
Smith & Bybee Lakes

Recreation Master Plan

Prepared for:

Metropolitan Service District
Portland, Oregon

Prepared by:

Planning Section
Bureau of Parks & Recreation
City of Portland

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1 Introduction

1.1 Purpose of the Plan

The purpose of the Smith & Bybee Lakes Recreation Master Plan is to define and locate recreational and educational improvements for Smith and Bybee Lakes. The plan is intended to augment the Natural Resources Management Plan for Smith and Bybee Lakes prepared in 1990 by the Portland Park Bureau and the Port of Portland. The Management Plan established the overall direction and future for the lakes.

The goals of this recreation plan are consistent with and follow the goals outlined in the Management Plan.

The *Recreation Master Plan* includes:

- a set of goals and policies;
- a description of proposed facilities such as trails, viewpoints, and an interpretive center;
- a list of projects; and
- a schedule for implementation.

1.2 Location

The Smith and Bybee Lakes Management Area comprise about 2,000 acres in north Portland. Located just below the confluence of the Willamette and Columbia Rivers, the lakes form the western terminus of a broad lowland floodplain that stretches from Kelley Point Park to Blue Lake Park, 15 miles to the east.

The lakes are connected to a series of sloughs that connect the Willamette River with Blue Lake Park. The main channel in this slough system, Columbia Slough, flows to the south of Smith and Bybee Lakes.

As shown in the photograph on page 3, Smith and Bybee Lakes are a remnant of what was an extensive system of wetlands and waterways that once existed on the south shore of the Columbia River. Between the 1960s and mid 1980s, much of the area around the lakes was filled for industrial development and the St. John's Landfill (see diagrams on page 4). What remains is about 2,000 acres that comprise the Smith and Bybee Lakes Management Area. The area is now managed by the Metropolitan Service District.

1.3 Planning Process

The plan was prepared by the Planning Section of the Portland Park Bureau, under contract to the Metropolitan Service District (METRO). The master plan process was initiated in the fall of 1991 and was completed in August, 1992.

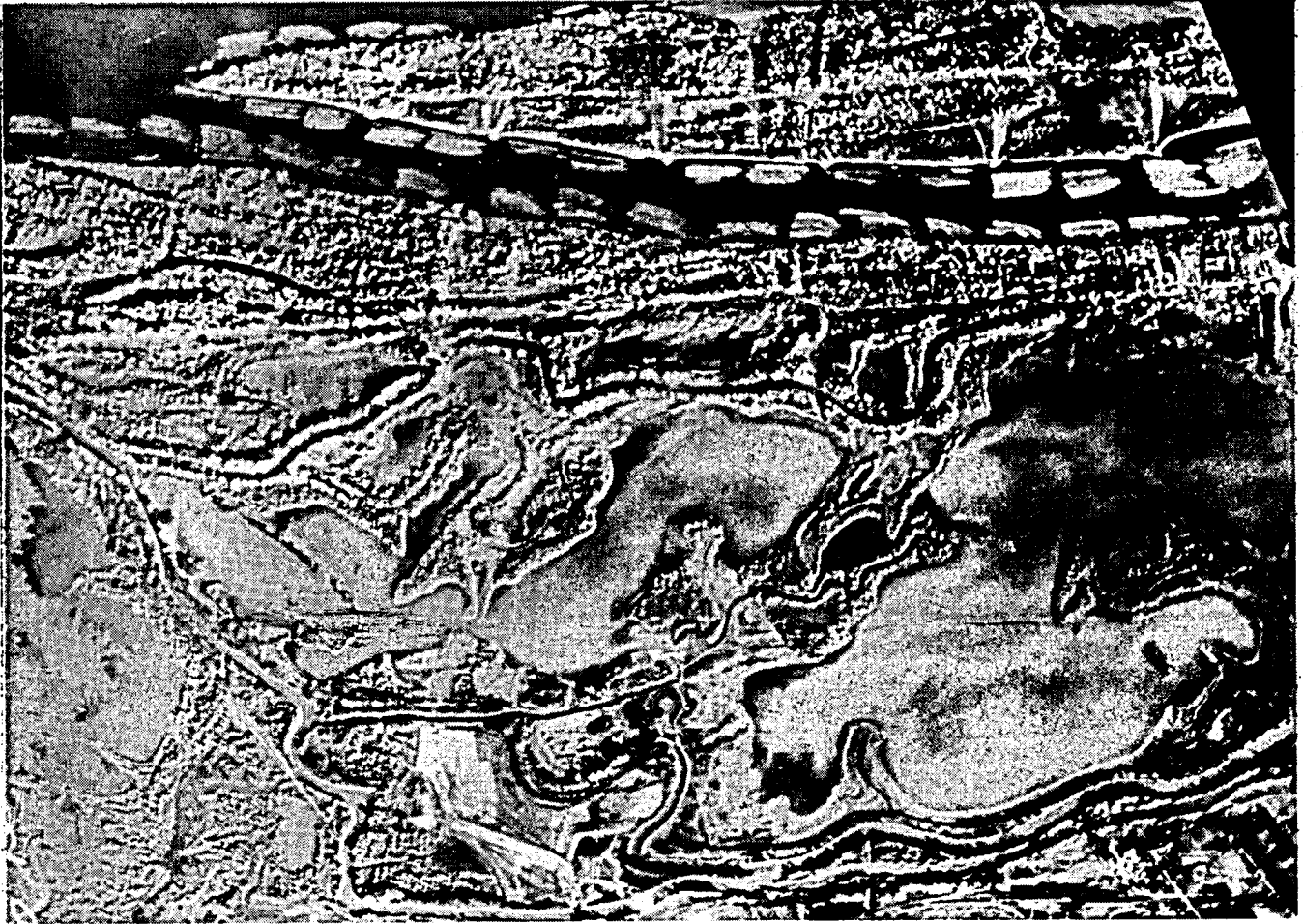
Preparation of the Recreation Master Plan was guided by three committees. The Smith and Bybee Lakes Management Committee is responsible for overall management of the lakes. The lakes' Technical Advisory Committee offers scientific and technical recommendations to the Management Committee. For purposes of this project, a Master Plan Advisory Committee also was established, and was discharged once the Recreation Master Plan was completed.

One of the first actions in the project was to establish a nine-person Master Plan Advisory Committee (MPAC), comprising representatives from different groups (See Appendix A for a list of MPAC members).

The planning process formally began with a series of meetings in fall, 1991 with three different groups: the general public, the MPAC, and the Friends of Smith and Bybee Lakes. These meetings were essentially "listening sessions". After basic inventory information was presented, staff spent most of the meeting listening to ideas and comments from meeting participants.

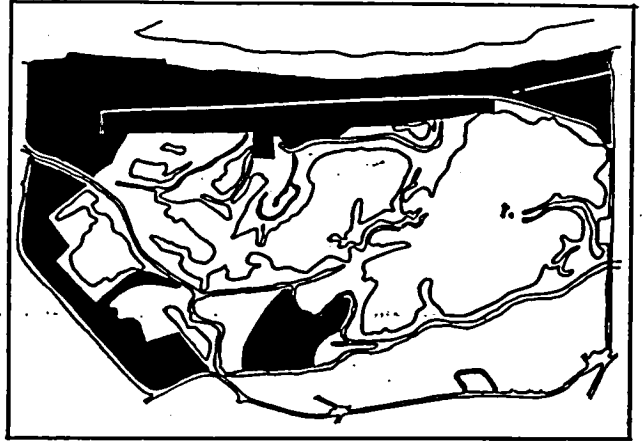
A second series of meetings was held in February and March of 1992. Like the first set, these meetings were held with the three groups mentioned above. At these meetings, alternative improvement plans were reviewed and public comment was solicited. It was at these meetings that a general policy towards the recreational development of the lakes was established.

Over the next few months, a draft plan was prepared by the Park Bureau. In June and July, the plan was reviewed by the lakes' Management Committee and Technical Advisory Committee. A final draft was subsequently prepared and adopted by the Management Advisory Committee in August, 1992.



Smith and Bybee Lakes in 1956. Hayden Island is at the top of the photo.

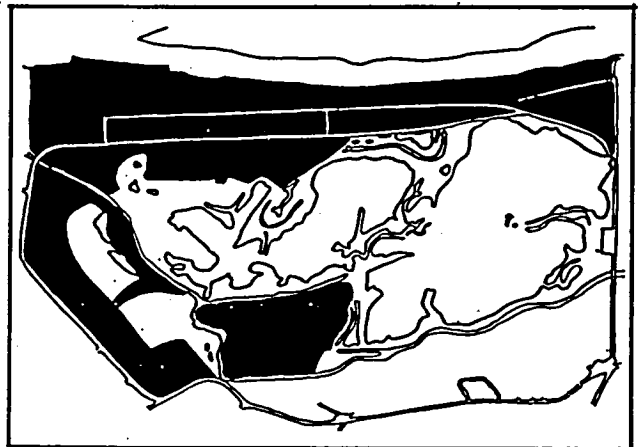
Smith and Bybee Lakes from 1939-1991.
The black areas represent filling of wetlands.



1974



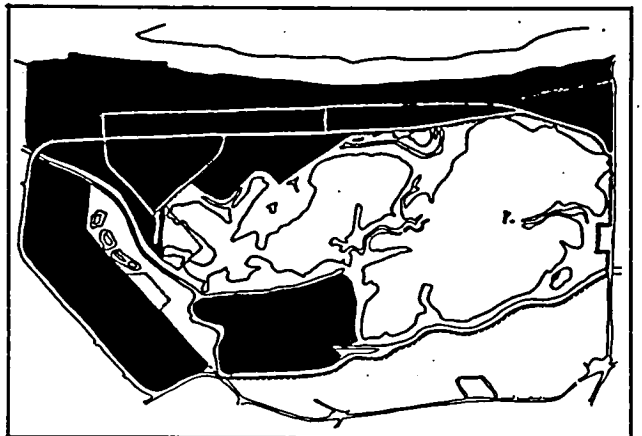
1939



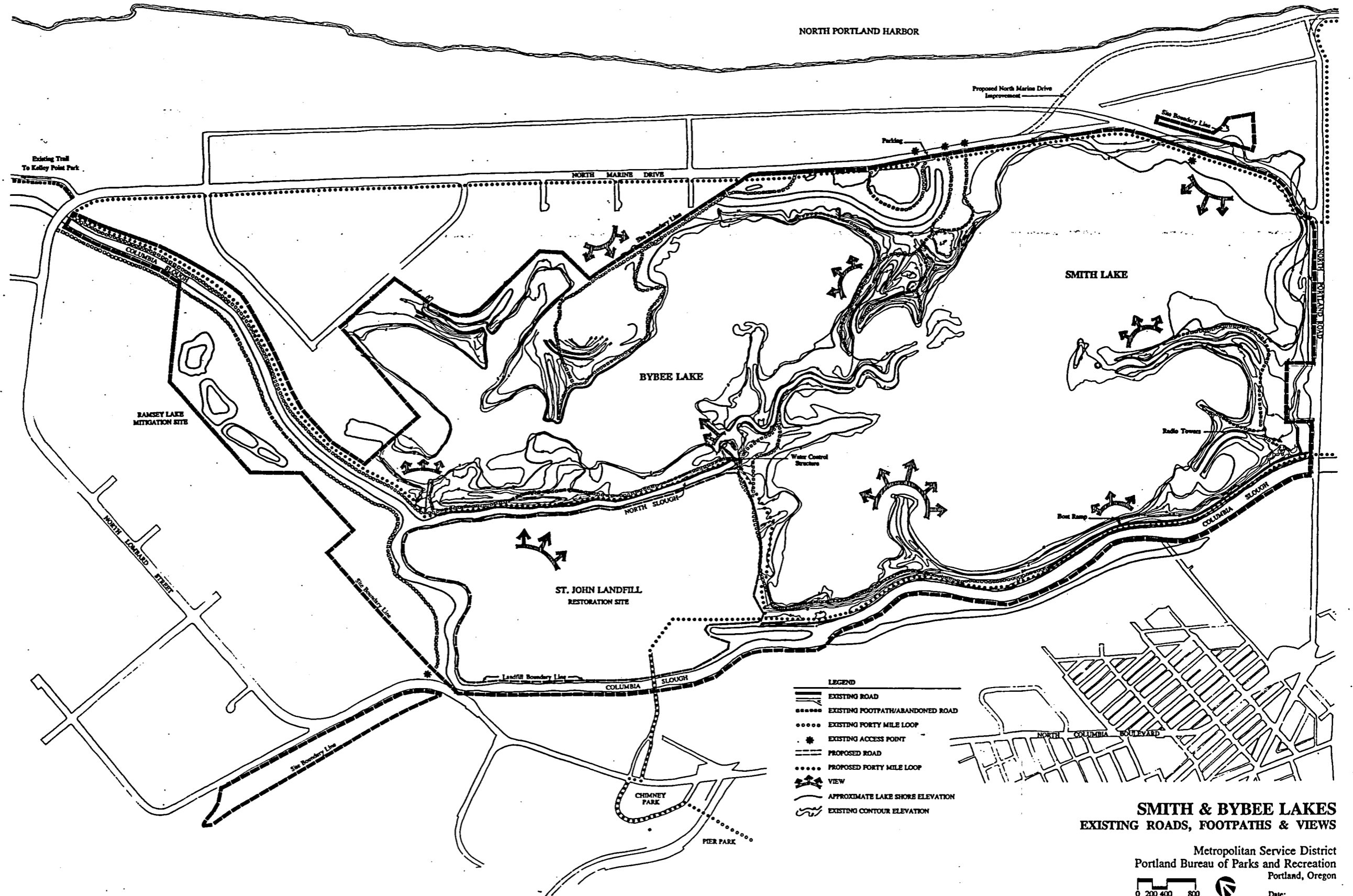
1986



1956



1991



SMITH & BYBEE LAKES
EXISTING ROADS, FOOTPATHS & VIEWS

Metropolitan Service District
 Portland Bureau of Parks and Recreation
 Portland, Oregon
 Date: _____

2 Environmental Issues & Recreation Assessment

The purpose of this chapter is to identify critical environmental issues that were considered in the master plan, discuss projected recreational demand, and describe potential recreational activities.

2.1 Environmental Issues

The main issue in developing recreational improvements at Smith and Bybee Lakes concerns the impact of additional people on the lakes' vegetation and wildlife. Human impacts in wetland areas can be detrimental, especially for *vegetation* and *wildlife*.

Vegetation

Human activities disturb vegetation primarily by trampling. Studies have shown that the greatest impact is caused by "consistent, directed walking" which changes plant species composition and diversity.¹

The vegetation of wet soils are especially susceptible to trampling because soil compaction can damage roots, reduce aeration, reduce water retention, and decrease seed germination and survival. In addition, soil compaction can lower surface elevations and thus change the degree to which vegetation and soils are inundated (see maps on pages 11 and 12).

Wildlife

Although human activities will always have some impact on wildlife, the magnitude of these impacts vary according to species and life-cycle stage. Impacts can range from the temporal -- a brief movement away from humans -- to the more serious, such as changes in reproductive success.

Another impact is caused by trampling, grazing, or the collection of wood for fires, which alters habitat. The effects of these activities is to reduce cover for animals that depend on it for protection or for food. As human use increases, so does the population of rats, racoons,

¹ Information on human impacts is based on a report, Public Access and Wetlands: Impacts of Recreational Use, by Michael Josselyn, Molly Martindale, and Joan Duffield, published by Romberg Tiburon Centers, California, 1989.

mice, and other animals adapted to human activity.

The concerns over the environmental impacts on vegetation and wildlife are addressed by:

- (1) limiting trail development in general,
- (2) restricting trails and human activities in sensitive areas,
- (3) concentrating human activity areas in two zones, where some development has already occurred, and
- (4) adopting the priority of wildlife over humans as a goal for the plan (see the section on Goals).

2.2 Recreational Assessment

Smith and Bybee Lakes represent a major resource that can provide low-intensity and passive recreation for residents throughout the region. The lakes also have the potential, if managed properly, to be among the city's most popular sites for walking, bicycling, birding, and environmental education. This potential is suggested by the recreational assessment, which included a review of comparable sites, public meetings, surveys, and an assessment of the site relative to the region and adjacent neighborhoods.

Regional Context

Any assessment of the lakes' recreational value would have to begin first with its relationship to the Portland-Vancouver metropolitan area. In this context, the Smith and Bybee Lakes management area represents one of the largest contiguous wetland complexes in the region, second only to the Ridgefield National Wildlife Refuge (at 4,627 acres).

The lakes also represent an uncommon resource that can provide a number of non-consumptive activities to a large number of people. It is the only easily accessible site in the metropolitan area that offers -- in one place -- large open areas of water and opportunities for boating, wildlife observation, environmental education, walking, and bicycling.

Moreover, the lakes are an area that can be linked with other regional and urban trails such as the 40 Mile Loop along the Columbia Slough.

The importance of the lakes is underscored in the draft of the Green-spaces Master Plan (prepared by the Metropolitan Service District),

which classifies them as "regionally significant". According to the plan, these sites are major components of and will serve as anchors in the overall Greenspace system.

City and Neighborhood Context

On a neighborhood or urban level, Smith and Bybee Lakes represents a unique and close-in resource for North and Northeast Portland residents. For many of the 48,000 residents of North Portland, the lakes are within a 5-minute drive or a 10-15 minute walk. Perhaps because of its proximity, there is substantial interest in the lakes' preservation among area residents, as evidenced by comments expressed at public meetings.

Recreational Use of Natural Resource Sites

One indicator of potential recreational demand is provided by reviewing the visitation of other similar sites in the metropolitan area. Although much of the participation data is qualitative, several conclusions and projections can be made.

Powell Butte and Oaks Bottom, as examples, are extremely popular among Portland residents. Visitation of these sites, especially Powell Butte, has exceeded expectations of planners. Both parks are used by individuals and families, but are also used often for organized hikes by groups such as Portland Audubon, Metro Greenspaces, Portland Park Bureau, and Friends' groups. Both sites are popular throughout the year although use is heaviest during spring and fall.

Demographic Changes

In addition to participation trends, demographic changes in the city's population will affect future use of the lakes. Of these changes, one of the most important affecting future recreational needs is the aging of the baby boomers, as they grow out of the 30s and 40s and into middle age and beyond. Because of its size, the baby boomer cohort will have a major impact on recreational patterns and activities.

At least one study, *Recreation Trends to the Year 2000*, has speculated that the boomer cohort "may be transferring from physically demand

ing activities to other styles of engagement with natural environments." Consequently, sites such as Smith and Bybee Lakes will likely be popular among many city residents.

2.3 Recreational Activities

Because of the lakes' environmental conditions and management policies, recreational activities are limited to those that are low-intensity, passive, and non-consumptive. The Management Plan includes several key sections that essentially define what recreational activities are to be considered.

- The Plan's overall goal statement notes that *"only those recreational uses that are compatible with the preservation of wildlife habitat will be encouraged."*
- The Management Plan also lists "examples of appropriate recreation" such as:
 - non-motorized boating (canoeing and canoe/sailing),
 - recreational education (wetland biology and ecology),
 - observing nature (e.g. birdwatching),
 - hiking/walking,
 - fishing, and
 - bicycling.

According to the plan, "low cost, passive recreation opportunities will be needed at levels that are unprecedented and not presently available at parks facilities within the region."

Activities that will likely be the most popular are those that are compatible with the passive orientation of the plan and are compatible with other activities. The activities noted below are those that will likely exhibit the highest participation by visitors.

- *Hiking and walking* will probably be among the most popular activities at the lakes. Several studies across the country and locally have documented the popularity of this activity and the increased demand for walking trails.

In a survey of 1,200 residents conducted by the Portland Park Bureau in 1988, "walking for recreation" was the most popular

activity, with 88 percent saying they did this "often" or "sometimes".²

- *Canoeing* is expected to be popular because the lakes are easily accessible, provide over 600 acres of water, and offers opportunities to observe wildlife -- all of this in an environment that is relatively unspoiled.

- *Fishing* will likely continue to be a popular activity at Smith and Bybee Lakes. The lakes are now used frequently for fishing and the development of an improved boat ramp could increase participation in this activity.

Environmental Education

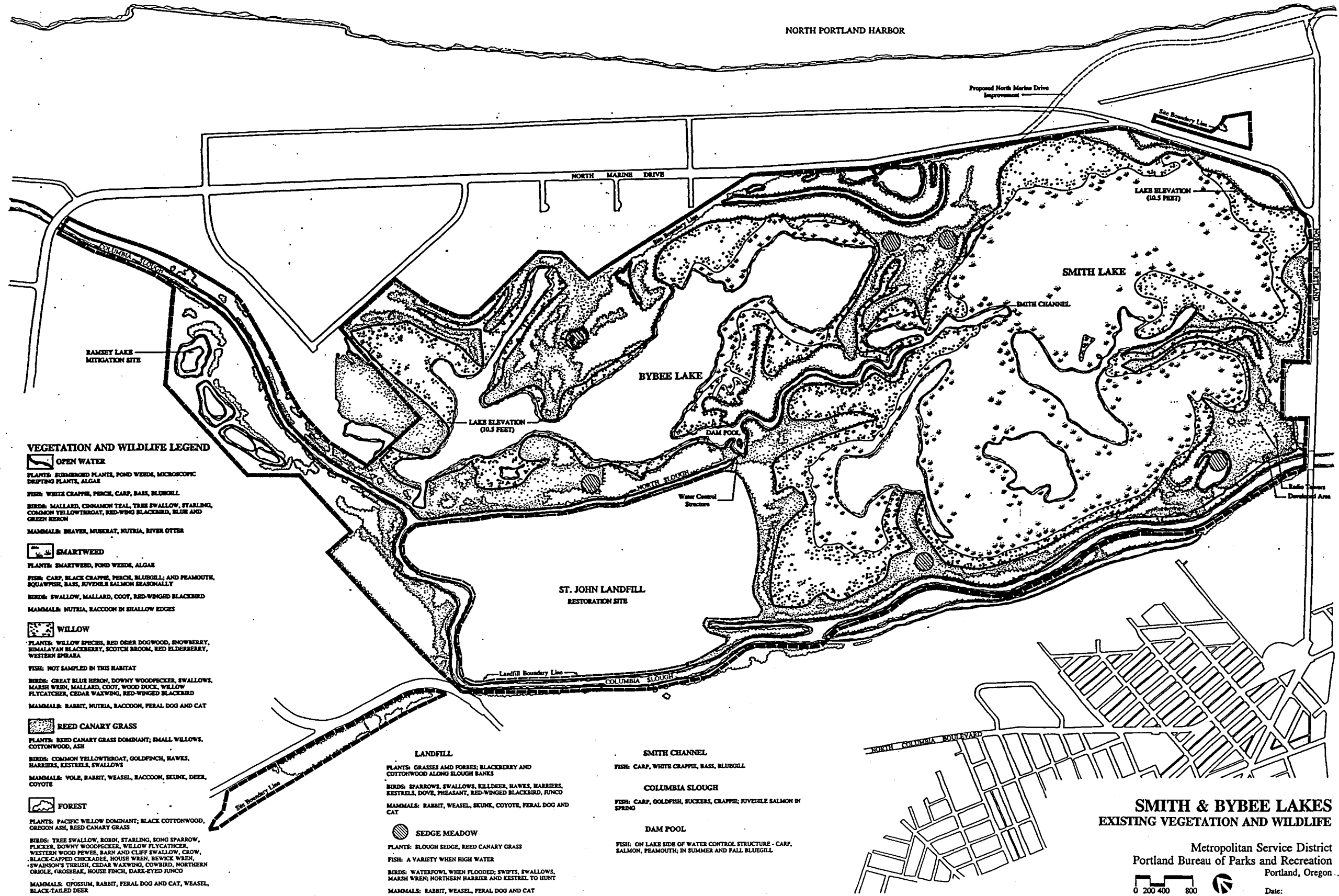
The educational potential of the lakes is also significant. As one of the largest, if not the largest, wetland complex in the metropolitan area, Smith and Bybee Lakes offer an unparalleled opportunity for environmental education. The area is large enough to provide habitat to a variety of wildlife, and includes a variety of habitat types.

Moreover, the lakes are easily accessible for much of the city's population. For some schools or neighborhoods, the lakes can be reached with a five-minute drive or 15 minute walk. Consequently, the educational element is an important part of the recreation master plan.

The value of the lakes for environmental education has been demonstrated through two projects involving George Middle School in 1991. The first project, which lasted about three months, consisted of field trips, classroom instruction, and preparation of a three-panel mural by students. Students learned about the ecology, wildlife, and vegetation of the lakes. In producing the mural, students also studied specific animals in more detail.

In the second project, GreenCity Data, George School students conducted inventories of environmental conditions at the lakes. The results of the inventory were then summarized and presented at a conference with five other schools at Portland State University.

² The survey also established participation rates for other activities such as day hiking (45 percent), fishing (40 percent), bicycling (39 percent), jogging (28 percent) and sailing, canoeing or kayaking (22 percent).



VEGETATION AND WILDLIFE LEGEND

OPEN WATER

PLANTS: SUBMERGED PLANTS, POND WEEDS, MICROSCOPIC DRIFTING PLANTS, ALGAE

FISH: WHITE CRAPPIE, PERCH, CARP, BASS, BLUEGILL

BIRDS: MALLARD, COMMON TEAL, TREE SWALLOW, STARLING, COMMON YELLOWTHROAT, RED-WING BLACKBIRD, BLUE AND GREEN HERON

MAMMALS: BEAVER, MUSKRAT, NUTRIA, RIVER OTTER

SMARTWEED

PLANTS: SMARTWEED, POND WEEDS, ALGAE

FISH: CARP, BLACK CRAPPIE, PERCH, BLUEGILL, AND PEAMOUTH, SQUAWFISH, BASS, JUVENILE SALMON SEASONALLY

BIRDS: SWALLOW, MALLARD, COOT, RED-WINGED BLACKBIRD

MAMMALS: NUTRIA, RACCOON IN SHALLOW EDGES

WILLOW

PLANTS: WILLOW SPECIES, RED OILER DOGWOOD, SNOWBERRY, HIMALAYAN BLACKBERRY, SCOTCH BROOM, RED ELDERBERRY, WESTERN SPIRAEA

FISH: NOT SAMPLED IN THIS HABITAT

BIRDS: GREAT BLUE HERON, DOWNY WOODPECKER, SWALLOWS, MARSH WREN, MALLARD, COOT, WOOD DUCK, WILLOW FLYCATCHER, CEDAR WAXWING, RED-WINGED BLACKBIRD

MAMMALS: RABBIT, NUTRIA, RACCOON, FERAL DOG AND CAT

REED CANARY GRASS

PLANTS: REED CANARY GRASS DOMINANT; SMALL WILLOWS, COTTONWOOD, ASH

BIRDS: COMMON YELLOWTHROAT, GOLDFISH, HAWKS, HARRIERS, KESTRELS, SWALLOWS

MAMMALS: VOLE, RABBIT, WEASEL, RACCOON, SKUNK, DEER, COYOTE

FOREST

PLANTS: PACIFIC WILLOW DOMINANT; BLACK COTTONWOOD, OREGON ASH, REED CANARY GRASS

BIRDS: TREE SWALLOW, ROBIN, STARLING, SONG SPARROW, FLICKER, DOWNY WOODPECKER, WILLOW FLYCATCHER, WESTERN WOOD PEWEE, BARN AND CLIFF SWALLOW, CROW, BLACK-CAPPED CHICKADEE, HOUSE WREN, BEWICK WREN, SWAINSON'S THRUSH, CEDAR WAXWING, COWBIRD, NORTHERN ORIOLE, GROSBEEK, HOUSE FINCH, DARK-EYED JUNCO

MAMMALS: OPOSSUM, RABBIT, FERAL DOG AND CAT, WEASEL, BLACK-TAILED DEER

LANDFILL

PLANTS: GRASSES AND FORBS; BLACKBERRY AND COTTONWOOD ALONG SLOUGH BANKS

BIRDS: SPARROWS, SWALLOWS, KILLDEER, HAWKS, HARRIERS, KESTRELS, DOVE, PHEASANT, RED-WINGED BLACKBIRD, JUNCO

MAMMALS: RABBIT, WEASEL, SKUNK, COYOTE, FERAL DOG AND CAT

SEDGE MEADOW

PLANTS: SLOUGH SEDGE, REED CANARY GRASS

FISH: A VARIETY WHEN HIGH WATER

BIRDS: WATERFOWL, WHEN FLOODED: SWIFTS, SWALLOWS, MARSH WREN; NORTHERN HARRIER AND KESTREL TO HUNT

MAMMALS: RABBIT, WEASEL, FERAL DOG AND CAT

SMITH CHANNEL

FISH: CARP, WHITE CRAPPIE, BASS, BLUEGILL

COLUMBIA SLOUGH

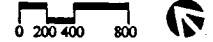
FISH: CARP, GOLDFISH, SUCKERS, CRAPPIE; JUVENILE SALMON IN SPRING

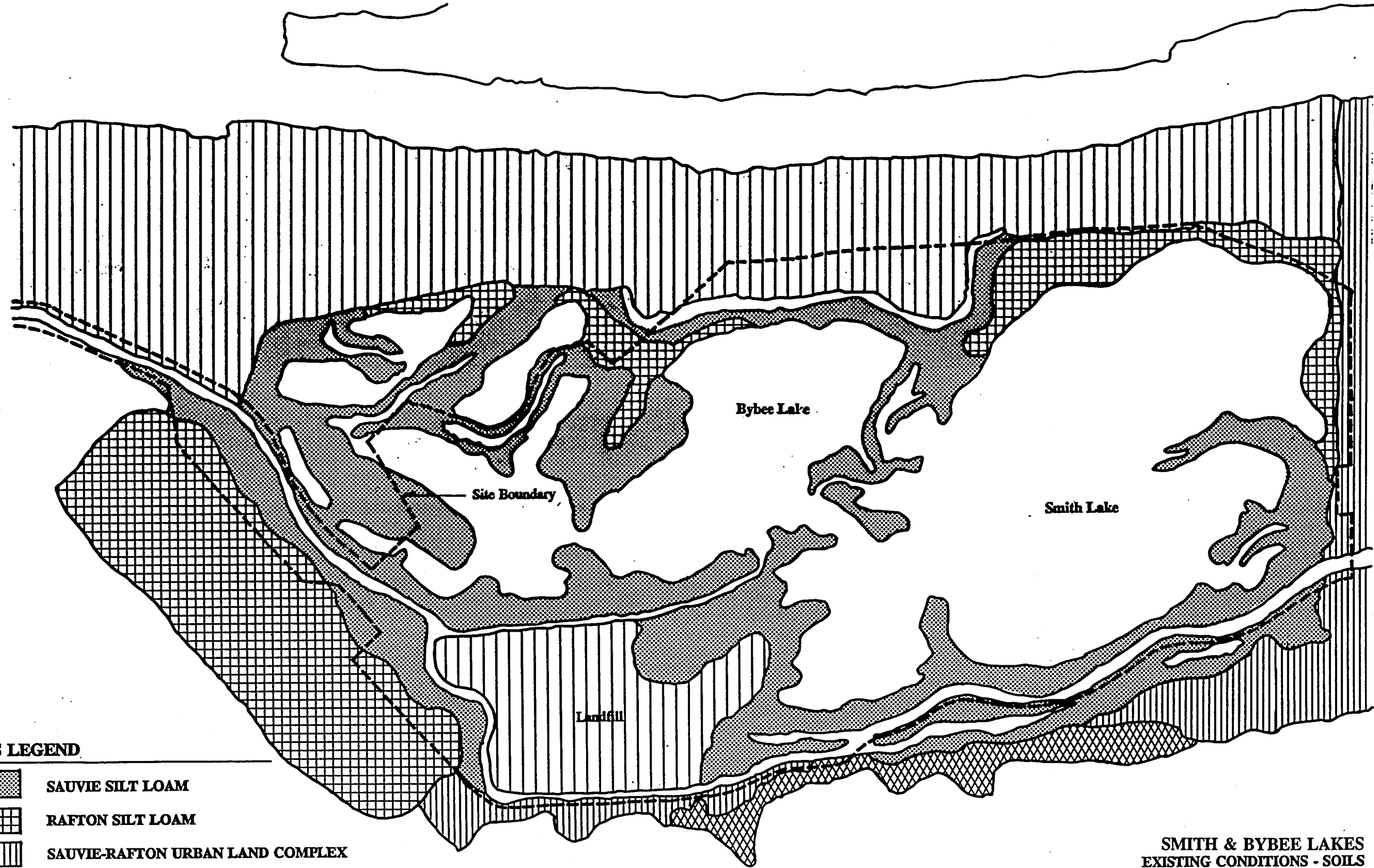
DAM POOL

FISH: ON LAKE SIDE OF WATER CONTROL STRUCTURE - CARP, SALMON, PEAMOUTH; IN SUMMER AND FALL BLUEGILL


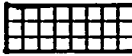



**SMITH & BYBEE LAKES
EXISTING VEGETATION AND WILDLIFE**

Metropolitan Service District
Portland Bureau of Parks and Recreation
Portland, Oregon
Date:





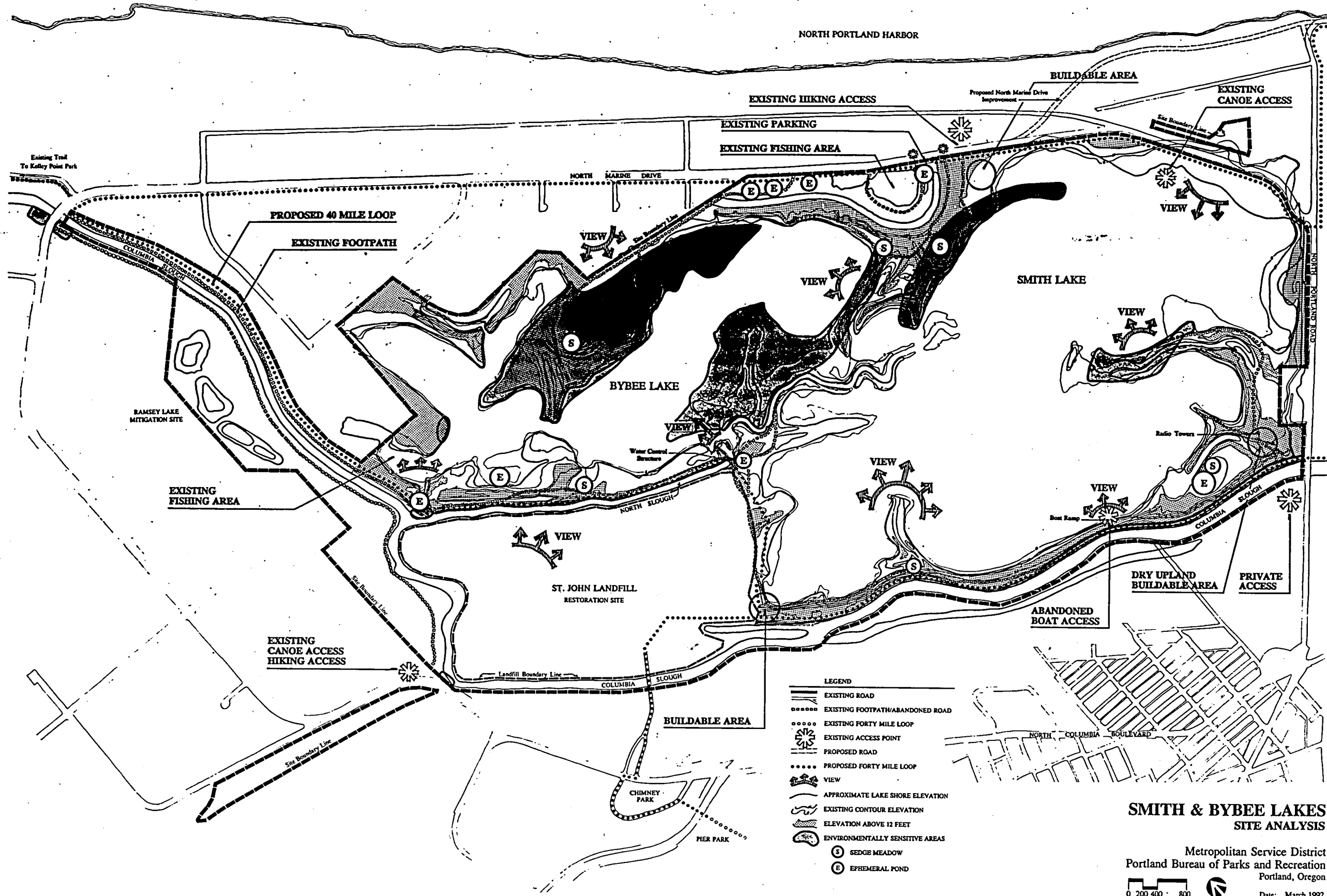
SOILS LEGEND

-  SAUVIE SILT LOAM
-  RAFTON SILT LOAM
-  SAUVIE-RAFTON URBAN LAND COMPLEX
-  PILCHUCK-URBAN LAND COMPLEX
-  URBAN LAND-QUAFENO COMPLEX

**SMITH & BYBEE LAKES
EXISTING CONDITIONS - SOILS**

Metropolitan Service District
 Portland Bureau of Parks and Recreation
 Portland, Oregon
 Date: March 1992

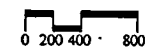




- LEGEND**
- EXISTING ROAD
 - EXISTING FOOTPATH/ABANDONED ROAD
 - EXISTING FORTY MILE LOOP
 - ⊙ EXISTING ACCESS POINT
 - PROPOSED ROAD
 - PROPOSED FORTY MILE LOOP
 - ↔ VIEW
 - ~ APPROXIMATE LAKE SHORE ELEVATION
 - EXISTING CONTOUR ELEVATION
 - ELEVATION ABOVE 12 FEET
 - ☁ ENVIRONMENTALLY SENSITIVE AREAS
 - ⊙ SEDGE MEADOW
 - ⊙ EPHEMERAL POND

**SMITH & BYBEE LAKES
SITE ANALYSIS**

Metropolitan Service District
Portland Bureau of Parks and Recreation
Portland, Oregon
Date: March 1992



3 Master Plan Recommendations

3.1 INTRODUCTION

The master plan recommendations for Smith and Bybee Lakes are organized into the four sections listed below.

- 3.2 Planning Concepts - describes the basic assumptions and policies that govern the recreation master plan;
- 3.3 Goals & Objectives - outlines the basic principles to be followed in providing recreational improvements at the lakes;
- 3.4 Development Plan - identifies specific actions and projects to realize the goals of the Recreation Master Plan. Specific actions are listed for major facilities.
- 3.5 Implementation - describes how the plan's objectives will be realized. Projects and actions are divided into specific phases. Estimated costs for projects also are identified. Some of the recommended actions in this section are contingent upon property acquisition.

3.2 PLANNING CONCEPTS

The Smith and Bybee Lakes Recreation Master Plan is based on a few fundamental concepts that define its overall structure and direction. Much of this is based on the Management Plan but other concepts were identified through the planning process for recreational facilities. These basic concepts are described below.

Recreational activities are limited to those that are low-intensity, passive, and non-consumptive.

The lakes are considered to be an environmentally sensitive area whose basic values are its wildlife, beauty, and provision of habitat. The basis for this approach was established in the management plan for the lakes, prepared in 1990 (see page 16 for an overview of that plan).

Establishment of limits on human activities and recreational facilities in some areas.

Because of the need to minimize environmental impacts, recreational facilities and human activities are limited to a few areas and along trail corridors. In addition, certain activities, such as canoeing, may be monitored to ensure that the lakes' environmental integrity and recreational experience are not compromised.

Development of facilities on an as-needed basis.

The lakes are one of the last remnants of an extensive wetland system along the Columbia River and should be managed to protect its environmental integrity. Consequently, facilities identified in this plan shall be developed as user demand warrants. Construction of facilities not expressly authorized by this Plan could occur only if an amendment to the Plan was approved to permit construction.

3.3 GOALS & OBJECTIVES

Goals and objectives for the Recreation Master Plan are described on the following pages. The purpose of the goals is to serve as a guide whenever recreational improvements are planned or built. The goals in this section are based in part, on the goals and policies defined in the Natural Resources Management Plan for Smith and Bybee Lakes, prepared in 1990 by , METRO, the Port of Portland, and the Portland Park Bureau.

3.3.1 Natural Resources Management Plan - Goals & Policies

The policies in the Natural Resources Management Plan for Smith and Bybee Lakes plan establish the overall direction towards recreational development at the lakes and any actions in the Recreation Master Plan must conform to the Management Plan. The basic Goal Statement of the Natural Resources Management Plan is shown below, along with two policies that related directly to recreation use at Smith and Bybee Lakes.

A. Goal Statement

The goal of the Management Plan is to protect and manage Smith and Bybee Lakes area as an environmental and recreational resource for the Portland region. The lakes will be preserved as historical remnants of the Columbia River riparian and wetlands system.

They will be maintained and enhanced, to the extent possible, in a manner that is faithful to their original condition. Only those recreational uses that are compatible with environmental objectives of the Management Plan will be encouraged. Smith Lake and adjacent uplands will be the principal location for recreational activities. Bybee Lake will be less accessible. Its primary use will be as an environmental preserve.

B. Selected Policies

Policy 15

Smith Lake will be the principal area for water related recreational activities such as canoeing, rowing, fishing, and birdwatching. Smith Lake will also be managed as a wildlife habitat and preservation area. No hunting, motorized boating, or other obtrusive forms of recreation will be allowed.

Policy 16

Bybee Lake and surrounding wetlands will be managed primarily as an environmental preserve. Bybee Lake will be available for recreation use, although access by foot and boat will be more difficult than Smith Lake. No vehicular access will be provided to Bybee Lake.

3.3.1 Recreational Master Plan Goals & Objectives

A. Activities

Wildlife and wildlife habitat shall have priority over human use.

- Facilities and activities that degrade or create unacceptable impacts on the lakes' wildlife, wildlife habitat, or environmental integrity shall be removed or modified.
- An ongoing program of monitoring the lakes' wildlife and habitat conditions shall be initiated.
- If needed, "test trails" or facilities shall be developed first to determine the environmental impacts on the lakes' wildlife and habitat.

Develop facilities for activities that are compatible with the Management and Recreation Master Plans.

- Compatible activities are those that are low-intensity and non-consumptive such as hiking, walking, birdwatching, bicycling, canoeing, and fishing.
- Other activities may be considered to be appropriate if they do not generate unacceptable impacts and can be accommodated in a way that is consistent with the intent and goals of this Master Plan.

[Model airplane flying is not considered to be an appropriate recreational activity for the study area. It may be accommodated on the landfill when that area is deemed "safe" for human use. The landfill was not included in the study area for this plan.]

Develop "activity areas" in which facilities, trailheads, and other support facilities will be provided.

- Locate these activity areas where:
 - o support facilities are now provided;
 - o environmental impacts can be minimized;
 - o a variety of activities can be accommodated; and
 - o access from major roads and other site conditions are appropriate.

B. Facilities

Structures and other man-made improvements shall be limited to those that provide or accommodate activities that are low-intensity, non-consumptive, or educational.

- Recreational facilities shall be limited to trails, interpretive exhibits and signs, access points (e.g. trailheads, canoe launches) an educational center, and support facilities that are needed for the center, recreational activities, and for site management.
- The education center shall be located and developed to minimize environmental impacts on the lakes, its wildlife, wildlife habitat, or vegetation.

C. Access & Trails

Provide public access into the lakes in a manner that minimizes human impact on wildlife, wildlife habitat, and vegetation.

- Limit the number of access points into the lakes.
- Locate trails to minimize impacts on the lakes' wildlife and vegetation.
- Develop "spur trails", wherever possible and appropriate, that have one access point from the main trail.
- Loop trails that encircle either one lake, or both lakes, shall not be provided.
- Minimize or seriously limit trail development and access around Bybee Lake.

Trails shall be carefully sited to comply with the Recreational Plan's goals.

- Trails will be located to:
 - minimize impacts on wildlife, wildlife habitat, and vegetation;
 - provide views of the lakes, wildlife, or other significant features;
 - provide interpretive signs and exhibits along trails to inform visitors about the lakes' wildlife, vegetation, water quality, and;
 - be accessible to visitors in wheelchairs.

Integrate the main trail system into existing and planned trail networks.

- **Develop the trail along the southern border of Smith Lake as a part of the 40 Mile Loop to Kelley Point Park and to Pier Park.**
- **Coordinate trail improvement projects with the 40 Mile Loop Land Trust, City of Portland, and other relevant agencies or groups.**

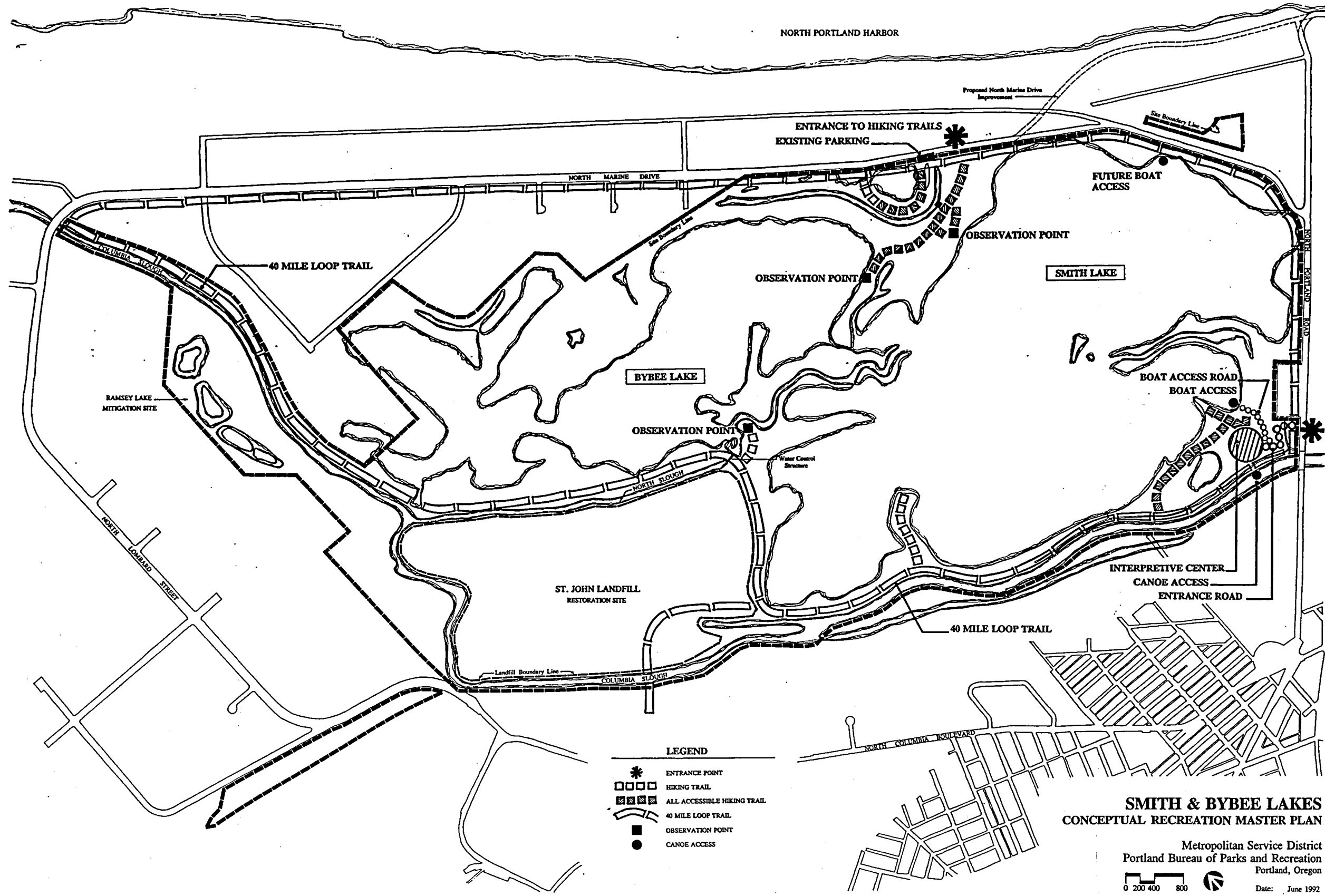
D. Education

Develop a public information program to educate visitors about appropriate recreational practices while in the management area and the Columbia Slough.

- Provide interpretive signs and information at all access points to the lakes.
- Provide signs, exhibits, and brochures that outline "proper" visitor behavior in the lakes.
- Provide signs at trailheads and canoe access points that outline acceptable recreational uses.
- Develop a team of "park hosts", as funding allows, to answer questions, act as guides, and to ensure that public activities are appropriate.

Provide and promote educational and research opportunities to public and professional groups

- Develop an on-site interpretive center that provides educational opportunities on the lakes' environmental conditions, cultural history, and its relationship to its surrounding neighborhoods.
- Develop areas around the lakes that can be used as environmental learning laboratory for schools.
- Promote research opportunities for colleges and universities.
- Provide interpretive signage throughout the site.
- Establish educational programs that involve local schools, neighborhood groups, environmental organizations, and other public agencies.

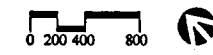


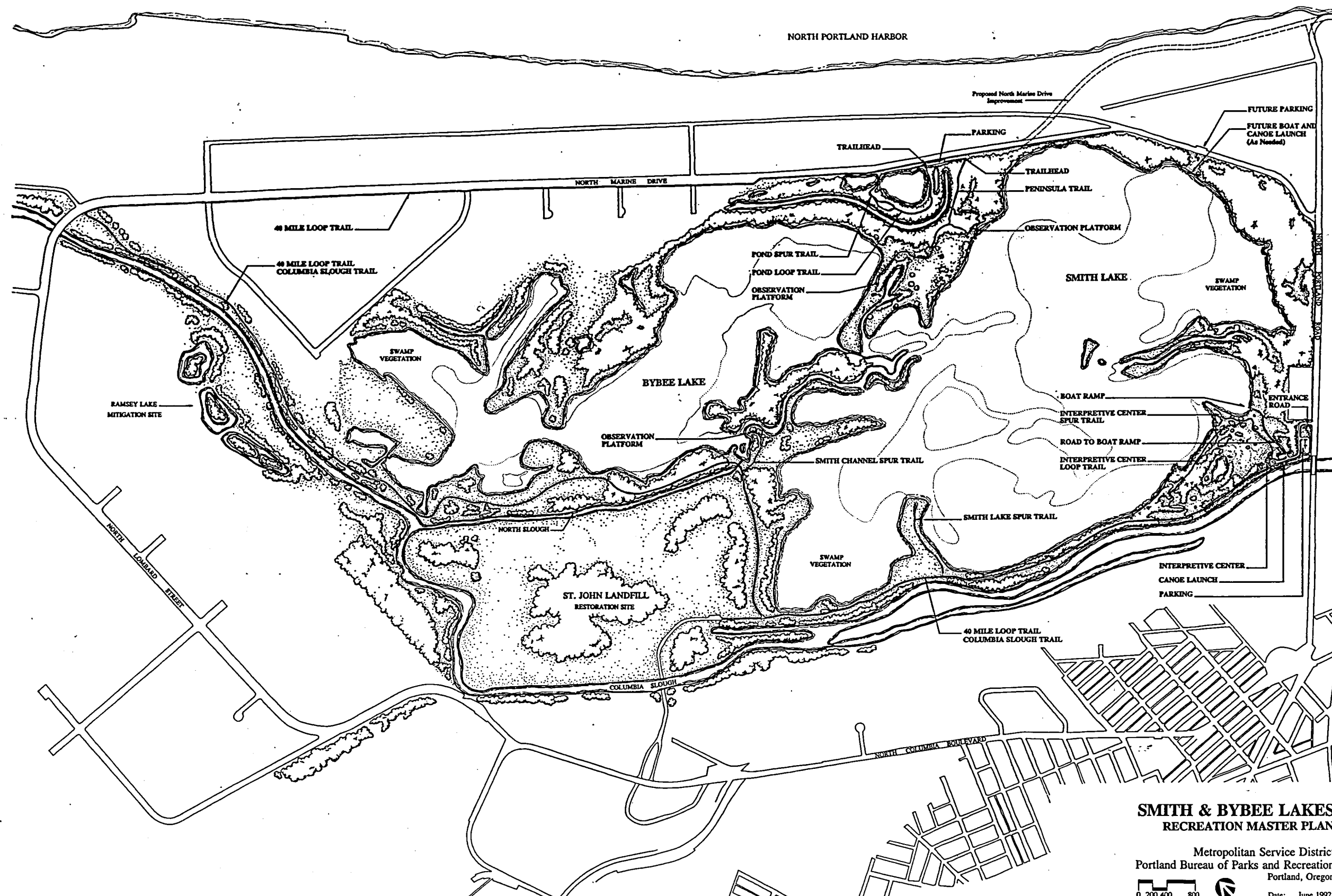
LEGEND

- ENTRANCE POINT
- HIKING TRAIL
- ALL ACCESSIBLE HIKING TRAIL
- 40 MILE LOOP TRAIL
- OBSERVATION POINT
- CANOE ACCESS

**SMITH & BYBEE LAKES
CONCEPTUAL RECREATION MASTER PLAN**

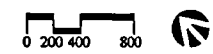
Metropolitan Service District
 Portland Bureau of Parks and Recreation
 Portland, Oregon
 Date: June 1992





**SMITH & BYBEE LAKES
RECREATION MASTER PLAN**

Metropolitan Service District
Portland Bureau of Parks and Recreation
Portland, Oregon
Date: June 1992



3.3.2 DEVELOPMENT PLAN

The Development Plan describes the recommended facilities, improvements, and programs that are proposed over the next ten years for the lakes. Projects are described and organized according to the three facility types and by three "development zones".

- A. Trail System
- B. Roads and Parking
- C. Education Facilities and Programs
- D. Interpretive Center Area
- E. Pond and Peninsula Area
- F. Boat Launch Area

A. Trail System

The trail system is a critical element for the lakes because it provides the backbone or framework for recreational uses and will limit and define areas of human impact.

At Smith and Bybee Lakes, the trail system is designed to control and define human access in the lakes, minimize intrusions in environmentally sensitive areas, and provide access to areas that can accommodate human activity, provide some educational value, and offer views of the lakes. Some areas, such as the St. John's Landfill, will not be open for public use for 15-20 years, although a perimeter trail is a possibility by 1996.

Trail Guidelines and Types

A hierarchy of trails is proposed for the lakes and shall include primary routes, secondary routes, the 40-Mile Loop, and boardwalks (see table on page 27). All trails will be accessible for disabled visitors and shall conform to the intent of the Americans with Disabilities Act.

Primary trails will be surfaced with compacted, crushed rock or other non-asphalt hard surface material and will be 6' wide. These trails will be located in areas that are typically dry throughout the year. It is possible, however, that portions of these trails may be in areas that will be wet during unusually high rainfall or other unexpected events. In these cases, certain segments of these trails may have to be closed.

Secondary trails will direct visitors to environmentally sensitive areas and consequently, should be located and built to minimize any impacts on vegetation and wildlife. These trails may be located in areas that are inundated or have saturated soils for a part of the year. Secondary trails will be 5' wide and will be surfaced with crushed rock.

These trails will be designed as "spurs" or dead-ends. In some areas, they will provide access to specific points such as interpretive exhibits, observation blinds, or viewpoints. Interpretive exhibits and signs should be distributed along the trails and at observation platforms.

The **40-Mile Loop trail** is a major hiking and bicycling route that will eventually connect Kelley Point Park with North Portland Road along the north side of the Columbia Slough. The Loop trail will be a 12' wide trail with a surface suitable for strollers and wheelchair users.

Surfacing of this trail has not been determined. A decision on surface material will be made after the results of a test trail on the Springwater Corridor are released. Although it will accommodate bicycles, the surfacing will be rougher than asphalt and consequently, will not encourage high levels of bicycle use.

Boardwalks will be provided in areas that are seasonally wet. The use of boardwalks is minimized. They will be used also at low points, in steep areas, and where on-grade trails will result in unacceptable environmental impacts. Boardwalks will be 6' wide and will be built with wood.

Special trails may be needed in unique conditions. An asphalt trail, for example, is proposed over the loose sand that links the parking lot on North Marine Drive with the Peninsula Trail or a mulched trail connecting to Pond Trail to the asphalt trail.

Major Trail Corridors

Three major trail linkages are proposed as primary trails and will likely be the most popular routes for visitors. These corridors will be wheelchair accessible, can accommodate small groups, and will be located to provide a variety of views and educational opportunities.

The **Columbia Slough Segment of the 40 Mile Loop**, that follows the route of the 40 Mile Loop, will connect Kelley Point Park with North

Portland Road via the north side of Columbia Slough and will be designed as a multi-purpose trail for bicyclists and hikers. The trail will be located on the existing dike road and will be connected to a trail that is linked to Columbia Boulevard through the St. John's Land-fill.

As mentioned on the previous page, surfacing of this trail will be determined upon completion of a test on the Springwater Corridor.

The *Interpretive Center Loop* will be about one mile long and will be built in the southeast corner by the interpretive center. The trail will allow visitors to see a range of habitats, vegetation types, and views of Smith Lake. As a short loop, this trail is projected to be a heavily used trail, especially for small groups or those with children. Surfacing of this trail will be crushed rock or other wheelchair-accessible, non-asphaltic surface.

The *Peninsula Trail* will be a 1.1 mile long trail extending from the Marine Drive parking lot into a part of the peninsula that separates Smith and Bybee Lakes. Visitors on this trail will walk through a dense canopy of ash and cottonwoods for 300'. The forest then transitions into an open grass area comprising sedge meadows and reed canary grass.

The trail will end at an observation platform that provides views of Bybee Lake and the western half of the peninsula. The trail will be surfaced with crushed rock.

Trail Corridor Summary

<i>Trail Name or Location</i>	<i>Length</i>	<i>Type</i>	<i>Width</i>	<i>Surface</i>
40 Mile Loop				
Columbia Slough Segment	19,200'	Primary	12'	To be determined (p.26)
Smith Lake Spur Trail	1,100'	Secondary	5'	Crushed Rock
Smith Channel Spur Trail	700'	Secondary	5'	Crushed Rock
Interpretive Center Area				
Interpretive Center Loop	5,360 ¹	Primary	6'	Crushed Rock
Pond and Peninsula Area				
Peninsula Trail				
N. Marine Dr.- Peninsula	3,650'	Primary	6'	Crushed Rock
Parking Lot-Trailhead	300'	Special	6'	Asphalt
Pond Loop Trail	1,700 ²	Primary	6'	Crushed Rock
Pond Spur Trail	400'	Special	3'	Mulch

Notes

¹ Includes 800' on the existing gravel road

² Includes 100' of boardwalk

B. Roads & Parking

Facilities for cars and busses are limited to two areas in Smith and Bybee Lakes -- the interpretive center area and near the parking lot off of Marine Drive. At these two sites, the parking and auto-related areas are minimized. Wherever possible, they also are located at the edges or around the edges of the lakes' management area.

Interpretive Area

The interpretive center includes a parking lot for 20 cars in the initial phase of the development program. An expansion area for about 50 - 100 cars is proposed in an area south of the access route from North Portland Road. Development of parking areas is phased, to allow for growth only if needed and to accommodate increased use. A 20' wide access road is proposed to connect North Portland Road with the parking areas.

Peninsula Area

The existing parking lot accommodates 25 cars. This is considered to be sufficient for projected uses and also is consistent with the overall goal of protecting the lakes from overuse. No expansion is planned for this lot.

Boat/Canoe Launch Area

A small parking lot for 5 to 7 cars is proposed for the boat/canoe launch at the north end of Smith Lake. The lot will be developed after North Marine Drive is closed and relocated. Development of the boat launch however, is a long-term project that will be built only if demand warrants.

**C. Educational
Facilities
& Programs**

As one of the largest, if not the largest, wetland complex in the metropolitan area, Smith and Bybee Lakes offer an unparalleled opportunity for environmental education. The area is large enough to provide habitat for a variety of wildlife, encompasses wetland and upland vegetation types, and includes several areas that illustrate human impacts on wetlands.

Moreover, the lakes are easily accessible for much of the region, including cities in the Vancouver-Clark County area. The lakes are particularly accessible for schools in the immediate vicinity of the lakes which can be reached by a ten-minute drive.

The educational potential of the lakes was glimpsed in a demonstration project in 1991 with a class from George Middle School in north Portland. Approximately 60 students took part in a two-month program of science and art classes that focussed on the lakes' wildlife. With the assistance of a mural artist and teacher/ naturalist, the students created and painted a three-panel mural that depicted the animals and plants of Smith and Bybee Lakes.

Because of this potential, environmental education is an important part of the recreation master plan and will be addressed through two ongoing programs.

- Interpretive facilities are those that are "in the field" , will provide information that is specific to a particular site or subject, and is intended for use on self-guided walks. Examples of interpretive facilities include graphic exhibits, signs, and displays.

Loop trails are located in projected "high-use" areas and will likely be used extensively by the lakes' visitors. These trails will be located and designed to feature sites that have educational value or reinforce specific interpretive themes.

- The environmental education program is more varied and sustained in its scope. Programs will address a variety of issues and educational themes and can also be tailored to audiences such as primary schoolchildren, adults, birders, and others with specific interests.

Potential program opportunities and audiences are:

- General public: lectures, classes, and guided hikes;
- Schoolchildren: guided tours for school groups;
- Teachers: in-service training and summer workshops, assistance with classroom projects, continuing education with area colleges;
- Apprentice naturalist program: training for students and guides;
- Research: formal and informal activities aimed at students and scientists, in conjunction with local universities.

Potential themes or subject areas include wildlife and vegetation of the lakes, socio-cultural history of the lakes and adjacent neighborhoods;

geologic history and geomorphology of the lakes; migration patterns for the lakes' waterfowl; environmental history of the lakes' and human impacts on wetlands; hydrology of the lakes and Columbia/Willamette Rivers, and effects of water level on the lakes' wildlife and vegetation.

The potential for a partnerships between the lakes' educational programs and local colleges and universities might be explored because additional research is needed to expand the environmental database for the lakes. Local schools such as Portland State University, Portland Community College, Oregon Graduate Institute, and other universities could be instrumental in establishing research programs on water quality, wildlife, hydrology, and other scientific subjects at Smith and Bybee Lakes.

D. Interpretive Center

Area Description

The Interpretive Center area is located in the southeastern corner of the lakes and represents the major "buildable" portion of the site. The area is generally flat although there is a slight slope from North Portland Road.

The site includes a large flat area with several structures, one of which is a residence. Vegetation around the structures consists mainly of reed canary grass. Large poplar, willow and ash trees are located along the Columbia Slough, North Portland Road, and along Smith Lake.

Development Actions

This area is one of two "development zones" proposed for the lakes and will likely attract and accommodate more visitors than other parts of the lakes. Several actions, noted below, are proposed for this area. Some tasks are however, contingent upon land acquisition.

- Develop an interpretive center and related support facilities.
- Establish trails that connect to other trails and to viewpoints.
- Develop parking areas to serve the interpretive center.
- Develop one boat/canoe launch to provide access to Smith Lake and one canoe launch for access to the Columbia Slough.
- Construct caretaker residence and maintenance facility.

Each major facility in this zone is described below.

Interpretive Center - The interpretive center will provide educational opportunities for visitors to learn about the lakes' history, vegetation, wildlife, and its importance to the city and adjacent neighborhoods. The center may also include support facilities, such as canoe rental operation or other recreation-related use, that could serve as a revenue generator for the lakes.

Facilities will likely include exhibits, classrooms, meeting rooms, office space, workrooms, and other facilities for both drop-in visits and

scheduled programs. The size of the center, which will be located to minimize environmental and visual impacts, will depend on a more detailed architectural and feasibility study.

Use of the existing mobile home as an interim educational center should be investigated to determine its feasibility. Some remodeling will be required but the structure should be suitable for small group programs, exhibits and a caretaker.

Interpretive Center Loop Trail - A 1-mile loop trail that starts and ends at the interpretive center will provide visitors with views of the lakes and will provide an overview of its vegetation and wildlife. The trail will be 6' wide, will be accessible for the disabled, and will likely be the most widely used trail in this zone.

Boat and Canoe Launches - One boat/canoe launch and one canoe launch are proposed in this zone. One launch is on Smith Lake, north-east of the interpretive center, and is accessed by a 12' wide gravel road. The other launch is south of the interpretive center and will provide access to the Columbia Slough. Because the banks of the slough are steep, access to this launch requires the use of stairs.

Parking Areas - Two parking areas will be provided in this zone. One lot will be east of the interpretive center and will accommodate about 20 cars. A larger lot, proposed as an expansion area, will be located near the entrance at of North Portland Road and will include room for about 50-100 cars. Both lots will be surfaced with crushed gravel.

Caretaker's Residence - A live-in caretaker is proposed as a way of monitoring and controlling access into the lakes. The caretaker would provide a "presence" on the site and would be responsible primarily for maintaining the security of the interpretive center area and adjacent trails. The specific terms and responsibilities of the caretaker will have to be negotiated with Metro.

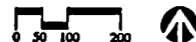
A caretaker's residence is proposed in the vicinity of the interpretive center. The site for the residence will allow the caretaker to watch the parking areas, observe the interpretive center, and monitor the entry road into this zone. The residence is located also to provide privacy for the caretaker.

An optional project is the establishment of a Wilderness Trail, a .5 mile spur trail that would lead from the interpretive center to the end

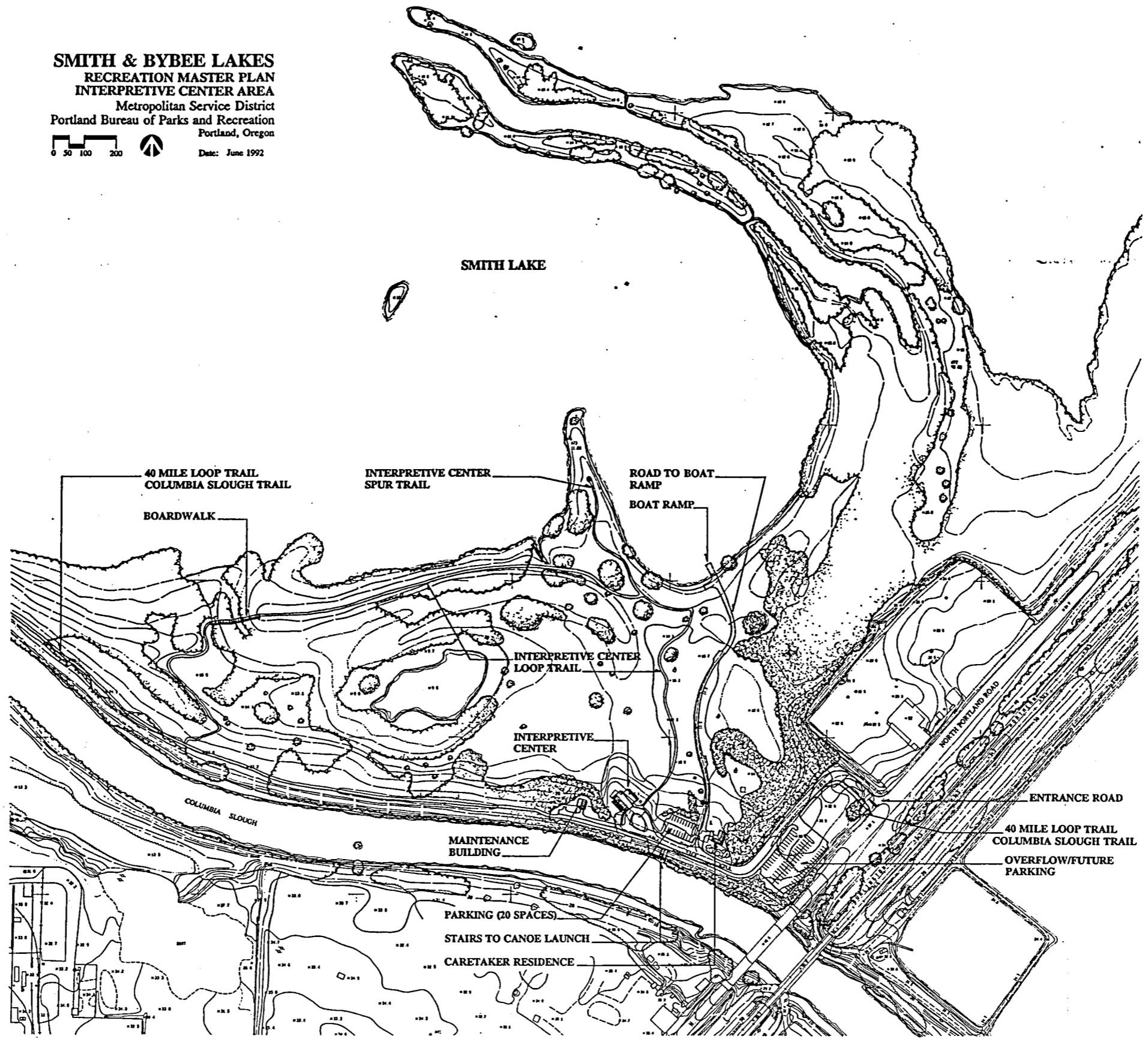
of the peninsula that extends out into Smith Lake. Because of potential environmental impacts, development of this trail would occur only if there is sufficient demand and if environmental impacts can be minimized.

If built, the trail will be 5' wide, will be wheelchair-accessible. It will generally follow the route of the existing informal road and will terminate in a small observation platform that provides visitors with expansive views of Smith Lake.

**SMITH & BYBEE LAKES
RECREATION MASTER PLAN
INTERPRETIVE CENTER AREA**
Metropolitan Service District
Portland Bureau of Parks and Recreation
Portland, Oregon



Date: June 1992



E. Pond & Peninsula Area

Area Description

The Pond and Peninsula Area is environmentally diverse and includes several major features. Among these are a small pond next to North Marine Drive and an adjacent blind slough. The area's major landform is a peninsula that separates Smith and Bybee Lakes and which now serves as an access into the lakes.

The peninsula is unique in the management zone because it provides a range of educational and recreational opportunities. It contains a pond, a slough, upland and wetland areas, and open and forested areas. In addition, the peninsula is one of the few areas that includes views of both lakes.

The pond is now used for fishing, mainly from the sandy areas along the north and northeast shoreline. An informal trail encircles the pond although a complete loop is difficult during periods of high water.

Vegetation on the peninsula consists mainly of ash, cottonwood, and willow stands, reed canary grass, and a few sedge meadows in low areas.

Development Actions

This area is one of two "development zones" proposed for the lakes. Planned improvements include a major trail, observation platforms, and interpretive signs and exhibits.

- Develop a trail from the parking lot into the peninsula.
- Develop a trail that encircles the pond and is linked to the parking lot.
- Develop three observation platforms to provide wildlife observation opportunities of both Smith Lake and Bybee Lake.
- Provide interpretive and directional signs.

F. Boat Launch

Area Description

The Boat Launch area is a small site that includes a gradually sloping sandy beach, a steep bank up to North Marine Drive, and a portion of North Marine Drive. The area is now used to launch canoes and boats and represents the primary access point for watercraft into Smith Lake.

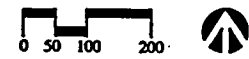
Development of this area is a long-term project will not occur until there is sufficient need and demand. When fully improved, the boat launch area will provide off-street parking, an accessible path down the bank, and a launch.

Development Actions

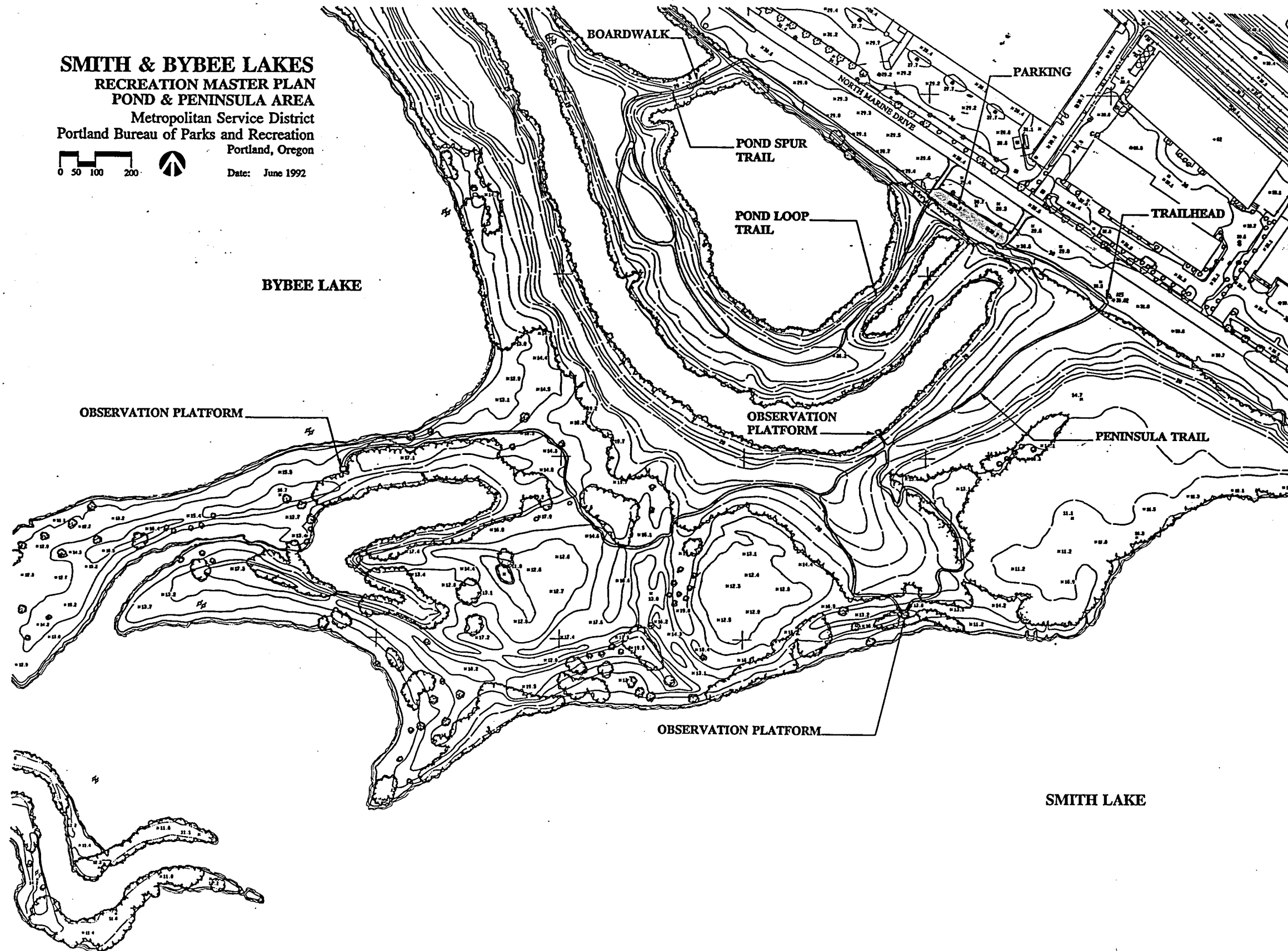
Development of this site as a canoe launch is contingent upon the relocation of North Marine Drive to the north, in the general vicinity of Suttle Road. Once this is accomplished, the boat launch can be built according to the site plan on the following page.

- Develop parking area on vacated portion of North Marine Drive.
- Develop boat launch and access paths from the parking area.

**SMITH & BYBEE LAKES
RECREATION MASTER PLAN
POND & PENINSULA AREA**
Metropolitan Service District
Portland Bureau of Parks and Recreation
Portland, Oregon



Date: June 1992



3.4 Implementation & Phasing

Implementation of the Recreation Master Plan's recommendations is projected to occur over many years, as funding allows, and as use of the lakes changes. Three phases are recommended to guide the recreational development of the Smith and Bybee Lakes.

The gradual development of recreational improvements will allow impacts to be assessed as a way of ensuring that recreational improvements are consistent with the management goals for the lakes.

Several points should be noted about the costs and recommended phasing.

- Actual implementation of the projects may have to be adjusted to respond to funding levels and policies.
- The recommendations in this section are proposals only and should not be viewed as an appropriation for funds.
- Not all projects need to be funded from the Smith and Bybee Lakes Landfill Trust Fund--some projects in the Master Plan can be funded from other sources. The use of supplementary funding will in fact, be pursued for appropriate projects.

Development Costs

The total cost for all of the projected improvements in the plan have been estimated to range from \$ 1.3 - 2.5 million. The range in costs is based on two different sizes for the interpretive center, described below.

<i>Size</i>	<i>Cost/SF</i>	<i>Total Cost</i>
3,500 SF	\$ 100	\$ 350,000
10,000 SF	\$ 125	\$ 1,250,000

A summary of development costs for all improvements and projects recommended in the plan is shown below. These costs are detailed on pages 41-44.

Southeast Corner	\$ 1,230,306 - 2,464,056
North Marine Dr. Pond Area	\$ 111,781
Total Cost	\$ 1,342,000 - 2,575,800

Phase One - North Marine Drive Pond & Peninsula Area

This phase is limited to development of an area of the Smith and Bybee Lakes which is in complete public ownership, it is easily accessible and is now being used on an informal basis by the public. The North Marine Drive Pond area provides an excellent opportunity to assess the adequacy of planned facilities planned and their impact on the resources on a small area before other projects are implemented.

The phase one development includes the following facilities, all located in the North Marine Drive Pond area:

(a) 6' wide asphalt path	\$ 6,750
(b) 6' wide accessible hiking trail	20,175
(c) 3' wide non-accessible trail	600
(d) Boardwalk	5,200
(e) Two observation deck	20,000
(f) Observation platform	6,000
(g) Signage	12,000

Sub-Total	\$ 70,725
25% Fees & Contingency	17,680
Total Phase 1	\$ 88,400

Phase 2 - Southeast Corner

Phase 2 implementation shall follow the completion of the Phase 1 projects. These projects should occur preferably, after there is sufficient information on peak use and environmental impacts so that Phase 2 projects can be modified, if needed.

Phase 2 development includes roads, parking, trails and boat and canoe launches only in the southeast corner of the site. Costs are estimated as shown on the next page:

(a) Roads and Parking (for 20 cars)	\$ 78,750
(b) Paths and Trails	307,795
(c) Boat and Canoe Launches	20,000
(d) Signage	23,700

Sub-Total	\$ 430,245
25% Fees and Contingency	\$ 10,7560

Total Phase 2 \$537,800

Phase 3 - Interpretive Center & Support Structures

Facilities included in the final development phase of the Smith and Bybee Lakes consist of the interpretive center, caretaker residence and the maintenance building. Development of these facilities, specially the interpretive center, shall proceed after careful examination of the site's capacity to accommodate use without negative impact on it's resources and determination of the appropriate size which respects that capacity.

The development cost for Phase 3 is as follows:

(a) Interpretive Center	\$350,000 - 1.25M
(b) Maintenance Building	84,000 - 135,000
(c) Caretaker Residence	90,000 - 126,000

Sub- Total	\$ 524,000 - 1.51M
25% Fees and Contingency	131,000 - 377,500

Total Phase 3 \$ 655,000 - 1.88M

SMITH & BYBEE LAKES RECREATION MASTER PLAN
Preliminary Cost Estimate - South East Corner

ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
ROADS & PARKING				
Hard Surface Entrance Road 36' wide	L.F.	100	\$57.25	\$5725
Hard Surface Road 20'wide (includes 2' shoulder)	L.F.	1400	\$38.20	\$53,480
Concrete curbing	L.F.	50	\$12.40	\$620
Gravel Road 12'wide for Boat Launch (on existing footpath)	L.F.	950	\$6.50	\$5850
Gravel Driveway	S.F.	1000	\$1.50	\$1500
Gravel Parking Lot (20 spaces)	S.F.	7500	\$1.50	\$11,250
Sub-Total				\$78,750
PATHS & TRAILS				
Crushed Stone Path 12'wide - Bike/Hike (on existing gravel road)	L.F.	800	\$13.00	\$10,400
Crushed Stone Path 12'wide - Bike/Hike	L.F.	400	\$16.00	\$6,400
Crushed Stone Path 6'wide - Hike Only	L.F.	3700	\$3.75	\$13,875
Boardwalk w/ handrails (see detail)	L.F.	160	\$52.00	\$8320
Sub-Total				\$38,995
STRUCTURES				
Boat Launch	EA.	1	\$10,000	\$10,000
Canoe Launch	EA.	1	\$5000	\$5,000
Stairs to Canoe Launch (8'elevation change)	EA.	1	\$2000	\$2,000

SMITH & BYBEE LAKES RECREATION MASTER PLAN
Preliminary Cost Estimate - South East Corner

ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
Benches	EA.	5	\$600	\$3000
Sub-Total				\$20,000
BUILDINGS				
Interpretive Center	S.F.	3500-10,000	\$100-\$125	\$350K- \$1,25M
Maintenance Building	S.F.	900-1500	\$90.00	\$84,000- \$135,000
Caretaker Residence	S.F.	1000-1400	\$90.00	\$90,000- \$126,000
Water and Sanitary Sewer	L.S.			\$30,000
Sub-Total				\$554K- \$1,541M
SIGNAGE				
Entrance Sign	L.S.	1	\$600	\$600
Directional Signs	L.S.			\$2500
Interpretive Signs	L.S.			\$20,000
40 Mile Loop Signs	L.S.			\$600
Sub-Total				\$23,700
EXTENSION OF 40 MILE LOOP TRAIL	L.F.	19,200	\$14.00	\$268,800
TOTAL				\$984,245- \$1,971,245
ENGINEERING FEE AND CONTINGENCY		@ 25%		\$246,061- \$492,811
GRAND TOTAL				\$1,230,306- \$2,464,056

SMITH & BYBEE LAKES RECREATION MASTER PLAN
Preliminary Cost Estimate - North Marine Drive Pond & Peninsula Area

ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
ROADS & PARKING				
Gravel Parking Parallel to Road	S.F.	1000	\$1.50	\$1500
Sub-Total				\$1500
PATHS & TRAILS				
Hard Surface Path 6'wide (existing base loose sand)	L.F.	900	\$7.50	\$6750
Crushed Stone Trail 6'wide	L.F.	5380	\$3.75	\$20,175
Compacted Mulch 3'wide non-accessible trail	L.F.	400	\$1.50	\$600
Boardwalk w/ handrails (see detail)	L.F.	100	\$52.00	\$5200
Sub-Total				\$32,725
STRUCTURES				
Boat Launch (in the future, only if needed)	L.S.	1	\$17,000	\$17,000
Stairs to Boat Launch (10-12' elevation change)	L.S.	1	\$2000	\$2000
Wood Observation Deck	L.S.	2	10,000	20,000
Small Observation Platform w/stairs	L.S.	1	6,000	6,000
Sub-Total				\$43,000
SIGNAGE				
Entrance Sign	EA.	2	\$600	\$1200
Directional Signs	L.S.			\$1000
Interpretive Signs	L.S.			\$10,000
Sub-Total				\$12,200
TOTAL				\$89,425

SMITH & BYBEE LAKES RECREATION MASTER PLAN
Preliminary Cost Estimate - North Marine Drive Pond & Peninsula Area

ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
ENGINEERING FEES AND CONTINGENCY		@25%		\$22,356
GRAND TOTAL				\$111,781

TOTAL LONG TERM DEVELOPMENT COSTS FOR THE ENTIRE SMITH-BYBEE LAKES AREA
\$1,342,000 - 2,575,800