocacy of the watershed approach might appear to be directed at water quality, EPA clearly intends for watershed plans to be comprehensive and include wetlands. For instance, part of the incentives EPA suggested to get states to pursue watershed planning was to offer advance

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identification (ADID) projects and more technical assistance for commercial credit supply ventures.

A consistent theme in EPA's notion of planning is an emphasis on the process component—bringing all stakeholders together to identify problems (or risks) to the watershed, and acceptable solutions to address these problems. These plans do not have as a goal a definitive wetland regulatory product, such as a programmatic permit.² This is evident in the Canaan Valley case study. However, it should be noted that EPA has also been supportive of other types of planning efforts as well, such as the West Eugene Plan and Special Area Management Plans (SAMPs). Though the purpose and nature of the West Eugene planning process is much different, than the effort in Canaan Valley, West Eugene also included much stakeholder participation.

SAMPs and ADIDs: The Corps and the EPA participate in another type of watershed planning known as Special Area Management Plans (SAMPs) and Advance Identification (ADIDs). This regulatory approach to watershed planning differs from that of the Watershed Protection Approach. Although this organizational form will be discussed in Chapter 4, several aspects of a SAMP are worth noting here. Corps regulatory guidance states that planning approaches (SAMPs) may be applicable to areas when four conditions exist: (1) the area is environmentally sensitive and faces strong development pressure; (2) there is strong public involvement; (3) there is a sponsoring local agency; (4) all parties agree to a definitive

² EPA OWOW staff describe EPA's general framework for watershed planning as a circular process, including: characterizing the system—developing a watershed vision—setting priorities—evaluating solutions—implementing actions—monitoring the system—back to characterizing the system. This model is similar to the three part definition of the “Watershed Protection Approach” in that it can describe many different planning efforts.

regulatory end-product.³ The Corps will not participate in a SAMP unless these conditions are met.

Several characteristics of SAMPs reveal the Corps regulatory program approach to planning. First, the Corps is selective in choosing where to participate in watershed planning efforts. Also, the Corps is interested in the plan ending in a definitive regulatory product, such as a general permit, which will allow some entity identified by the plan to assume some level of permitting authority from the Corps (e.g., Programmatic General Permit), or will allow the Corps to streamline certain permit applications (Regional General Permit). This effectively raises the stakes of those participating in the planning process, and arguably makes it more difficult for all participants to reach a consensus. Finally, this approach to planning is also characterized by significant analytical components, in addition to stakeholder participation. As the case studies will indicate, SAMPs tend to consist of not just an advance identification of wetland resources, but a deliberate analysis of management alternatives, and wetland categorization.

However, it should be noted that the SAMPs in which the Corps participates are not as analytically thorough and multiple-objective as some may desire. Some considerations of a more rigorous analytical approach to watershed planning are presented by Stakhiv (1991). Writing on cumulative impact analysis (CIA), Stakhiv suggests a plan should: establish goals and objectives for growth management; contain a planning and regulatory evaluation framework for regulatory purposes; define wetlands conservation goals; forecast anticipated growth patterns; analyze elements of ecological carrying capacity; assess cumulative environmental, social, and economic effects of alternative future development scenarios; clarify tradeoffs and enable explicit choices among

³ Corps of Engineers Regulatory Guidance Letter 86-10 (2 October 1986).

competing objectives; and facilitate balancing of public interest factors within the context of the evaluation of alternative growth management scenarios. Stakhiv also suggests that such analysis can be undertaken through a watershed plan (SAMP).

According to Stakhiv, the SAMP would result in conditions for granting and denying permits that make it more likely that the desired outcomes—developed through an intensive planning process—occur. By thoroughly addressing multiple objectives and goals (including regional economic growth) SAMPs become a mechanism to address comprehensive planning. Stakhiv calls the analysis that leads to the plan “level A” analysis; he suggests that “level B” analysis focus on determining the nature of general permits that help implement the plan, and suggests that such permits not be based on particular activities (as is currently the case) but rather on particular effects that are similar in nature, as defined by the plan. The general permit, therefore, becomes a tool for managing the less desirable consequences of the preferred alternative future as selected through the planning process.

The watershed planning case studies do not appear to be this comprehensive nor contain this level of analytical detail. However, the watershed plans for the Hackensack Meadowlands, Mill Creek, and to a lesser extent West Eugene and Juneau include analytical components, including wetland categorization.

Local and State Government

Many of the Federal proposals on watershed planning rely on heavy state and local involvement. According to one report, (Inside Washington Publishers 1993) states may be wary of the Federal enthusiasm for watershed planning in general, fearing that states have been doing watershed planning for years, and may now be given new unfunded mandates or unwanted advice. This position may have been a response to some of

1993/94 Congressional and EPA proposals on Clean Water Act reauthorization, which supported strong Federal oversight for watershed plans.

Even though state enthusiasm for new watershed planning responsibilities may not be universally positive, most of the watershed planning case studies were in fact initiated locally rather than imposed by Federal agencies. EPA sees itself as more of an enabler, providing a catalyst to state and local watershed planning efforts. Similarly, the Corps requires a local sponsoring agency before it will participate in a SAMP. The level of local and state interest in planning thus has a great influence on whether watershed planning occurs, and what plans entail. Some states, such as Oregon, have a strong planning tradition; some states do not, as the absence of visible watershed planning efforts from certain regions of the country suggests.

Sometimes state regulatory agencies are reluctant to allow watershed planning efforts regulatory flexibility, and do not support categorization schemes. However, it should be noted that many regulators—at the state and Federal level—sometimes *implicitly* categorize wetlands on a case-by-case basis. That is, when regulators in the field make decisions regarding the suitability for fill or mitigation requirements associated with a permit decision, they do so based on consideration of a number of factors including the type and quality of wetlands, nature of activity proposed, and potential mitigation to be provided by the developer. In other words, regulators in the field might not administer sequencing and alternatives analysis regulations rigidly, as if all wetlands and development activities were the same.⁴ Given the flexibility assumed in

⁴ It should be noted that there is room in Section 404 for flexibility in administering wetland regulations. This flexibility is supported by the Clinton Administration. At the same time the wetland policy statements were released by the Administration in August 1993, EPA and the Corps issued field guidance

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implementation of the regulatory program, it is possible that regulatory decisions made on a case by case basis can promote or support watershed planning efforts.

In some localities (even those with strong land-use planning traditions) the concept of planning for *wetlands* (apart from other water resources) is lacking. One planner interviewed for this effort noted that for years the state Department of Natural Resources and Federal regulators were telling planners not to address wetland development or restorations, that they were under Federal and state jurisdiction. While this planner noticed recent changes in Federal and state attitudes toward encouraging local planning approaches to wetlands, he expressed a reluctance to get involved in decisions regarding wetland development and restoration. Moreover, watershed planning can be expensive, and localities may not have the resources nor the expertise to accomplish the task. The point of this is that not all localities automatically desire to get involved with wetlands decisions. As will be seen, even though most of the case studies were initiated locally, most localities had a strong incentive to participate, such as the threat of a Federal regulatory action that would severely impact their growth objectives. These incentives to localities are not always present.

Non-Governmental Organizations

Environmental Groups. Environmental groups vary greatly in their objectives and philosophy, but many laud the watershed approach. Many environmental groups tend to support the watershed approach because they feel it will provide more resource *protection*, perhaps by regulating activities not

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highlighting the flexibility that exists to apply less vigorous permit review to small projects with minor environmental impacts (U.S. Army Corps of Engineers Regulatory Guidance Letter 93-2, August 23, 1993).

covered under current laws. Environmental groups commonly do not support aspects of watershed planning that introduce regulatory flexibility, categorization of wetlands, or more local control of wetland decisions. Some groups oppose the issuance of general permits to localities (often the end product of a SAMP), fearing that locally controlled permitting will automatically weaken wetlands protection. Moreover, many environmentalists feel that wetland science is too poorly developed to make sound categorization decisions, and insist that wetlands are rapidly being lost—causing them to advocate that all wetlands should be protected. They may believe that case-by-case individual wetland permit process should not be replaced by general permits resulting from a planning process.⁵ Some environmental opposition to these aspects of watershed planning has been effective—for instance, environmentalist opposition delayed the implementation of Juneau’s plan (the issuance of Programmatic General Permit) and now threatens the implementation of West Eugene’s plan.

However, it should be noted that many environmental groups support the planning concept and have participated in watershed plans. For example, the Nature Conservancy was heavily involved in the development and implementation of the West Eugene plan. Still, given the reluctance of many environmental groups to support management-oriented concepts of planning, obtaining their approval of planning efforts has sometimes proved difficult and may pose an impediment to future efforts.

Property-Rights Groups. Property rights groups do not appear to have organized around the watershed planning issue. However, they have been increasingly active lobbying against environmental regulation and land use planning in general. It can reasonably be assumed that property rights

⁵ For an example of this type of opposition, see Orman (1995).

advocates would oppose any watershed plan that puts additional burdens on property owners. Indeed, some of the case study planning efforts have seen opposition from property owners, particularly in cases where property owners perceive that their property values will decline because of the plan, or in cases where the plan designates certain privately held parcels as off-limits to development.

Association of State Wetland Managers. The idea of combining wetlands management with watershed planning has been examined by the Association of State Wetland Managers (ASWM), in a series of workshops in the early 1990's (Association of State Wetland Managers 1992). ASWM is an influential group, not only because their opinions on matters relating to wetlands reflect cutting-edge scientific expertise and national experience, but also because the group appears to be well-connected to Federal and state resource agencies and the Administration. At any rate, the idea of linking watershed planning with wetland management has caught on, and currently, ASWM is trying to clarify the concept of watershed planning and produce a "how-to" guide for watershed planning through a series of workshops with qualified state and Federal agency representatives, and scientists.

Early meetings of the group have produced a consensus of some desirable aspects of watershed planning for wetlands, many of which are similar to those contained in this report. At a recent symposium, ASWM presented some perspectives on watershed planning and recommendations (Association of State Wetland Managers 1995). Some of their ideas are summarized below.⁶

ASWM has identified many critical issues that have surfaced in watershed planning efforts across the

country. These issues tend to be associated with: the problem of defining what a watershed plan is; the actual process of conducting a watershed plan (i.e., who should be involved, whether wetlands should be categorized, the utility of GIS systems); and how plans might be implemented. ASWM admits that watershed planning efforts vary greatly, but claims that all watershed plans should, at the very least, identify wetland areas and attempt to manage them in a watershed and landscape context in a sustainable fashion.

ASWM lists major steps watershed plans should contain, which include: identifying problems; bringing together key actors and the public; formulating goals; defining the watershed; inventorying and mapping wetlands; analyzing data; establishing development plans for particular areas; implementing the plans; monitoring and feedback. Many of these components are included in some of the case studies. Including this list does imply that ASWM feels watershed planning should generally follow a specified procedure.

Finally, two major themes of ASWM's perspective on watershed planning should be noted. First, ASWM insists that watershed plans focus on the overall *water regime*; that is, to extensively consider the hydrological characteristics of the watershed. This is reflected in many of the benefits of watershed planning listed by ASWM, such as: better evaluation of functions and values; the ability to consider cumulative impacts; better restoration projects; a better ability to integrate wetland management with other water resource management activities. Second, ASWM admits that because many "advance identification" projects or "special area management plans" do not focus on the entire water regime, they are not really watershed plans. Given this, it is possible that ASWM, among others, would not consider some of the case studies in this report watershed plans.

⁶ Apparently S. 2093, one of the Clean Water Act amendment bills introduced in 1994, reflects many of the views expressed by ASWM.

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CHAPTER THREE. FRAMEWORK FOR DESCRIPTION AND ANALYSIS OF WATERSHED PLANNING CASE STUDIES

As is clear from the discussion in Chapter 2, there is no universal definition of watershed planning for wetlands. This is not surprising as the concept of planning itself is difficult to define. Some view planning as an all-encompassing activity, practically equating it to the process of how all public policy decisions are made. Others (i.e., Wildavsky 1979) view planning more narrowly (and skeptically) as an attempt to control the future. Alexander (1986) approaches a definition by noting what planning is *not*. He claims planning is not an individual activity; it is not present-oriented; it can not be routinized; it is not trial and error, or incremental decision making; it is not just imagining desirable futures; it is not just making plans (rather it includes a commitment to carrying out the planned strategies). Alexander ends up defining planning as: “the deliberate social or organizational activity of developing an optimal strategy of future action to achieve a desired set of goals for solving novel problems in complex contexts, and attended by the power and intention to commit resources to act as necessary to implement the chosen strategy.”

While each plan is different, planners do follow some protocol in developing plans. Most planning models, again according to Alexander (1986), contain the following elements:

- 1) problem diagnosis
- 2) goal articulation
- 3) prediction and projection of future conditions
- 4) design of alternatives
- 5) testing for feasibility, consistency
- 6) evaluation of alternatives
- 7) implementation

Many of the case studies discussed in this report include some of these components, but not all of them. And the case studies differ not only in their approach to planning, but in their scope, objectives, problems experienced, and why they were initiated.

As mentioned in the introduction, the case studies were selected because they illustrate a wide range of planning approaches. Some of the case studies were SAMPs; many were initiated locally; some had a high degree of Corps involvement; some appeared protection-oriented, and some management-oriented. A basic conclusion of this report is that watershed-based planning, at least in practice, does not assume a particular organizational form. This becomes clear after reviewing the initiating factor, process, and technical and implementation elements.

The **initiating factors** for watershed planning varied. Some plans came about because of a local interest in facilitating or streamlining the permit process (or escaping Federal wetland regulations perceived as burdensome). Other plans resulted from some agency initiative. Table 1 summarizes how several of the plans were initiated.

The planning **process** differed greatly among the case studies. Process elements include the level of public and stakeholder participation, and the entity taking the lead or coordinating the planning process. Many view public and stakeholder participation as a major component of watershed planning. Indeed, most of the plans examined contained some participation, although the extent of it varied. Table 2 describes different process elements of the case studies.

Technical elements include most of the general planning components described by Alexander (1986). More specifically, this category includes information on: goals of the plan; any mapping or identifying of wetlands and their functions; whether and how wetlands were categorized; and any other analytical tasks. Plans varied greatly in their technical elements. For example, the goals and objectives for some plans were rather specific (laying out a particular watershed vision), whereas other plans had vague or general objectives (i.e., no

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net loss of wetlands). Some planning efforts involved significant ecological and socio-economic studies to establish a categorization scheme.

Some case studies did not include wetland categorization at all. These case studies generally did not have non-regulatory approaches to wetland management, including commercial credit supply ventures. However, many of the case studies did include categorization; among these, some case studies categorized areas rigidly; that is mapping areas to be protected, restored, and developed. Other plans did not categorize parcels in advance of permit decisions, but rather established

categorization rules that could be applied as the development permit was applied for. Table 3 summarizes the different categorization approaches. The technical components included (or omitted) in the plans reinforce the dichotomy between the two different themes to planning mentioned in Chapter 2. Plans that do not include categorization rules tend to be *protection-oriented*. Those that result in categorization rules are generally more *management-oriented*, emphasizing a purposeful attempt to influence where development, protection, and restoration will occur in a watershed.

TABLE 1. Initiating Factors for Watershed Planning Case Studies[†]

Case Study	How and Why Effort Was Initiated
West Eugene, Oregon	The City of Eugene was concerned that Federal wetland regulations (Section 404) would thwart development in a large section of the city which had been zoned 'industrial.' The city opted to pursue a wetland conservation plan in order to control development and ensure no net loss of wetlands.
Juneau, Alaska	The City and Bureau of Juneau (CBJ) wanted to simplify wetland permitting in order to facilitate and control development in the city. Much of remaining developable land in Juneau is wetlands, so wetland regulations will greatly influence Juneau's ability to grow.
Meadowlands District, New Jersey	The Hackensack Meadowlands Development Commission (HMDC) felt that Federal wetland laws were preventing it from achieving its multiple planning objectives, which included providing for development as well as environmental protection. Initiating a collaborative planning process—the SAMP—seemed the only way to resolve the problem of resolving intense conflict between high development pressure (high land values) and wetlands regulations.
Mill Creek, Washington	Conflict between high growth and development in the area and wetlands regulations frustrated the development community, and prompted local and Corps interest in a plan. There also was a desire to combine wetland planning with flood control efforts.
Anchorage, Alaska	The Anchorage Wetlands Plan was initiated in 1979 (and completed in 1982) because the City felt that wetlands regulations were too cumbersome and hampered economic growth. The objective of the planning effort was to streamline wetland permitting. The plan is currently being redone, because the Corps General Permit which streamlines some permit applications for certain activities and wetlands, is due to expire, and also because several interests were dissatisfied with the original categorization scheme.
Grays Harbor, Washington	The plan was initiated by a task force established by the Grays Harbor Regional Planning Commission, because the Commission felt that development in the harbor was constrained by a complex review process that required permits from many agencies. the Commission felt that a plan would facilitate and streamline the permit process, making it less burdensome for developers.
DuPage Co., Illinois	A Illinois State law created the DuPage Department of Environmental Concerns (DEC) a county agency, primarily to focus on stormwater in the county. In DuPage county DEC wrote (and the DuPage Co. Board of Supervisors approved) an extensive County-wide stormwater ordinance, components of which include watershed planning, wetland categorization, and public commercial credit supply ventures.
Dade Co., Florida	The Dade County Commission wished to extend the 'urban services boundary' of the County into wetlands. Specifically, the Corps' rejection of a Dade Co. permit application to build a high school in a wetland area was the action that triggered the SAMP. Apparently, the Corps required Department of Environmental Resource Management (DERM) to complete an EIS or a SAMP to resolve permitting issues associated with urban growth in the area, and DERM chose the SAMP. Also, Dade County's Comprehensive plan required development to conform to a basin wide wetlands plan, to prevent the risk of flooding and maintain habitat values. This provided public and political pressure to adopt a plan.
Canaan Valley, West Virginia	Concern for degradation of relatively pristine wetlands in the region prompted creation of the Task Force, a group consisting of multiple stakeholders that discussed and recommended protection strategies for the area. Canaan Valley is a scenic natural area containing many wetlands, facing development pressure for second homes, etc. EPA action helped initiate the effort.
Green Bay, Wisconsin	The Remedial Action Planning process was begun in 1985 following recommendations of the International Joint Commission (U.S. and Canada) that the Green Bay region develop a plan to address degraded water resources. Wetland loss and degradation are a major concern, and a major component of the plan focuses on wetlands.

[†] Provisions as of Fall 1994

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TABLE 2. Process Elements of Watershed Planning Case Studies[†]

Case Study	Process/Participation Elements
West Eugene, Oregon	The City of Eugene contracted with Lane County Council of Governments to coordinate the plan, which was developed with technical input from several agencies. There was also extensive public participation in the planning process.
Juneau, Alaska	The CBJ coordinated the planning process, although many agencies participated in developing the plan. Community meetings were held to solicit input and disseminate results. Public “preference for management” was a component of the categorization criteria, although this was de-emphasized in the final categorization scheme.
Meadowlands District, New Jersey	The effort has been advocated by HMDC, a local planning agency for the region. HMDC was established in 1968 with the mandate to balance several development and environmental protection objectives. Many agencies have been intensively involved in the SAMP and associated Environmental Impact Statement (EIS), including the Corps and EPA who are serving as the lead Federal agencies. Citizen interest and involvement is high, given high land values in the area, and the ecological importance of wetlands that remain in the area.
Mill Creek, Washington	The Corps has taken a major role in coordinating and developing this SAMP along with EPA, with strong local involvement from the cities of Auburn and Kent in King County. There has also been extensive citizen and interagency involvement; the development of planning alternatives is being performed by both an interagency and a citizens committee. Apparently, there has been some disagreement within these two committees, as the participation process has been long and drawn out.
Anchorage, Alaska	The City of Anchorage led the initial effort, although there has been much Corps and EPA involvement. The plan was done in conjunction with the City’s Comprehensive Plan. Two review committees were established to guide the planning effort, a technical committee and a policy committee. There were over 40 public meetings and hearings to solicit public input.
Grays Harbor, Washington	The planning process began in 1975, and lasted for over 10 years. The Federal Office of Coastal Zone Management (within NOAA) was greatly involved with developing the plan. It was the first SAMP associated with the Coastal Zone Management Act. During the planning process there was multiple agency and some public involvement, but apparently there was often little agreement. Though the plan is completed, some interests still claim that public input was inadequate.
DuPage Co., Illinois	The effort is led by DuPage County Department of Environmental Concerns. Stakeholder involvement does not appear to be extensive, although the Corps has assisted DEC implement the plan through its regulatory role.
Dade Co., Florida	The Dade Co. DERM took the local lead and Corps took the Federal lead (because of its jurisdiction over wetlands and involvement with Everglades area). However, there has been much involvement with other Federal agencies (Park Service, EPA, etc.). The planning process also included public participation.
Canaan Valley, West Virginia	EPA convened a “Task Force” comprised of many Federal, state, and local representatives as well as business, development, conservation, recreation, and landowner interests to develop a comprehensive strategy for resource protection in the Valley. Much effort was made to include many stakeholders in the process; many of the accomplishments claimed by the effort have to do with participation or process.
Green Bay, Wisconsin	The Remedial Action Plan was developed through extensive public and interagency participation (citizens advisory groups, technical advisory groups, etc.). The plan was coordinated by Wisconsin Department of Natural Resources (WDNR), with significant EPA funding.

[†] Provisions as of Fall, unless otherwise indicated.

TABLE 3. Technical/categorization Elements of Watershed Planning Case Studies[†]

Case Study	Technical Elements/How Categorization Was Done
West Eugene, Oregon	As an EPA ADID site, wetlands and their functions were identified and mapped. The plan established a watershed vision which went beyond no-net-loss to net gain of wetland functions, and considered flood control and stormwater in addition to wetlands. Wetland categorization was based on a desire to achieve the plan's vision, reflecting the compilation of information regarding ecological values of wetlands, and the city's economic development objectives. The plan maps areas to be protected, restored, and developed.
Juneau, Alaska	Wetlands were initially identified and mapped by the Corps, but more detailed mapping and functional assessment was performed as part of the planning process by a nationally known consultant using the Wetlands Evaluation Technique (WET). Wetland parcels were placed into 4 categories based on WET scores, public preference for management, and an assessment of development alternatives. The Corps, however, clarified the categories when developing the General Permit, applying the minimal environmental impacts standard. The categories range from A to D, representing in decreasing order the importance of protection. The plan maps these categories.
Meadowlands District, New Jersey	The Hackensack Meadowlands was an EPA ADID site, through which wetlands and their functions were identified and mapped. The plan's vision is to simultaneously attain no net loss of wetland values and further HMDC's development and environmental improvement goals. In the categorization process, wetlands were scored based on the functions they would provide under different land use alternatives. The result of the categorization process includes a designation of the preferred land use alternative for different wetland parcels (including areas to protect, restore, and type of development allowed). The SAMP is attempting to incorporate the alternatives analysis required by Section 404 in an Environmental Impact Statement (EIS).
Mill Creek, Washington	The Corps' plan of study for development of the SAMP included several technical and analytical tasks. In addition to public involvement, the list of study tasks included: a detailed scoping effort (developing cost estimates, scopes of work for various tasks); a literature review of available information on resources in the basin; GIS mapping; wetland functional assessment; summarization of potential development in the basin, development of wetland alternatives (including categorization, areas for mitigation, restoration, buffer zones, etc.); analysis of alternatives; preparation of the SAMP report; and adoption of a regional permit. Many of the analytical tasks have been carried out (for example, identification and functional assessment was performed by an EPA ADID project).
Anchorage, Alaska	The 1982 Plan included both mapping and categorization. With EPA funding, the City identified and classified wetlands according to physical and scientific characteristics. Wetland resources were further assessed on how well they provided certain desired functions or services, such as wildlife habitat, flood control, and recreation. According to some, original wetland categorizations were based on pre-existing maps and studies, rather than field work during the planning process. The plan resulted in four management categories: preservation, conservation, developable, and special study. In general, those areas classified for preservation were considered off-limits to development (the Corps retained permitting authority for these wetlands). In the plan's recent revision, much effort has gone into categorization. There are now 3 categories of wetlands and the lower value category, covered by the General Permit, has been mapped in detail to ensure that there is minimal loss of environmental values.
Grays Harbor, Washington	The Grays Harbor plan does include an assessment/identification of wetland sites. It recommends different land uses for different portions of the planning area.
DuPage Co., Illinois	DEC's stormwater ordinance divides the County into different watershed planning units. These units are to be managed for multiple water resource objectives (water quality and wetlands). The area covered by the plan was an EPA ADID site, so wetlands were mapped and functions assessed. DuPage Co. used this information to establish categorization rules for wetlands, but other categorization criteria were used as well (such as habitat scores, water quality scores, etc.). The two categories are "critical" and "regulatory," the latter requiring less mitigation. The ordinance also specifies mitigation requirements for the categories, and authorizes and establishes rules for public commercial credit supply ventures.
Dade Co., Florida	As part of the planning process, the Corps required County to perform detailed functional evaluations using HEP. However, in the end planners decided to apply only two categories of wetlands: tree islands (which must be protected), and "other," which can be developed by paying a set mitigation fee.

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Canaan Valley, West Virginia	The objective of the effort was to develop a strategy for resource protection using multiple stakeholder involvement. No formal plan or planning procedure was established. However, there have been several studies associated with the effort (commissioned by the Task Force), including: the development of a GIS and land use/land cover data base; advanced identification of wetlands; and a study of the economic impacts of the proposed (now established) National Wildlife Refuge. The effort focuses on protection of existing wetlands rather than protection or mitigation, so the effort did not result in the development of management categories or trading rules.
Green Bay, Wisconsin	The planning effort includes an identification of wetland resources and the establishment of goals and objectives directed toward achieving an ecosystem vision (the “desired future state”). However, the plan focuses on maintaining existing wetland resources, rather than restoration or mitigation. The plan does not categorize wetlands. That is, it does not identify parts of the watershed suitable for development, protection, and restoration. An EPA ADID project was recently completed for the Green Bay area (including the area covered by the Plan), but the project was given a new acronym, the Special Wetland Inventory Study, because: (1) the Corps did not actively participate, and (2) the effort differed from a typical ADID in that it did not investigate the general suitability for fill, as do most ADIDs. Apparently the Wisconsin Department of Natural Resources (the state regulatory agency) and some other interests resisted any advance assessment of general suitability for fill, because they felt it would encourage development in these wetlands.

† Provisions as of Fall 1994.

Implementation elements include any regulatory or non-regulatory mechanisms created by the plan that are designed to help achieve the watershed vision. Some of the case studies were designed to lead to new regulatory structure, such as the issuance of a Corps general permit to a local entity. Some plans included non-regulatory measures, particularly public commercial credit supply ventures. A few plans appeared to have few implementation elements. General characteristics of implementation of each plan is summarized in Table 4.

In general, the same protection-oriented vs. management-oriented distinction could be made regarding a plan’s implementation strategy. In general, a protection-oriented plan relies on regulatory measures, and an absence of regulatory flexibility, given the desire to protect all existing wetland parcels. On the other hand, a management-oriented plan would be more likely to include non-regulatory implementation measures, such as commercial credit supply ventures. This is because the process of categorization, included in management-oriented watershed plans, suggests a willingness to trade off wetland functions. For a more complete discussion of the contribution of

watershed planning to commercial credit supply ventures, see Scodari et al. (1995).

The plans also differed regarding the extent and nature of **Corps of Engineers involvement**. Given the Corps regulatory role, involvement was necessary for most watershed plans that attempted to influence wetland regulatory decisions. *However, the Corps tended not to be as involved with plans that were more protection-oriented.* Table 5 summarizes Corps involvement with wetland plans for different case studies.

Finally, the plans are in various stages of development or implementation. Most plans are yet to be implemented, or have only been in place for a short period. Some, however, have been in place for several years. Table 6 summarizes the status of the various planning efforts.

The above components—initiating factor, process, technical, implementation, and Corps involvement—serve as the basic framework for describing the watershed planning case studies. In addition, the case study descriptions contain information about special problems or lessons associated with each plan.

TABLE 4. Implementation Elements of Watershed Planning Case Studies[†]

Case Study	How the Plan Is (Or Is to Be) Implemented
West Eugene, Oregon	The West Eugene plan examined 21 methods for protecting natural resources, and the plan calls for a combination of regulatory and non-regulatory measures. After approval by the Oregon Division of State Lands (DSL), the plan will have the effect of local land use law, and is enforced by city ordinance. The Corps is helping implement the plan by streamlining its permitting procedure consistent with the plan. The plan called for some areas to be protected outright, and the implementation of this was facilitated by an acquisition scheme funded by Federal Land and Water Conservation Funds, channeled through the Bureau of Land Management. The plan also contains a commercial credit supply venture to help fund and target restoration.
Juneau, Alaska	The plan calls for Federal (Corps) regulation to continue for top two categories of wetlands, but other two categories to be regulated locally by CBJ, in accordance with the plan. The plan calls for a public commercial credit supply venture, which is to be used for category B and C wetlands if on-site mitigation is found to be insufficient or impractical.
Meadowlands District, New Jersey	When fully operational, the plan will rely on a variety of regulatory and non-regulatory tools, including commercial credit supply ventures and a purchase of development rights program. Several types of commercial credit ventures are being considered. The Corps intends a general permit program and abbreviated permit process to implement development contained in the SAMP. Mitigation components of the plan (including commercial credit supply ventures) will be overseen by an interagency committee.
Mill Creek, Washington	The regulatory end product of this SAMP is the issuance of a Corps General Permit to localities to implement the plan's preferred alternative, which will specify areas for mitigation, development and protection. The permit is intended to streamline the permitting process and make it more predictable. Because of the high degree of development pressure, restoration and public commercial credit supply ventures were initially thought to be important components of the plan, but public commercial credit supply ventures have been dropped as part of the plan due to difficulties finding agreement among all interested parties. Commercial credit supply ventures may be developed for the area at a future date, but are not part of the plan currently.
Anchorage, Alaska	Implementation of the plan was facilitated by the Corps issuance of a General Permit to issue permits for developable wetlands. The plan is also integrated with the City's comprehensive plan, so it is enforced by local laws. Implementation may have been facilitated by the sensitivity of land ownership in the categorization process. There are different perspectives on the implementation record of the 1982 plan. Not all wetlands slated for preservation were protected, although some claim that a majority of them were. It is difficult to judge what would have happened without the plan. The city seems to be satisfied with the plan, given their interest in continuing the effort, and the Corps is in the process of renewing the General Permit and revising the plan.
Grays Harbor, Washington	The plan was completed before the Corps practice of associating General Permits with SAMP efforts. The plan is intended to be a guidance document, and some claim that agencies use the plan to facilitate regulatory decisions. Since it was adopted by all the municipalities, the State, and the Federal Government, (through the Coastal Zone Management Act) all actions affecting the resource need to be consistent with the plan. But because the plan is a guidance document, agencies appear only bound to use the plan as a reference; it does not determine permit decisions.
DuPage Co., Illinois	The DuPage County ordinance is enforced locally, but recently (March 1995) the Corps has issued a Programmatic General Permit to DEC to streamline wetland permitting. DEC has already begun collecting fees for two public commercial credit ventures, one of them which can be used for jurisdictional wetlands (although mitigation work will not begin until enough fees are collected).
Dade Co., Florida	The Corps is administering an alternate permitting arrangement to allow the plan's implementation. Some wetlands (tree islands) are specified as entirely off-limits to development. Other wetlands can be developed for a specified mitigation fee, set at the amount to restore wetlands of comparable size and ecological value off-site (in Everglades National Park or elsewhere in Dade County).

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Canaan Valley, West Virginia	There has been no formal plan, and no attempt by the Corps to associate a General Permit with the planning effort. However, the effort has resulted in stronger regulation: the Corps retracted some nationwide permits (permits for some activities) as a result of the Task Force recommendations. Also, the effort successfully brought about support for a National Wildlife Refuge among planning participants that may have been opposed without participating in the process.
Green Bay, Wisconsin	The plan suggests (but does not establish) a variety of measures to achieve the desired objective of maintaining all wetlands, including: more regulation or zoning; better enforcement of regulations; public education about the importance of wetlands; encouraging private or non-profit organizations to conserve wetlands; and wetland acquisition. Many of the implementation measures are regulatory in nature. The plan does not suggest commercial credit supply ventures as an implementation mechanism. WDNR coordinates the plan and oversees its implementation.

† Provisions as of Fall 1994.

TABLE 5. Corps of Engineers Involvement with Wetland Plans[†]

Case Study	Nature of Corps Involvement
West Eugene, Oregon	The Corps has been involved with plan development as it administers the Section 404 program. The Corps has participated on the Technical Advisory Committee, which has greatly shaped the plan's overall design. The Corps manages the Amazon Channel Complex and Fern Ridge Reservoir, areas contained in the plan area, and its management efforts have contributed to the planning effort. For instance, the Corps conducted a \$300,000 study of the Amazon Channel to determine how environmental values can be improved upon, and has selected West Eugene as a national demonstration site for restoration of prairie type wetlands. The Corps has recently approved the plan, and is setting up an alternative permitting procedure, issuing "letters of permission" to permit applications that are consistent with the plan, rather than requiring individual permits.
Juneau, Alaska	The Corps district office was involved with developing the plan, and prepared a draft general permit that would help allow CBJ to issue permits for two categories of wetlands. However, the initial general permit application was held in abeyance by Corps headquarters in Washington, D.C. in 1993. In its stead, both the Corps and CBJ issued permits with Corps oversight. The Corps granted the Programmatic General Permit in June 1995.
Meadowlands District, New Jersey	The Corps has been heavily involved as administrator of Section 404, and along with EPA has contributed to the EIS that will accompany the SAMP. If approved, the SAMP and EIS will accomplish the alternatives analysis of Section 404 regulations (i.e., the plan will have evaluated all alternatives, so individual permit applicants will not need to).
Mill Creek, Washington	The Corps involvement with this SAMP has been quite extensive, as the Corps has been the lead Federal agency for this planning effort. The Corps has provided significant staff time to assist in developing the plan. In addition, the Corps hopes to assist in implementing the plan, by issuing a General Permit that will authorize many activities consistent with the plan.
Anchorage, Alaska	The Corps was involved during the planning process (as a participant technical advisory committee), and even more in the plan's implementation. The Corps issued General Permits which streamlined permits for certain categories of wetlands. The Corps has recently revised and reissued General Permits to assist in implementing the Revised Anchorage Plan.
Grays Harbor, Washington	The Corps participated in technical committees that developed the plan, although NOAA was the lead Federal agency. It has not developed an alternative permitting procedure to help implement the plan, (i.e., attempted to issue a General Permit), as it has in other SAMP areas.
DuPage Co., Illinois	The Corps was apparently not heavily involved in the planning effort, but has assisted the DuPage DEC implement the plan. It has recently issued a Programmatic General Permit giving DEC authority to review most permits, although it will retain discretionary authority. The Corps has also given one of the commercial ventures a General Permit, authorizing its use for jurisdictional wetlands.
Dade Co., Florida	Through its rejection of a permit (to expand the urban services boundary), the Corps helped initiate this SAMP. The Corps has adopted an alternate permitting procedure so DERM can implement the plan.
Canaan Valley, West Virginia	The Corps has participated as a member of the Task Force, but the effort appears to have been coordinated at the Federal level by EPA and Fish and Wildlife Service (FWS). The Corps also has responded to some of the Task force recommendations by retracting some nationwide permits.
Green Bay, Wisconsin	The Corps local regulatory office has participated in the technical committees that developed the plan and continue to participate in implementation committees. While not bound to the plan in any way, the local regulator is therefore aware of the plan's recommendations, and so Corps regulatory decisions may be influenced by the plan.

[†] Provisions as of Fall 1994, unless otherwise indicated.

TABLE 6. Status of the watershed planning case studies[†]

Case Study	Status
West Eugene, Oregon	The Oregon Division of State Lands, the Corps of Engineers, and EPA have approved the plan, so it is in effect. It is unclear if the public commercial credit supply venture is operational, although a side commercial venture (for non-jurisdictional wetlands) was approved in 1993 and credits have been sold; this arrangement will be administered in a manner specified by the plan. However, one environmental group has just taken the plan to court, so its long-term success is somewhat uncertain. [The MOA was signed in Fall 1995]
Juneau, Alaska	In 1993 CBJ's General Permit application was delayed by Corps Headquarters. In the interim period, an "Accelerated Individual Permitting Procedure" was set up, whereby both the Corps and CBJ had permitting responsibilities for C and D wetland categories. CBJ has only issued one permit (with Corps approval) since this cooperative arrangement began. In June 1995, CBJ received the full General Permit, to administer permits for 2 categories of wetland although to date no permits applications have been filed. Some environmental groups have threatened to legally challenge the permit. The operation of the public commercial credit supply venture has been held up due to the problems obtaining the General Permit.
Meadowlands District, New Jersey	The Federal Draft EIS was issued in July 1995. The Final EIS is under development. Operation of the public commercial credit supply venture, however, is several years away, as the plan stipulates that no mitigation credits can be sold until the credit wetlands are fully functional, and HMDC has not yet begun any mitigation work.
Mill Creek, Washington	The SAMP document is currently in its fifth revision, and may be near completion and approval. The commercial credit component of the plan appears to have been scrapped (due to late opposition from one of the local governments involved), which may smooth adoption of the plan.
Anchorage, Alaska	The original plan has been in effect for 10 years, and has recently been revised. There was some net loss of wetland resources since the original plan was adopted but the plan did not have a no net loss goal. It is difficult to judge how successful it has been regarding wetland protection because it is not clear what would have happened to wetlands in the area had the plan not occurred. The plan revision has included a thorough assessment and categorization of wetlands. A General Permit has been developed to assist in implementation. There is broad agreement on the revised categorization scheme.
Grays Harbor, Washington	The plan is complete, but because of its advisory nature, its effectiveness is difficult to judge. It did not replace any existing regulatory protocols.
DuPage Co., Illinois	The plan is currently operational, and as of March 1995 the Corps now allows DEC to review most permits. DEC has already collected significant funds for one of the mitigation banks, and plans to begin mitigation work for this venture soon. DEC has so far been pleased with the plan.
Dade Co., Florida	The plan is currently operational. DERM staff reports general satisfaction with the plan, particularly among developers, who appreciate the lack of complexity involved with meeting wetland mitigation obligations.
Canaan Valley, West Virginia	The Wildlife Refuge has been established, and the Fish and Wildlife Service has begun acquiring land. However, the Task Force is still in existence (with EPA and FWS support), and continues to undertake studies and serve as a forum for discussions about long-term protection of the Valley.
Green Bay, Wisconsin	The plan is currently in the implementation stage. It is difficult to judge how successful it has been regarding wetland protection because it is not clear what would have happened to wetlands in the area had the planning effort not occurred.

[†] Provisions as of Fall 1994, unless otherwise indicated.



CHAPTER FOUR. SUMMARY OF APPROACHES TO PLANNING AND ORGANIZATIONAL FORMS

The case studies exemplify several different approaches to watershed-based wetlands (wetlands and watershed planning). The organizational forms are summarized here so as to better understand the individual case studies. It should be noted that the approaches described here are not all-inclusive; there are no doubt many other watershed-based planning approaches that exist.

Special Area Management Plans (SAMP)

SAMPs were first established following 1980 amendments to the Coastal Zone Management Act (CZMA), and are meant to be a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth. The purpose of a SAMP is to resolve recurring inter-jurisdictional conflicts over the preservation or development of valuable coastal resources (Environmental Law Institute 1994). The SAMP planning process emphasizes participation by all stakeholders, and once approved, SAMPs become part of the state's Coastal Zone Management Program. They are legally binding in the sense that the CZMA requires Federal actions (including Section 404 permitting) to be consistent with the state's Coastal Zone Management Program. The program is administered through the office of Ocean and Coastal Resource Management in the U.S. Department of Commerce.

Common characteristics of CZMA SAMPs are that they contain a high level of public and agency participation and address conflicts between economic development and environmental concerns. However, SAMPs differ widely in their scope. While SAMPs are intended to be comprehensive, some do not focus on wetlands but on other water resource management objectives, such as water quality improvement. It also should be noted that they do not necessarily correspond to whole

watersheds; just special coastal areas that are felt to merit significant attention.

The Corps of Engineers, however, has extended the SAMP concept to inland areas not covered by the CZMA. The Corps Regulatory Guidance Letter No. 86-10 (2 Oct. 1986) noted that "This process of collaborative interagency planning within a geographic area of special sensitivity is just as applicable in non-coastal areas." The letter also states that SAMPs can reduce problems associated with traditional case-by-case review. The Corps has the authority to work with local governments to develop SAMPs because of its responsibilities under Section 404 of the Clean Water Act; 1977 Amendments to the Act authorized the Corps to issue general permits on a state, regional, or nationwide basis covering certain categories of activities. Corps regulations allow for issuance of general permits in cases where the permit would prevent unnecessary duplication of regulatory control exercised by another Federal, state, or local agency—provided that the environmental consequences of the action are determined to be individually and cumulatively minimal. As mentioned earlier, the Corps applies four criteria for participating in a SAMP: (1) the area must be environmentally sensitive and face strong development pressure; (2) the public must be involved in the process; (3) there must be a sponsoring local agency; (4) all parties must agree at the outset that the plan will result in a regulatory end product (Environmental Law Institute 1994).

Many of the case studies discussed in this report are SAMPs, either under the CZMA and/or by the Corps definition: Mill Creek, WA; West Eugene, OR; Grays Harbor, WA; Dade Co., FL; and Meadowlands District, NJ. While these plans differ

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in many respects, there are some common elements.⁷ The areas are all characterized by conflicts between development pressure and environmental concerns. In each of these plans the Corps of Engineers has made clear its intent of having the plan result in some type of regulatory product, which raises the stakes of the plan for all stakeholders. The plans are very labor intensive, involving many technical components (such as identification, categorization, and analysis of planning alternatives) and extensive public and interagency participation.

Advance Identification (ADID) Projects

Although they are sometimes called plans, ADIDs are merely projects undertaken by EPA in cooperation with the Corps of Engineers and in consultation with states and tribes to collect information on the location and functions of wetlands of a specified area, in advance of permit applications, and to identify wetlands generally suitable or unsuitable for fill. ADIDs may be initiated by the agencies or by a request from any other party. The information collected in ADIDs is not binding, and cannot be used directly as the basis of regulatory decisions. ADIDs are undertaken for several purposes. ADIDs can be used to provide information to developers about the likelihood of receiving a permit in particular areas. ADIDs can save regulators time in making permit decisions. It has also been suggested that they help educate the public about wetlands contained in an area. ADIDs can also assist local planning efforts by providing an assessment of wetland resources, and predicting where development is *likely* to be allowed. In fact, in many of the case studies an EPA ADID project provided needed information about the location and functional value of wetlands that facilitated the categorization and planning effort. In sum, ADIDs are often components of plans, but may not

necessarily be plans themselves, and some ADID projects appear not to be connected to a planning effort at all.

EPA Watershed Demonstration Projects

In the past few years EPA has given several grants to states and localities for Watershed Approach Demonstration Projects, through the State Wetlands Grant Program. The scope and problems addressed by these projects vary greatly, but EPA considers them to embody the watershed protection approach, so they include: (1) problem identification, (2) stakeholder involvement, and (3) integrated solutions. Most of the projects appear to be process oriented, emphasizing stakeholder participation. The Canaan Valley case study is an example of an EPA Watershed Project (EPA 1993).

Local/State Organizational Forms

Finally, it should be mentioned that there are also distinct local, state, and regional approaches to planning. For example, Oregon, a state with a strong land-use planning tradition, explicitly allows for a planning process to address wetlands protection and management. Also, some limited types of planning are possible through unilateral local action. For example, in DuPage County, IL, a planning approach to wetlands protection and management evolved after the State of Illinois created a stormwater management agency for DuPage County. This agency convinced the DuPage Co. Board of Supervisors to pass an ordinance requiring certain wetland regulations (including requirements for mitigation), wetland categorization, and watershed plans, and which authorized public commercial credit supply ventures. The Corps of Engineers has facilitated DuPage Co.'s initiative in wetlands management by issuing a General Permit to help it implement its ordinance, but the effort is not a SAMP.

⁷ It should be noted that Grays Harbor, a CZMA SAMP, was initiated before the Corps became interested in granting general permits following SAMPs, and differs significantly from the others.



CHAPTER FIVE. CASE STUDIES

The remainder of the report summarizes the watershed planning case studies. Each case study summary describes the initiating factor for the plan, as well as process, technical, and implementation components, and current status, as of Fall 1994. In addition, unique characteristics associated with each plan are presented. The material in these case studies form the basis of most of the observations about watershed planning made in previous chapters of this report.

The plans are presented in the following order. Plans that are generally *management-oriented, with specific categorization of parcels* are presented first, which include: West Eugene, OR; Juneau, AK; Hackensack Meadowlands, NJ; Mill Creek, WA, Anchorage, AK, Grays Harbor, WA. Next, plans that are *management-oriented, but with rule-based categorization* are described (DuPage Co., IL and Dade Co., FL). Finally, two plans that are *protection-oriented, with no categorization* are described: Canaan Valley, WV; and Green Bay, WI.

West Eugene, Oregon

The West Eugene plan, covering a 16 square mile area within the city limits of Eugene, Oregon, originated in 1987 when a significant amount of wetlands were “discovered” in the city’s primary growth area, which had been zoned for industrial use. To address the wetlands “crisis”, the City opted to undertake a comprehensive planning effort (termed a “Wetland Conservation Plan”), as allowed by Oregon State law, to address wetland mitigation and development so that the city could continue to control the direction of development and land use change. In 1989, West Eugene contracted with the Lane County Council of Governments to be the project manager of the West Eugene Wetland Special Area Study. Federal and State regulators

agreed to let the City address wetlands through the planning process.⁸

Process

Many stakeholders, including State and Federal agencies, non-governmental interest groups, and the general public, were included in the planning process. This was done through intensive public outreach programs such as hearings and public workshops, rather than by forming a citizen advisory committee.⁹ The planning staff made a concerted effort to include the public by attending town hall meetings, preparing and distributing fact sheets, developing a mailing list, and circulating newsletters. Apparently the plan’s vision (i.e., its goals and objectives) was greatly influenced by public input.

Although the plan was coordinated by the Lane County Council of Governments, the work was greatly influenced by a multi-agency technical advisory committee, and many agencies individually contributed significant resources to the effort. EPA facilitated the planning process by providing approximately \$250,000 in planning funds; EPA also funded a \$50,000 ADID project that mapped wetlands in the area and assessed their functions. EPA has also administered a \$100,000 Congressional Appropriation to the Lane County Council of Governments to fund development of materials from the West Eugene Wetlands Experience as a model for other communities. In

⁸ For details, refer to: “West Eugene Wetlands - From Crisis to Opportunity: A Case Study,” by Rush Abrams, Steven Gordon, and Pam Lott (September 1993, Lane County Council of Governments); and “The West Eugene Wetlands Plan,” by the City of Eugene, Oregon (1992).

⁹ See “Involving Citizens from Beginning to End with the West Eugene Wetlands Plan,” LCOG, 1993.

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addition, the Bureau of Land Management has administered millions of dollars of land and water conservation funds to assist in plan implementation.

The Corps has participated in the planning process, as a member of the technical advisory committee. Also, the Corps manages the Amazon Channel complex and Fern Ridge Reservoir, an area covered in the plan. The Corps conducted a \$300,000 reconnaissance study of the Amazon Channel to determine how environmental values can be improved; and selected West Eugene as a national demonstration site for restoration of prairie type wetlands. The Corps also is a key player in the plan's implementation. After the request of the City of Eugene, it has recently approved the West Eugene Plan, and is in the process of establishing alternative permitting procedures under Section 404 (requiring letters of permission rather than standard individual permits). The Corps is satisfied that the planning process has met legal requirements of sequencing and mitigation under Section 404.¹⁰

Technical aspects

Wetlands in the planning area were identified and their functions assessed by an EPA ADID project (using the WET II methodology). Several other studies of the watershed were conducted during the early phases of the planning process. This information was used during the planning process to develop alternative management categories of wetlands (i.e., to identify areas for development, restoration, and protection). This categorization effort was a key element of the plan. One of the planning alternative categorizations was selected, which might be thought of as the plan's watershed vision.

¹⁰ For details, see "Wetland Conservation Plan Review and Decision Document," U.S. Army Corps of Engineers (Portland District and U.S. Environmental Protection Agency (Region 10), Reference No. 91-00073, September 1994).

The final plan categorization maps the specific wetland parcels that are to be protected, developed, and restored, and uplands to be protected as buffers. About 1000 acres are recommended for protection or enhancement, while 288 are recommended for development. This means that if fully and successfully implemented, the plan would result in a net gain of wetland acreage. A variety of considerations were made in determining wetland parcel designations, including not just ecological criteria such as water quality and stormwater runoff, but socio-economic criteria, such as recreation provision as well as proximity to urban services.¹¹ The criteria include both scientific and socio-economic elements. The categorization process also resulted in specific guidelines for wetland mitigation, depending on the characteristics of the particular wetland and its location in the watershed. The final plan, when implemented, is directed at producing an overall net gain of wetlands functions.

The West Eugene plan examined 21 methods for protecting wetland parcels (which the plan slated for protection¹²). Of these, six were selected, including best management practices, riparian setbacks, environmental or natural resources zoning district, strengthening existing policies and regulations, public education, and land acquisition. These recommendations were selected because they could be incorporated into citywide policies and ordinances, and applied to designated sites within the West Eugene Study Area.

Implementation aspects

Recently, EPA, the Corps of Engineers, and the Oregon Division of State Lands have approved the plan. These agencies feel that the plan adequately

¹¹ Details regarding the criteria for categorizing wetlands are given in "The West Eugene Wetlands Plan, (Appendix B)," City of Eugene, Oregon 1992.

¹² Details regarding the assessment of protection alternatives are given in "The West Eugene Wetlands Special Area Study Draft Technical Report," City of Eugene, Oregon 1992.

meets State and Federal laws regarding wetlands protection and development, including adequate mitigation and alternatives analysis. The Corps is issuing an alternative permitting procedure to help implement the plan. Rather than issue individual permits, the Corps will require “letters of permission” that attest that the development action (and mitigation) is consistent with the plan. A public commercial credit supply venture will be a major implementation component of the plan. However, implementation of the plan has also been facilitated by the successful efforts of the Eugene City Council to lobby for Federal Land and Water Conservation Funds to the Eugene District BLM to purchase land in West Eugene to help implement the plan. As of May 1995, BLM had received \$4.47 Million of Land and Water Conservation Funds for this purpose.

Status

In the fall of 1995 the plan was approved by the State of Oregon, EPA, and the Corps, and so the plan would appear to be in the implementation stage. At least one mitigation venture sale transaction has been completed that is consistent with the plan. Although this transaction occurred before the plan met regulatory approval from the Corps and EPA, it covered non-jurisdictional wetlands and has been approved by a separate agreement. Language in that agreement stipulates the management of the mitigation venture must be consistent with the plan.

However, very recently a Seattle-based environmental group has taken the plan to Court, so the implementation of the plan is in question. It is not clear whether the lawsuit is over the plan’s categorization of wetland sites, or the public commercial credit supply venture.

Issues/unique characteristics

The plan is widely seen as a success story and a model by Federal agencies and the Association of State Wetland Managers. Unlike many other plans, it attempts to focus on multiple water resource objectives, including wetlands protection,

stormwater management, water quality improvement, flood plain management, recreation, and economic development. The plan was completed through extensive public and agency involvement. The plan is management-oriented (as defined in Chapter 3), for it includes categorization of sites (to be developed, preserved, and restored), and establishes a public commercial credit supply venture, which has recently been approved by Corps, EPA, and State of Oregon regulators. It also exemplifies a categorization effort that is parcel-specific, rather than rule-based. It also is one of the furthest along of the plans examined, having recently been approved by all regulatory agencies. It is clearly a very thorough and intensive planning effort.

However, the effort also indicates some of the problems with watershed planning. For instance, the overall planning process has taken seven years now and is still not fully completed. Costs of undertaking such an extensive planning effort have been significant (staff time, technical studies, etc.), although West Eugene was fortunate to have received some Federal funding to carry out the planning process and implement the plan (in the neighborhood of \$4 million) (Gordon, 1992). As has already been stated, there has been some mention of problems stemming from the plan’s somewhat rigid categorizations. Some landowners (those that were not bought out by BLM) may feel that their land has been taken, while on the other hand some environmentalists may feel that some wetlands are not adequately protected. The apparent local enthusiasm and intensive nature of plan development supports the notion that the State of Oregon arguably has more of a land-use planning tradition than other states.¹³ These concerns suggest caution before replicating the planning intensity and

¹³ See “Wetland Conservation Plan Review and Decision Document,” U.S. Army Corps of Engineers (Portland District) and U.S. Environmental Protection Agency (Region 10), and the “West Eugene Wetlands Plan,” City of Eugene 1992, for a more detailed description of Oregon law regarding planning.

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approach used in West Eugene in other parts of the Nation.

Juneau, Alaska

The Juneau Wetlands Management Plan covers a 15 square mile area in Juneau, Alaska, 54% of which is wetlands. The plan is in some ways similar to that in West Eugene. A major impetus for the planning effort was the City and Bureau of Juneau (CBJ)'s desire to control and attract development in the City. Besides making the wetland permitting process more predictable and less time consuming, the plan was intended to direct development efforts toward less valuable wetlands and protection efforts toward more valuable wetlands, and to ensure no net loss of wetland functions and values.

Process

The plan was prepared by the CBJ, although many state and Federal agencies participated in the overall planning effort. The CBJ held periodic community meetings to solicit input and provide information about the planning process. The extent to which all interest groups were involved with the initial preparation of the plan is not clear.¹⁴

The Corps was involved to some degree with developing the plan. For example, the Corps was involved with the parallel effort to amend Juneau's Coastal Zone Management Act. In addition, the Corps has been involved through its development of a Programmatic General Permit, to allow the CBJ to issue permits for the two lower categories of wetlands identified in the plan. However, it should be emphasized that the Plan calls for the Corps to continue to issue permits for the two higher value

categories of wetlands, so the Corps commitment to the plan might not be considered very extensive.

The development and implementation of the Programmatic General Permit to CBJ was a lengthy process. After being drafted by the Corps Regional Office, the Permit was held in abeyance by the Corps Headquarters in 1994. At that time, the Corps instituted an interim "Accelerated Individual Permitting Procedure" (AIPP) to precede the issuance of the Programmatic General Permit. This arrangement required both CBJ and the Corps both to approve permits for lower categories of wetlands, to ease the transition to CBJ's administration of permits for these lower value wetland categories. Under the AIPP, the Corps had to formally approve all decisions by the CBJ. The AIPP arrangement ended when the Programmatic General Permit was issued on June 30, 1995; to date, there have been no activities permitted under it.

Technical elements

The plan originally developed by CBJ categorized wetlands into four groups based on three factors: environmental values, public preference for management, and an overall assessment of development alternatives.¹⁵ The categorization process went as follows:

- To accomplish the environmental component, CBJ hired a nationally known wetlands expert to evaluate environmental functions of the wetlands within the study area (which had previously been mapped by the Corps), using the Adamus WET technique. Field work for the evaluation lasted one year.

¹⁴ For details, see "Juneau Wetlands Plan, Concept Approved Draft," February 1991, CBJ Department of Community Development, and "Overview of the Juneau Wetlands Management Plan," CBJ (January, 1994).

¹⁵ See "Juneau Wetlands Plan, Concept Approved Draft," February 1991, CBJ Department of Community Development, and "Juneau Wetlands, Functions and Values, MAP Appendix," CBJ Department of Community Development, September 1987.

- For the public preference component, CBJ surveyed the public preference for management categories of different wetland parcels.
- For the practicable alternatives component, the city conducted an inventory of non-wetland alternatives for each type of land use.

The categorization process yielded four wetland categories, from A (most valuable) to D (least valuable):

- Category A wetlands are of high value, and could be developed only if there is no net loss of individual functional values in the drainage basin. The plan required on-site, in-kind mitigation for these wetlands.
- Category B wetlands were also of high value, but could be developed only if there is no net loss of aggregate functional values in the wetland drainage basin. Mitigation for these wetlands could be out-of-kind, but must be on-site.
- Category C wetlands could be developed if there is no net loss of aggregate functional value; mitigation could be off-site and out-of-kind.
- Category D wetlands could be developed using best management practices. Development activities (or project design) must minimize adverse impacts.

The plan also places some wetlands into special categories, including dedicated land for protected areas. Only approximately 10% of the wetlands encompassed by the plan (approximately 300 acres) were categorized as C or D. Only 12 acres were categorized as D.

It should be noted that there was lack of agreement upon which categories many wetlands fell into with the initial plan. In developing the Programmatic General Permit, the Corps revised some of the original plan's wetland categorizations (in the

process moving many wetlands previously categorized as C or D into higher value categories A or B). This revision resulted from the Corps' application of the standard of minimal environmental impacts in developing the General Permit. The resulting categorization scheme, reflected in the final plan and the General Permit, was more acceptable to all parties.

Implementation

The plan has been approved by required state and Federal agencies under the Coastal Zone Management Act. The implementation of the plan is aided by the Corps' Programmatic General Permit. The plan calls for Corps' regulation to continue for wetland categories A and B, but for permits for the two lower value categories (C and D) to be administered by CBJ. The plan specifies mitigation requirements for all wetland impacts, and calls for the establishment of a public commercial credit supply venture (still under development).

Status

The Corps issued the Programmatic General Permit to CBJ in June 1995, after a year of a "Accelerated Individual Permitting Procedure" permitting arrangement. Apparently, the issuance of the General Permit was delayed, but not greatly affected, by various legal challenges from certain environmental and other groups. A notice of intent to sue has been filed to challenge the General Permit, but legal action has not yet occurred. It also should be noted that CBJ has not yet permitted any activities under the General Permit (to class C or D wetlands), which underscores the limited commitment of the Corps regulatory activities to the plan and categorization effort.

Issues/unique characteristics

This case study suggests that there may be some limits to the ability of localities in undertaking such collaborative planning efforts. Indeed, the original plan and categorization scheme (developed largely by CBJ) was not accepted by the Corps and other

regulatory agencies, and caused much delay in the Corps completion and issuance of the Programmatic General Permit. The legal challenges faced by the effort are also noteworthy. While the legal challenge may not have affected the outcome (the Programmatic General Permit, as drafted by the Corps has been issued) it did delay the process. The plan does illustrate the tension between local-led planning, and Federal oversight. One problem with locally initiated planning efforts may be the concern among many that allowing local control over wetlands will degrade the resource because local interests will be more subject to development pressure than Federal agencies. However, the unique nature of the Juneau plan should also be mentioned, particularly the plan's emphasis on mitigation. For example, the inclusion of a commercial credit venture (although still under development) is the first in the State of Alaska.

Meadowlands District, New Jersey

The Meadowlands District Special Area Management Plan (a SAMP) was initiated because of an intense conflict over the fate of wetlands in the Hackensack Meadowlands, located in a heavily populated area adjacent to New York City. The planning process began in 1988 following a Memorandum Of Understanding (MOU) between the Hackensack Meadowlands Development Commission (an area wide planning agency), the Corps, EPA, NOAA, and the New Jersey Department of Environmental Protection. The stated purpose of the SAMP is to simultaneously allow for environmental goals (including protection and restoration of wetlands), transportation goals, and economic development goals to be met.¹⁶

¹⁶ For details, see "Update on the Meadowlands," by Edwin Finder, National Wetlands Newsletter; "Executive Summary Background Paper. The Hackensack Meadowlands Special Area Management Plan: Conceptual Basis, Objectives, and Benefits Anticipated;" (U.S. Corps of Engineers and U.S.

(continued...)

Process

The planning effort was initiated by a 1988 MOA between Federal, State, and local agencies, and has been coordinated by the Hackensack Meadowlands Development Commission (HMDC). The SAMP is intended to facilitate compliance of future development with environmental laws and regulations, including Section 404 requirements. Because of the potential far-reaching environmental consequences of the SAMP, an EIS was produced along with the SAMP, which integrates the alternatives analysis required in Section 404. If approved, the SAMP (and EIS) will allow the alternative analysis to be addressed during the planning stage rather than through individual applications.¹⁷ There has been much public participation throughout the planning effort. A Citizen's Advisory Committee was formed to review the EIS, and there have been several public meetings to inform the public of the planning process and solicit comments.

The Corps of Engineers has been heavily involved with the planning effort, which might be expected given the Corps role administering wetlands regulations. The Corps, with EPA, has helped prepare an Environmental Impact Statement (EIS) to accompany the SAMP. The Corps was one of the signatories to a 1988 Memorandum of Understanding (MOU) that called for the preparation of a SAMP to guide land management planning for the 32 square mile area.

(...continued)

Environmental Protection Agency, May 1990). See also "Special Area Management Planning in New Jersey's Hackensack Meadowlands; An Emerging Model For Cooperative State-Federal Planning," by Edwin W. Finder, Chapter 7 of Collaborative Planning for Wetlands and Wildlife: Issues and Examples, edited by D. Porter and D. Salvesen (Island Press 1995).

¹⁷ They have recently been distributed for public review.

Technical

The area covered by the SAMP was an EPA ADID site, so wetlands have been assessed and mapped. Categorization of wetlands was done for each planning alternative in the EIS; wetlands were scored based on the functions they would provide under each planning alternative.

The valuation technique was as follows: wetlands were divided into “cells” up to one hundred acres in size. The cells were identified by man-made structural features such as roads, railroad tracks, or utility lines. Each cell is then scored on wetlands functions such as water quality, wildlife habitat, social significance, and floodflow alternatives. In the EIS, the wetland values for each cell are quantified for each development alternative. The Indicator Value Assessment Method that was developed, apparently “state of the art,” uses the WET database to develop an indexing method that compares wetlands within the planning area to arrive at an overall assessment and categorization scheme.

The SAMP and EIS will identify a preferred land use alternative for each wetland by combining the results of the valuation process above with economic, social, and environmental goals of HMDC. This in effect results in wetland categories—areas to be protected, restored, and developed.

Implementation

Once approved, the SAMP will allow the HMDC to make many wetlands development decisions consistent with the plan. The Corps intends to put into place a General Permit Program and Abbreviated Permit Process to allow expedited Federal review of projects consistent with the plan. Also, an Interagency Agreement between the Federal and State regulatory agencies and the HMDC will establish mitigation guidelines for the Meadowlands. Part of this mitigation agreement addresses commercial credit supply ventures, and HMDC hopes to establish a public venture in the

future.¹⁸ Private commercial credit supply ventures have also been considered. However, current provisions in the planning documents require that the commercial ventures only be used if on-site mitigation alternatives are not possible, and prohibits commercial ventures from selling credits unless mitigation wetlands are not fully functioning. There is some question, however, whether this latter provision will ultimately be relaxed.

Status

The Draft EIS and SAMP (issued in July 1995) were sent out for public review and comment. As of early 1996, the Final EIS is under development. Development activity and mitigation will thereupon have to be consistent with the plan. However, HMDC has not yet developed many of the details regarding how its public commercial credit venture will operate, nor has restoration work even begun on a venture site. Hence, the plan may be in operation well before any credits can be sold; the plan does not depend upon the operation of the commercial venture.

Issues/unique characteristics

A major reason for selecting this case study is that it exemplifies an extreme example of the conflict between development pressure (and high land values) and wetland protection. Because the remaining wetlands would be very valuable development sites, the stakes are high, and there have been disagreements among different interest groups such as developers, environmentalists, planners, and regulators. The process component of the planning effort has been very intense, but critical to the plan’s eventual adoption, and participants claim that there has been much success finding common ground through interagency participation. Much of the planning in terms of development

¹⁸ See “Interagency Compensatory Wetland Mitigation Banking Agreement,” HMDC, May 6, 1994, for information on the prospective commercial venture.

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analysis of alternatives is being accomplished through an EIS rather than the SAMP document.

Another potential issue involving the Meadowlands District SAMP regards the mitigation component of the plan. Unlike many other areas, the question of the coexistence of private in addition to public commercial credit ventures has arisen. HMDC planners recognize that simultaneously allowing for both public and private mitigation ventures may be problematic, but have not yet been able to devote much time to addressing the issue.

Mill Creek, Washington

The Mill Creek Special Area Management Plan (SAMP), still underway, covers a 22 square-mile area in King Co., Washington. This rapidly urbanizing area faces high development pressure on isolated wetlands regulated under Section 404. In 1990, The Corps of Engineers helped initiate the SAMP process in Mill Creek in order to improve coordination between Federal, State, and local government permit programs and resource management efforts in the basin, assist in flood control, and improve the predictability of the wetland permitting process.¹⁹

Process

While the Corps has been the lead Federal agency for this SAMP, other Federal (particularly EPA), State, and local entities have been heavily involved. The Corps coordinated the creation of both a citizen's committee and an interagency committee to develop the plan. However, there have been some problems finding agreement among all the stakeholders, particularly among the different agencies and local governments. For instance, the

¹⁹ See especially "Mill Creek Special Area Management Plan," Draft #5, U.S. Army Corps of Engineers (Seattle District), March 10, 1995, for a description of process, technical, and implementation elements.

withdrawal of support from one of the participating local governments to a proposed in-lieu fee arrangement appears to have caused the idea of having a public commercial credit supply venture component of the plan to be scrapped, at least temporarily.

Technical aspects

Technical components of the plan have included an EPA Advance Identification project (ADID), and the development of different categorization alternatives for wetlands in the area. The functions of wetlands were assessed using a technique called Indicator Value Assessment (IVA). This method provided a semi-quantitative, relative assessment of different wetlands for 13 different socially important wetland functions. These functions were then aggregated into more general functions or attributes (water quality improvement, fish habitat, habitat for all other species, and floodflow alteration). Each wetland in the basin was scored on a scale of 0-100, based on the presence or absence of specific indicators or wetland functions. The impacts of different alternatives on wetlands scores were also evaluated in the plan. These scores were used to select a preferred alternative, which designates land uses in the basin.²⁰ It uses the Adamus Wetland Evaluation Technique (WET) and the Washington Wetland Rating System (developed by the Washington State Department of Ecology) along with other criteria.

Implementation aspects

The intended regulatory end product of the Mill Creek SAMP is the Corps issuance of a Regional General Permit, which is intended to streamline the permitting process. The SAMP's categorization and alternative selection process will determine "up front" where and under what conditions development in wetlands may occur. The SAMP

²⁰ The scoring method is described in Appendix A of the Mill Creek Special Area Management Plan, Draft #5.

also calls for local governments to coordinate the permitting procedure for wetlands within the scope of the plan. Local governments within the basin will implement the SAMP by revising their comprehensive plans, ordinances, and administrative procedures. An effect of the SAMP will be to combine State, local, and Federal regulations, thereby streamlining the process. Permit applicants will only have to apply to the local government within their jurisdiction, who will then secure Federal and State approval by ensuring consistency with the plan. In this way, permits from each level of government are not eliminated. Instead, government agencies would review applications simultaneously using consistent evaluation criteria. The Corps will, however, retain regulatory oversight.

The planning horizon is 20 years; after this period it is assumed that the basin will reach its ultimate designated use called for by the preferred alternative (that is, as land that is to be protected, developed, or restored).

Because of (1) the highly urbanizing nature of the area and (2) the perceived importance of restoration, the plan was initially expected to include some type of public commercial credit supply venture. In particular, an in-lieu fee system was proposed. However, during the planning process there was much disagreement over the details of this venture. One local government felt that the in-lieu fee system was too risky and backed away from supporting the venture. The participants ultimately decided not to include a mitigation venture as part of the overall plan, feeling that it held up the entire planning process. The plan's preferred alternative still categorizes areas for development, protection, and mitigation, but does not include a credit supply venture. The plan mentions mitigation banks, and leaves open the possibility that a separate public venture will be developed in the future. However, it is not clear whether the private ventures will ultimately be allowed to operate.

Status

The fifth draft of the Mill Creek SAMP was completed on March 10, 1995. This document, along with a related technical report, describes the goals and objectives of the SAMP, existing conditions in the area, recommendations for implementing the SAMP, alternatives analysis (of different categorization schemes), the preferred alternative, wetland mitigation guidelines, and permitting and monitoring procedures.

Issues/unique characteristics

This case study reveals some of the problems and expense associated with collaborative planning. It shows that process components of planning (obtaining agreement among all parties) can be as or more difficult and resource-intensive than completing the technical elements, such as advance identification or categorization. EPA and the Corps have both expended significant resources (staff time and technical studies) toward developing the plan, which has moved very slowly.

The plan also highlights the difficulty of obtaining stakeholder consensus regarding commercial credit ventures, even if they are associated with a watershed plan. Apparently the public commercial credit venture was holding up the completion of the SAMP. Equally significant is the fact that the commercial credit venture was dropped from the plan. This suggests that those involved felt that the benefits of the planning process—such as streamlined and more predictable permitting, and watershed-based mitigation guidelines—did not rely on the existence of a commercial venture, and that a commercial venture might not be a crucial end-product of the plan.

Anchorage, Alaska

The Anchorage Wetlands Management Plan was one of the first collaborative planning approaches to wetland permitting and management undertaken. Unlike most all the other case studies in this report,

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the Anchorage plan has been in operation for several years, having been completed in 1982. The plan has been under intensive revision since the early 1990's.²¹

Process

The Anchorage Wetlands Management Plan was initiated by the City (the Anchorage Department of Community Planning and Development) in 1979, because of the City's desire for wetland protection to accommodate economic growth in the City. Like Juneau, Anchorage contains significant wetland acreage, and the development community had expressed frustration at what they perceived as cumbersome permitting process. The original (early 1980's) planning effort attempted to develop a management strategy for wetlands that involved the identification and classification of wetlands. The plan was done in conjunction with the City's coastal Management Plan and its comprehensive plan. Two review committees were established to guide the planning effort, a technical committee and a policy committee. Many Federal and State agencies (including the Corps of Engineers) participated. There was also significant public participation; over 40 public meetings and hearings were held.

Technical aspects

Technical components of the original (early 1980's) planning effort included mapping and some categorization. With EPA funding, the City hired a consultant to identify and classify wetlands according to physical and scientific characteristics. Wetland resources were further evaluated based on how well they provided certain desired functions or services, such as their value for wildlife habitat, flood control, and recreation. However, much of the categorization for this initial plan was apparently

based on previous studies and maps rather than field work. The final plan categorized most wetlands in one of four management categories: preservation, conservation, develop-able, and special study.

The 1982 plan was adopted unanimously by the Anchorage Assembly in 1982 and approved by the Alaska Coastal Policy Council and NOAA. The Corps issued and administered Regional General Permits for the developable category of wetlands. Other categories of wetlands were subject to normal Corps regulatory activities; it is important to note that no wetlands were absolutely "off-limits" to development. Unlike the Programmatic General Permit issued in Juneau (giving CBJ some permitting authority for certain wetland categories), this Regional General Permit was administered by the Corps; it did not grant any permitting responsibilities to the City.

The plan has been under intensive revision since the early 1990's, prompted by the scheduled expiration of the Plan in 1992, and the expiration of the Corps Regional General Permit in 1993. The categorization scheme has been revised to establish three categories of wetlands, A, B, and C. The "Anchorage Wetland Assessment Method" was developed to perform the categorization, which was similar to a method developed in the Province of Ontario. It is important to note that much attention was given in the categorization process in the plan's revision, particularly to Category C wetlands (those covered by the Regional General Permit), considered lower value wetlands. Although each category C wetland parcel was assessed as a whole, an individual aspect of the parcel that was considered ecologically important (such as water body) was explicitly noted in the categorization process. This detailed categorization and mapping was reflected in the General Permit, which was tailored to individual sites that were classified as category C. The general permit, for example, gave site specific conditions as to which activities were permitted on certain parts of category C wetlands.

²¹ For more information see "Wetlands Planning in Anchorage, Alaska," by D. Salvesen; Chapter 10 of Collaborative Planning for Wetlands and Wildlife, edited by D. Porter and D. Salvesen. Island Press, 1995.

The Corps was able to develop this detailed categorization scheme because of the knowledge base of the area, given the familiarity of the Corps and other agencies with the planning area, and additional detailed field work. As in Juneau, the Corps approach to categorization (and development of the General Permit) was driven by the desire to ensure minimal environmental impacts.

Implementation aspects

The 1982 plan was administered by the City of Anchorage, but was assisted by Corps of Engineers Regional General Permits. There are several perspectives on the plan's implementation record. Apparently the City and the development community appreciated the expedited permitting process for wetlands categorized as developable. Many (but not all) of the preservation category wetlands were actually protected; there was some concern that not all wetlands in the preservation category were not protected.

The implementation of the revised plan will again be assisted by the Corps issuance and administration of Regional General Permits. The current approach includes five general permits, covering different land use types (residential, industrial, etc.).

Status

As mentioned above, the 1982 Plan has been revised and new Regional General Permits have been developed. Apparently, wetland categorizations of the 1982 plan have been substantially revised. It should also be mentioned that like Juneau, the General Permit has been threatened by a legal challenge. The Corps has recently re-issued the General Permits after suspending them merely to clarify their language, and to emphasize that the Permits do not delegate any permitting authority to a locality.

Issues/unique characteristics

Unlike most of the other case studies, the Anchorage plan has some implementation history, and several

points emerge from it. First, it appears that the City of Anchorage and the Corps feels that the planning effort is worthwhile, for considerable effort has gone into renewing the plan and issuing new Regional General Permits. Second, it is worthwhile to note that in this case the Corps did not issue a Programmatic General Permit to a locality, but rather Regional General Permits that the Corps will administer. This may offset some of the concern of some parties that allowing local control of wetlands permitting decisions is more likely to result in wetlands loss. Third, the General Permit approach (though of a different type than Juneau) has been in operation in Anchorage for some time, and many activities have been permitted through General Permits. This is in stark contrast to the Juneau effort.

DuPage Co, Illinois

The planning effort undertaken by the DuPage County, Illinois Department of Environmental Concerns (DEC) exemplifies another locally-initiated approach to planning. DEC was created by an Illinois State law with a mandate to primarily focus on stormwater, but this role has led DEC to become involved with wetlands management as well.²²

Process

DuPage DEC was established to address stormwater management in DuPage County, and in 1991 the County-wide stormwater ordinance was adopted

²² For more details, see: "Appendix E: Technical Guidance for the DuPage County-wide Stormwater and Flood Plain Ordinance," DuPage Co. Stormwater Management Committee (with DuPage County Stormwater Management Division and Ch2M Hill), 1992; "DuPage Co. County-wide Stormwater and Flood Plain Ordinance," DuPage Co. Stormwater Management Committee and Department of Environmental Concerns, 1991; "DuPage Co. Lower Sat Creek Watershed Plan (interim)," DuPage Co. Department of Environmental Concerns, 1991.

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(and revised in 1994). Many aspects of the ordinance addressed wetlands and watershed planning. The ordinance established rules for categorizing wetlands into one of two types, and specifies appropriate mitigation for both categories. The ordinance also authorized public commercial credit supply ventures run by DEC, and conditions under which they could be used. In addition, the ordinance called for DEC to develop comprehensive watershed plans. The purpose of the wetland effort was to achieve true no net loss of wetlands.

The effort was in a large part undertaken by DEC. However, the Corps of Engineers recently (in March 1995) granted a Programmatic General Permit to allow DEC to review permits for jurisdictional wetlands having minimal environmental impacts (with the Corps retaining discretionary authority). Also, the Corps has recently given a General Permit to authorize one of DEC's public commercial credit supply ventures to be used for jurisdictional wetlands. Before this, the credit ventures were only collecting fees for non-jurisdictional wetlands, i.e., wetlands covered by the ordinance but not regulated under Section 404. EPA has also contributed to the planning effort, as it funded an ADID which has contributed to the development of the categorization rules. Public participation contributed to the development of the ordinance, but it apparently was not as significant a part of the effort as was the case with many of the other case studies.

Technical aspects

DuPage Co. was an EPA ADID site, so wetlands have been mapped and assessed. The Stormwater Ordinance specifies rules under which wetlands will be classified as "critical" requiring mitigation at 3 acres mitigated for every 1 acre impacted, and "regulatory," requiring mitigation at 1.5:1. Critical wetlands are those that meet one of a variety of criteria, such as: their identification as critical by the ADID; score on a certain wildlife index test; score on a water quality test; presence of endangered species, and several other factors. The determination of a wetland as critical or regulatory is made at the time a permit is applied for, although

it is likely that for many wetlands, their designated status is easy to predict.

The ordinance also specifies mitigation requirements for wetlands, including quality and monitoring specifications. The stormwater ordinance divided the county into several watershed planning units that focus on a variety of water resources objectives, including wetlands. Mitigation for wetlands is encouraged on-site. However, if this is not possible the ordinance specifies that mitigation should occur within the watershed planning unit the wetland impact occurs.

Implementation elements

As mentioned above, the Corps Programmatic General Permit has facilitated plan's implementation. In many cases, permit applicants can first apply to DEC and avoid having to go through the Corps permit review process. However, before this arrangement, permit applicants still had to comply with the local ordinance. Thus, in this area local units of government created their own implementation mechanism; the Corps Programmatic General Permit facilitates, but was not necessary, for implementation of the ordinance.

DEC has established several public commercial credit supply ventures to serve permit applicants that are not able to mitigate on-site. These ventures are only to be used for wetland impacts located in the same watershed planning unit. Until recently, the ventures could only be used for non-jurisdictional wetlands (i.e., the Cricket Creek and Winfield Creek Mitigation Banks), but the Corps has granted a General Permit that allows one of the ventures to be used for jurisdictional wetlands. The mitigation work associated with these ventures is yet to be done, although some fees, based on detailed estimates of actual mitigation costs, have been collected from developers. A sufficient level of funding needs to be available before construction can begin. However, the ordinance requires that fees collected for mitigation be used for mitigation within a specified time, so DEC appears confident that the costs are adequate to cover mitigation

construction and monitoring, and will be sufficient for this purpose.

Status

The ordinance has been in effect for several years, and there appears to be little opposition from developers or the environmental community. The commercial credit venture component of the ordinance appears to be going smoothly, at least fee collection. This may be because credit purchase absolves developers of any long-term monitoring and quality control requirements. Mitigation work has not yet (as of April 1995) begun, although site plans have been prepared. Indeed, the overall success of the public in-lieu commercial venture approach may need to be judged over the long term—if mitigation is ultimately successful. It rests on DEC's ability to follow through on mitigation work, which is affected by the ultimate accuracy of the mitigation cost estimates, among other factors.

The Programmatic General Permit from the Corps to DEC is a very recent (March 1994) development. This indicates the Corps satisfaction with the operation of the ordinance and the ability of DuPage County to locally administer permits for minor impacts.

Issues/unique characteristics

This watershed planning effort was included as a case study for several reasons. The planning effort apparently did not result from the desire to substitute for Section 404 regulatory process, but from a desire to go beyond Section 404—to protect even non-jurisdictional wetlands in order to achieve “no net loss,” while facilitating wetlands permitting at the same time. It also appears to be a locally initiated and locally-implemented approach; public and stakeholder involvement does not appear to have been extensive. Another unique aspect of the plan is its categorization approach. Rather than an up-front, rigid categorization scheme, DEC opted to establish categorization rules that could be applied case by case. While the plan discouraged development in wetlands, the plan did not demand

the protection of specific parcels in advance. This may have helped DEC avoid any taking claims.

Finally, it should be noted that some other areas, such as Renton, WA and Lake Co., IL, appear to be interested in replicating this approach to planning, where a county ordinance establishes a categorization and mitigation scheme for non-jurisdictional wetlands. Also noteworthy is the fact that local planners are proud of their program and optimistic about its success.

Dade Co, Florida

In Dade County Fl., Bird Drive and North Trail basins are the focus of a Special Area Management Plan. Planning for wetlands in these basins was initiated because of: (1) concern that biological values of the basin be maintained, out of the awareness that on-site mitigation requirements were unsuccessful and the area was being overrun with exotics; (2) Dade County's Comprehensive Plan required development in the area to conform with a basin-wide wetlands plan; and (3) the Corps apparently required either a SAMP or EIS to be developed to resolve permitting issues associated with allowing any additional growth in the area (and the County chose the SAMP). According to local officials, this second factor, along with Corps rejection of a permit for a particular development project, provided public and political pressure to develop and adopt a plan.²³

²³ For more information, see: (1) “Alternative Mechanisms for Compensatory Mitigation: Case Studies and Lessons about Fee-Based Compensatory Wetlands Mitigation,” (working paper), prepared by Apogee Research, Inc., for U.S. Army Corps of Engineers, Institute For Water Resources, 1993; (2) ADID Project Summary (November 1992); (3) North Trail Wetland Basin Plan, Dade County (undated).

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Process

Many local and Federal agencies were involved with the SAMP effort, which began in 1987. The Dade Co. Dept. of Environmental Resource Management (DERM) has taken the local lead, and the Corps the Federal lead. Multiple agencies, including the Park Service, have participated in the effort.

The SAMP was conducted in conjunction with the Comprehensive Development Master Plan (CDMP) revisions. The SAMP plan specifies that a “mitigation bank” (in lieu fee commercial credit venture) be used for mitigation for wetlands within the urban development boundary called for by the CDMP. These fees are to be used for mitigation work used off site and out of basin, two-thirds of which are to be located in the Everglades National Park, (in a part of the park called the “Hole in the Donut”). Apparently there has not been much opposition to this because of (1) the recognition that on-site mitigation efforts have not been successful; and that, (2) due to exotic species invasions, mitigation sites require active management. There was some criticism of this practice of off-site (and out of basin) mitigation by the Fish and Wildlife Service, and as a result a portion (one-third) of the mitigation fees are placed in a trust fund to acquire and restore wetlands elsewhere in Dade County.

Technical aspects

Wetlands in the area covered by the SAMP have been identified and mapped. As part of the planning process, the Corps insisted that DERM perform detailed functional assessment of wetland resources, and HEP and other studies were done with the intent of categorizing wetlands. However, these efforts ultimately resulted in only two management categories. One type of wetland—tree islands—were mandated to be protected. All other wetlands were lumped together for management purposes, despite functional differences among them. For non-tree island wetlands, permit and mitigation requirements depended on whether the wetland was inside or outside of the Urban Development Boundary of the

County’s Comprehensive Development Master Plan (which traversed the planning area). In other words, although Dade Co. undertook a fairly extensive evaluation and assessment effort, in the end the categorization process resulted in a relatively simple set of rules that permit applicants could follow to obtain permits for unavoidable impacts to wetlands. These rules were developed by a SAMP committee, comprised of representatives from several agencies.

The plan does not specify detailed mitigation requirements. For the most part, these are determined by the entities doing the mitigation work in Everglades National Park. Quality control provisions for the mitigation work in Dade County are specified in a separate memorandum of understanding between Dade County and the Park.

Implementation elements

The Corps has developed an alternative permitting arrangement to allow the County to implement the SAMP’s wetland protection and mitigation provisions. Dade County also has issued an ordinance to implement the plan’s mitigation requirements. Permit applicants can pay a specified per acre fee to meet mitigation requirements. The fees are based on estimates of the cost of mitigation in the “Hole in the Donut” in Everglades National Park. Those involved with the plan stress that this set fee system is well received by the development community as it greatly simplifies their compliance burden.

Issues/unique characteristics

This case was included for several reasons. First, the parcel-specific categorization component of the planning process was more or less abandoned during plan implementation. Participants decided it was better to allow a flat fee for development impacts (to non-tree island wetlands) rather than specify exactly what mitigation was required for each wetland parcel. Apparently, this fee is well accepted by developers, who oppose complicated and variable restrictions. Second, the mitigation

components of the plan are unusually flexible. For most wetlands, the plan calls for in-lieu provision of funds to manage exotic species invasions in off-site wetlands, much of which are to be used by the National Park Service for Everglades restoration. Finally, the apparent optimism among Dade Co. planners about this plan suggest that it may be locally perceived as successful. To the extent that this is true it draws attention to some of the factors that may have influenced the planning process in Dade Co., such as local laws requiring a plan to be in place before development can proceed, Corps active involvement in the development of a SAMP, and creative implementation (mitigation/restoration) methods.

Grays Harbor, Washington

The Grays Harbor SAMP, officially the “Grays Harbor Estuary Management Plan and supplementary EIS,” was the first SAMP completed under the Coastal Zone Management Act. The planning process began in 1975 and took about 12 years to complete. The Corps of Engineers was involved, although the lead Federal agency was NOAA (the Office of Coastal Zone Management).²⁴

The stated goal of the plan is to seek “balance” in development and preservation in the estuary, and that the estuary be managed for “multiple uses.” Another purpose of the plan was the desire to improve and streamline the permitting process and make it more predictable. The development community and Grays Harbor Regional Planning Commission apparently were frustrated at perceived

impediments to development they felt were caused by environmental regulations.

Process

At the local level, the planning process was coordinated by the Grays Harbor Regional Planning Commission. In 1975, the Commission convened a task force to develop the plan, which included representatives of many different State, local, and Federal agencies. This was one of the first SAMPs under the Coastal Zone Management Act, and the National Oceanic and Atmospheric Association helped fund the planning process. The SAMP document and Environmental Impact Statement were completed in 1986, about 10 years after the process began.

The planning process attempted to bring together many groups and interests, and involved many public hearings and reviews. However, there was sometimes disagreement among the different interests that participated. In particular, environmental groups claimed that they were left out of the planning process. Even after the plan was completed in 1987, it faced opposition from the Fish and Wildlife Service and environmental interests.

The Corps of Engineers participated in developing the plan, but never attempted to use the plan as a basis for permitting decisions or to grant a general permit to help implement it. The plan was developed before the Corps began to consider associating General Permits with SAMP planning efforts.

Technical aspects

Many technical studies contributed to the planning effort, such as mapping of information on: hydrology and the floodplain, jurisdictions and boundaries, land and water transportation, land ownership, existing uses, historical features, soil and sediments, fisheries, natural resource use, major utilities, comprehensive plan designation, shoreline types, vegetation and wildlife, and areas of conflicts and concern.

²⁴ For details, see (1) “Grays Harbor Estuary Management Plan,” Grays Harbor Regional Planning Commission, 1986; (2) “Program Final Environmental Impact Statement, Grays Harbor Estuary Management Plan,” State of Washington Dept. of Ecology, U.S. Dept. of Interior, National Oceanic and Atmospheric Administration, 1987; and (3) “Battle over Bowerman Basin,” Defenders March/April 1988, by Jack DeWolf Stevenson.

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The plan recommends which areas of the estuary should be protected, and where development should occur. More specifically, the plan recommends allowable activities for different management units in the estuary.

Implementation aspects/status

Unlike many other case studies, this plan is meant to be a guidance document. The Corps did not grant a General Permit to help implement this SAMP. Also, there was apparently not much emphasis on wetland mitigation during the plan's development. As such, the plan was meant to serve as guidance to the many regulatory agencies in making permit decisions, not *mitigation* decisions. The purpose of the plan is to introduce predictability into the permitting process, and to foster cooperation among all regulatory agencies. The planning document contains letters submitted from most agencies stating their intent to follow the plan's recommendations. However, in these letters the various agencies express their freedom to act against the plan. Indeed, agencies are not required to follow the plan.

Because the plan is meant to be a guidance document, it is difficult to judge how well it has been implemented. Some individuals interviewed claim that it has saved agencies time in reviewing permit applications. But others are critical of the plan, as some of the plan's management recommendations have been made moot by changing economic conditions and new ecological knowledge.

Issues/unique characteristics

Grays Harbor is not labeled as a "watershed plan," for it does not encompass the watershed, nor is it comprehensive. However, it is included as a case study because it illustrates several points about area-wide, collaborative planning efforts that continue to be relevant. First, it indicates the difficulty of bringing different interests together; the planning process lasted about 12 years and many are still dissatisfied with it. It does draw attention to the

problem of how planning efforts should be judged; many of the other plans are too recent to be assessed. Although some claim it is a failure, some regulators apparently use the plan as a guide, which suggests that it is at least to some extent useful. Also, it illustrates the problem of how planning approaches may cope with the dynamic nature of resource management conditions. One of the reasons it took so long to complete was that more ecological knowledge of the area surfaced over the last 15 years, regulations changed over the period, as did economic conditions (such as the economic status of the port of Grays Harbor).

Canaan Valley, West Virginia

Canaan Valley, WV is an EPA "Watershed-Approach" demonstration project. Located in northeastern West Virginia, the 35,000-acre Canaan Valley is a natural area that attracts tourists year-round, and contains West Virginia's largest wetland complex. In 1990, concern over potential impacts to the valley prompted EPA to convene a Task Force (comprised of Federal and State agencies, government, business, development, conservation, recreation, and landowner interests) to develop a comprehensive strategy of resource protection for the valley.²⁵

Process

The bulk of this planning effort is the process component. The Task Force contains representatives from a variety of different interest groups and resource agencies. Most of EPA literature describing this effort point to the benefits obtained from the process of establishing an open forum, bringing in all stakeholders, etc.

²⁵ For details, see (1) "Canaan Valley: A Watershed Protection Approach;" (2) "Canaan Valley Information," Canaan Valley Task Force; (3) "Canaan Valley: A National Treasure," Canaan Valley Task Force.

Technical aspects

The Task Force so far has commissioned studies felt to be useful in developing a long-term strategy, such as: the development of a GIS and land use/land cover data base; an advanced identification of wetlands; and a study of the economic impacts of the National Wildlife Refuge (which has now been established). Wetlands have not been categorized; the purpose of collecting this information was more to establish a database of ecological information rather than to make management decisions.

Implementation aspects

Activities of the Task Force have also led the Corps of Engineers to suspend some nationwide permits (some of which have now been reinstated), and increase surveillance of illegal wetland fills. Participants in the task force are not compelled to act according to recommendations of the Task Force, although actions of different agencies are likely to have been influenced by the dialogue that the task force established. Apparently, a major motivation for the effort has been to generate support for the Wildlife Refuge. In this respect the effort has been successful, for the wildlife refuge has been established, and some Congressional funds have been appropriated for it.

Status

As mentioned above, the wildlife refuge has been established. However, the Task Force is still in existence, and may become a permanent institution. Apparently the Task Force has begun to expand its area of discussion to the entire Blackwater River Watershed (in which Canaan Valley lies).

Issues/unique characteristics

The major reason for including this case study is that it is often pointed out by EPA as an example of the "Watershed Protection Approach," and some in EPA have called this effort a watershed plan. This effort does not share many of the technical nor implementation components of plans such as those

in Hackensack Meadowlands, Juneau, or West Eugene. There appears to have been no attempt to create a formal watershed plan, categorize wetlands for suitability for protection, development, or fill; or to include commercial credit supply ventures or other non-regulatory approaches. Rather, the effort is clearly protection and process oriented.

Another reason for including Canaan Valley as a case study is that it covers a non-urban, natural area, unlike the other plans that cover urban areas with degraded wetlands. The approach and purpose of this effort is much different than any of the other case studies.

Green Bay, Wisconsin

The Green Bay region (and the Fox-Wolf river basins draining into the lower Bay) have seen several different types of water resources planning efforts in recent years, many of which have been termed "watershed planning." For example, the Fox Valley Water Quality Planning Agency, a regional planning agency authorized by Section 208 of the 1972 Clean Water Act, operated in the area from the mid 1970's to the late 1980's. In addition, different local, State, and Federal entities in the area are involved with different projects that have been called watershed planning, such as: the East River Priority Watershed project, the East River Water Quality Demonstration Project, and others. However, most of these efforts focus exclusively on water quality goals, particularly non-point source pollution. An exception is the Green Bay Remedial Action Plan, or RAP. The Green Bay RAP addresses multiple water resources objectives: water quality, habitat (wetlands), recreation, transportation, and toxic contamination. Green Bay is one of over 40 Great Lakes problem areas that are undertaking a planning approach to water resources improvement, as mandated by the International Joint Commission. Green Bay was the first of these RAP

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areas to complete a “Stage I” planning document, in 1988.²⁶

A major focus of the Green Bay RAP is wetland protection, which is why the plan is included as a case study. The effort exemplifies a “protection-oriented” approach to wetlands management: the primary wetland objective of the plan is to protect and maintain all existing wetland parcels. The approach is much different from the management-oriented approaches in most of the case studies.

Although Stage I of the plan was completed in 1988, the plan is still in the implementation stage. The plan did not establish any new institutions, regulatory authority, or sources of funding. Instead, implementation was to be accomplished through existing programs. The plan is still in the implementation stage; a “Stage II Plan Update” was completed in 1993 that emphasizes the plan’s watershed focus.

Process

Though coordinated by the Wisconsin Department of Natural Resources (WDNR) and partially funded by EPA, the plan was produced through extensive local participation. Citizen advisory committees and technical advisory committees were instrumental in drafting the plan. The plan addresses multiple water resources objectives, including wetlands, and it recognizes the interconnection between wetlands and water quality. However, wetlands objectives are stated in terms of maintaining existing wetland parcels rather than wetlands functions.

Although the final objectives (maintenance of all existing parcels) was obtained after much public participation, it is important to note that the planning effort did not result in a regulatory product, but rather a set of recommendations for existing agencies and institutions to follow. Agencies were not bound to follow these

recommendations. Thus, the stakes in the plan may not have been as high as they were in other case studies, when the planning effort resulted in a map which specified the wetland parcels that would be protected, those that would be restored, and in which areas development could occur.

The Corps of Engineers has not been greatly involved with the planning effort, although the local Corps regulator participates in technical advisory meetings. The impetus for this planning effort was the recommendation of the International Joint Commission, and funding by the U.S. Environmental Protection Agency through the Wisconsin Department of Natural Resources. There has been much local involvement but the plan was not motivated by local initiative, as was the case with several of the other case studies.

Technical aspects

Wetlands in the planning area have been mapped, and recently their functions have been assessed by a EPA project called the Special Wetlands Inventory Study (SWIS). The SWIS is similar to an ADID, but unlike an ADID, the SWIS did not evaluate wetlands for their suitability for fill. This was due to the concerns of some local and State regulators that such advance identification would encourage development in some wetlands. The attitude prevalent among local regulators is reflected in the plan’s objective that all wetland parcels should be protected.

Despite the availability of information about wetlands in the area, the plan does not categorize parts of the watershed for areas suitable for development, protection, and restoration, nor does it assess different growth alternatives. Categorization would be inconsistent with the protection-oriented objectives of the plan, and might not be acceptable to local regulators.

Implementation aspects

The plan suggests a variety of measures to implement its wetland provisions, including greater regulatory control of development impacts,

²⁶ See “Analysis of Green Bay RAP’s Habitat Objectives,” by Marc Bingley Northeast Wisconsin Waters for Tomorrow Analysis Team, 1993.

acquisition of wetland parcels, and restoration projects funded from outside sources. However, the plan did not outline any new regulatory products nor funding mechanisms to acquire wetlands. As a result, little progress has been made toward implementation. However, it is likely that increased awareness of the wetland resource (through the RAP planning process) may have affected the behavior of local regulators, and perhaps public attitudes as well. For example, the local Corps regulator regularly attends the plan's Science and Technical Advisory Committee meetings, and is likely influenced by Committee findings and recommendations. Local, State and Federal regulators appear committed to protecting individual wetland parcels.

Status

The plan is currently in the implementation stage. The effects of the plan on wetland resource are difficult to judge. It is possible that the plan has

resulted in stronger wetland regulation, but it is also true that some wetlands have been lost to development. Regulators are not bound by the recommendations of the plan, and there are few funds available to purchase individual wetland parcels. Long-term implementation of the plan is therefore uncertain.

Issues/unique characteristics

This planning effort illustrates several points. It indicates the versatility of the term "watershed planning." Also, it exemplifies the difficulty of implementing a plan without sufficient institutional or financial arrangements. As an example of a "protection-oriented" plan, it calls for the maintenance of all wetland parcels, and does not include any type of wetland categorization scheme, which is a component of most of the other plans. But perhaps most importantly, it illustrates the difficulty implementing a protection-oriented plan when resources are scarce.

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