# Oaks Bottom Wildife Refuge Coordinated Resource Management Plan

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# Summary

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| **Name of Plan:** | Oaks Bottom Coordinated Resource Management Plan |
| **Date of Adoption:** | January, 1988 |
| **Location of Planning Area:** | Multnomah County, T. 1S, R1E, Sections 14, 22, and 23<br>East Multnomah SWCD |
| **Key Participants:** | City of Portland Park Bureau<br>Audubon Society of Portland<br>Sellwood-Moreland Improvement League<br>Cleveland High School<br>Multnomah County Vector Control<br>East Multnomah SWCD<br>EPA--Portland Office<br>Volunteer Groups<br>PGE |
| **Acreage:** | 160 acres publicly owned by Park Bureau |

## A. Description Of Planning Area

The Oaks Bottom Wildlife Refuge is a 160-acre City of Portland park, situated on the east bank of the Willamette River. It is predominantly a riveringe floodplain wetland system consisting of several vegetation communities (see attached maps). The bottoms have been cut off from the natural water flow of the Willamette by the Portland Traction railroad berm. Water currently enters and leaves the bottom via a five-foot culvert under the railway berm.

The bottom's natural source of fresh water is from a series of small springs, located at the base of a large escarpment on the east border of the park. These springs form perennial streams, outletting to the Willamette via the culvert. Most stormwater from the urbanized area above the wetland is cut off and routed through a storm drainage system.

The planning area is natural, with a few major man-made intrusions (railroad berm, power line rights-of-way, landfills). Refer to plan map for specific location of man-made structures.

## B. Major Resource Uses In The Planning Area

- Passive recreation
- Wildlife habitat development
- Bird watching
- Hiking
- Bicycling
- Public education programs
- Audubon Society field trips

## C. Major Problems

See the attached Management Plan for a thorough history and outline of the major problems and issues of the park area.

- Water level control for habitat diversity development
- Mosquito control
- Trash dumping control
- Access (unlimited at present)

## D. Planning Objectives

- Vector Control
- Access and Information Signing
- Improve wildlife habitat diversity (upland and wetland)
- Increased and on-going public participation in plan management

## E. Implementation of Objectives

See the attached Implementation Plan.

# I. Introduction

The studies, recommendations and debates over the use and management of Oaks Bottom have been numerous over the past thirty years. The 160 acre park, which is now within the City of Portland park system represents an invaluable passive recreation and open space resource which is badly in need of a coordinated management plan. The objective of this document is to provide an historical perspective, description of current conditions and a vision for the future management of what has come to be known as Oaks Bottom Wildlife Refuge.

# II. Historical Perspective

The most comprehensive chronical of Oaks Pioneer Park (Oaks Bottom official Park Bureau name for the park) was written by Beverly Lipsitz for a Portland State University class in Oregon Management & Conservation in March of 1983. As Ms. Lipsitz points out in her report, it is a wonder that Oaks Bottom exists in a relatively natural condition at all. She writes " Between 1893 and 1972, more than 1,600 acres of Willamette River and bottomland in the Portland area have been filled. Most of the (remaining) land seems to have been saved by accident rather than as a result of farsighted planning by the city fathers[1].

While Ms. Lipsitz's report chronicles the vagaries of Oaks Bottom wetland loss or protection, E. Kimbark MacColl offers important insight into the politics of land use along the entire Willamette River within Portland in his excellent work, The Growth of a City, Power and Politics in Portland, Oregon 1915 to 1950. Both of these references are invaluable to gain an understanding of why, for instance, Oaks Bottom remains in a relatively natural state compared with the filled and drained Mocks Bottom in north Portland.

The city of Portland acquired most of Oaks Bottom in the late 1950's. It was at this time that the city council named the then 115 acre parcel "Oaks Pioneer Park." The first of many committees was appointed by council to ascertain what development would be appropriate for the site. Uses deemed suitable included pioneer historical features, transportation museum and reproduction of historical structures. It is interesting to note that a previous committee had met as early as 1957 to determine how to acquire and care for railroad museum pieces. These engines are still on the Oaks Park site today.

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[1] Oaks Bottom: The History Of An Urban Wildlife Area. Lipsitz, Beverly.

During the early 1960's an advisory committee was directed by then Parks Commissioner Ormond Bean to continue study of potential development for the bottoms. Sellwood resident Dent Thomas chaired this committee which saw the southern portion of the wetlands filled as a garbage dump. Commissioner Bean had plans for that site as a parking facility. He supported this use over the strenuous objections of Sellwood-Moreland neighborhood representatives on the basis that the proposed development would benefit the city at large. This conflict spawned the early coalition of neighborhood activists and conservation groups which sought to protect the remaining wetlands and riparian habitat from further degradation.

Norbert Leupold, Portland Audubon Society, first suggested that any plans for management of the bottoms be made public and that steps toward protecting the bottoms should include: "favorable publicity, habitat evaluations, wildlife observation, and wildlife conservation."

Dr. James Stauffer, a botanist who represented The Nature Conservancy referred to the bottoms as "...one of the best small areas remaining in the pacific flyway (that should be saved from) the destructive development planned by City Council."

In 1963 The Nature Conservancy proposed the establishment of "Wappato Marsh Wildlife Refuge" that would involve habitat enhancements, trails and walkways. The coalition of conservationists, educators and neighborhood representatives supported this concept and testified before city council in favor of The Nature Conservancy's proposal. There was also strong support in the form of editorials in The Oregonian. Commissioner Bean rejected TNC's proposal outright, but lack of funds prevented any of the proposed development scenarios from occurring. Once again, Oaks Bottom was in limbo. Neither the proponents of passive recreation and wildlife uses nor the development-oriented factions were able to prevail. Oaks Bottom was again placed on the "back burner."

In the meantime at the northern end of the bottoms another landfill had eliminated approximately fifty acres of wetlands. The landowner, the Drake Company, had used the rubble from the Stadium Freeway project to fill the northern portions of the wetlands in anticipation of future development. All that was needed after the filling was a zone change to bring development into the bottoms. It was also during this interim period that Commissioner Bean had retired and been replaced as Commissioner in charge of parks by Frank Ivancie. City council placed a number of restrictions on development of the site which may have been one factor in the city having an option to purchase the Drake property in 1968. In 1969 the city exercised this option with funds from the state and federal government. The park now was more than 160 acres in size and the entire bottoms was almost completely in public ownership.

In 1972 a second major effort ensued by a coalition of conservation groups and educators to protect the bottoms. Sellwood-Moreland Improvement League (SMILE) took the lead after the public schools were unable to develop a viable plan. SMILE, one of Portland's most active and strongest neighborhood groups, asked for assistance from Portland State University's Urban Planning Department to develop a variety of scenarios for Oaks

Bottom management. The preferred alternative was as a wildlife area. A Portland State University graduate student, Mike McCoy then drafted a comprehensive plan that called for protection of the wetland and riverfront property, but allowed development on the filled portions of the bottoms.

Audubon Society of Portland responded to this plan by suggesting that the entire bottoms be devoted to passive recreation and wildlife uses. The Society's position was predicated on the desire to maintain a diverse natural area with a combination of open water, Willamette River riparian, emergent wetland and upland habitats. The Society stated at that time, "Oaks Bottom doesn't have to be manipulated, invested in, or manicured for public use. It is outstanding because it is a remnant of the native Willamette River setting...the city owns the bottom, it has a volunteer caretaker (Audubon Society) and a plan to designate this as Oaks Bottom Wildlife Sanctuary." Harlan Scott, Oregon Department of Fish and Wildlife also conducted a study of wildlife uses in Oaks Bottom at this time and his work supported Audubon's contention that the area was extremely diverse and should be protected as a unit. SMILE voted to support Audubon's proposal and after intense and often acrimonious hearings before city council Oaks Bottom, although not given official status as such, was dedicated by the Park Bureau and Council to passive recreation and wildlife uses. It was during this era that Sellwood-Moreland Improvement League and Portland Audubon Society began a partnership of benign management of the bottoms. Audubon started its "Bottom Watchers" program which involved annual clean ups of the trail with SMILE, a series of field trips and an ad hoc management role when crises arose.

It is now 1987 and Oaks Bottom is still known officially as "Oaks Pioneer Park", there is no adopted comprehensive management plan and no formal public education program. As stated in the introduction, the objective of this document is to recommend broad management goals that are consistent with Audubon Society, SMILE and the Portland Park Bureau's desire to maintain Oaks Bottom for primarily wildlife and open space uses with passive recreation that is compatible with that goal. Other "partners" have more recently become involved in the use and care of Oaks Bottom. Cleveland High School teachers Richard Pugh and Richard Meyers have had their students engaged in field biology, geology and restoration projects in the bottoms. Pacific Power and Light (PP&L) employees have been active in Oaks Bottom clean up efforts for several years and the East Multnomah County Soil and Water Conservation District has offered to fund informational signs and coordinate a detailed management plan based on this document.

In addition to this coalition of management and user partners there is renewed interest city-wide for official designation and management of Oaks Bottom as a wildlife sanctuary. The City Club in May of 1986 presented a position paper for the Central City Plan, "Report On A Vision For The Central City." They state in that report, "We agree with (Audubon Society and SMILE's) plea for 'preservation of the entire Oaks Bottom Wildlife Area' even though Oaks Bottom lies just outside the central city planning area."

Swenson Company, a local architectural firm hired to assist the city in development of the Central City Plan, echoes the City Club Report. They quote earlier drafts of this

document as support for designation of Oaks Bottom as a wildlife refuge. More importantly they cite the concept of Oaks Bottom becoming the first in a Portland metropolitan wildlife refuge system. "The draft Audubon proposal for the management of Oaks Bottom contains a much broader concept, that of an Urban Wildlife Refuge System. 'Oaks Bottom and Forest Park could become the first two parks that would eventually become a Portland area network of natural and semi)natural recreation parks. Others would include: Smith-Bybee Lakes, Columbia Slough, Beggar's Tick Marsh,Tideman Johnson Park, Tualatin Hills Nature Park, Powell Butte...'"

The objective of this document, then, is to:

1. Formally redesignate Oaks Pioneer Park as Oaks Bottom Wildlife Refuge.
2. Develop a general management direction for Oaks Bottom Wildlife Refuge which is compatible with the goal of maintaining this 160 acre park for wildlife and passive recreational uses.
3. Give direction for future educational and public uses of the park.

# III. Existing Conditions

## A. Vegetation Communities

Diversity is the key to Oaks Bottom's importance as wildlife habitat. Ralph Thomas Rogers, currently a wetland ecologist and wildlife biologist for EPA, prepared a detailed vegetation community map for earlier management plan drafts. His map includes six vegetation community types:

1. South Fill
2. North Fill
3. Wetland Swamp
4. Emergent Wetland
5. Willamette River Riparian
6. Bluff and Upland Forest

Each of these communities offers different food, cover, wintering and reproductive habitat for numerous species of mammals, reptiles, amphibians, birds and invertebrates. It is the combination of these habitat types in addition to the bottom's proximity to Sellwood Park, the Willamette River and the Ross Island/Hardtack Island/East Island complex that contribute to Oaks Bottom's exceptional abundance and diversity of species. In the past year more than 117 species of birds have been observed in the bottoms. In addition several rare or unusual species of birds and mammals have been sighted in the bottoms. These species are probably attracted by its large size and diverse structure. Common Raven, Black- billed Magpie, Brewer's Sparrow Red- shouldered Hawk, nesting Anna's Hummingbird (first state record) and Swamp Sparrow are a few examples of unusual species for the Portland area seen in Oaks Bottom.

## B. Habitat Descriptions

### 1. South Fill

The south fill was formerly wetlands prior to its use as a landfill in the early 1960's. The recent installation of a large water main through the fill resulted in exposure of the garbage that was deposited on the site. One of the concerns about water quality in the adjacent wetlands is uncertainty about the contents of the landfill. The odors that were released during water line construction were extremely strong. This, in conjunction with water of questionable quality points to a serious concern over water quality.

The south fill currently consists of an old field growth of annual and perennial herbs. The area is used heavily by foraging swallows (Barn, Violet-green and Tree primarily, although occasional Rough-winged are observed), cottontail rabbits, California Quail, Northern Flicker and Ring-necked Pheasant. The south fill is bounded on the Portland Traction side (west) by dense Himalayan blackberry; on the north (wetland side) by red alder and black cottonwood with a steep embankment between the wetland and fill; on the east the fill constricts to a narrow neck which joins the bluff and is surrounded by Himalayan blackberry; the south boundary is formed by the bluff to Sellwood Park and is also a dense stand of Himalayan blackberry.

## 2. North Fill

Although this area too has been filled, the impacts are much less severe than that of the landfill to the south. The fill material was "clean" rubble and the extent of the fill was less complete. There remain numerous open water areas and shallow emergent wetlands. The vegetation is more diverse on the north fill, both structure and species perspective. Many species of grasses, sedges, rushes, willow, red alder, Himalayan blackberry, vetch, wild sweet pea, Spirea and cattails comprise the dominant vegetation of the north fill. In addition to the remnant small ponds and wetlands there is one larger man-made pond at the base of the bluff which was constructed by Oregon Department of Fish and Wildlife. The north fill is also larger in area than the south fill. The same species that use the south fill in addition to numerous truly wetland species (Common Yellowthroat, Red-winged Blackbird, Dragonfly, Damselfly, etc.) utilize the north fill.

## 3. Wetland Swamp

The true swamp consists of open water and willow dominated habitat. Other species associated with the willow swamp include: wapato, knotweed, purple loosestrife, beggar's tick and reed canarygrass. Aerial photographs reveal that the will swamp has increased in area rapidly over the past ten years. This has resulted in a decrease in open water area.

## 4. Emergent Wetlands

This is the largest habitat by area and consists primarily of reed canarygrass, interspersed with stands of willow, areas of dead and dying willow and small stands of sedges and rushes. Reed canarygrass forms a monospecific stand throughout much of the emergent wetland habitat type.

## 5. Willamette River Riparian

This is a black cottonwood-dominated community with willow and Oregon ash being of secondary importance. Creek dogwood, Himalayan blackberry, horsetail , stinging nettle, snowberry and spirea are the most important components of the understory. This is an important wildlife area due to its proximity to a major river system. This subarea lies to the west of the Portland Traction right-of-way.

## 6. Bluff and Upland Forest

The bluff is dominated on the southern portion of the bottoms by big-leaf maple and Douglas fir. As one proceeds north along the bluff trail traversing the base of the bluff the overstory and understory composition changes markedly. Toward the north end of this trail the dominant trees are Oregon white oak, pacific madrone and some big-leaf maple and Douglas fir. Snowberry is more prevalent in the understory and poison oak, which is another indicator of a more xeric environment appears in this segment of the bluff. It is interesting to note that this xeric or dry site condition is more developed along Mock's Crest in north Portland near the University of Portland campus. A comparative study of the vegetation on each of these bluffs might be of interest from both a research and practical horticultural perspective.

There are three major introduced plants along the bluff that warrant mention: clematis (virgin's bower), English ivy and Himalayan blackberry. All three are in great abundance and warrant special management considerations.

## 7. Other Habitats

In addition to these discreet vegetation communities, two other important habitats merit mention. The first is the Portland Traction Company railroad line. The berm that the railroad is built on is significant for two reasons. First, it forms a barrier between the bottoms and the Willamette River. Second, it receives a great deal of wildlife and human use and affords excellent views of the bottoms.

The second habitat that was not dealt with explicitly in Ralph T. Rogers' vegetative scheme is the open water habitat in the willow swamp habitat. As previously mentioned, the surface area of open water has decreased markedly over the past ten years. This habitat is particularly important in fall and spring for migrating waterfowl as well as for wintering waterfowl. The open water has up to several hundred ducks, geese and heron in it on a given day during peak winter months. During the dry summer months, the open water may be entirely gone by August or September. The majority of water that enters and leaves the bottoms does so through a culvert in the railroad berm.

## C. Existing Trails

There is currently only one maintained trail that serves Oaks Bottom. It is approximately two miles in length and forms a loop between Sellwood Park and the north fill area. The trail was constructed by a Youth Conservation Corps (YCC) in the early 1970's and has been maintained by volunteer labor since that time with assistance from Park Bureau maintenance staff. The trail is extremely rustic and constantly in need of maintenance, especially in the vicinity of the numerous springs and seeps at the base of the bluff. A typical hike around the bottoms begins at Sellwood Park parking lot and follows the switch-backs down the steep bluff to the eastern end of the south fill. From that point the trail follows the toe of the bluff, passes under the mausoleum and heads due north to the north fill. There the trail leads west along the south end of the north fill toward the railroad track. Continuing south along the Portland Traction right-of-way one can complete the loop by either walking across the south fill or taking a trail along the face of Sellwood Park.

There are a variety of options concerning the future of the existing trail and potential trails in and around the bottoms. These options will be discussed under future plans. The most significant point to mention at this juncture is that a consensus of opinion (Audubon Society, SMILE, Cleveland High School and resource agencies) is to leave the loop trail along the base of the bluff in an essentially rustic condition, with any improvements directed at the north fill, south fill and railroad grade.

## D. Signing

There are currently no signs indicating that Oaks Bottom is a City of Portland park, that there are restrictions which might apply to a passive recreation and wildlife refuge or that there are qualities represented by Oaks Bottom. There is a strong consensus that this must be remedied. East Multnomah County Soil and Water Conservation District stated in a letter to Audubon Society of Portland, October 22, 1985 that their board of directors had decided, "...to offer to provide leadership in the coordinated resource management planning process and to fund in-formational signs for Oaks Bottom."

# IV. Significant Management Problems

## A. Habitat/Environmental

### 1. Siltation

It is felt by several individuals that the bottoms is slowly silting in, which is one contributing factor to the encroachment of willows into the bottoms. The willows, in turn, contribute to the infilling problem. This is a natural phenomenon and an active management program will be required to maintain Oaks Bottom wetlands in a "younger" successional stage.

### 2. Willow encroachment

Willows have come to dominate an area of the bottoms which historically had been open water. A comparison of aerial photographs illustrates that this process has accelerated in recent years. There is concern that there is the need to establish a balance between willow habitat and open water. Habitat diversity is also decreased by dominance of willow.

### 3. Exotic species

Virgin's Bower (Clematis), English ivy, Himalayan blackberry, purple loosestrife and other "weedy" species have significantly outcompeted/replaced the native vegetation in Oaks Bottom. The Clematis, ivy and blackberry are the most notable of these introduced species. Ivy and Clematis have colonized many of the deciduous and coniferous trees along the bluff and there is great concern that this may contribute to direct (shading) and indirect (instability) loss of trees along the bluff. Himalayan blackberry forms a monospecific stand, reducing habitat diversity. Purple loosestrife has been identified as a serious pest species in eastern wetlands since it too forms dense stands which reduce native species diversity. There is evidence that this is occurring in our western freshwater emergent wetlands as well.

### 4. Pest animal species

The major pest species that have been reported by neighborhood individuals seem to be restricted to invertebrates, principally mosquitos and, to a lesser extent leafhoppers. Feral dogs and cats as well as unattended domestic dogs and cats roam the bottoms, posing problems for wildlife. This is especially true for waterfowl during the nesting season.

### 5. Wetland habitat diversity

There is less habitat diversity in the bottoms than otherwise might be the case due to the large expanse of reed canarygrass throughout the emergent and swamp wetlands. The expanse of canarygrass is due primarily to the favorable growth conditions afforded by the current fluctuations in the water regime.

### 6. Water control

There is at present no means to control the water regime. Virtually all of the water that enters and leaves the bottoms does so through a large culvert in the Portland Traction railroad berm. The ability to control the water regime is essential from a diversity and pest management perspective ( e.g. many species of mosquitos could be controlled by manipulating water levels at critical periods in their life cycle). Reed canarygrass and other undesirable exotic plants can also be controlled in this manner.

### 7. Water quality

There is currently no information regarding the contribution of toxics to the wetlands from the south fill garbage dump. Prior to any habitat manipulations on the south fill or work at the wetland/south fill interface water quality information will be necessary.

### 8. Fire control

During drier summer months, fire control is a significant problem. A plan for controlling natural or man-made fires must be developed.

### 9. Soil erosion

Specific sites along major trails are subject to soil erosion. This is especially true along the bluff. Vegetative control of this problem is the preferred solution.

## B. Human Impacts

### 1. Interagency cooperation

Although not a "typical" management problem, it is be essential that those agencies with wetland regulatory responsibilities (Division of State Lands, U.S. Army Corps of Engineers and the Environmental Protection Agency), Oregon Department of Fish and Wildlife, U. S. Fish and Wildlife, the City Park and Planning Bureaus, SMILE, Southeast Uplift, Audubon Society of Portland, and educational institutions (e.g. Cleveland High School) coordinate their management efforts. This document is intended to provide a broad outline of fundamental management objectives. The East Multnomah Soil and Water Conservation District has offered to mediate a coordinated resource management

plan for Oaks Bottom which will address species specific and site specific management objectives and strategies.

## 2. Off-road vehicles

Historically motorbikes, 4-wheel drive vehicles and other motorized vehicles have posed a noise and habitat disturbance problem in the bottoms. With increased use of the bottoms this problem has decreased markedly but remains a significant problem.

## 3. Garbage

Dumping of household refuse, lawn debris and other material is an ongoing problem in the bottoms and requires immediate remedial attention from SMILE, volunteers and city officials. The two biggest problems are dumping by local residents along the top of the bluff and at the Vocational Village parking lot above the north fill. Also a problem with respect to dumping is access via the railroad grade, the north fill and riparian areas.

## 4. Illegal camping/transients

As with any open space near the central city area, Oaks Bottom is an enticing place as refuge for transients. The riparian strip along the Willamette River is currently being used for construction of make-shift encampments. Although at present this is not a significant problem for wildlife, it does deter use of some areas of Oaks Bottom for passive recreation. This is especially true for women, families and the elderly, who are justifiably fearful of molestation or harassment. Should these uses continue through time they would also severely impact wildlife habitat.

## 5. Use of fireworks

A perennial concern of the local residents is fire danger during the dry summer months. Local fireworks displays at Oaks Park and through-out the city are not apparently sufficient to deter people from enjoying their own displays, which has resulted in grass and brush fires in the bottoms. Use of fireworks at any time of the year disturbs wildlife. A fire control plan must address access to the bottoms and methods used for fighting fire.

## 6. Illegal hunting and fishing

Bow hunting for carp and subsistence gathering (e.g. by southeast Asians), firing of .22 caliber rifles and the like have detrimental effects on wildlife use in Oaks Bottom. The placement of "Wildlife Refuge" signs around the perimeter of the bottoms has, to some extent, helped convey the message that these activities are illegal and reduced the problem somewhat. However, these unauthorized activities still persist.

# V. Oaks Bottom: A Vision For The Future

Although there are the aforementioned management concerns, Oaks Bottom is universally viewed as tremendously valuable as a passive recreation area, as wildlife habitat and as an open space resource for the Portland metropolitan region. More than the past fifteen years have been devoted to discussions regarding its "highest and best" uses and future management scenarios for the "bottoms". It is felt that the following discussion represents a consensus among all interested parties that has evolved through the years of neighborhood meetings, field trips, discussions with resource agencies and consultation with the Portland Bureau of Parks. Several resource agencies reviewed an interim draft of this plan (Division of State Lands, US Fish and Wildlife, Oregon Department of Fish and Wildlife, the Environmental Protection Agency and East Multnomah County Soil and Water Conservation District) as did all primary sponsors of a management plan (e.g. Audubon Society of Portland, SMILE board of directors and Cleveland High School).

In addition to these reviewers the Portland Bureaus of Planning and Parks and City Club's Central City subcommittee reviewed the plan and indicated agreement with its basic principles.

## A. Name Change

As has been stated there is consensus that Oaks Pioneer Park is no longer appropriate for the bottoms. Park users, the media, local residents and city planners have often referred to the area as Oaks Bottom Wildlife Refuge for many years. Designation of the area as a wildlife refuge accomplishes two important objectives: (1) Initiation of an urban wildlife refuge system and (2) Setting the "tone" for the management scenarios for the bottoms. The Park Bureau should be petitioned for a change in designation of Oaks Bottom so that its official designation would be Oaks Bottom Wildlife Refuge. The Park Bureau has been approached about a name change and the Bureau is agreeable to this action. It is felt that, given the existing moratorium on remaining parks that the change in designation would be the most appropriate vehicle.

## B. Management Goals For Vegetation Communities

Probably the single most important concept regarding plans for habitat manipulation in the bottoms is to increase vegetative diversity (e.g. structural and species). The following is a brief discussion for each habitat type according to vegetation communities as described by Ralph T. Rogers.

## 1. South Fill

The south fill is the most sterile, least diverse of the major habitat types found in the bottoms. It is interesting to note that relatively little Himalayan blackberry or other shrub species occur in the south fill.

a) Soils: Shallow soils and possible toxic contaminants may be responsible for this phenomenon. Soil testing should be done to ascertain whether this is a factor or not. If necessary, clean fill should be hauled into the bottoms to form a more fertile layer over the landfill material. In addition, an impermeable clay layer should be "installed" between the north boundary of the south fill and the wetland swamp to the north. The necessity to undertake this action is dependent on water quality testing which has been requested of the State Department of Environmental Quality. The feasibility of undertaking this action is questionable both from a technical and economic perspective. Planting of native trees and shrubs is desirable, although a significant portion of the "grassy" area should be preserved to provide for the habitat needs of open field wildlife species.

b) Off road vehicles: A barrier should be placed across the south fill where it meets the Portland Traction line to impede vehicular access. This should be planted with wildlife-attracting shrubs and trees to produce a vegetative barrier that would also be visually attractive. This area needs prominent signs to educate the public that motorized vehicles are not allowed anywhere in Oaks Bottom.

c) Interpretive center: A low maintenance, informal interpretive kiosk should be constructed at several points in Oaks Bottom Wildlife Refuge. One location that is favored is the South Fill. This could be a gathering place for school groups. This could also be a staging area for wheelchair users and other disabled individuals who would find either the Vocational Village (north fill) or Sellwood Park access points impossible to negotiate. The shelter should be simple, low cost and low maintenance. Vandalism undoubtedly will be a problem and the kiosk must be designed with this in mind.

d) Trails: A handicapped access trail should be constructed across the south fill and should be planned to take the best advantage of the re-contouring that should occur on the fill. The trail would afford access to a portion of the loop trail which overlooks the wetlands. The trail should be designed in consultation with local groups which serve physically disabled people (S.O.A.R., Shared Outdoor Recreation is one such group that has cooperated with Audubon Society in natural history programs for the physically disabled). This trail would culminate in a wooden board walk which extends into the bottoms, but does not traverse the bottoms.

## 2. North Fill

The north fill is approximately 50 acres in size with fairly diverse vegetation.

a) Wetland Improvements: The primary management objective here would be the creation of additional emergent wetlands and ponds throughout the fill. Some removal of wild sweet pea, Himalayan blackberry, scotch broom and replacement with native species is desirable but not a high priority. If feasible, a small meandering stream should connect the wetlands and ponds of this area. The stream could be graded so the flow would be toward the south end of the fill and would empty into the northern portion of the emergent wetland.

b) Trails: No trails would be constructed in the north fill, although the existing trail across the north fill would be maintained and perhaps improved to permit wheelchair access.

## 3. Swamp Wetland

The willow swamp has been a longstanding problem due to the tremendous encroachment of willows into the open water habitat.

a) Wetland Improvement: Regulation of water levels is the consensus approach to long-term control of the willow invasion. Three alternatives were developed to achieve this objective:

A. Installation of a water control structure at the mouth of the culvert which connects the bottoms with the Willamette River;

B. Installation of a water control structure along the main channel, upstream of the culvert which allows water into and out of the bottoms. A beaver dam has achieved this objective in the past, but the beaver were trapped out of the bottoms illegally;

C. Construction of deeper ponds within the swamp wetland boundary similar to that done in the emergent wetland for mosquito control.

After a series of public meetings were held the consensus seemed to be that alternative B (Water Control Structure) is the best method for water control. This alternative allows for a permanent method of control for the entire swamp and emergent wetland. The water control structure can be designed to provide a variety of water regimes to allow for vector control and wildlife habitat manipulations. Selection of alternative B would also avoid the issues associated with the railroad right of way.

Alternative B (construction of ponds) will probably be rendered moot after the installation of the control structure, but might be considered in the future.

b) Revegetation/habitat enhancement: There are remnant stands of wapato along portions of the interface between the swamp wetlands and existing trail. Since wapato has decreased dramatically in the Portland area due to wetland loss and changes in water regime a program to increase the population in the bottoms is desirable. Other native wetland plants of high wildlife habitat value should also be considered as replacements for noxious exotics.

c) Purple loosestrife control: Purple loosestrife has increased dramatically over the past five years and is probably a potential nuisance plant. The loosestrife population should be monitored to determine rate of spread and remedial action taken as necessary. It is a beautiful plant and adds greatly to the aesthetics of the bottoms and should be retained if not deemed to be a nuisance plant (e.g. outcompeting native plants and reducing vegetative diversity).

d) Trail: Some form of wheelchair access should be designed which does not compromise the wetland from overuse, but that will provide handicapped access.

e) Nest boxes: Swallow and Wood Duck nest boxes should be placed in the bottoms to encourage more nesting of insect-eating birds and assist the Wood Duck population which now nests in the bottoms, but in lower numbers than may be possible.

f) Willow control: Portland Audubon engaged in willow control in the past by physically cutting the willow. This method is only effective for short-term control and use of higher water regime is favored for long-term management.

## 4. Emergent Wetland

The monospecific stand of reed canarygrass is less than optimal wildlife habitat.

a) Water Level Control: Control of water levels should help eradicate some of the canarygrass and favor more desirable species that tolerate standing water for longer periods. Creation of additional ponds ,interconnected with channels will help diversify wildlife habitat as well as achieve objectives of the Integrated Pest Management Plan to combat specific mosquito populations which do not do well in deeper, standing water.

b) Trails: No trails would be constructed across the emergent wetlands. The same principles apply to the emergent wetlands as the swamp wetland with respect to trails.

## 5. Bluff and Upland Forest

a) Revegetation: Revegetation of an area burned in 1985 and recent burns (summer of 1987) with native trees and shrubs is a high priority. Long term management of exotic, nuisance species such as Himalayan blackberry, Clematis and English ivy is

desirable. Chemical treatment is not a preferred management method due to potential toxicity problems which could degrade water quality in the bottoms. Physical removal over time should be employed to remove the most offending stands of this vegetation coupled with revegetation efforts using higher value native plants. Inclusion of these areas in the Soil Conservation Service plant materials trial planting program is possible.

b) Viewpoints: SMILE has specifically requested consideration of viewpoints along the top of the bluff. In some situations topping of trees may be necessary to accomplish this objective. Signs should be placed at these sites to educate the public about the significance of the bottoms and explain the biological link between the bottoms and the Ross Island Great Blue Heron rookery. It was also decided at one of the Coordinated Resource Management Plan (CRMP) meetings that a trail along SE 7th-SE Sellwood Blvd. would be desirable. This would allow excellent views of the bottoms. Some benches might be placed along this trail as well.

c) Trail: The trail at the base of the bluff, primarily situated on upland habitat should be maintained in a rustic, unimproved state. The Park Bureau has indicated they will be unable to provide much assistance with this scenario since they have limited personnel and access with motorized vehicles would be difficult. SMILE, Portland Audubon and Cleveland High school accept the responsibility for maintenance of the trail, with guidance and material support from the Park Bureau.

## 6. Willamette River Riparian

This riparian zone should be left undeveloped and maintained in as natural a state as possible. There are very few riparian sites of this size and quality left in Portland along the Willamette and none in public ownership.

a) Illegal camping-transient use: This needs to be curtailed.

b) Trails: No formal trails should be constructed, although segments of the existing trail could be "improved" with the intent of preventing bank line erosion.

c) Acquisition: Portland General Electric owns a portion of this zone. This should be acquired through publicly donated funds or donation from Portland General Electric Company.

## 7. Portland Traction Right-of-way

Although not identified as a "habitat type", the railway is significant as a wildlife and human travel corridor.

a) Vegetative Diversity: Portions of the grade and embankments should be planted with wildlife attracting shrubs and trees which would also afford a buffer between

the wetlands and human use of the railroad bed. These plants would serve the dual purpose of screening and food/cover for wildlife.

b) Signs: There is extreme need for signs on the north and south ends of the park along the railroad grade warning motorized vehicles that they are trespassing on private and park property. Portland Traction should be involved in signing and maintenance of signs.

c) Access: Both the Park Bureau and Ross Island Sand and Gravel need to be more diligent in keeping gates locked the south and north ends of the park respectively. These are the two primary access points for motorized vehicles which use the railroad grade.

d) Trail: The railroad grade is a defacto trail at this time. There is consensus that a paved trail could be supported if the railroad right of way were abandoned. The intent were to provide improved access along the railroad right of way for uses such as bicycle-pedestrian path and wheelchair access. The latter is a higher priority, since very few passive recreation sites in the Portland metropolitan area are accessible to the handicapped. This is predicated on the control of train and vehicular traffic and interest on the part of groups like S.O.A.R.

Significant improvements would have to be made to provide any access from the present Oaks Amusement Park. Oaks Park is presently considering a major remodeling of its entrance, which might make this action possible. Coordination between the Oaks Bottom Wildlife Refuge Coordinated Resource Management Plan and any action by Oaks Amusement Park is important.

e) Fire Control: Fire control access to the bottoms must be planned with appropriate fire districts. Early development of such a plan, in conjunction with other access-related plans is a high priority for implementation.

# VI. Acknowledgements

The following people and organizations are responsible for Oaks Bottom surviving the onslaught of wetland fills in the late sixties and early seventies; for encouragement over the years of controversy and finally for participation in production of these management objectives. In the former category, although many individuals were responsible for the early battle to "save" Oaks Bottom, Al Miller stands out as a staunch Oaks Bottom advocate.

The Sellwood-Moreland Improvement League (SMILE), of course, deserves the lion's share of credit for encouraging the early studies which documented the importance and significance of Oaks Bottom. SMILE has been steadfast in its support of protection for the bottoms, even during a period when the streets had to be torn up to avoid putting a water main through the bottoms! Audubon Board of Directors and members, Pacific Power and Light, and Cleveland High School deserve thanks for their cooperation with SMILE and the Park Bureau in the use, cleaning and management of the bottoms.

More recently, the East Multnomah Soil and Water Conservation District has become active in developing the final draft of this plan as well as producing an Implementation Strategy so the plan does not sit on a shelf gathering dust. Their assistance in getting this package to City Council for approval is greatly appreciated.

The following individuals contributed greatly to the content, writing and review of this document:

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Peter DeChant, Multnomah County Vector Control
Michael and Marie Deatherage-Newsom, Portland Audubon Society
Jimbo Beckmann, Portland Audubon Society
Dick Pugh and Richard Meyers, Cleveland High School

# VII. Implementation Schedule

Key implementation measures outlined here closely follow the "passive use" philosophy established in the Oaks Bottom Wildlife Management Plan. The intent of this implementation schedule is to focus on those improvements to the Bottom which enhance the wetland habitat elements, aid in vector control and allow non-intrusive forms of recreation to the refuge by various user groups. The Portland Park Bureau manages the Oaks Bottom Wildlife Refuge and all activities will be under their supervision.

The key sections included are:

A. Information/Education
B. Water Quality, Water Quantity Improvement
C. Access -- For Passive Recreation and Prevention of Illegal Access (e.g. Dumping, Camping)
D. Revegetation/Improved Vegetative Diversity

## Implementation Schedule

| WHAT | WHERE | WHO | FUNDS | WHEN 88 | 89 | 90 | 91 |
|---|---|---|---|---|---|---|---|
| **A. Information/Education** | | | | | | | |
| 1. Develop a plan for signing to inform users of the refuge significance, and control access to reduce trash dumping. | | | | | | | |
| a. Refuge Education: | | | | | | | |
| A. Plan uniform, low-maintenance informal interpretation kiosks. (Develop Oaks Bottom Logo). | 1. Voc.Village<br>2. Upper Bluff<br>3. South Fill | Parks (UO/OSU?)<br>EMSWCD - PAS<br>Oaks Park<br>SMILE | | X | | | |
| B. Install kiosks | | Volunteers | | X | | | |
| C. Plan and install informational signs at key points within Bottom boundaries to identify significant habitat elements. | North Fill<br>South Fill<br>Uplands<br>Wetlands<br>Riparian Zone | Same as A.1.a.A above | | X | | | |

| WHAT | WHERE | WHO | FUNDS | WHEN 88 | 89 | 90 | 91 |
|---|---|---|---|---|---|---|---|
| b. Pollution Control/Access | Along Bluff<br>Voc. Village | SMILE<br>EMSWCD/Parks | | X<br>3/88 | | | |
| A. Develop and install signs to inform users about illegal dumping and access. | Sellwood Park<br>Railroad | Vector Control<br>Prtl.Traction<br>PGE<br>Ross Isl. S&G<br>Police Bureau | | X<br>6/88 | | | |
| B. Develop info leaflet for neighborhood | Adjacent Nbrhood | SMILE | | X | | | |
| C. Develop info program to control seasonal fires | (See A.1.a.C above) | EMSWCD/Parks<br>Fire Bureau<br>Ross Isl. S&G | | X | | | |
| 2. Construct and install swallow and wood duck nest boxes | Throughout Bottom | PAS<br>Volunteers<br>Vector Cont. | | | | | |
| **B. Access** | | | | | | | |
| 1. Maintain existing trails and develop specific access points to the Bottom, controlling intrusion in wildlife areas, but allowing easy access for passive recreation. | | | | | | | |
| a. Maintenance for existing trails to keep trails functional in rustic condition and to prevent soil erosion. | North Fill<br>Williamette R. riparian | EMSWCD/SCS<br>Volunteers<br>PAS | | X | | | |
| b. Handicap Access Trails | South Fill | Parks | | | | | |
| A. Develop plan | Bluff | SOAR | | X | | | |
| c. Develop plan to provide minimally intrusive access to wetland areas | | | | | | | |
| A. Boardwalk to edge of wetlands | Swamp Wetland<br>Emergent Wetland | PAS/Houck | | | | | |
| (1) Planning | | | | X | | | |
| (2) Implementation | | | | | | X | |
| d. Develop viewpoints along top of bluff to provide non-intrusive access to wildlife areas | | | | | | | |
| A. Viewpoint at Sellwood Park | Upland Bluff | SMILE/Sohm | | X | | | |
| B. School bus overview & turnaround | Voc. Village<br>North Fill | Fulton/EMSWCD | | 3/88 | | | |

| WHAT | WHERE | WHO | FUNDS | WHEN 88 | 89 | 90 | 91 |
|---|---|---|---|---|---|---|---|
| C. Pedestrian path along bluff (7th Ave.) | Upland Bluff | SMILE | | | | | |
| D. Tree-topping (maples) | Upland Bluff | SMILE - PAS<br>City Forester<br>Cleveland HS | | | | | |
| e. Control access to RR right-of-way to discourage intrusive use of the refuge. Limit motor vehicle access to this area. | RR | Houck/DeChant | | 1<br>X | | | |
| A. Barrier across south fill at Portland traction intersection | South Fill<br>Parks | Portland Traction | | | | | |
| B. Develop cooperative agreement with Ross Isl S&G to limit access to RR berm | North fill | Ross Isl S&G<br>SMILE<br>Portland Traction | | X | | | |
| **C. Water Quality Improvements/Quantity Control** | | | | | | | |
| 1. Swamp Wetland - control water to increase habitat diversity and control floodwater mosquito hatch. | Swamp Wetland | Parks<br>SMILE<br>EPA<br>ODF&W<br>EMSWCD<br>SCS<br>Vector Control<br>Cleveland HS<br>PAS - Cleveland HS | <br>G-WEB<br><br>Donations<br><br>Parks | | | | |
| a. Water level control outlet | | | | | | | |
| A. Planning | | | | X | | | |
| B. Design | | | | X | | | |
| C. Permits/Applications | | | | X | | | |
| D. Construction | | | | | | | |
| E. Operation/Maintenance | | | | | | | |
| 2. Investigate Water Quality | South Fill<br>Open Swamp | EPA - DEQ<br>EMSWCD/Pronold | | X | | | |
| a. Check results of DEQ tests | | V. Smith | | | | | |
| A. Develop action items | | | | 3/88 | | | |
| b. Evaluate siltation problems | Overall | EMSWCD<br>DEQ | DEQ | X | | | |

[1] - summer

| WHAT | WHERE | WHO | FUNDS | WHEN 88 | 89 | 90 | 91 |
|---|---|---|---|---|---|---|---|
| **D. Revegetation/Vegetative Diversity** | | | | | | | |
| 1. Develop a plan to increase Wapato in interface areas | Swamp & Emergent Wetland | PAS - EPA WMSWCD/Lightcap | | | | X | |
| 2. Develop plant materials trial at selected point to use native plants to control trail and bluff erosion | Selected sites along trails & on bluff | SCS - EMSWCD | | | X | X | |
| 3. Develop plan to control purple loosestrife, willow, Himalayan blackberry, clematis and English ivy | Swamp wetland Upper Bluff Public/Private rights-of-way | PAS - Parks Cleveland HS City Arborist Native Plant Soc. | | | X | X | |
| 4. Develop plan to increase vegetative diversity of perimeter areas with native shrubs and trees. Key purposes would be for screening and wildlife food/cover | Public/Private rights-of-way | EPA - ODF Vector Contrl. Houck/Pugh, DeChant | | | X | X | |
| **E. Other** | | | | | | | |
| 1. Trash Dumping | | | | | | | |
| a. Control dumping of yard debris, etc. over bluffs. This dumping is causing super-saturated soils during winter and subsequent landslides. | Along Bluff Voc. Village Sellwood Park Oaks Park | PAS/Houck Vector Con/DeChant SMILE - PGE Parks - PTC | | | | | |
| A. Distribute informational flyer to neighborhood | Adjacent Neighborhoods | SMILE | | 1 | | | |
| 2. Stability and suitability of old dump site for revegetation | South Fill | | | | | | |
| a. Test soils for suitability for plant growth | | M. Pronold SCS - EMSWCD Cleveland HS | | X | | | |

1 - spring

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CONSERVATION PLAN MAP

Owner: CITY OF PORTLAND - PARKS  Surveyor: PARK BUREAU, AUDUBON SOCIETY, S.M.I.L.E.

County-Parish: MULTNOMAH  State: OREGON  Date: JAN. '88

Approximate acres: 160  Approximate scale: 1" = 660'

Cooperators with: EAST MULTNOMAH SWCD  District:

N  Plan developed by: OAKS BOTTOM  Photo number:

Approved: PEGGY OLDS  Date of conservation survey: