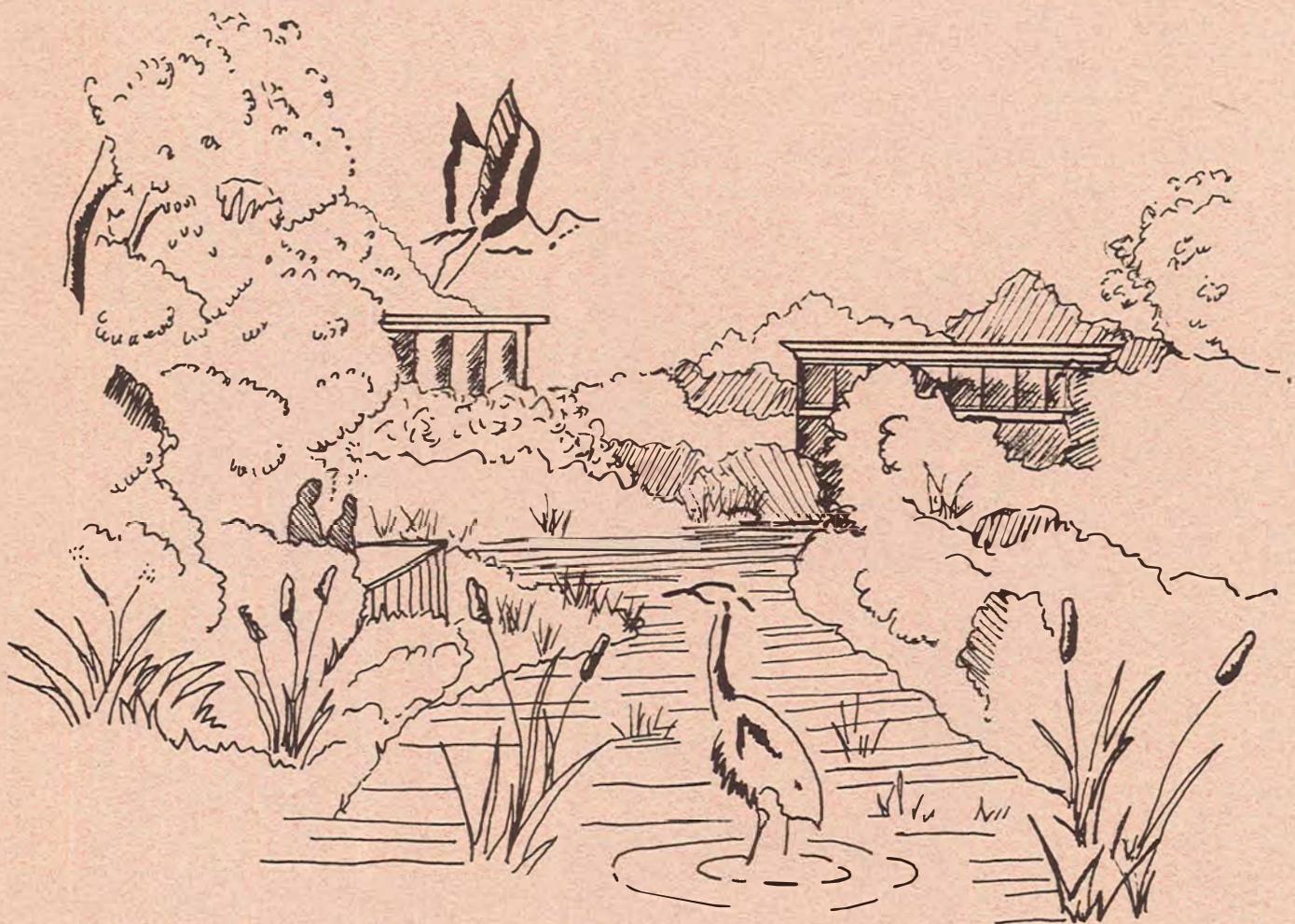


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West Eugene Wetlands Special Area Study

Draft Plan



March 1991

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Preface

PREFACE

When significant wetlands were identified in Eugene's primary industrial development area, wetlands were defined as a problem. Now, several years later, the West Eugene Wetlands Special Area Study (WEWSAS) provides a clearer focus on the issues raised by the wetlands discovered in west Eugene and sets forth a vision that can achieve a balance of development needs and environmental values.

Between then and now, the study area has been the subject of a great deal of scrutiny and study. Inventories of habitat value, wetland boundaries and wetlands functions and values have been conducted. This information has been shared with the community, including property owners, environmental groups, and other interested citizens through newsletters, workshops, field trips, and in other forums.

We now know that there are wetlands of greater and lesser value. Some are full functioning wetlands that have the proper mix of water, soils and wetlands plants. Other wetlands in west Eugene contain remnants of prairie grassland communities which once dominated the southern Willamette Valley. On these wetland sites, rare plants and insects have been discovered. Other wetlands in west Eugene contribute to flood control and help purify storm water.

We also know that there are at least 360 of the 1430 acres of wetlands that are low value and can be recommended for development. Because loss of even these lower valued wetlands must be compensated for, the proposal for creation of a system of restored and enhanced wetlands ("mitigation bank") has been developed as part of this plan.

At the same time, it is evident that west Eugene is uniquely suited to provide a connected system of protected and restored wetlands along the major waterways that run through the area. With the wetland system contemplated in this plan, the west Eugene wetlands can protect rare plants, provide an open space greenway along the area's major streams, provide for water quality improvements that meet increased federal requirements, and at the same time help protect people and property from flooding.

This unique opportunity may not only be of value for the west Eugene area, but may serve as a focal point for wetland restoration and replacement for development in other parts of the Eugene urban area. With the adoption and implementation of the plan, community resources can be marshalled to assist in development of the lower value wetlands and a combination of federal, state and local resources can be used to protect, restore and enhance the remaining wetlands. In the resulting Plan, federal and state requirements can be addressed at the local level, resulting in reduced time in the permitting process.

The community has a significant opportunity in the west Eugene area to create development that recognizes and is sensitive to the adjacent natural resources, while at

the same time protecting that resource and enhancing its ability to meet a range of community objectives. Many of the public facility costs needed in the area over the coming decades can be used for multiple purposes, creating wetlands that filter pollution from storm run-off and replacing investments in more traditional forms of storm drainage facilities.

It is this multiple objective approach which is reflected in this comprehensive Plan. It is not simply a Plan to protect wetlands or to free wetlands up for development, it is a Plan which balances environmental concerns with development needs. It is a Plan which proposes to meld our public facility needs with the environment to create a better open space system in west Eugene. It is a Plan which suggests a variety of techniques for spreading the costs of the recommendations out among several funding sources over a period of time to make the system affordable to this community.

In 1989, the WEWSAS planning process began with a series of citizen workshops. The process was designed to include broad participation by property owners, the development community, environmental groups, state and federal agency representatives, and other interested citizens. During 1989, more detailed inventory work was conducted. This Plan is a result of scientific study and local community involvement; it is a Plan which balances environmental protection with economic development within the framework of state and federal wetland programs.

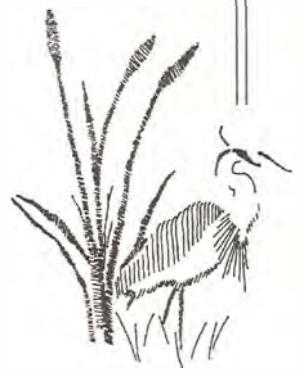
The Plan's first two chapters present Plan Objectives and Highlights and a general introduction. The next five chapters address: Resource Protection; Development, Mitigation; Operating, Maintaining, and Monitoring; Financing; and Future Studies. A companion document to this Plan is the more detailed Technical Report. By putting the detailed background material in the Technical Report, the Plan remains smaller, provides clearer direction guiding future actions, and allows for broader public distribution. The Plan focuses attention on the recommendations of individual wetland sites, goals, policies, and recommended actions. The Plan also contains a list of future public improvement projects that directly and indirectly affect the study area. The terms "goals, policies, and recommended actions" are defined below.

Goals are broad statements of philosophy and are adopted by the City Council and Lane County Board of Commissioners. They may never be completely attainable, but they describe the hopes of the people and help establish direction.

Policies provide the basis for consistent action to move the community toward its goals. Policies are adopted by the City Council and the Lane County Board of Commissioners. These policies are used to evaluate actions relative to the Plan.

Recommended Actions are ideas on how to implement the policies, but are not adopted by the City Council or the Board of County Commissioners. They suggest ways the policies may be carried out and are reviewed, studied, and revised over time. They may or may not be implemented in the form in which they appear. Recommended actions

are evaluated in light of their ability to address the Plan's goal and policy direction while considering community aspirations, financial options, and legal requirements.



Chapter One
Objectives and Highlights

OBJECTIVES AND HIGHLIGHTS

Plan Objectives

There were four major objectives of the West Eugene Wetlands Special Area Study:

1. To use the best information to help the community understand the choices available;
2. To find a balance between environmental protection and sound urban development which meets state and federal laws and regulations;
3. To provide opportunities for involvement of all interested segments of the community in Plan development; and
4. To turn a perceived "wetlands problem" into a "wetlands opportunity" for the community.

Plan Highlights

As suggested in the Preface and the above objectives, this Plan addresses wetlands and economic development as critical parts of a healthy, livable community. While the plan contains more detailed goals, policies, and recommended actions, the thrust of the Plan can be understood by reviewing the following highlights, Plan Recommendations (Map #3) and the Wetlands Conceptual Plan Map (Map #4).

Protection and Restoration of a Wetland and Waterway System

To implement existing federal and state wetland law and policy, the Plan recommends protection of the remaining valuable wetlands. Sites with rare plants are proposed for protection. Almost all of the sites with remnants of the wet prairie grasslands with other important natural values are recommended for protection. Existing wetlands will be enhanced and areas restored where wetlands once existed. These areas and additional areas along stream courses will be used to form a connected wetland system creating greenways along the Amazon Channel, Willow Creek, old Amazon Creek (the A Channel), and the A-3 Channel. The Amazon Greenway will connect the City of Eugene with Fern Ridge Reservoir. This system will provide open space and scenic values in the west Eugene region. Screening techniques will be used to protect wetlands from the effects of adjacent land uses.

Protection of Natural Diversity

By protecting a variety of wetlands, establishing protective buffers, creating and enhancing a variety of wetland types, managing them as a connected system, and linking them together, the community can enhance the natural diversity of west Eugene, an area which was neglected too often in the past. In the future, it will be rich in natural and cultural diversity.

Development Opportunities and Certainty

After many years of planning for urban uses and investing millions of dollars in public infrastructure facilities, the discovery of wetlands in west Eugene placed a cloud of uncertainty over future development opportunities. The Plan responds to this dilemma with recommendations that attempt to balance environmental and economic development values within the framework of federal and state wetland law. The Plan removes the cloud of uncertainty by recommending development on some wetlands while protecting others (see Map #3). Wetlands that are recommended for development are frequently small, isolated and difficult to protect from already planned or developed urban uses. The Plan also recommends that the City seek a regional permit from the Army Corps of Engineers so that the administration of the permitting and mitigation process can occur at the local level, thus saving valuable time and resources.

Public comment during the preparation of the Plan and examples of new development adjacent to wetlands in other communities, tells us that citizens value living, working and shopping in areas that demonstrate attention to the surrounding landscape. Using this Plan, the community can focus its attention on designing future development in ways that complement wetland areas, resulting in added value for both the development and the environment.

Wetland Protection Measures

The Plan examines and recommends a number of wetland protection measures. The primary long-term protection strategy is public or private non-profit acquisition, coupled with a natural resource designation on the Metropolitan Plan and a natural resource zoning district that would prohibit development. Until funds become available for acquisition, the existing federal and state wetland regulatory processes will continue to be the primary means for insuring wetland protection. In addition to their existing review process, federal and state regulatory agencies will utilize the recommendations of this Plan as guidelines when considering individual permit applications. When the City obtains a federal regional permit and a state approved wetland conservation plan, the administration of the permitting process will be transferred to the City of Eugene. At that time, the City will have adopted other protection measures such as overlay zones, buffering requirements, and conservation easements.

A priority for implementing this Plan is the preparation and adoption of a waterside protection and development ordinance. This ordinance will protect water quality and wildlife habitat of identified natural resource areas, allowing and encouraging development that is designed to enhance environmental values (see Appendix A).

Mitigation

Mitigation is the process used by federal and state agencies for determining whether wetlands may be developed (impacted) and, if so, under what conditions. The decision-making process is hierarchical where each level of criteria must be satisfied prior to proceeding to the next. The process is structured so that priority consideration is given to *avoiding* wetland impact. If it can be shown there is an unavoidable *need* to impact wetlands, the process then attempts to *minimize* the extent of the impact and sets out requirements to *compensate* for wetland losses in the form of *enhancement, restoration or creation* of wetland resources.

This Plan has conducted the mitigation analysis for the entire study area and concludes that the most effective way to achieve no net loss of wetland resources is to avoid impact. As a result, over 75% of the 1,430 wetland acres will be protected from impact in the form of comprehensive plan designations, zoning techniques and buffering requirements.

For the 360 wetland acres recommended for development, the Plan requires compensation to occur at a minimum ratio of 1.5 acres of replacement for each acre of impact. Compensation is targeted for areas where the prospects for success are the highest, most beneficial to the ecological landscape and require little, if any, on-going maintenance. These areas are located on historic wetlands, disturbed agricultural wetlands and in areas adjacent to existing waterways. Enhancement and restoration, therefore, will be the primary methods for compensating for wetland losses. Mitigation efforts will concentrate on reestablishing historic wetland types and habitat that naturally occur in the area, while also creating opportunities for other wetland types such as marshes and ponds.

The Plan approaches mitigation in a comprehensive manner where resulting efforts not only satisfy federal and state wetland law but achieve other community needs and objectives such as providing additional flood control storage, water quality enhancement features, improved wildlife habitat and educational and recreational needs of the community.

Mitigation and the Regional Mitigation Bank Concept

The Plan utilizes the wetland mitigation bank concept as the primary means for implementing the mitigation program. With this approach, mitigation efforts are planned as a whole where the most suitable sites are identified, acquired and restored in advance of wetland impact. This concept not only benefits the natural resource system by

planning for the restoration of the Amazon Creek basin, but it also benefits the users of the bank - the development community. The bank system performs the mitigation requirements for individual users where the details of compensation are preplanned, constructed and maintained by a public or private-nonprofit agency. To satisfy individual impact requirements, users simply have to buy mitigation credits from the bank, thus eliminating uncertainty and saving valuable time and resources. Because the bank is planned and developed as a whole, the details of mitigation can be incorporated into the existing environment, resulting in a more logical and natural system. The bank is proposed to have sufficient capacity to serve the mitigation needs of the West Eugene Wetland Study Area and the community as a whole.

Stormwater Management

The City of Eugene will develop a comprehensive Stormwater Management Program that addresses the issues of flood control, water quality and natural resource management. This program will include management of the west Eugene wetlands system and will focus on the interrelationships among these components of Eugene's waterways and associated wetlands. The City of Eugene Public Works Department will use fewer piped storm sewers and will manage the open channels in ways to better balance stormwater and flood needs with environmental and wildlife habitat needs. The efforts will help reduce pollution and will make the waterways more pleasant urban open spaces.

Water Quality Improvements

Constructed wetlands and wetland improvements will be used as biological filters to remove sediments, certain nutrients, and other water pollutants from the drainageways in west Eugene. In some instances, wetlands will be enhanced by providing more water to sites. The result will be cleaner surface waters, improved aquatic habitats, and a more pleasant water-oriented experience for those who live, work and visit west Eugene. While these wetlands may have multiple values, they will be managed for their primary use - stormwater treatment. A separate study is being conducted by the City of Eugene to address further water quality improvement techniques, including reducing sources of water pollution that enter one storm sewer system.

Improved Flood Control

By widening channels, protecting existing wetlands and creating new wetlands, additional flood storage capacity can be added in west Eugene. The widened channel bottoms will allow the low flow channels to meander among wetlands and for the reestablishment of stream bank habitat. This will reduce downstream impacts of storm runoff originating in the urban area. These flood storage improvements can often provide multiple benefits, such as wildlife habitat and recreation. Widening projects will be designed to protect and enhance adjacent wetlands.

Improved Plant and Animal Habitats

Within the managed wetland system, rare plants will be protected. Experimentation on ways to increase populations of rare plants will occur through scientific research and demonstration projects. Also, the unique Willamette Valley prairie grassland plant community will be protected through creation of a wetland prairie reserve. By protecting and restoring a variety of wetland types, and by buffering natural areas from the impacts of nearby development, a diversity of habitats will be created; that diversity will benefit wildlife. The greenway corridor concept also benefits wildlife. Expanding existing natural systems and restoring habitat in areas that have been damaged by human activities insures better survival of wildlife and wildlife viewing opportunities. The greenway corridor concept also achieves this purpose.

Recreation, Education, and Research

Planned trails, bikeways, wildlife observation points and cleaner water within a diverse system of wetland types will provide numerous opportunities for public enjoyment of west Eugene environments. The wetland environment in west Eugene will become a favorite place to recreate and learn particularly when utilized by elementary, secondary and higher learning institutions in the community. Located near the University of Oregon, Oregon State University, Lane Community College, and other federal research laboratories, west Eugene will be the subject of further study over the coming decades. The possibility of a nature center devoted to west Eugene natural areas, including wetlands and the native American and early white settlement of the southern Willamette Valley, will be explored. Such a center might serve educational, recreational, and research needs.

Corridors and Connections

By creating greenways and trails along existing waterways, Eugene can be connected to Fern Ridge Reservoir via the Amazon Channel from Spencer Butte, through downtown Eugene and through the Bethel neighborhood. Via Willow Creek and the Amazon Park system, the Amazon Channel can also be connected to the South Hills ridgeline system. The Amazon waterway systems, like the Willamette and McKenzie Rivers, can become important natural corridors linking the community together.

Managing the System

The City of Eugene Public Works Department will assume the overall responsibility for managing and monitoring the west Eugene wetlands system with assistance from other departments. The role of the Public Works Department will expand to include natural resource management, stormwater quality and wetlands. Through staffing or contractual arrangements, the City will gain the expertise needed to manage the wetlands system. There are opportunities to work with environmental and community organizations, non-profit environmental groups, and the private sector in order to protect and enhance west

Eugene's natural environment. School children and other interested citizens can enjoy studying the environment while having a helping hand in improving it.

Financing Protection, Restoration, and Management

The City will continue to seek state and federal funds to acquire wetlands for protection, land for restoration and mitigation, and to pay for demonstration construction projects. Local funding sources will be focus on the construction of public improvements and the on-going operations, maintenance and monitoring of the system. Private funds will assist with acquisition and construction through the revolving funds of the mitigation bank program. Formation of a local land trust is another possible way to use private funds to assist the wetlands program. The funding solutions for west Eugene are likely to be diverse, and it is anticipated that acquisition and construction will take at least ten years or longer to complete. The acquisition and construction program is accompanied by priorities in map and list form (see Chapter 6, Maps #5 & 6) which will help in phasing Plan implementation over time as funding allows. A steady, local revenue source is recommended for the on-going management program. The wetlands management program will continue to be coordinated with the appropriate state, federal, and local agencies.



*Chapter Two
Introduction*

INTRODUCTION

By presenting a vision for west Eugene, this Plan provides a framework for balancing natural resource protection and urban development. By protecting and restoring the natural environment and by planning development more carefully, the implementation of this Plan can provide a model for better integrating our natural and urban worlds. As the Plan is implemented, west Eugene will be a nicer place to live, work, visit, recreate, and travel through. Specially created wetlands can serve public works functions like flood control and water purification. Animals and rare and unusual plants can survive in and benefit from improved habitats. People will enjoy walking, canoeing, bicycling, and fishing along the Amazon Channel in the future. The community could take pride in a waterway and wetland system that links the community and future generations with our natural and cultural past. This Plan continues a long tradition of Eugene planning to integrate our natural environment with carefully planned growth, making Eugene one of the outstanding places in the United States to live and work - a truly livable city.

The Plan provides mechanisms for protecting wetlands and for allowing sound economic development. It provides a vision for the west Eugene area which creates a wetland reserve composed of protected and restored wetlands. These wetlands are organized as a connected system creating greenways along the Amazon, Willow Creek, old Amazon Creek, and the A-3 Channel. The Plan directs development away from sensitive areas, and encourages it in areas where environmental damage is minimal. It is in these areas that the use of existing public and private funds on public improvements is most logical and the recreational and aesthetic benefits are greatest. The Plan recommends open spaces along the water corridors through a carefully crafted scheme allowing multiple uses as summarized in Chapter One, "Objectives and Highlights".

AREA COVERED

Eugene, Oregon is located in Lane County at the southerly end of the Willamette Valley (see Map #1). With a population of 112,000, Eugene is the second largest city in Oregon, Portland being the largest. The overall population of the Eugene-Springfield metropolitan area is approximately 200,000 persons.

The Plan generally covers the Amazon Creek drainage basin from its headwaters near Spencer Butte in southeast Eugene to its western reach at Fern Ridge Reservoir (see Map #2). The Plan also covers portions of the Long Tom River basin which the Amazon Creek basin is a part. The principal focus of this Plan is the area represented on Map #2 as the primary study boundary, which is approximately 8,000 acres in size and bounded by Garfield Street to the east, Greenhill Road to the west, the South Hills Ridgeline to the south and Royal Avenue to the north. All of the delineated wetlands affected by this Plan are within the primary study boundary. It is within this boundary where most of the initial mitigation efforts and flood control, water quality enhancement and recreation facilities will occur. The secondary study boundary is, more-or-less, the

balance of the Amazon Creek drainage basin. This area is significant as it reflects the relationship of the primary study area to the overall Amazon Creek drainage basin. It is within this area that additional mitigation efforts and related public improvements projects will occur so that a continuous greenway corridor can be established.

PLAN DOCUMENTS

There have been a number of studies and documents produced during the West Eugene Wetlands Special Area Study process. They are all listed in the reference section. Two key documents are:

1. This Plan, the West Eugene Wetlands Plan, which includes a brief narrative with goals, policies, implementation strategies, and maps that will guide the community toward achieving local objectives and meeting state and federal laws and regulations.
2. A Technical Report, which includes more detailed text and maps that summarize information about the study area, wetlands, alternatives analysis, environmental and economic impacts evaluation, federal and state wetland laws, and the citizen involvement process used in developing this Plan.

RELATIONSHIP TO OTHER PLANS AND POLICIES

The West Eugene Wetlands Plan is a refinement of the Eugene-Springfield Metropolitan Area General Plan (Metropolitan Plan), 1987, a guiding document for public decisions affecting the metropolitan region. Refinement plans are consistent with other City and metropolitan policy documents, such as the metropolitan regional transportation plan, TransPlan, 1989, and the Eugene Community Goals and Policies, 1984. Additionally, refinement plans must be consistent with the direction established in the Metropolitan Plan or initiate a process for its amendment. The West Eugene Wetlands Plan addresses the relationship with other refinement plans, such as the Willow Creek Special Area Study, 1982, and the Bethel-Danebo Refinement Plan, Phase II, 1982.

Because the West Eugene Wetlands Plan addresses land use issues outside the Metropolitan Plan boundary, it is also coordinated with the Lane County Rural Comprehensive Plan. Any recommendations in the West Eugene Wetlands Plan must also be consistent with the Rural Comprehensive Plan or initiate a process for its amendment.

The Plan was developed in coordination with several key state and federal agencies involved in wetlands regulation and planning: DSL, ACOE, EPA, and the USF&WS. The Plan was also coordinated with local offices of other applicable local, state and federal agencies. The Plan was developed to meet all applicable state and federal regulations and guidelines. The adopted Plan will be accepted by the DSL, ACOE and EPA through formal agreement or their respective formal approval processes.

PLAN IMPLEMENTATION

After careful review, the Eugene City Council and the Lane County Board of Commissioners will take action on the West Eugene Wetlands Plan's goals, policies, maps and its priorities list of land acquisition and future public improvement projects. Some recommended actions must be adopted and operational in order to establish state and federal permitting authority at the local level. The recommended actions will receive strong consideration over the life of the Plan by local governments, by federal and state agencies, and by private interests, including the environmental and development community.

The City is expected to use the Plan in the:

1. Administration of City programs and services affecting the west Eugene region.
2. Review of City regulations or ordinances identified in the Plan as needing amendments.
3. Review of other plans and policies that affect the west Eugene region.
4. Coordination with other governments and groups interested in the west Eugene region.
5. Development of lobbying priorities for changes in state and federal law or programs and in seeking funding support for Plan implementation.
6. Development of specific zoning districts, ordinances or other measures to comply with state and federal wetland conservation plan requirements.
7. Preparation of the City's Capital Improvement Program and annual City budget for operation and maintenance of the system of natural areas, parks, and public works.
8. Response to development proposals within the area.

Lane County will use the Plan in the:

1. Administration of County programs and services impacting the west Eugene region.
2. Review of County regulations or ordinances identified in the Plan as needing amendments.
3. Development of lobbying positions for changes in state and federal law or programs and in seeking funding support for Plan implementation.
4. Preparation of the County's Capital Improvement Program and annual County budget for operation and maintenance of the system of natural areas, parks, and public works.
5. Response to development proposals consistent with this Plan.

State and Federal Agencies will use the Plan to:

1. Make funding decisions and establish funding priorities.

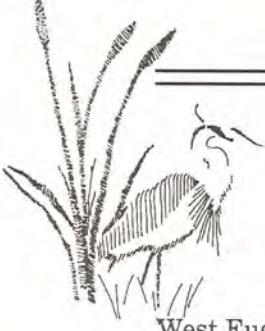
2. Make decisions about further wetlands, water quality, and environmental research.
3. Guide other activities and projects consistent with and complementary to the mutually developed and agreed upon Plan.

Others interested in the Plan or operating in the west Eugene region are expected to use the Plan in the:

1. Understanding of the community's vision and hopes for west Eugene.
2. Design of projects so that they are consistent with the plan and complement the existing or planned protection, restoration, and development scheme.
3. Initiation of projects and activities that affect the west Eugene natural and developed systems, including public improvements.

AMENDMENT PROCESS

The West Eugene Wetland Plan can be amended in the same manner as any other refinement plan or special area study as provided for in the amendment procedures of the Eugene Code. As with other refinement plan amendments, any amendment to WEWSAS must be consistent with the Metropolitan Area General Plan. If there are inconsistencies, an amendment to the Metropolitan Plan is required before any such WEWSAS plan amendment could be effective. Due to the regional permitting process and the on-going relationship with state and federal regulatory agencies, they will be notified of any proposed amendments and asked to comment prior to planning commission or council action, or action by Lane County.



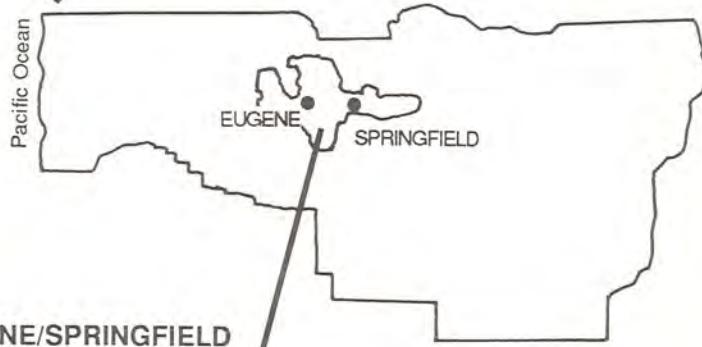
Map 1 Vicinity Map

West Eugene Wetland Special Area Study, 1991

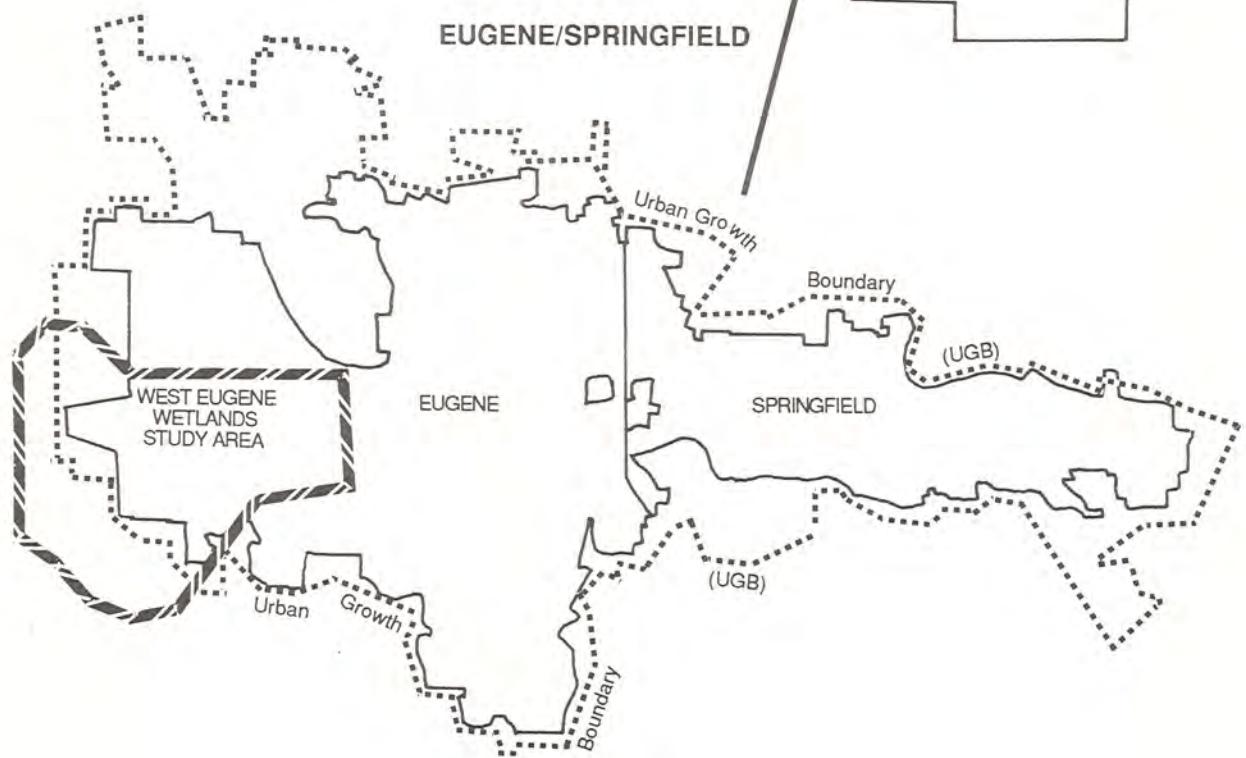
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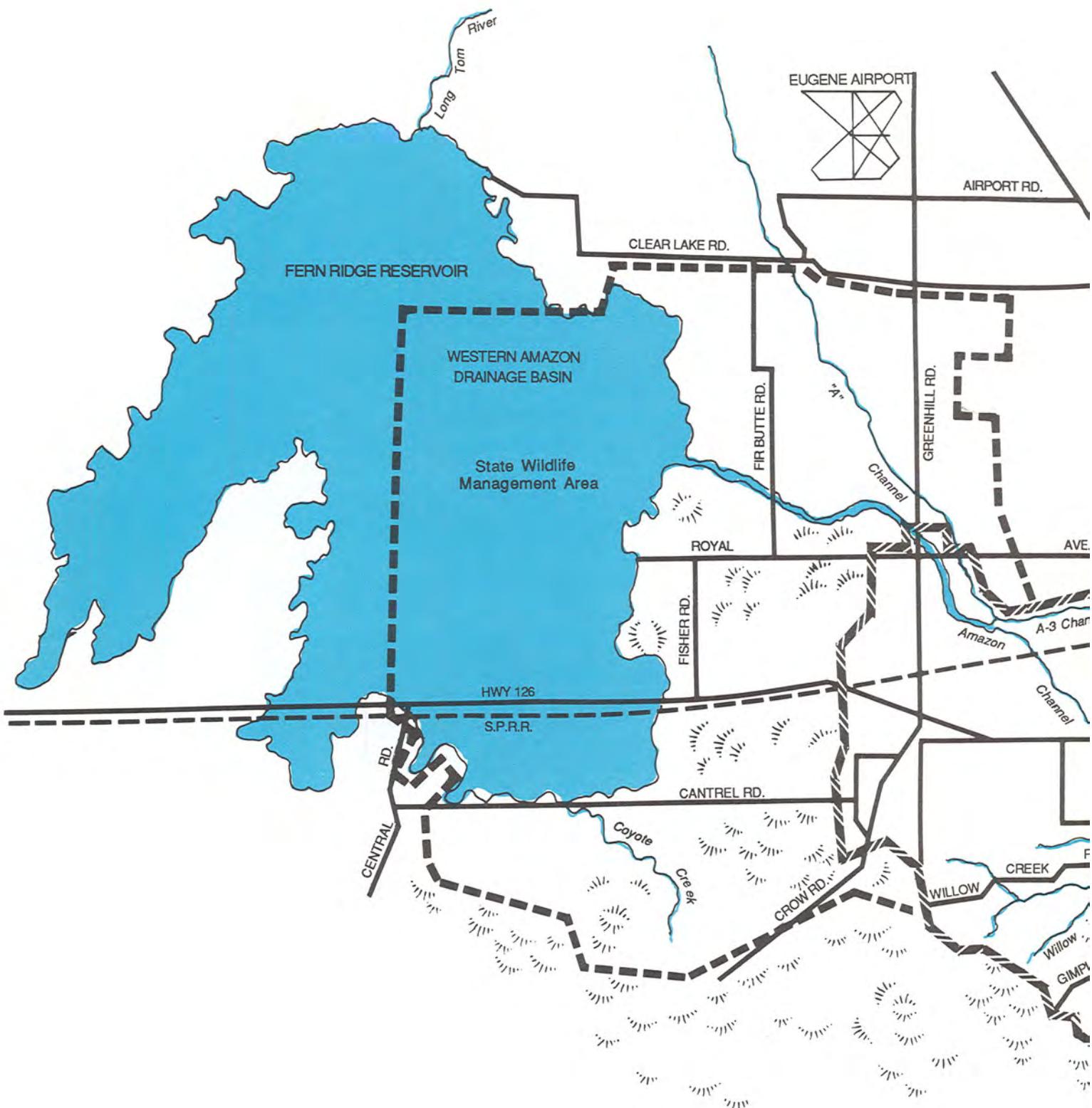


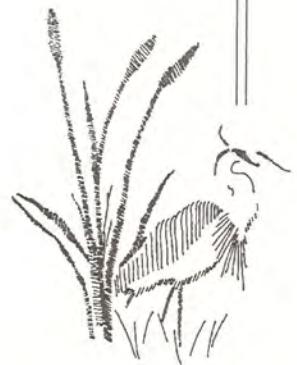
LANE COUNTY



EUGENE/SPRINGFIELD







Chapter Three
Resource Protection

RESOURCE PROTECTION

INTRODUCTION

This section discusses and presents goals, policies and recommended actions for protecting and providing protective buffers for wetland sites in the WEWSAS.

As a result of field work conducted in 1988-89, 1,430 acres of jurisdictional wetlands were identified within the study area. Through a process which involved a series of public workshops, a technical advisory committee of state and federal agency representatives, and staff evaluation of alternatives, a recommendation was developed which calls for protecting 1,070 acres, and allowing development to occur on 360 acres. The Wetlands Recommendations Map (see Map #3) depicts wetlands that are recommended for development, protection, and mitigation.

Wetlands are recommended for protection due to their high natural resource value (colored green on Map #3) or due to their value as enhancement sites for mitigation credit (colored yellow on Map #3). See Chapter 4 of this Plan for a detailed discussion of mitigation policies.

Appendix B contains the criteria used to identify sites suitable for and deserving of protection. The development of these criteria included consideration of state and federal wetland laws and policies, citizen input received through workshops and questionnaires, comments from wetland regulatory agency staff, and the results of the field work conducted by Esther Lev in 1988 and by Scientific Resources Inc. (SRI), in 1989. Not all of the criteria in the list above had to be met in order to assign a recommendation for protection.

The primary thrust of these recommendations are to seek acquisition of the wetlands identified for protection including those recommended for enhancement. Following acquisition, land use controls will be applied to restrict uses and protect those sites in perpetuity. Protection measures developed as part of the concurrent Eugene-Springfield Metropolitan Area Natural Resources Special Study are recommended as long-term protection measures. These protection measures are outlined in Appendix A of this Plan. This Plan gives additional detail to the proposed Natural Resource Zone, as described under "Recommended Actions".

Prior to acquiring protected wetland sites, potential developments would be subject to Planned Unit Development or Site Review procedures, as well as state and federal wetland permit processes.

GOALS, POLICIES, RECOMMENDED ACTIONS

The following section contains goals, policies and recommended actions for those goals and policies. These apply to the wetlands specified for protection on the Wetlands Recommendations Map (see Map #3).

GOALS

- 3.1 Protect and enhance water quality, wildlife habitat, flood storage, sediment and toxicant removal and other wetland functions and values within the study area.
- 3.2 Minimize economic hardship on private property owners due to protection of wetlands and other valuable environmental resources.
- 3.3 Minimize adverse impacts to protected wetlands from adjacent development.
- 3.4 Protect high quality examples of each important type of wetland plant community currently existing in West Eugene: native Willamette prairie grassland, ash forest, cattail marsh, shrub/scrub, and open water.
- 3.5 Protect and expand current populations and habitats of rare, endangered and threatened plants and animals that currently exist in West Eugene.
- 3.6 Achieve state and federal requirement of "no net loss" of wetlands in both quantity (area) and quality (functions and values) within the Plan area.
- 3.7 Protect an interconnected system of wetlands within a sustainable, ecologically sound system, with a high likelihood of long-term survival.
- 3.8 Allow for multiple uses of protected wetlands, while ensuring that functions and values are maintained or enhanced.

POLICIES

- 3.1 Seek acquisition of protected wetland sites by local public agencies and private, non-profit conservation organizations.
- 3.2 Apply interim protection measures to wetland sites identified for protection through existing local land use controls, until sites are purchased for conservation and protection.
- 3.3 Develop and adopt ordinances to protect wetlands and waterways in the plan area.

- 3.4 Amend existing policies that conflict with protection of regulated wetland functions and values to make them consistent with WEWSAS goals and policies.
- 3.5 Along with Lane County and the State of Oregon, protect wetlands on public lands in WEWSAS area and restore wetlands on public lands within the greater WEWSAS area (see Maps #3 & 4).
- 3.6 Coordinate development and adoption of protective ordinances with Lane County for sites outside the city limits and within the UGB.
- 3.7 Ensure that any private or public party can continue to seek individual state or federal wetland permits for any proposed development within the study area.
- 3.8 Establish, maintain and protect physical and hydrologic linkages between protected wetlands and adjacent transitional and upland wildlife habitat and natural areas.
- 3.9 Protect and enhance the quality, functions and values, of natural and human-made waterways that are interconnected with wetlands within the study area.
- 3.10 Include rare plant protection in ordinances developed to protect wetlands and other resources.
- 3.11 Restrict public access in natural research areas, rare plant sites and specified wildlife nesting and resting areas.
- 3.12 Create buffer areas between regulated wetland boundaries and adjacent uses or developments.
- 3.13 Promote multiple uses of protected wetlands to meet community, environmental and human needs: (a) provide public access where other wetland functions and values are not compromised; (b) coordinate wetland protection, enhancement and restoration with regional water quality improvement needs; and (c) utilize current and restored wetlands for flood storage and control.
- 3.14 Apply hillside protection and streamside protection policies (see Appendix A) within the "urban reserve" areas outside the UGB, but within the Metropolitan Plan jurisdictional boundary, to protect water quality and manage water quantity in the watersheds above the WEWSAS wetlands. (The hillside protection shall include protection of the ridgeline corridor on

the headwater streams identified in the adopted WEWSAS Plan and Willow Creek Special Area Study).

- 3.15 Make wetlands protection policies that prohibit development effective after the wetlands are acquired by a public agency or non-profit organization (e.g., The Nature Conservancy) for protection in perpetuity.

RECOMMENDED ACTIONS

- 3.1 Acquire all sites recommended for protection or mitigation.
- 3.2 Establish acquisition priorities among protected sites. Highest priority shall be assigned to the following sites:
1. Bertelsen Slough/Stewart Pond complex (Site E2 and buffers)
 2. Spectra Physics complex (Sites C2, C3, C4, C5 and buffers)
 3. Willow Creek complex (Sites H1, H3 and buffers)
 4. North Amazon complex (Sites B1, B4, B5)
- Note: The numbers within the parenthesis are wetland identification numbers which were assigned by SRI at the time of wetland delineation. The letter portion of the ID# refers to the geographic subunit of the study area. Refer to Map #3 for the location of each wetland site.
- 3.3 Following acquisition, designate protected wetland sites "Natural Resource" on the Metropolitan Plan diagram.
- 3.4 Develop, adopt and apply natural resource protection measures as follows (complete text of these six proposals are contained in Appendix A).
- Natural Resource Zoning District: apply to protected jurisdictional wetland sites following acquisition by managing agency or organization.
- Waterside Protection and Development Ordinance: apply to designated streams, rivers, channels and riparian areas in study area.
- Upland Development Design: apply to uplands to the south of study area.
- Low Impact and Active Public Access: apply to appropriate sites.
- Clean-up, Restoration and Education Policy: apply to all protected areas and sites.
- Stormwater Planning Policies: apply to all drainage channels in study area that are identified in the Eugene Areawide Drainage Master Plan.

- 3.5 As an interim measure, develop and apply a "wetland protection overlay zone" to sites identified for protection. To minimize potential impacts to wetland functions and values, require Planned Unit Development or Site Review procedures on all development proposals.
- 3.6 As a medium term interim protection measure and prior to acquisition for conservation and protection, apply design criteria outlined in the Waterside Development Ordinance.
- 3.7 Include performance-based natural resource buffer setbacks in new Natural Resource Zoning District and apply to protected wetland sites. Buffer setbacks are intended to minimize impacts to the resource from adjacent development or other activities. Setbacks are intended to create open space between the resource and adjacent uses, and add wildlife habitat, provide filtering of stormwater runoff entering the resource site and increase aesthetic value of the site. Setback distances shall be variable based upon the quality of the protected site, and the type of uses proposed for adjacent areas as indicated:

Highest Value Wetlands

Minimum setback 75 feet, maximum setback 150 feet. Maximum setback can be reduced by enhancing buffering quality of setback area. Enhancement includes planting appropriate multi-layered (i.e., forb-grassy layer, shrub layer, tree layer) native vegetation, limiting uses within the setback, treatment of runoff using grease and oil separators, biofiltration systems and detention ponds, use of porous paving materials, and other measures to minimize impacts to resource and wildlife. Uses within the 75 foot minimum setback are limited to passive recreation and low impact trails. No impervious surfaces or topographic changes that would adversely affect wetland hydrology would be permitted.

Moderate Value Wetlands

Minimum setback 50 feet, maximum setback 100 feet. Maximum setback can be reduced by enhancing buffering quality of the setback area as described above. Uses within the 50 foot minimum setback are limited to passive recreation and low impact trails. No impervious surfaces or topographic changes that would adversely affect wetland hydrology would be permitted.

Lower Value Wetlands

No setback beyond jurisdictional wetland boundary. Create a 25-foot buffer area inside the wetland boundary on large parcel, low value

disturbed agricultural wetlands. The buffer area should include plantings, berms, or other enhancements to separate adjacent uses and activities from wetland areas, and maintain wetland functions and values. Allowed uses within the buffer include planned and necessary utilities and recreational trails. No impervious surfaces, grading, filling or other modifications would be allowed except to enhance water quality, wildlife habitat, flood storage and other wetland functions and values. The setback area would not be counted in calculating mitigation credit on those low value wetlands that are enhanced.

Restored or Enhanced Wetlands

Low value wetlands that are enhanced, and former wetland sites that are restored, shall have a minimum buffer distance of 50 feet to protect enhanced functions and values. These restored and enhanced sites shall be treated as moderate value wetlands above.

- 3.8 On certain sites where development existed prior to the adoption of the plan, or where lot size or configuration, or topographic characteristics make even the minimum buffer setback infeasible, a variance process will be available. Wherever possible, the area of required buffer that is waived will be transferred to another portion of the site, making the buffer in that area larger than would otherwise be required.

The criteria for allowing variances to the minimum buffer setback distance are as follows:

For wetlands that directly abut existing development such as streets or parking lots, buffers will not be required. Buffering vegetation such as hedgerow plantings of native shrubs should be encouraged in these areas.

In situations where application of the minimum buffer would not allow a reasonable and economic use of the remainder of an adjacent property, the buffer distance can be reduced below the specified minimum (50 feet for moderate value sites, and 75 feet for high value sites) if the following requirements are met:

1. The development proposal must demonstrate that the minimum buffer would cause significant economic hardship and would not allow a reasonable economic use of the remainder of the property.

2. The development proposal must include an analysis of alternatives, concluding that no other site design or configuration is possible that would allow a reasonable economic use of the property consistent with the Metropolitan Plan designation for the property.
3. The development must take special measures to ensure that any adverse impacts to the resource are minimized, including noise and light reduction, limiting human activity next to the wetland, on-site treatment of stormwater and vegetative buffering using native species in a structurally diverse planting.
4. The development proposal must "transfer" the buffer area to another edge of the wetland site, or to another wetland site, as close to the development as possible.

In reviewing petitions for a variance of the minimum buffer setback, the city should consider relaxing or adjusting other site design standards or requirements, where doing so would facilitate meeting the minimum setback without compromising public health and safety.

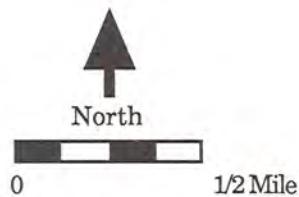
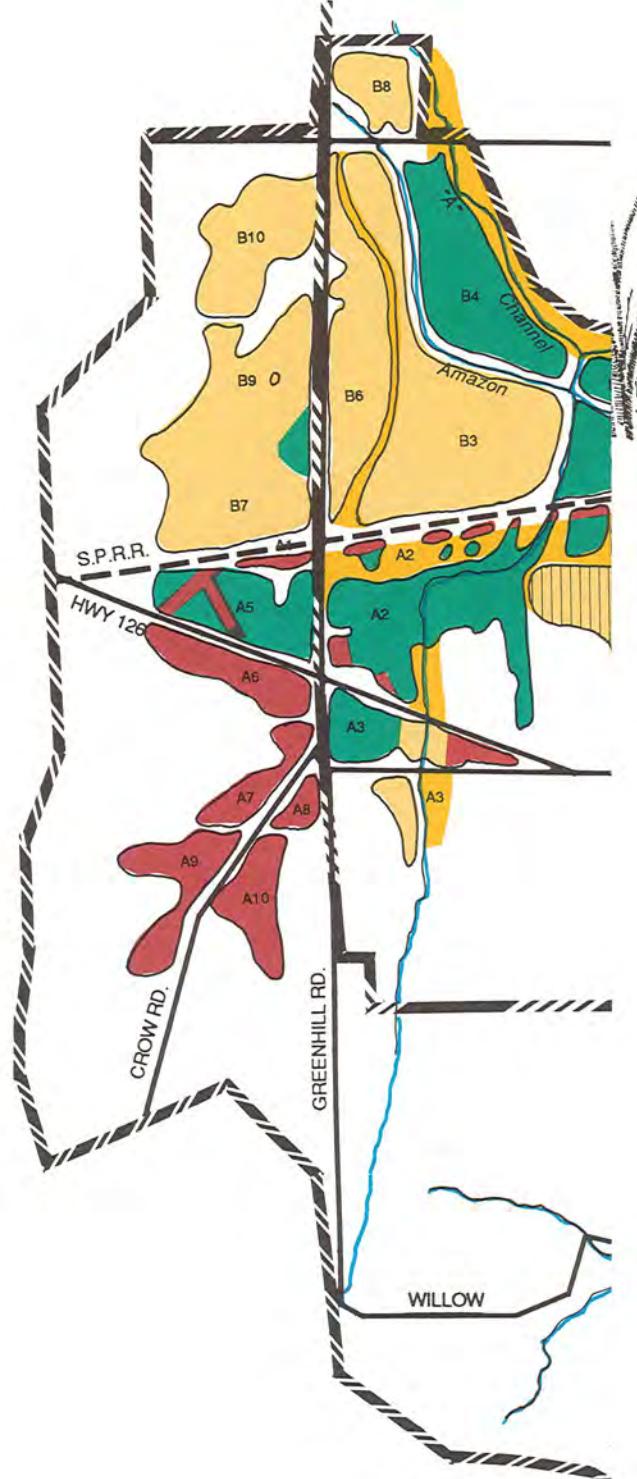
- 3.9 Develop and apply "best management practices" (BMP's) to construction and development within natural resource buffer setbacks. BMP's shall include construction site practices to minimize water quality impacts, noise impacts, disruption of wildlife mating and nesting, and to protect other important functions and values. These may include:
- requiring a temporary erosion control and sedimentation plan during construction
 - requiring on-site detention or retention of stormwater (e.g., constructed wetlands, wet ponds, extended detention ponds, infiltrations basins) to minimize impacts from new development
 - requiring use of shallow grassy swales to carry runoff into the stormwater system
 - requiring use of oil and grease separators where street runoff enters mitigation areas
 - requiring use of porous pavement in parking areas
 - optimize vegetated areas to compensate for impervious surface resulting from development
 - limit post-development runoff to pre-development levels
- 3.10 Amend the existing "obnoxious vegetation ordinance" to exempt protected wetland sites from vegetation cutting requirements.

- 3.11 Strengthen the existing tree preservation and hillside development regulations to protect water quality within the Willow Creek and Amazon Creek watersheds.
- 3.12 Lane County should amend its Rural Comprehensive Plan to reflect ORS 196 which recognizes wetland enhancement, improvements and mitigation as an allowed use in agriculturally zoned areas consistent with the adopted WEWSAS Plan.
- 3.13 Lane County should apply the Eugene and Lane County tree conservation ordinance within the upland areas in the WEWSAS Plan "urban reserve" areas above the 800 foot contour.
- 3.14 Lane County should adopt the goals and policies herein for the urban transition area and the Willow Creek urban reserve area:
1. As upper Willow Creek urban reserve area is brought into the UGB through future plan amendments, the hillside protection and tree cutting policies should apply.
 2. All interim development in the Willow Creek Urban Reserve Area shall conform to stream protection and hillside policies requiring cluster/PUD development.
- 3.15 Prepare a management plan for rare plants and ecosystems in conjunction with the University of Oregon, the Native Plant Society, The Nature Conservancy, the U.S. Fish and Wildlife Service and the Oregon Department of Fish and Wildlife.
- 3.16 Negotiate intergovernmental agreement(s) with the Oregon Division of State Lands, U.S. Corps of Engineers, U.S. Fish and Wildlife Service, U.S. Soils Conservation Service and U.S. EPA to ensure that: (1) those agencies abide by the goals and policies of this plan in all wetland permit decisions, and recognize the WEWSAS wetland boundaries as the definitive regulated wetland boundaries of west Eugene, and (2) development will not be allowed under Army Corps of Engineers "Nationwide Permits" on sites designated for protection under this plan.
- 3.17 Seek administration of federal and state wetland regulations at the local level by obtaining a Regional Permit from the Army Corps of Engineers and approval of a Wetland Conservation Plan from the Oregon Division of State Lands.

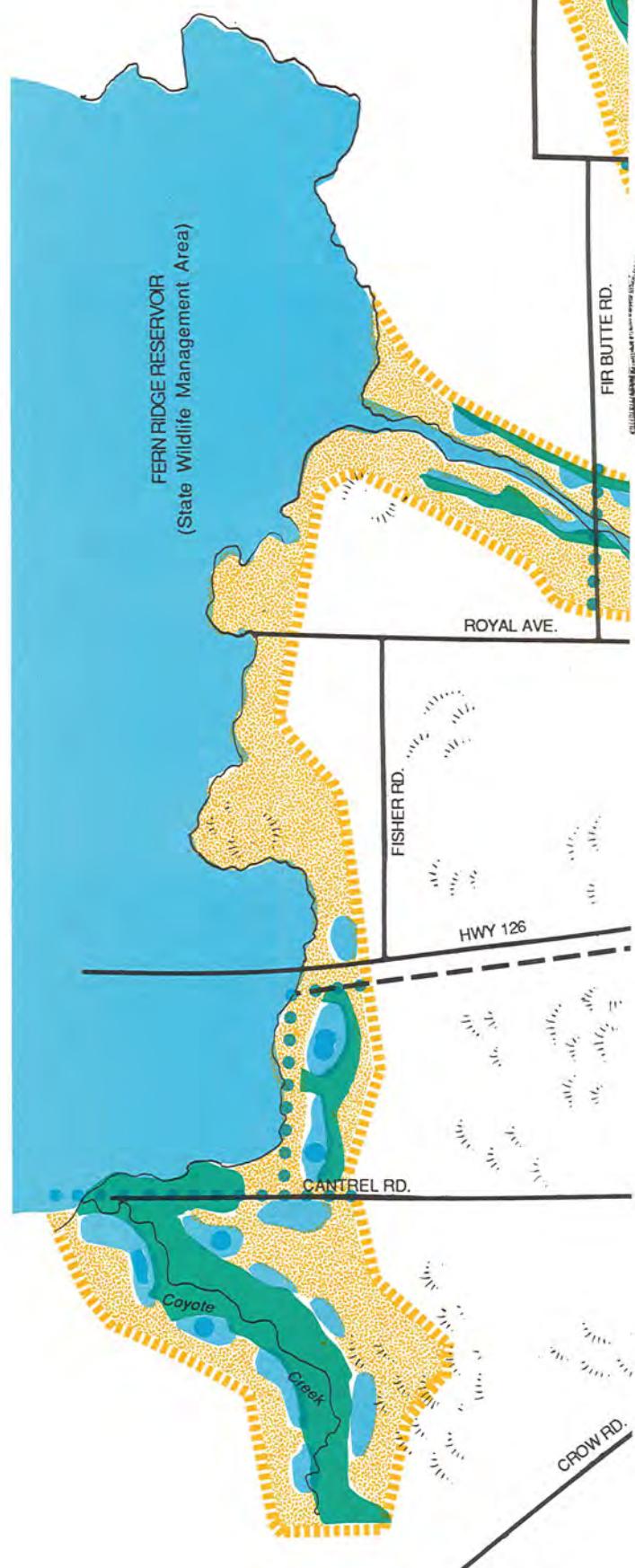
Map 3 Wetlands Recommendations

- [Green Box] Wetlands to be Protected
- [Red Box] Wetlands to be Developed
- [Yellow Box] Wetlands to be Enhanced for Mitigation Credit
- [Yellow Box] Upland Mitigation Sites
- [Blue Wavy Line] Streams to be Protected
- [B5 Box] Boundary of Regulated Wetland with Site Identification Number
- [Red Stripes] Berm and Furrow
- [Black Stripes] Wetland Delineation
- [Black and White Stripes] Urban Growth Boundary
- [Black Hatching] Study Area Boundary

West Eugene Wetland Special Area Study, 1991



Map 4 Conceptual Plan



Note: This map reflects future efforts to improve the quality of the Amazon Creek Basin by protecting, restoring, enhancing and creating wetland resources

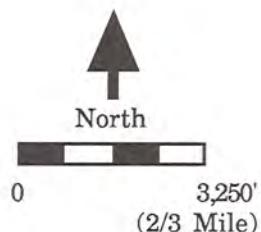
Wetland Types

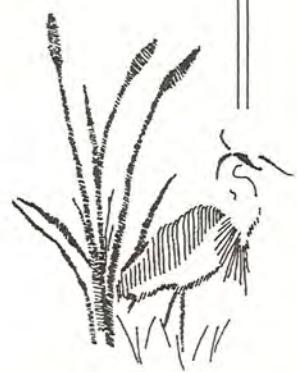
- Deep Water (includes flood storage areas)
- Shallow Water & Marsh (includes channel widening)
- Forested Ash, Willows, Cottonwoods
- Palustrine Emergent Scrub-Shrub & Prairie Grasslands

Buffers

- High Value Wetlands (75' - 150' wide)
- Moderate Value Wetlands (50' - 100' wide)
- Low Value Wetlands (25' inside wetland boundary)
- Highway Buffer-Fencerow (fence with plantings to screen highway related impacts)

West Eugene Wetland Special Area Study, 1991





Chapter Four
Development and Mitigation

DEVELOPMENT AND MITIGATION

INTRODUCTION

This element of the Plan acknowledges conditions where the community's need for economic development outweighs the benefits to protect certain wetland sites by making them available for development according to the mitigation provisions of this Plan. The Plan views the mitigation process as an opportunity to restore and enhance wetland functions and values of the Amazon Creek basin as a whole, while allowing limited development on isolated, lower quality wetlands and meeting the requirements of state and federal wetland law.

The 360 wetland acres proposed for development were determined through a process that evaluated each wetland against a set of criteria which had the effect of identifying those wetlands that are isolated, low quality and of limited functional value. The criteria used in evaluating sites for possible development are contained in Appendix B.

In addition to evaluation by local experts, resource agencies and community members, the relative quality of the west Eugene wetlands was determined by the Wetland Evaluation Technique (WET) program, designed by Paul Adamus of the Environmental Protection Agency. The results of this evaluation are contained in the Technical Report.

The Plan proposes to use the mitigation process to achieve compliance with federal and state wetland law, and to provide a vision and program for incorporating all of the elements of this plan with other related community objectives (flood control, water quality and wildlife habitat enhancement, recreation and education programs) so that a broader goal is achieved - the restoration of the Amazon Creek basin into a community asset.

The basic concepts of the mitigation program are:

- Avoid and minimize impact to all wetland sites that meet the protection criteria contained in Appendix B.
- Where impact is unavoidable, compensate for losses commensurate with the level of impact giving priority to establishing the basic physical wetland parameters (water, topography, connectedness) that eventually results in full functioning and diverse wetland habitats.
- Establish a management entity that will monitor, maintain and enforce the requirements of the mitigation program.
- Where full functioning wetlands are to be impacted, in-kind replacement of significant functions and values will be required. The overall mitigation

program, however, will be guided by the ecological characteristics of the regional landscape and not necessarily by specific case-by-case impacts. For disturbed agricultural wetlands, mitigation requirements will be determined using historic wetland types presumed to have existed prior to disturbance and the desired mix by the public. Incentives will be provided to mitigate in advance of impact in the form of replacement ratios which are less than the ratios for compensating at the time of impact.

- To increase the certainty of success and to achieve the goal of a connected system of wetlands and waterways, mitigation efforts are targeted for areas that once exhibited, or currently exhibit, proper wetland soils and moisture conditions. Within the WEWSAS boundary, the primary mitigation sites are "disturbed agricultural wetlands". These sites are missing at least one of the three wetland parameters (water, hydric soil, wetland vegetation) and due to non-wetland activities (agricultural uses) occurring on these sites, their existing wetland value is relatively low. As such, for mitigation credit purposes, the Plan gives more credit for the enhancement of these sites than for other "low" quality wetlands that exhibit all three wetland parameters.
- The primary means to achieve the Plan's mitigation goals is through the establishment of a regional wetland mitigation bank. These are areas where the most suitable lands for mitigation are identified, acquired, designed, constructed and managed in advance of wetland impact, and incentives are provided that encourage the use of the bank by those seeking a wetland impact permit. Because the Plan will enhance and restore more wetland acreage, functions and values than will be lost to development, the excess capacity will be available for mitigation credit to properties located outside the west Eugene study area and within the urban growth boundary, and to the Eugene Airport proper.

GOALS, POLICIES, RECOMMENDED ACTIONS

GOALS

- 4.1 Use the wetland mitigation process as an opportunity to achieve multiple community objectives, including wetland resource enhancement, increased flood control capacity, water quality enhancement and the establishment of educational and recreational programs.
- 4.2 Use the wetland mitigation process as an opportunity to reverse the trend of wetland losses and begin a positive trend of wetland gains by restoring and enhancing the historic wetland system of the Amazon Creek watershed.
- 4.3 Achieve compliance with federal and state wetland law, policies and guidelines.

- 4.4 Increase certainty in the development process.
- 4.5 Minimize reductions to the existing industrial and commercial buildable lands inventory as a result of wetland protection.
- 4.6 Provide for the overall wetland mitigation needs for the community of Eugene, including the territory within the urban growth boundary and Eugene Airport.

POLICIES

Mitigation

- 4.1 Mitigation efforts shall help to reestablish a connected system of wetlands, waterways and upland resources.
- 4.2 To insure long-term success, mitigation efforts shall give priority to establishing or reestablishing the basic hydrologic conditions necessary to meet the stated mitigation objectives.
- 4.3 Mitigation efforts shall concentrate on restoring wetland type, habitat, functions and values that represent the historic, ecological landscape of the Amazon Creek basin.
- 4.4 Mitigation efforts shall use local, native plant species.
- 4.5 Mitigation efforts shall be designed and constructed to minimize the level of ongoing maintenance.
- 4.6 Develop, adopt and implement a comprehensive wetland mitigation program.
- 4.7 Mitigation efforts shall occur in the priority areas as depicted on the Wetlands Recommendation Map #3.
- 4.8 Develop a wetland mitigation overlay zone where mitigation is a permitted use, and apply it to areas targeted as future mitigation sites as shown on Map #3.
- 4.9 Establish, develop and maintain a regional wetland mitigation bank that will provide mitigation credit capacity for the West Eugene Wetlands Study Area, the balance of the Eugene urban growth boundary and the Eugene Airport proper.
- 4.10 To be eligible for participation in the mitigation bank, wetland impact requests must be consistent with the goals, policies and provisions of this Plan.
- 4.11 Require all mitigation efforts to participate in a comprehensive monitoring and maintenance program.

- 4.12 Develop a system that provides security against unsuccessful mitigation efforts, such as a bond or other financial guarantee.
- 4.13 Amend applicable City codes, policies and maintenance operation procedures to comply with the provisions of the this Plan and implementation measures.
- 4.14 All mitigation must be completed in advance or concurrent with development.
- 4.15 Unless on-site mitigation would better meet the goals and policies of this Plan, mitigation efforts shall occur according to the provisions of the regional mitigation bank provisions.
- 4.16 Mitigation efforts shall use the following replacement standards:

MITIGATION REPLACEMENT SCHEDULE				
WETLAND TYPE	ACRES IMPACTED	REPLACEMENT RATIOS*		
		ENHANCEMENT		RESTORATION/CREATION
		AG/WL**	OTHER	
Wet Prairie	75	2.0:1	2.5:1	2.0:1
Ash Forest	10	1.5:1	2.0:1	1.5:1
Emergent Marsh/ Open Water Mix	0	1.5:1	2.0:1	1.5:1
Scrub/Shrub	65	1.5:1	2.0:1	1.5:1
Disturbed/Agric.	210	***	***	***

* Replacement ratios may be reduced by .50 acres if mitigation occurs in advance of impact.

** Agricultural Wetlands

*** Disturbed-Agricultural Wetlands represent a variety of historic wetland types. Mitigation replacement of these wetlands will result in the following mix of wetland types:

Wet Prairie	30%	Emergent Marsh/Open Water Mix	23%
Ash Forest	22%	Scrub-Shrub	25%

- 4.17 Either on a regional or case-by-case mitigations basis, develop better information as to existing wildlife habitat values and a mechanism, such as the modified

Habitat Evaluation Program (HEP), to measure future wildlife gains on mitigation sites.

Development

- 4.18 Allow development of wetlands that meet the criteria for wetland development contained in Appendix B of this Plan as illustrated on Map #3.
- 4.19 Adopt the protection and development criteria, contained in Appendix B, as the basis for the classification of the wetland sites shown on WEWSAS Map #3 and, for any new sites, apply these criteria to determine status.
- 4.20 Use the WEWSAS wetland delineation map, the Functions and Values detailed in the WEWSAS Technical Report and those sites recommended for development on Map #3, as the basic inventory for acres, functions and values to be developed and replaced.
- 4.21 Provide flexibility in the provisions of the mitigation program so that conditions unique to certain properties can be resolved at the administrative level provided the proposal meets the basic intent, purpose, and criteria of WEWSAS.
- 4.22 Provide technical wetland assistance to the public.
- 4.23 Unless designated as a mitigation site in this Plan or as part of on-site mitigation requirements, buildable lands that are within the UGB and designated for commercial or industrial use shall not be used for mitigation.
- 4.24 For application with future mitigation efforts, encourage wetland impact sites to be utilized (prior to development) as a source for wetland vegetation and soils.

Administration

- 4.25 Encourage use of regional or local nonprofit agencies to assist in managing and monitoring wetland mitigation and protection efforts.

RECOMMENDED ACTIONS

- 4.1 Adopt mitigation review provisions as follows:

Type I - Administrative review, no public review

- Fully Complies with WEWSAS
- No rare, threatened or endangered plant or animal species
- Utilizes mitigation bank

Type II - Local Public Review

- Does not fully comply with WEWSAS, such as a minor variance to a protection measure standard (i.e., buffer width).
- Involves amendment of wetland boundary where subsequent scientific data clearly refutes the location, size or shape of the original, adopted boundary.

Type III - Local, State, Federal Public Review

- Involves amendment of a wetland site from protection or restoration status to development status.
- Involves amendments to policies and standards of WEWSAS.
- Does not utilize mitigation bank or on-site mitigation option.
- Involves amendment of wetland boundary when there is unresolvable conflict between existing boundary data and subsequent data.
- Involves amendment of wetland boundary map to include a new site.
- Involves development of a site with rare, threatened or endangered plant or animal species.

- 4.2 Develop and adopt a Comprehensive Wetland Mitigation Program to include:
1. Maps #3 and #4, showing where wetland sites may be developed and where mitigation shall occur.
 2. An inventory of resources located in sites identified for development, including wetland site reference number, wetland type, habitat, function, value, and acreage.
 3. Show overall areas where wetlands are to be created, restored and enhanced.
 4. Replacement ratios and mitigation credit showing number of acres to be developed compared with number of acres mitigated.
 5. The location and more detailed concept design (see Map #4) of the wetland mitigation bank site(s).
 6. Options for complying with mitigation requirements:
 - Mitigation bank
 - Individual permit - complies with WEWSAS
 - Individual Permit - does not comply with WEWSAS (Section 404 Permit Process)

7. Permit Process for Mitigation Bank Option

- Preapplication conference
- Application Submittal
- Review Process: Local (Type I)
- Criteria for approval: complies with WEWSAS
- Determination of credit/debit and payback
- Execution of banking agreement
- Issuance of permit

8. Permit Process for Individual Permit

- Preapplication conference
- Application submittal
- Review process:
 - 1) Complies with WEWSAS: local (Type I)
 - 2) Does not comply with WEWSAS: standard section 404 permit process (Type III)
- Criteria for Approval:
 - 1) Local: complies with WEWSAS
 - 2) Federal and State:
 - (a) Complies with Section 401(a) and 404(b)(1) Guidelines, Clean Water Act
 - (b) Complies with Memorandum of Agreement between Environmental Protection Agency and Army Corps of Engineers, February 7, 1990
 - (c) State of Oregon Fill/Removal Law (ORS 196.800-196.990)
 - (d) Ability to redesignate site to a natural resource category
- Construction and security guarantee
- Inspection
- Monitoring
- Adjustments (if any)
- Final inspection
- Certificate of completion
- Submittal requirements:
 - (1) Statement of objectives
 - (2) Statement of compliance with criteria

- (3) Concept site plan
- (4) Specifications:
 - (a) Hydrology
 - (b) Soils analysis
 - (c) Topography and elevations
 - (d) Planting materials and techniques
 - (e) Pesticide, herbicide, or fertilizer applications
 - (f) Source of plants and seeds stock
 - (g) Irrigation
 - (h) Monitoring plan
 - (i) Schedule

10. Mitigation Bank Provisions and Process:

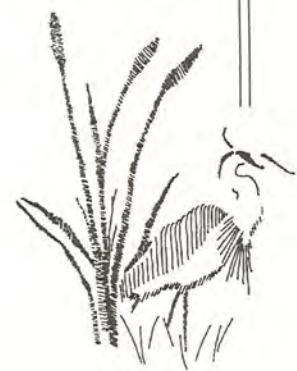
- Identify an entity to establish, develop and maintain the mitigation bank
- Identify suitable sites for bank location
- Select bank sites
- Develop concept design based on expected impact replacement needs and community preferences
- Obtain approval from regulatory and resource agencies
- Determine bank credit and debit accounting procedures
- Establish a formal banking agreement to document and track the obligations and responsibilities of the users bank
- Complete Phase I construction by 1995

11. Monitoring and Maintenance

- Performance Standards
 - (1) Vegetation
 - (2) Hydrology
 - (3) Water quality
- Duration of Monitoring Period
 - (1) Mandatory 10 years
 - (2) Research 20 years
- Adjustments and corrections

12. Incentives for Mitigation Bank

- Type I procedure
 - Financial assistance
- 4.3 Develop wetland mitigation provisions that require a wetland impact permit and mitigation plan to be approved and obtained from the responsible regulatory agencies prior to any activity that may further degrade wetland resources, including drainage modifications, landform alterations, storage of materials, vegetation removal and construction related activities.
- 4.4 Seek funding from the Army Corps of Engineers to work with the Soil Conservation Service to determine the feasibility of restoring the hydrologic regime of the "B" Assessment Area (see SRI Wetland Map in the WEWSAS Technical Report and sites with "B" prefix on Map #3) by modifying the design of the Amazon, A-3 and A Channels to provide for the hydrologic requirements of the various wetland habitats, flood control and water quality enhancement facilities.
- 4.5 Establish a local wetland assistance team to provide technical assistance to the public.
- 4.6 Require a preapplication conference with the wetland assistance team to provide an information exchange concerning the objectives of the applicant and the requirements of the wetland provisions.
- 4.7 Monitor ground water elevations along Amazon Channel, A Channel, Willow Creek, A-3 Channel and match hydrologic requirements of mitigation projects with the findings of the monitoring system.
- 4.8 Develop a permit processing system in which the level of review is matched with the proposed magnitude of wetland impact and degree of consistency with the goals, policies and standards of WEWSAS.



Chapter Five
Operating, Maintaining and Monitoring

OPERATING, MAINTAINING AND MONITORING

INTRODUCTION

This section describes goals, policies, and recommended actions for the operations, maintenance, and monitoring elements of WEWSAS. The establishment and implementation of a program that maintains and monitors the efforts of wetland protection, restoration and mitigation is important to the success of a wetland management plan.

The Plan proposes to create a Comprehensive Monitoring and Maintenance Program (CMMMP) for all wetland areas recommended for protection, and mitigation. The Public Works Department will assume the lead responsibility for implementation and administration of the CMMMP. A key element of the CMMMP is enhancement and utilization of the multiple use aspects of the resource.

While one of the purposes of the program is to insure successful mitigation efforts, the primary purpose is to insure the health and sustainability of the system as a whole. Traditionally, the Public Works Department has maintained the stormwater drainage system in west Eugene to meet flood control objectives using standards established by the U.S. Army Corps of Engineers and the Soil Conservation Service to protect the health and safety of the community. By maintaining the inherent functions and values of a wetlands system many positive benefits can be realized. These include stormwater conveyance and flood control, water quality improvements, increased aesthetic and recreational values, educational and scientific opportunities, and wildlife habitat improvements.

For mitigation efforts, participation in the CMMMP will be mandatory. Maintenance requirements will be addressed during the design and construction phases of mitigation in order to best anticipate the scope and cost of future maintenance activities. The CMMMP will contain provisions that require each mitigation project to develop specific standards by which to measure the progress and success of the project as well as a monitoring schedule, annual progress reports and contingency recommendations. A performance guarantee will be required in the form of a bond or other acceptable method to pay costs for future repairs or corrections.

Monitoring for permit compliance and research purposes will aid in determining how to best meet stated goals and performance standards. Vegetation, hydrology, inundation, wildlife, and water quality are the most common indicators of concern. The CMMMP will be responsive to monitoring data in order to make necessary adjustments in the field.

Routine maintenance of wetland sites will include vegetation management such as selective plant removal and replacement, dredging, water level manipulation, erosion control, debris and litter removal, and annual inspections to ensure that sites are

operating as intended. Non-routine maintenance tasks will include structural repairs and replacement of parts, and sediment removal. Individual sites will be maintained and monitored in accordance with established performance standards.

Finally, the development and implementation of a CMMP is an opportunity to revise the traditional stormwater operations and maintenance practices of the Public Works Department. The incorporation of watershed management principles will advance multiple use objectives while successfully maintaining the resource.

GOALS, POLICIES, RECOMMENDED ACTIONS

GOALS

- 5.1 Conserve and enhance wetland functions and values through operations, maintenance and monitoring practices.
- 5.2 Ensure the long-term health and survival of protected wetlands in west Eugene by incorporating watershed management principles in operations and maintenance practices.
- 5.3 Demonstrate responsible wetland stewardship by increasing the City's knowledge and understanding of wetland ecology and management and apply that knowledge to operations, maintenance and monitoring practices.

POLICIES

- 5.1 Accomplish multiple objectives through a stormwater management program designed to provide for storm and flood water conveyance, flood storage, water quality improvement, passive recreation, education, and wildlife habitat and biological support in an effective and cohesive way.
- 5.2 Ensure compliance with the WEWSAS goals and policies through an operations, maintenance and monitoring program that is responsive to the needs of an evolving ecological system.
- 5.3 Advance the success of wetland mitigation projects through a comprehensive long range monitoring effort and use the results in on-going operations and maintenance.
- 5.4 Develop performance standards corresponding to the stated mitigation goals of WEWSAS and utilize those standards in designing and evaluating an operations and maintenance program.

RECOMMENDED ACTIONS

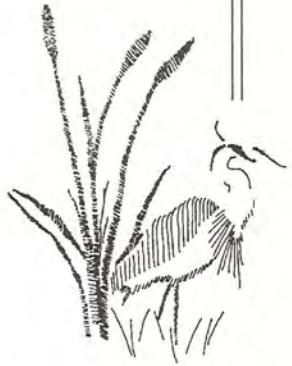
- 5.1 Review all public works projects for opportunities to create, restore, and enhance wetland functions and values.
- 5.2 Establish a native wetland plant nursery and seed bank that relate to the biologic habitats of the area. Encourage the recovery of wetland plants within the study area for replanting in nurseries and mitigation projects prior to any construction or maintenance activity.
- 5.3 Produce an annual report documenting activity in the study area, e.g., mitigation sites, constructed water quality features, and buffer areas. The report may include:
 - a record of fill and removal activity
 - a description of enhancement, restoration, and mitigation projects
 - mitigation bank activity
 - maintenance and operations activities
 - monitoring data including photographic sampling: ground level (annually) and aerials (every three to five years)
 - evaluation of mitigation success in relation to performance standards
 - summary of any new technical information or regulatory changes relevant to the study area
 - assessments of annual and cumulative impacts and accomplishments
 - status of planning and construction of public projects
 - building permit activity
 - individual permit compliance
 - acquisition progress
 - financial summary

Present the above annual report to the Eugene Planning Commission and City Council, the WEWSAS Technical Advisory Committee, and the general public.

- 5.4 Review the channel maintenance program to determine which alternative technologies are appropriate in order to:
 - minimize impacts to wildlife
 - reduce bank erosion and sedimentation
 - utilize the pollutant removal benefits of channel vegetation

- 5.5 Restore more natural stream conditions where possible such as:
- establishment of a 'low flow' meander in the channel bottom
 - widening of channel width
 - terraced banks
 - re-sloping of steep channel banks
 - replanting of channel banks with native vegetation
 - creation of wetland 'bench' areas contiguous with the low flow channel
- 5.6 Utilize existing natural ditch systems instead of stormwater pipes, where practical, for the conveyance of stormwater, and in the design of new developments.
- 5.7 Seek support from non-profit organizations and private volunteers for selected maintenance and monitoring activities.
- 5.8 Create a public education program to inform the community of stormwater permit requirements, the opportunities that exist to achieve multiple use benefits, and how citizens can participate.
- 5.9 Develop pilot projects for the establishment of maintenance strategies to help determine methods compatible with multiple use objectives. Pursue grant monies to create these projects.
- 5.10 Evaluate implementation strategies to establish the best mix of organizational resources to manage the multiple use aspects of WEWSAS.
- 5.11 Establish a long term monitoring program designed to evaluate the success of wetland mitigation in relation to established performance standards. The program will apply to newly created, restored, and enhanced wetlands, as well as water quality sites and buffer areas. All sites will be monitored for a minimum period of five years, or longer if required for compliance purposes.
- collect data on pre-existing wetlands for comparative purposes
 - evaluate the success of wetland mitigation in relation to established performance standards
- Sampling may include:
- seasonal wildlife evaluation
 - annual quantitative monitoring of vegetation establishment, survival and coverage
 - hydrological measurement and observation
 - water quality analysis
 - overview and photographic sampling

Comment: The regulatory standard for monitoring requirements is currently five years. The above recommended action is consistent with this standard though it does not preclude a longer monitoring period requirement on a case-by-case basis in the study area.



*Chapter Six.
Financing*

FINANCING

INTRODUCTION

A vital and unique aspect of WEWSAS is its proposal for a financing program designed to pay for the protection, restoration and maintenance of the wetland system in the Amazon Creek basin. The financing program is a cornerstone for the wetland program, simply because the Plan's goals cannot be fully realized without sufficient funding. The total cost for the proposed wetland acquisition, mitigation, restoration, enhancement and maintenance is estimated to be \$16.7 million over ten years (1993 - 2003). The WEWSAS Technical Report explores a variety of funding sources and organizational structures, and concludes that a few of these approaches are most promising. The Plan's financing effort relies primarily upon (1) securing state and federal funds, (2) instituting a local, city-wide stormwater utility fee, (3) sale of "credits" in the regional wetland mitigation bank, and (4) private contributions through or to non-profit organizations or foundations. Other financing mechanisms given strong consideration include a local bond measure and designating a portion of the stormwater systems development charge to finance flood control, water quality and stormwater management portions of the wetland program.

Acquisition for Protection, Mitigation, Restoration and Enhancement

The outright purchase of wetlands by the public has been demonstrated to be the most effective method to insure resource protection. The Plan proposes a priority schedule for the acquisition of all wetlands designated for protection. As proposed, a total of 1,070 wetland acres within the primary study area will be acquired over a six year period, at an estimated price of \$ 1.1 million.

The Plan proposes to provide choice and flexibility in the methods used to meet mitigation obligations, including participation in a regional mitigation bank and through conventional individual permit efforts. Because the mitigation bank method provides greater potential for success and meets other City objectives, such as flood control and water quality enhancement, financial incentives are proposed to encourage participation in the bank system. While other options are possible, the Plan recommends the bank be publicly owned and managed by a private-nonprofit or public organization. The Plan proposes a priority acquisition schedule for lands within the Bank area and for areas located outside of the bank where mitigation credit is given for corridor linkages.

A variety of funding sources may be used to accomplish acquisition, such as federal and state programs, bond measure, private donations and systems development charges. A bond measure may be instrumental if matching funds are required to secure federal land acquisition program dollars.

Construction for Mitigation, Restoration and Enhancement

In addition to land acquisition, costs will be incurred for the enhancement, restoration and construction of these lands. In conjunction with the priority schedule for acquisition, construction will occur accordingly. Total construction cost is estimated to be \$ 11.9 million. Possible funding sources for these costs include mitigation requirements for obtaining a wetland impact permit, federal and state demonstration projects, private donations, system development charges, public grants and stormwater user fees.

Operating, Maintaining, and Monitoring

WEWSAS proposes a comprehensive program to monitor and maintain the areas proposed for protection, mitigation, enhancement and restoration. The City Public Works Department is proposed to have lead responsibility for these functions. The level of service will graduate as the amount of area comes into the program. It is estimated that at full service level, the annual cost will be \$ 250,000. Financing the annual budget is proposed to be provided through a stormwater user fee which will be charged to all households and businesses within the city limits.

GOALS, POLICIES, RECOMMENDED ACTIONS

GOALS

- 6.1 Establish a stable funding program for achieving long-term and short-term goals for wetland protection, mitigation, maintenance, flood control, water quality restoration, and educational programs.

POLICIES

General

- 6.1 Protect and restore wetlands in advance of development needs and reduce long-term costs and delays by designating an agency responsible for land acquisition.
- 6.2 Set wetland funding priorities in accordance with this Plan.
- 6.3 To maximize use of public funds, coordinate the planning and budgeting needs of various departments with the financial needs of WEWSAS so that opportunities to combine resources and achieve similar objectives are realized.
- 6.4 Minimize total costs to the community for wetlands protection, flood control, and water quality purification.
- 6.5 Use a variety of funding sources to finance the land acquisition, construction, maintenance and monitoring programs.

- 6.6 The City shall work with non-profit organizations and interested educational institutions to develop coordinated research programs related to the west Eugene wetlands. Efforts at securing funds for priority research projects shall be part of a cooperative effort.
- 6.7 Outside the regional wetland mitigation bank program, private owners shall pay the full cost of land acquisition, wetlands construction, and required wetlands monitoring and improvement.

Acquisition

- 6.8 The City shall seek federal and state funds for land acquisition.
- 6.9 The City's land acquisition program shall be coordinated with one or more nonprofit organizations to provide financial advantages and incentives for property owners willing to participate in this program.

Construction

- 6.10 The City shall seek federal and state funds and establish a stormwater user fee for constructing public works projects, wetlands demonstration projects, and other improvements outlined in this Plan.
- 6.11 When the City assumes permitting responsibility for the regional wetland system, a fee should be charged to private participants in the wetland bank. That fee would be used to contribute to the land acquisition and construction program.
- 6.12 The City should use a portion of its stormwater systems development charge to finance construction of stormwater projects which are part of the west Eugene wetlands system.

- 6.13 The City Public Works Department shall have responsibility for managing the design and construction function of Comprehensive Monitoring and Maintenance Program (CMMP).

Operations

- 6.14 The City Public Works Department should have responsibility for managing flood control, water quality, wetland operations and maintenance functions.
- 6.15 Establish a stormwater user fee to fund the flood control, water quality and wetlands operations and maintenance functions.
- 6.16 In conjunction with its community education program, the City should coordinate volunteer efforts, to help in reducing operating costs.

RECOMMENDED ACTIONS

- 6.1 The City and Lane County should coordinate use of possible funding options that provide benefit for the region-wide mitigation program.
- 6.2 The City and Lane County should consider dedication of city and county owned lands in the study area region for the protection, restoration, and mitigation program.
- 6.3 The City should investigate formation of a land trust or trust fund to promote private contributions in the wetlands funding program or should combine its local funding efforts with established non-profit group's existing programs, with particular attention to Willow Creek and the Amazon Creek basin.
- 6.4 To facilitate compliance with wetland mitigation requirements and federal water quality standards, the City should encourage local business to participate in creating a matching fund for demonstration projects and funding acquisition and construction.
- 6.5 The City should seek private foundation support for implementing the model aspects of its wetlands program.
- 6.6 The City should consider conducting a public opinion survey regarding public support for a combined "joint parks, natural resources, and wetlands" bond measure. If the results are positive, the City should consider a revenue bond (backed by a stormwater user fee) to fund the local share of acquisition and construction projects.
- 6.7 The City should use local improvement districts for assessing public improvements outside the mitigation bank where owners directly benefit from a public works project in this Plan.
- 6.8 The City should consider creating an annual natural resources/wetlands stamp to raise funds. A children's art contest, a poster contest, and other means could be issued to generate interest in the city's natural resources program and could generate revenues.

PUBLIC FACILITY, RECREATION AND WETLANDS IMPROVEMENT PROJECTS

The following is a list of recommended wetland sites to be acquired and public improvement projects designed to implement the multiple objectives of this Plan. The projects are numbered 1 through 27 and organized by topic. Where known, priority for acquisition and construction is indicated. To find the location of each project, refer to Map #5 (Land Acquisition Priorities) and Map #6 (Future Public Facility Projects).

- A. **Land Acquisition** - A total of 3500 acres are to be acquired in four priority phases over a 10 to 20 year period. Of these, 1300 acres are within the Primary Study Boundary.

1. Priority One:

a.	Primary Study Boundary	=	900 acres
b.	Secondary Study Boundary	=	600 acres
	TOTAL	=	1500 acres

At an estimated cost of \$1,000 per acre, these 1500 acres are recommended for acquisition during the first, three year period following adoption of the Plan. These areas represent both high value wetland sites and the adjoining areas along the Amazon Channel and Willow Creek that are essential in providing a continuous wetland corridor to Fern Ridge Reservoir. These areas are represented by the color orange on Map #5.

2. Priority Two:

a.	Primary Study Boundary	=	150 acres
b.	Secondary Study Boundary	=	300 acres
	TOTAL	=	450 acres

At an estimated cost of \$1,000 per acre, these 450 acres are recommended for acquisition during the second, three year period following adoption of the Plan. These areas represent both moderate value wetlands located on the western fringe of the study area and non-wetland areas that provide important linkages along the A-3 and A Channels. These areas are represented by the color red on Map # 5.

3. Priority Three:

a.	Primary Study Boundary	=	250 acres
b.	Secondary Study Boundary	=	400 acres
	TOTAL	=	650 acres

At an estimated cost of \$1,000 per acre, these 650 acres are recommended for acquisition during years seven through ten following adoption of the plan. These

are the remaining fringe areas within the Amazon Creek drainage basin. These areas are represented by the color blue on Map #5.

4. Priority Four:

a.	Primary Study Boundary	=	0 acres
b.	Secondary Study Boundary	=	900 acres
	TOTAL	=	900 acres

At an estimated cost of \$1,000 per acre, these 1000 acres are recommended as the final area for acquisition. This area is located in the Coyote Creek drainage basin and would provide expanded habitat and enhancement to the south Fern Ridge Reservoir area. These areas are represented by the color green on Map #5.

B. Wetland Mitigation Restoration and Public Observation Points

The Plan recommends a variety of wetland types and habitat be restored and created, such as shallow ponds, marshes, wet prairie grassland, riparian and forested wetlands. The estimates include design, engineering, construction and original planting costs. They also includes low impact recreation costs such as nature trails, information bulletin boards, and observation structures. They don't include monitoring, maintenance or operational costs, such as replanting, constructing the ridgeline trail or bicycle paths.

Wetland Restoration

Priority One, Years 1 - 3: 300 Acres @ \$10,800/ac = \$ 3.3 M

Priority Two, Years 4 - 6: 300 Acres @ \$13,632/ac = \$ 4.1 M

Priority Three, Years 7 - 10: 267 Acres @ \$17,006/ac = \$ 4.5 M

Public Observation Points: **NOTE: Cost information not available

Priority One, Years 1 - 3:

Stewart Pond

Danebo Pond

A-3, A, Amazon Channels

BLM Site

Willow Creek

A and Amazon Channels at Royal Avenue

Priority Two, Years 4 - 6:

West End Royal Avenue

Lower Amazon Channel

Priority Three, Years 7 - 10:

Neilsen Road

C. Channel Improvements

Priority One, Years 1 - 3:

Amazon Widening: SPRR - Bertelsen 125' to 50', 9600 lineal feet.

Amazon Widening: UGB - SPRR, 50', 7800 lineal feet.

Priority Two, Years 4 - 6:

Amazon Widening: Seneca Road Vicinity: 50' to 35', 4200 lineal feet.

A-3 Channel Bank Alterations: A Channel to Danebo Pond, 5400 lineal feet.

A-3 Channel Bank Alterations: SPRR - Bertelsen Road, 3800 lineal feet.

Amazon Bank Improvements: Seneca Road - Bertelsen Road, 6200 lineal feet.

Priority Three, Years 7 - 10:

A Channel Bank Improvements: A-3 Channel to Clear Lake Road, 19,200 feet.

D. Flood Detention Impoundments

Priority One, Years 1 - 3:

Upper Willow Creek Detention Basin, located south of Gimpl Hill Road near its intersection with Bailey Hill Road, OTAK Master Storm Plan, \$2.2 Million

Detention Basin #3, located west of the intersection of the amazon Channel and Southern Pacific Railroad tracks, OTAK Master Storm Plan, \$700,000

Detention Basin #8, located on a vacant parcel at the Lane County Fairgrounds, OTAK Master Storm Plan, \$425,000

Priority Two, Years 4 - 6: None

Priority Three, Years 7 - 10: None

E. Water Quality

Priority One, Years 1 - 3:

Detention Basin #3, located west of the intersection of the Amazon Channel and Southern Pacific Railroad tracks, OTAK Master Storm Plan. The Plan, through EPA Grant, suggests engineering design be prepared for this facility.

Priority Two, Years 4 - 6: None

Priority Three, Years 7 - 10: None

F. Projects for Future Study

These projects are suggested in the Plan or are recommended for further study. They are not included in the West Eugene Wetlands Plan's cost estimates.

Upper Amazon Water Features. The Plan suggests improvements be made at these locations to provide additional flood capacity storage in the Upper Amazon Basin:

Amazon Park
Amazon Drive
Lane County Fairgrounds
Westmoreland Park/Patterson School Vicinity
Concrete-lined Channel

Interpretive Center. The Plan suggests, through an EPA grant, a feasibility study for this facility be conducted. There are no cost estimates available for such a center.

Bike Paths. These paths are outlined in TransPlan, the Eugene Bicycle Master Plan, and the U.S. Army Corps of Engineers Fern Ridge Lake Master Plan:

Amazon Bicycle Path - Seneca to Fir Butte Road
Fern Ridge Bicycle Path - Fir Butte Road to Orchard Point
A-3 Bicycle Path - Seneca to A Channel

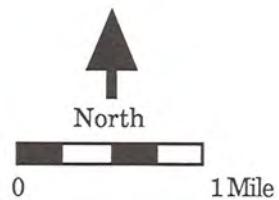
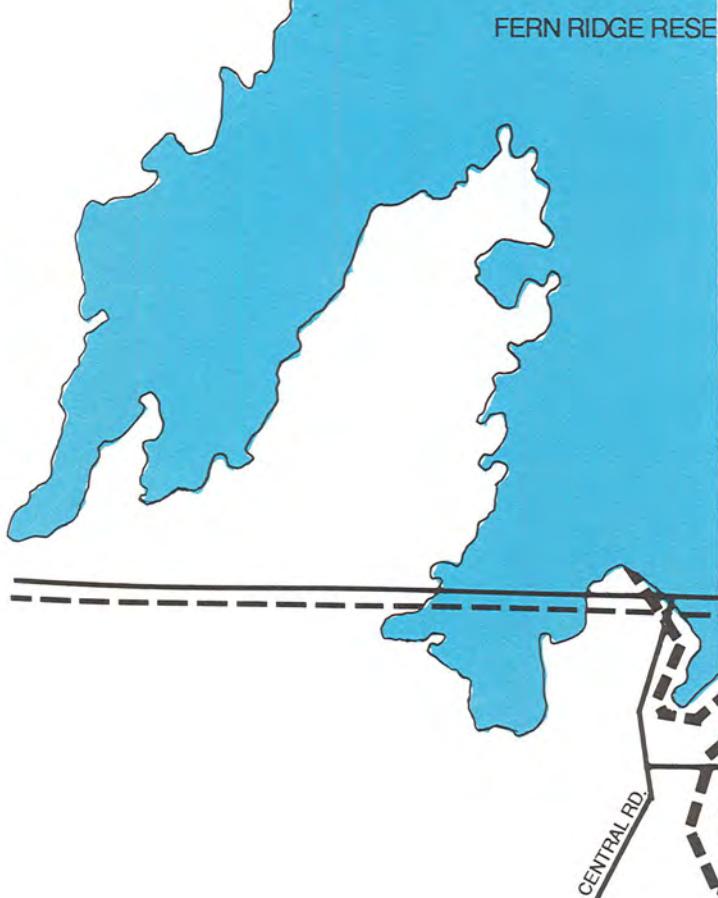
Emerald Canal. This project is being promoted by the Emerald Waterways Citizen Committee. The Plan suggests that this separate project be monitored for its relationship to west Eugene wetlands.

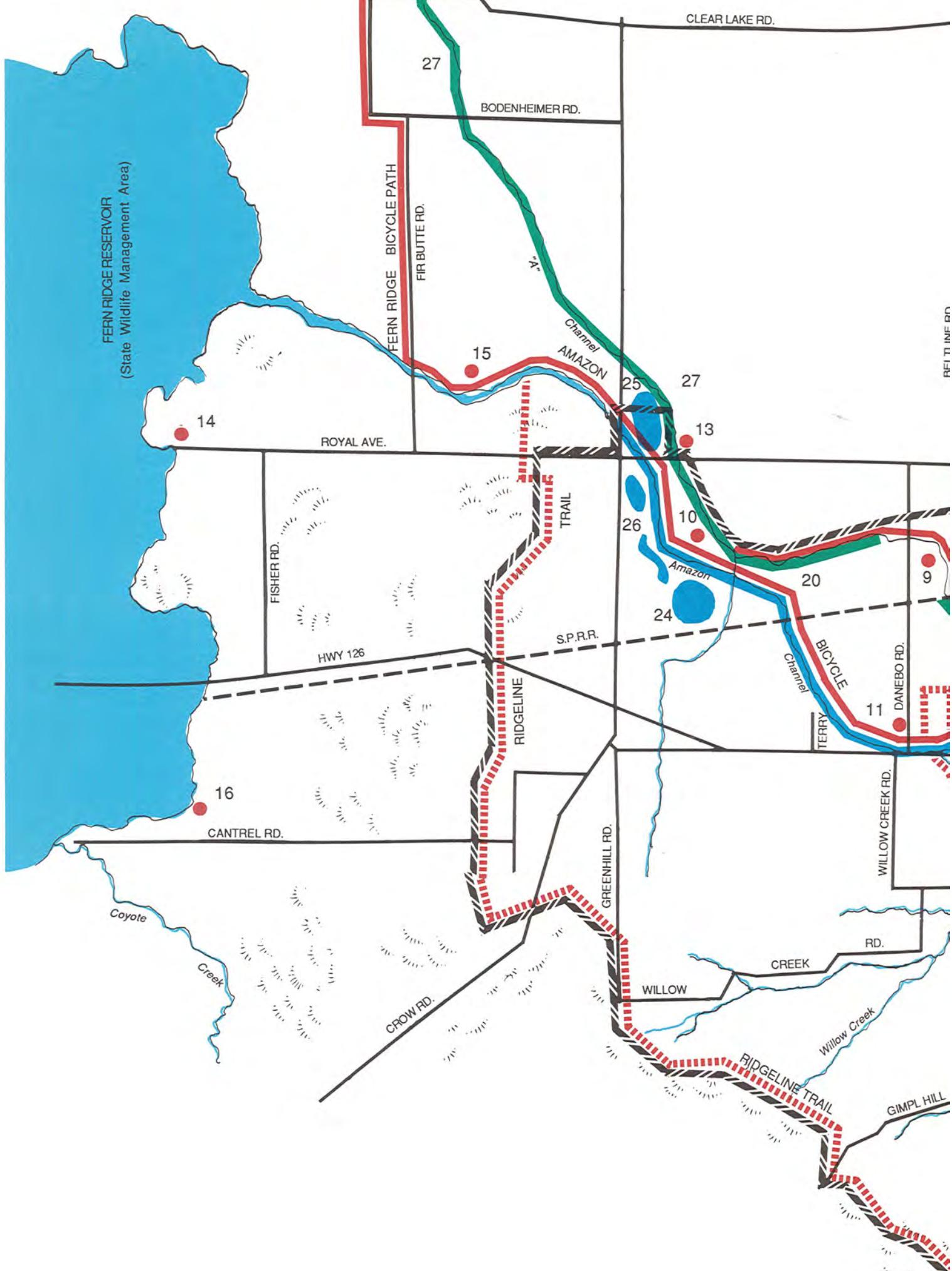
Ridgeline Trail. This project is included in several existing City of Eugene plans: The South Hills Study, Parks and Recreation Master Plan, and the Willow Creek Special Area Study.

Map 5
Land Acquisition
Priorities

- 1st Priority 1-3 Years
- 2nd Priority 4-6 Years
- 3rd Priority 7-10 Years
- 4th Priority Beyond 10 Years
- Primary Study Area
- Western Study Area

West Eugene Wetland Special Area Study, 1991







*Chapter Seven
Future Studies*

FUTURE STUDIES

While much information about the west Eugene wetlands has been developed, it is recognized that additional study and research is warranted. This chapter recommends completion of some of those studies which are underway in early 1991 and recommends undertaking other future studies.

As conditions change and as the Plan matures, adjustments will be needed. The impacts of other studies on the area and the impacts of this Plan on other studies may have implications which require future actions. This chapter proposes a method for monitoring some of those activities which may require amendment or update of this Plan.

While many measures are in place, some additional measures are needed to implement the Plan's goals and policies. This chapter summarizes those needed actions.

GOALS, POLICIES, RECOMMENDED ACTIONS

GOALS

- 7.1 Keep the Plan current with changing natural and human conditions and community attitudes by conducting on-going studies.
- 7.2 Make other community plans, regulations, policies and operating procedures consistent with the West Eugene Wetlands Plan.
- 7.3 Implement the recommended goals, policies and actions of the West Eugene Wetlands Plan.

POLICIES

- 7.1 Conduct further studies to:
 - Improve wetland system management for multiple uses
 - Determine techniques for managing the system in an efficient and beneficial manner
 - Compensate for changes caused by the West Eugene Wetlands Plan
- 7.2 Conduct the water quality and wetlands studies outlined in the 1990 EPA grant to the Lane Council of Governments:
 - Analyze habitat and hydrology
 - Evaluate identified potential restoration and mitigation sites
 - Review detailed restoration and mitigation design and construction plans

- Design wetlands created to treat stormwater pollution
 - Study the feasibility of a wetlands interpretive center in west Eugene for possible use as:
 - visitor center
 - educational center
 - office for a non-profit organization
 - offices for university & graduate student wetland research
 - wetland library
 - meeting room and auditorium
- 7.3 Conduct studies and expand the west Eugene inventories to the broader study area and other sections of the City:
- Delineations and functions and values analysis outside the urban growth boundary
 - Inventory and evaluate wetlands and hydric soil areas throughout the greater Eugene urban region with top priority areas being the Highway 99 and Eugene Airport regions and the north Willakenzie neighborhood
 - Apply the wildlife habitat rating methodology to selected number of agriculturally disturbed wetlands, including WEWSAS, Highway 99, and Willakenzie areas
 - Expand the historic wetlands inventory methodology to the broader study area
- 7.4 The City shall promote and encourage scientific research of benefit to the west Eugene wetlands system.
- 7.5 The City shall consider up-stream improvements and studies that would benefit water quality and quantity in the Amazon drainage system.
- 7.6 The City shall continue to work with the Oregon Division of State Lands, the U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency toward obtaining a regional wetland permit to be administered by the City.
- 7.7 The City, in cooperation with one or more non-profit organizations, shall develop and maintain a computerized wetlands data base linked to the regional geographic data system. The data base should cover the broader wetlands study area. The data base should include information on: wetland boundaries, soils, plants, animals, hydrology, topography, permit activities, and land use. Establishing compatibility among local, state, and federal data bases should be explored.
- 7.8 The City of Eugene shall monitor changes to laws, regulations, definitions, and inventories and shall assess implications for the West Eugene Wetlands Plan.

- 7.9 The Plan shall be amended periodically to adjust to changing conditions.
- 7.10 The Plan shall be updated every seven to ten years.
- 7.11 The City shall prepare a map showing acceptable and prohibited fill disposal sites in the WEWSAS area.

RECOMMENDED ACTIONS

- 7.1 The City should consider developing local regulations controlling fill and drainage activities in wetland areas of the City.
- 7.2 The City of Eugene should participate in the study of water diversion (via pipe or canal) from the Willamette River and Eugene Millrace to the Amazon to benefit water quality, aquatic habitat, wetlands hydrology and enhancement, flood control and recreation.
- 7.3 The City of Eugene should consider Amazon channel improvements that would restore more natural stream conditions in or near Amazon Park, Westmoreland Park/Patterson School, and the Lane County Fairgrounds.
- 7.4 The City of Eugene, in cooperation with the U.S. Soil Conservation Service and the U.S. Army Corps of Engineers, should study the feasibility of water control structures on the concrete-lined section of the Amazon between Jefferson Street and East 19th Avenue to improve water quality and quantity.
- 7.5 The City of Eugene should consider applying for water rights and/or claims to instream flow in the Willow Creek, Amazon, and Coyote Creek basins for wetlands and water quality purposes.
- 7.6 The City of Eugene should consider regulations to require on-site stormwater detention, and other pre-treatment of storm run-off prior to discharge into storm systems or any wetland or wetland receiving stream in west Eugene in conjunction with the city-wide stormwater quality study.
- 7.7 The City of Eugene should consider stronger regulations in west Eugene to control erosion and sedimentation resulting from construction activities, and to require re-vegetation and rehabilitation of disturbed areas following construction.
- 7.8 This Plan should be scheduled for update every five years and no later than the planning cycle required by the City of Eugene's Land Conservation and Development Commission Periodic Review schedule and DSL's requirements for comprehensive wetland plans.

- 7.9 The City of Eugene should address the effects of new information and changing conditions on the Plan and the wetlands system in the annual report.
- 7.10 The City should apply the stormwater planning policy of the Metropolitan Natural Resources Special Study (policy #6) to the west Eugene study area.



Appendix A

NATURAL RESOURCES SPECIAL STUDY

The following are natural resource protection measures developed through the Eugene-Springfield Metropolitan Plan, Goal 5 Natural Resources Special Study. These protection measures include policies, zone districts and ordinance provisions.

- (NR Study Policy #1. Natural Resource Zone).

Purpose. The sole purpose of this new zoning district would be to permanently protect locally outstanding natural resource sites. Sites to which this recommendation is applied are characterized by one or more of the following: relatively pristine condition, presence of rare plants, or the presence of permanent water features and a wildlife habitat rating of 65 points or greater.

For specified riparian and wetland sites, a natural resource zoning district ordinance shall be established to prohibit development, fill, draining, channelizing, grading, removal of soil or vegetation, or other alteration of the site. No conflicting uses shall be permitted within these sites. Passive recreation, removal of litter and fill, replanting with native plants, and environmentally sensitive removal of invasive, non-native species are not considered conflicting uses.

- (NR Study Policy #2. Waterside Protection and Development Ordinance).

Purpose. The purpose of this ordinance is to control development in and adjacent to specified streams, channels, ponds and wetland areas. The ordinance would allow some activity in and alteration of the sites, and thus is less restrictive than the Natural Resource Zone (#5, below). The ordinance would include two categories, each with a different level of development or alteration allowed.

The more restrictive category is called "waterside protection" and is applied to areas where protecting water quality and existing wildlife habitat values are the primary goals. Buildings and other substantial development would not be allowed within or immediately adjacent to these water features. However, a number of activities would be allowed in these areas including channel maintenance, and construction of public utilities, required access roads and trails. These activities would not be allowed under the Natural Resource Zone designation.

Most of the sites that received this recommendation are drainage channels that are designated in a city drainage master plan, are within the floodplain and are designated wetlands on the National Wetland Inventory. Other sites received this recommendation based upon public ownership of the site, a recommendation for protection in an adopted plan, a relatively high wildlife habitat rating or lack of a proper building site due to a water feature with steep banks.

The less restrictive category is called "waterside development" and is intended to allow and even stimulate development of sensitive, creative buildings or other structures within or immediately adjacent to water features. Development in these areas would be subject to design standards which would require development values to be balanced with protection of water quality, wildlife habitat and natural aesthetics. If a portion of a water feature is lost to the development, the ordinance would require the natural character, functions and values of the remainder of the water feature to be enhanced.

Most of the sites receiving the waterside development recommendation are characterized by NWI wetland designation, building sites adjacent to the resource, and high potential for enhancement of the resource. Some of these sites are distinguished by approved development plans, recreational developments that are already underway or policies in adopted plans which call for recreational development.

2a. Waterside Protection

Waterside protection provisions shall be established for specified portions of river, channel, stream, or pond-side riparian areas, wetlands and upland headwaters. Passive recreation, removal of litter and fill, replanting with native plants, and environmentally sensitive removal of invasive, non-native species are not considered conflicting uses. The Waterside Protection provisions shall specify setbacks and allowed conflicting uses within the setback as follows:

- (1) The following buffer widths shall be applied:
 - (a) 75 feet from the line of ordinary high water along Class A streams and ponds (perennial and within the floodway)
 - (b) 50 feet from the line of ordinary high water along Class B streams and ponds (perennial and not within the floodway)
 - (c) 25 feet from the centerline of Class C streams (seasonal or intermittent)
 - (d) 25 feet from the line of ordinary high water of Class C ponds (seasonal or intermittent)
- (2) Conflicting uses within the water feature itself, the waterside buffer area and within any riparian and wetland areas that are contiguous to the specified water feature shall be limited to:
 - (a) Channel maintenance activities as required by law or as necessary to protect the health and safety of property.
 - (b) Restoration and re-vegetation of pond and channel banks, including rehabilitation (including bank grading or terracing)

- and replanting of bare, eroded or sparsely vegetated banks with native plants.
- (c) Realignment of channels to introduce channel meanders and widening of channels to maintain flow capacity with increased vegetation and meandering alignment.
 - (d) Re-configuration of pond banks to enhance wildlife habitat, natural vegetation, scenic and educational value of the pond.
 - (e) Planned public improvements, subject to Waterside Development Ordinance design standards, only after an analysis of impacts on natural resource values has been conducted as follows:

Address the need for the improvement to be located within the setback area, and consider the following options, which are given in priority order: 1) avoid building within the setback area, 2) minimize impact on natural resources within the setback and compensate for any natural values lost by enhancing adjacent or nearby wildlife habitat or natural areas.

- (3) Any bank grading, terracing, or realignment or reconfiguration of channel or pond banks shall be followed with replanting of appropriate native riparian plants, and shall be conducted in such a way as to minimize adverse impacts to water quality and wildlife.

2b. Waterside Development

For specified riparian areas and wetlands, site design standards and best management practices (BMP's) shall be applied to all development and construction projects to protect natural resource values. The standards shall require development values to be balanced with protection of water quality, wildlife habitat, and natural aesthetics. The ordinance would allow development in accordance with the underlying zoning district only if development would maintain or enhance water quality, wildlife habitat, native vegetation, and recreational and educational opportunities within remaining open space areas.

If the area of the natural resource site is reduced, the ordinance would require that water quality, wildlife habitat, native vegetation, and scenic and educational opportunities for the remainder of the site be enhanced. Standards should ensure that new development integrates the natural resource feature(s) into the development in a way that enhances both the resource and the development.

In some cases, the types of structures or developments are limited beyond the limitations of the underlying zoning district. These limits are applied

to sites with high wildlife habitat value and high potential for recreational use, and are described in the individual site recommendations.

Conflicting uses shall be limited to the following (in addition to other specified allowed conflicting uses):

- (1) Development in accordance with the underlying zoning district, subject to standards described above.

- (NR Study Policy #3. Upland Development Design).

Purpose. The intent of this policy is to allow residential development of forested upland areas, while protecting environmentally sensitive and visually important areas such as stream corridors, ridgelines and steep slopes. The sites designated for upland development design are primarily upland areas that were included in the metropolitan buildable lands inventory, are designated for urban development in the Metropolitan Area General Plan, and which do not have permanent or seasonal water features.

For specified upland sites, comprehensive site design standards shall be implemented through local planned unit or cluster development processes to protect natural resource values. Setbacks shall be established to restrict development on and adjacent to specified ridgeline areas. Tree-cutting within the ridgeline set-back area shall be prohibited. Tree removal in upland development areas will be allowed only on a very limited and selective basis, enforced through local tree cutting ordinances. Identified upland stream corridors shall be protected as specified in the waterside protection provisions, Section 2a, above.

Upland site design standards shall allow development in accordance with the underlying zoning district where development would maintain or enhance water quality, wildlife habitat, native vegetation, scenic and recreation values in required open spaces, and specified ridgeline and stream corridors.

In non-stream corridor or ridgeline upland areas conflicting uses shall be limited to the following:

- (1) Residential development through planned unit development or cluster development processes, and construction of necessary related public facilities.
- (2) Tree removal with an approved development plan only for the following purposes: construction of planned streets, installation of necessary public utilities, within planned building footprints, for required solar access, and to protect public health and safety where trees pose an imminent danger.

- (3) Tree removal without an approved development plan only on a very limited and selective basis, ensuring the protection and maintenance of water quality, wildlife habitat, scenic value, and ensuring the potential of the site for future development.

Conflicting uses within specified ridgeline setbacks shall be limited to the following:

- (1) Construction of low impact foot paths and trail signs
- (2) Construction of low impact fire protection and utility maintenance access roads
- (3) Passive recreation (e.g., hiking, wildlife viewing, photography)

• (NR Study Policy #4. Public Access).

Purpose. This policy is intended to identify those natural resource sites which are appropriate for public access, and to specify the level of recreational activity appropriate for those sites. On those sites that are not recommended for public access, public access would not be allowed unless the site is recommended for (2b) Waterside Development. In these cases, access would be allowed in accordance with the underlying zoning district. In some cases Waterside Development sites are specified for low impact access to limit human impact on the resource site.

Most of the sites recommended for public access are undeveloped areas, some of which already have informal access. Larger sites and less environmentally sensitive sites are generally recommended for active access, while smaller, sensitive sites are recommended for low impact access. In some cases the access recommendation is due to an existing plan, policy or approved development.

Within or along specifically identified waterways, riparian areas, wetlands and uplands corridors, two levels of public access shall be planned and conflicting uses shall be allowed (in addition to other specified allowed uses) within the buffer areas as follows:

4a. Low Impact Recreation Access

- (1) Maintenance of existing trails and other facilities
- (2) Construction of minimum impact trails, footpaths, trail signs, and viewing blinds or platforms where appropriate
- (3) Passive recreation and education (e.g., hiking, wildlife viewing, canoeing, fishing)
- (4) Construction of foot bridges or elevated boardwalks (where appropriate), designed to minimize impact on natural resource values.

4b. Active Recreation Access

- (1) All uses listed under 3.A. above
- (2) Construction of bike paths, informational kiosks, observation areas
- (3) Construction of bicycle bridges, jogging trails and picnic areas
- (4) active recreation (e.g., running, bicycling, etc.)

• (NR Study Policy #5. Clean-up, Restoration and Education).

Purpose. This policy is intended to facilitate and encourage sensitive stewardship of our remaining natural resources within the urban area. It is a "pro-active" approach, emphasizing a community effort to enhance and restore the water quality, wildlife habitat value and natural aesthetics of natural resource sites. The actions described below would require capital and human resources, and could be accomplished through a partnership of public, private and non-profit agencies and businesses. This recommendation is applied to all urban natural resource sites with water features.

Within and adjacent to specified riparian, waterway and wetland areas, programs shall be developed to:

- (1) Remove garbage, litter, fill, and other obstructions (e.g., fences)
- (2) Remove invasive, non-native plants (e.g., Himalayan blackberry, Scotch broom, English ivy)
- (3) Restore and re-vegetate pond, channel and stream banks with native riparian plants
- (4) Educate adjacent owners, residents, and proprietors about natural resource stewardship

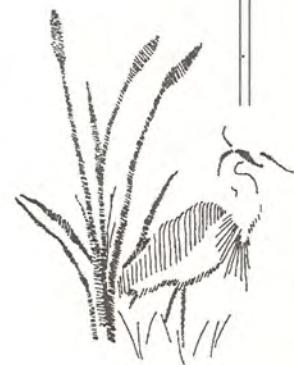
• (NR Study Policy #6. Stormwater Planning).

Purpose. This policy is intended to promote new approaches to stormwater systems that balance the traditional parameters of cost and efficiency with water quality, wildlife habitat value, educational value, and aesthetic value for each specified site. This policy applies to all drainage channels and waterways identified in a city drainage master plan.

For specified natural resource sites which are part of the metropolitan area stormwater drainage system, local governments shall consider the following recommendations:

- (1) Abandon current plans for piping streams or drainageways identified in this inventory in favor of maintaining open, natural channels

- (2) Restore streams to natural conditions (e.g., gently sloped banks, natural riparian vegetation, meandering alignment) through channel improvements such as widening, grading and replanting.
- (3) Acquire easements or additional rights-of-way to allow for expansion of channel widths.
- (4) Widen channels to maintain adequate flow capacity with increased natural vegetation (this approach would be accompanied by changes in channel maintenance practices, such as selective removal or no removal of vegetation within drainage channels).
- (5) Rehabilitate (including bank grading or terracing) and replant bare or sparsely vegetated areas.
- (6) Design new road crossings and reconstruct selected existing road crossings to improve water flow, wildlife habitat, and natural stream qualities (e.g., using bridges and box culverts).
- (7) Restore piped segments of existing drainageways to an open channel condition to provide connections between existing open channels



Appendix B

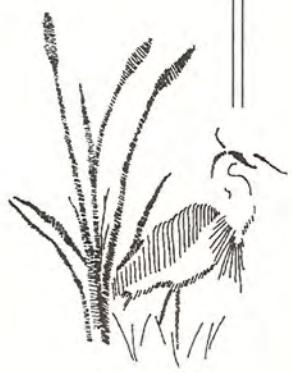
Criteria for Determining Wetland Sites to be Protected and Developed

The following criteria were used to identify those sites suitable for and deserving of protection:

1. Presence of rare plants
2. Site has Metropolitan Plan designation of Natural Resource
3. Site is within the 100 year floodplain
4. Site is near a perennial waterway
5. Site is connected geographically or hydrologically to other wetlands or waterways
6. Site contains a high diversity of wildlife habitat or contributes to the diversity of wildlife habitat within the region
7. Protection of site would further the goals and objectives of this plan
8. Presence of unique Willamette Prairie Grassland plant community

The following is the list of criteria used in evaluating sites for possible development:

1. Prior to adoption of this Plan, the site has an approved wetland impact permit from the Oregon Division of State Lands and U.S. Army Corps of Engineers, or an approved Final Environmental Impact Statement
2. The site is relatively isolated or disconnected from the larger system of wetlands and waterways
3. The site is served by existing streets, roads, sanitary sewers and municipal water
4. The site is adjacent to or surrounded by existing development
5. The site has frontage on a major highway or street



Glossary

GLOSSARY

The following terms are among those used in the West Eugene Wetlands Study which may not be familiar to many readers.

AGRICULTURAL WETLAND: Normally an area must contain three factors to be considered a wetland under the jurisdiction of the state and federal wetland laws (see "Wetland" definition). One exception is when an activity has removed one of those factors. Areas where wetlands soils and hydrology remain, but wetland plants have been removed to allow a crop to be grown are called "agricultural wetlands" or "disturbed areas". If it can be assumed that wetland plants would become re-established if the farming ceased, then the area may be considered a jurisdictional wetland, even though all three factors are not present. This definition of agricultural wetlands is still undergoing debate at the national level.

BEST MANAGEMENT PRACTICES (BMP's): Management practices or techniques used to guide design and construction of new development or infrastructure improvements to minimize adverse environmental impacts. Often organized into a list of practices, from which those practices most suited to a specific site can be chosen to halt or offset anticipated problems. BMP's for a construction site might include: placement of barriers to prevent sediments from entering streams, contour grading, using selected plantings to stop soil erosion during the rainy season, retention of vegetation along a stream, and controlling heavy equipment operations at stream crossings.

BIOFILTER OR BIOLOGICAL FILTER: Using vegetation and water features as a means of filtering pollution from stormwater or streams, water is passed over grassy areas, through sediment traps, and through specially created ponds which trap pollutants or allow them to settle out of the water stream.

BUFFER: A designated area along the perimeter of a stream or wetland which is regulated to control (resist, absorb, or otherwise preclude) the negative effects of adjacent development from intruding into the natural area beyond the buffer.

CANDIDATE ENDANGERED OR THREATENED SPECIES: A species which has been nominated for placement on the federal Endangered or Threatened Species List, but has not been given official status yet for any number of reasons. (See also "Endangered" and "Threatened").

COMPREHENSIVE MONITORING AND MAINTENANCE PROGRAM (CMMP): This program establishes provisions for the monitoring of existing wetland resources and wetlands created, restored or enhanced as a result of wetland mitigation requirements. Wetland mitigation efforts will be monitored against performance standards established during the permitting process and the corrective actions to be taken when these standards are not met. The quantity and quality of surface water, soils, quantity and

diversity of wildlife species and general habitat conditions are the primary factors to be monitored. The program includes maintenance practices such as erosion control, debris and litter removal, selective plant removal and replacement, sedimentation removal, and water level manipulation.

COMPREHENSIVE WETLAND MITIGATION PROGRAM (CWMP): This is a comprehensive program that facilitates and guides wetland mitigation requirements. The program details the wetland functions, values and acreages to be replaced as a result of anticipated wetland losses. It establishes the objectives, location, timing, performance levels, monitoring requirements and the amount of financial guarantee to be provided for insuring successful mitigation.

CONSTRUCTED WETLAND: A facility that exhibits wetland characteristics but was constructed for the express purpose to perform a utility need, such as a sedimentation pond, and is not eligible for mitigation credit or subject to the jurisdictional requirements of federal and state wetland law.

CREATED WETLAND: For the purpose of receiving mitigation credit, the alteration of soils, hydrology, and plants to produce a wetland where no wetland previously existed.

DELINEATION: Determining the boundaries of a jurisdictional wetland. The delineation may be marked in the field or on a map or aerial photograph.

DISTURBED AREA OR WETLAND: See definition of "Agricultural Wetland"

DRAINAGE MASTER PLAN (DMP): Refers to the Eugene Areawide Drainage Master Plan, 1990, a study of stormwater facilities and needs in the Eugene urban growth boundary (see "UGB" definition). This plan was produced by a consultant for the City of Eugene Public Works Department and consists of six volumes.

ECOLOGY: The study of interrelationships within living systems, including plants, animals, insects, water, soil, air and energy.

EMERGENT: An erect, rooted, herbaceous wetland plant that may be temporarily or permanently flooded at its base but is nearly always exposed at the upper portion. Most swamps, bogs, marshes and prairie wetlands contain emergent vegetation.

ENDANGERED: Nearing extinction; either the plant or animal or its habitat are in immediate jeopardy. Under the federal Endangered Species Act, plant and animal species may be listed as either threatened or endangered.

ENHANCEMENT: To improve one or more values in an existing wetland. The improvements may be to soils, water, or plants. Enhancement may improve a particular wetland value at the expense of other values. For example, diking an area to create a

marsh environment for waterfowl nesting may flood a grassy wetland and reduce habitat for small rodents such as mice and voles.

FORB: A non-woody plant, other than grass, including wildflowers and plants which some refer to as "weeds".

404 (WETLAND) PERMIT: A permit issued by the U.S. Army Corps of Engineers under Section 404 of the federal Clean Water Act which allows an activity (filling) within a wetland. A 404 permit usually requires compensation or mitigation for the allowed use in a wetland.

GREENWAY: A system of parks and open spaces along a stream or channel which forms a corridor for water and wildlife movement and for human recreation.

GROUNDWATER: Water under the earth's surface that supplies streams, rivers, wells and springs.

HYDRIC SOIL: Soils that have developed in wet, flooded, moist, or saturated conditions. Hydric soils tend to have a heavy clay content.

HYDROLOGY: The study of the properties, distribution and circulation of water, specifically water on the surface or land, in the soil and underlying rocks, and in the atmosphere. Also used to refer to the characteristics of water flow in or on a given site.

HYDROPHYTIC OR HYDROPHYTES: These are plants adapted to live in wetland conditions.

IMPERVIOUS SURFACE: Surfaces which prohibit water from soaking into the ground. Concrete, asphalt and rooftops are the most common urban impervious surfaces.

JURISDICTIONAL WETLAND: A wetland determined to be subject to requirements of the federal Clean Water Act and Oregon's fill and removal statute.

MITIGATION: This term has two meanings, both of which are used in this plan:

1. The actual enhancement, restoration, or creation of wetlands to compensate for permitted wetland losses in terms of area and wetlands functions and values, and,
2. to protect wetlands by avoiding damage to them (i.e., long-term wetland protection status), by altering the design or timing of development to minimize negative impacts on wetlands, or by reducing external negative impacts (e.g., treating water pollution before it enters a wetland or creating a buffer area between the wetland and adjacent development).

MITIGATION BANK: Wetland enhancement, restoration, or creation undertaken to provide mitigation (compensation) for wetlands losses from future development activities. The bank involves enhancing, restoring or creating wetlands in advance of development of a wetland as part of a credit program.

MITIGATION CREDITS: Through a wetland bank system, credits may be purchased from a mitigation bank to compensate for permitted wetland development. A predetermined formula determines the amount of payment into the bank required prior to issuance of permits or development.

NATIVE PLANTS: Naturally occurring plants of this region which were not introduced by humans.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES): A permitting system devised by the U.S. Environmental Protection Agency (EPA) to administer provisions of the federal Clean Water Act. In Oregon the permitting system has been delegated by the EPA to the Oregon Department of Environmental Quality (DEQ). First applied to water quality in municipal sanitary waste discharges, the permitting system is now being expanded to apply to municipal storm water quality.

PALUSTRINE WETLAND SYSTEM: A freshwater wetland dominated by trees, shrubs, and emergent vegetation. Other systems include marine, estuarine, riverine, and lacustrine (deep water, such as lakes).

RARE SPECIES: Often used to describe species on the official state or federal "Threatened and Endangered Species" lists. In the West Eugene Wetlands Study, "rare" has two meanings: 1) a species which does not have threatened or endangered status, but is present in small numbers throughout its range, and 2) a plant community which was once widespread, but is now extremely limited in its distribution. For example, the prairie grasslands once covered thousands of acres in the Willamette Valley, but now are restricted to fewer than 20 locations in Lane and Benton Counties.

REGIONAL PERMIT: This is a general permit issued to a governmental entity by the U.S. Army Corps of Engineers. A regional permit for Eugene means that developing a wetland and mitigating for its loss would occur in accordance with this Plan and its background studies and inventories. Once issued, the regional permit authorizes the City to issue individual wetland impact permits to those areas identified for development by this Plan. The ACOE and EPA would still have oversight to insure that the City is administering federal laws and regulations in a proper manner.

RESTORATION: To improve a disturbed or altered wetland by returning wetland parameters which may be missing; adding soils, water, or plants. The restoration may return an original wetland habitat or alter the wetland for some other desired outcome; for example, flooding an agricultural field and planting saplings to produce an ash forest.

RIPARIAN: The land bordering a stream, pond or river; also pertaining to the vegetation typical of those borders (grasses, shrubs, and trees such as reed canary grass, spiariea, willows, ash and cottonwoods).

SCRUB-SHRUB WETLAND: This type wetland includes woody plants such as shrubs and small trees under 20 feet in height. They may represent a successional stage to a forested wetland.

SECTION 404 PERMIT: See "404 (Wetlands) Permit" definition.

STORMWATER/STORMWATER RUNOFF: Rain which travels over land surfaces and drains into the street gutters or storm sewer pipes and is discharged into a ditch, channel, stream or river. The velocity and peak volume of stormwater runoff is increased by impervious surfaces such as roofs, driveways, parking lots, and asphalt streets. As stormwater travels over the land, it accumulates pollutants from roofs, yards, driveways, streets, and industrial and commercial land uses.

STORMWATER USER FEE: A storm sewer charge collected from users based on their respective contribution to stormwater runoff and stormwater pollution. This fee would be used to pay directly for some of the stormwater utility's responsibilities, a portion of which would be devoted to the wetlands program.

STORMWATER UTILITY: A branch of the public works department that would be established to deal with stormwater, flood control, wetlands, and water quality matters in terms of planning, designing, maintaining, monitoring, financing, and administering those functions as part of the City of Eugene's on-going organization.

SUCCESSION: The sequence and process of changes in plant communities over time. Species, structure and communities evolve into a stable system. For example, the prairie grasslands may be invaded by young ash trees; then an ash forest forms; then Douglas fir trees invade the ash forest; eventually, the ash forest becomes a fir forest, which maintains itself over time.

SYSTEMS DEVELOPMENT CHARGE (SDC): A fee charged to new development to help pay for the capital costs associated with new growth. A portion of the City of Eugene's SDC may help pay for the stormwater utility functions, including the wetlands program.

TECHNICAL ADVISORY COMMITTEE (TAC): This is a state and federal agency group created to provide local staff with advice on conduct of the west Eugene Wetlands Special Area Study. The TAC consisted of representatives from the U.S. Army Corps of Engineers, Environmental Protection Agency, and Fish and Wildlife Service, and the Oregon Division of State Lands.

THREATENED: Nearing endangered status. The existence of the plant or animal and its habitat are in potential jeopardy.

URBAN GROWTH BOUNDARY (UGB): A site-specific line in the Metropolitan Plan that separates existing and future urban development from rural lands. Urban levels and densities of development, complete with urban levels of services, are planned within the UGB. Outside the UGB, rural lands are planned for farm and forest uses or for rural levels of development with accompanying rural levels of services.

WEST EUGENE WETLANDS SPECIAL AREA STUDY (WEWSAS): WEWSAS is the study which included development of this Plan and the accompanying Technical Report. The study was guided by the Eugene Planning Commission. It involved an intergovernmental staff team, use of consultants, a Technical Advisory Committee, and a series of public workshops with project management provided by the Lane Council of Governments.

WET PRAIRIE GRASSLAND: A unique type of wetland which once covered vast areas of the Willamette Valley floor. This term is used to describe a plant community dominated by tufted hairgrass, Deschampsia cespitosa. This wetland type is typically saturated or slightly flooded in the winter, but the upper soil surface is dry in the summer and early fall. The wet prairie grasslands in west Eugene are the habitat for the three species either listed or nominated for listing on the federal "Threatened and Endangered Species" plant list. Those rare plants are not found on all wet prairie grassland sites.

WETLAND: Wetlands are areas where water exists at or near the land's surface in flooded or saturated soils in sufficient amounts during the March to October growing season to sustain wetland types of plants. Generally, three factors must be present in a wetland: 1) hydric soils (those soils officially identified as being wetland-type soils), 2) water (surface or groundwater within the root growing zone or upper 18 inches of soil), and 3) predominance of plants that are recognized as wetland species. There are several types of wetlands in west Eugene, including agricultural, marshes, ash forests, shrub-scrub, and prairie grasslands. The agricultural wetlands are an exception to the three factor definition used here (see "agricultural wetlands" definition).

WETLAND EVALUATION TECHNIQUE (WET): This is a computer assisted method for assessing wetland functions and values, including social significance, effectiveness, and opportunities. It includes information on 12 wetland functions and values such as rare species, unique heritage, floodflow alteration, sediment stabilization, nutrient removal, wildlife and aquatic species diversity and abundance, recreation, and groundwater recharge.

WETLAND PERMIT: If fill or drainage activities are planned in a jurisdictional wetland, individual permits may be issued by the U.S. Army Corps of Engineers (see "404 (Wetland) Permit" definition) and the Oregon Division of State Lands. If the

activity cannot be justified, no state or federal permit will be issued. If the activity is justified, the permit may require compensatory mitigation to replace the acreage and values of the wetland allowed to be developed.



References

REFERENCES AND RELATED DOCUMENTS

The following documents were developed by Lane Council of Governments (L-COG) for the West Eugene Wetlands Special Area Study. The documents were generated between early 1989 and late 1990. They contain general and technical information, and the results of the public involvement process used in developing the Plan. Copies can be obtained from L-COG.

Technical documents

"Preliminary Inventory of Eugene and Springfield: Wetland, Riparian and Upland Areas for Wildlife Habitat Value", Esther Lev for Lane Council of Governments, Revised February 1990

"West Eugene Wetlands Special Area Study: Technical Report" (Draft), L-COG, January 1991

"Wetland Inventory and Wetland Functions and Values in West Eugene, Oregon", February 1990, Scientific Resources, Inc., Lake Oswego, Oregon for L-COG (Includes wetland delineations as assessment of functions and values using the Wetland Evaluation Technique)

Public Involvement

"Citizen Workshop No. 4, Wetland Information and Scenarios", L-COG, February 1990. (Booklet from the fourth citizen workshop)

"Citizen Workshop No. 5, Preliminary Staff Recommendations", L-COG, May 1990 (Booklet from the fifth citizen workshop)

"Public Workshop No. 5 Results Summary", L-COG, October 1990

"Results of Public Workshop No. 4", L-COG, April 1990

"Status Report on Public Involvement", L-COG, September 1989. (Results of the first two citizen workshops)

"West Eugene Wetlands Public Preference Survey Results", L-COG, February 1990. (Results of the third citizen workshop)

General Information

"Self-Guided Tour of West Eugene Wetlands", L-COG, 1989. (Handout)

"West Eugene Comprehensive Wetlands Plan: A Case Study", (Draft), L-COG, prepared for the Conservation Foundation and World Wildlife Fund, September 1990

"West Eugene Wetlands Special Area Study", L-COG, April 1989. (Handout)

"West Eugene Wetlands Special Area Study Work Program", L-COG, February 10, 1989
(Includes a citizen involvement program)

"Why Are Wetlands Important?", L-COG, 1989. (Handout)