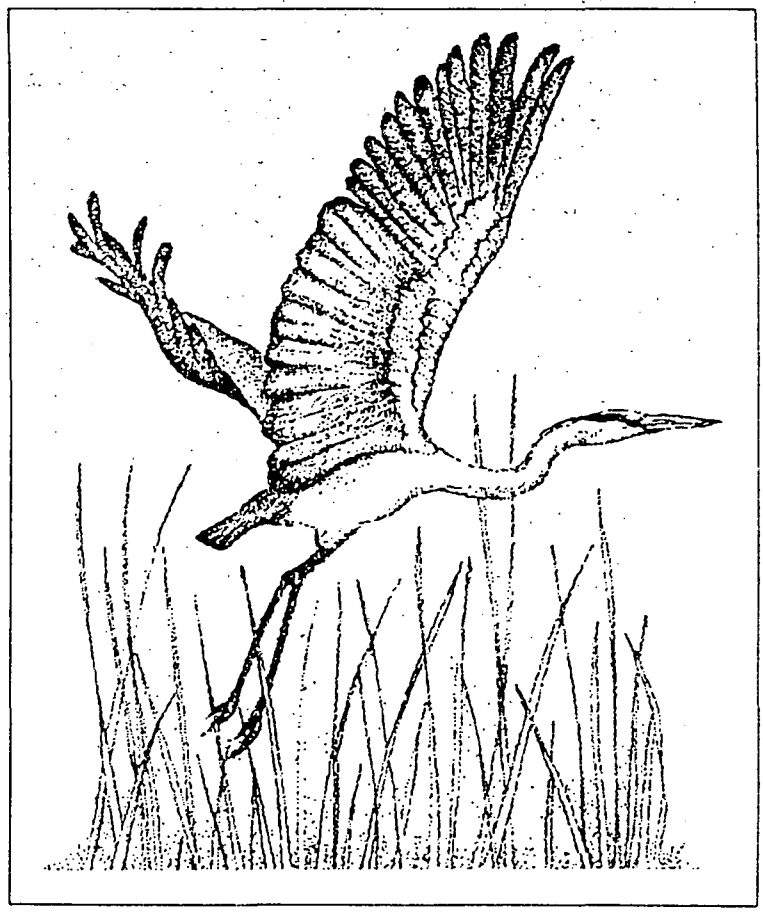
Natural Resources Management Plan for Smith and Bybee Lakes



Bureau of Planning
City of Portland, Oregon
Adopted by the Portland Planning Commission May 8, 1990
Adopted by the Portland City Council November 8, 1990

PORTLAND CITY COUNCIL

J.E. Bud Clark, Mayor
Earl Blumenauer, Commissioner
Dick Bogle, Commissioner
Bob Koch, Commissioner
Michael Lindberg, Commissioner

PORT OF PORTLAND

Robert Ames, President
Sho Dozono
Alfred Gleason
George Miller
Victor Rosenfeld
Louis Scherzer
Mildred Schwab
Robert Walsh
Nancy Wilgenbusch

PORTLAND PLANNING COMMISSION

Martha Peck Andrews, President
Dick Cooley, Vice President
Stan Amy
Estill Deitz
Barbara Karmel
Margaret Kirkpatrick
Rick Michaelson
Chet Orloff
Vivian Parker

Cover courtesy of the Portland Audubon Society
Christine Holden, Artist

NATURAL RESOURCES MANAGEMENT PLAN
for
SMITH AND BYBEE LAKES

PREPARED BY

PORTLAND BUREAU OF PARKS AND RECREATION

Charles Jordan, Superintendent
Jim Sjulin, Project Supervisor

PORT OF PORTLAND

Bob Woodell, Executive Director
Brian Campbell, Planning Manager

ALSO PARTICIPATING

PORTLAND BUREAU OF PLANNING

Duncan Brown, City Planner
Susan McKinney, City Planner

Adopted by the
Portland Planning Commission
May 8, 1990

Adopted by the
Portland City Council
November 8, 1990

Effective November 8, 1990

Ordinance Number 163610

CONTENTS

November 5th Tuesday 1805

"Rained all the after part of last night, rain continues this morning. I slept but verry little last night for the noise Kept up dureing the whole of the night by the Swans, Geese, white & Grey Brant Ducks &c. on a Small Sand Island close under the Lard. Side; they were emensely noumerous, and their noise horid..."

from *The Journals of Lewis and Clark* during their journey down the Columbia River near the confluence with the Multnomah (Willamette) River.

FOREWORD

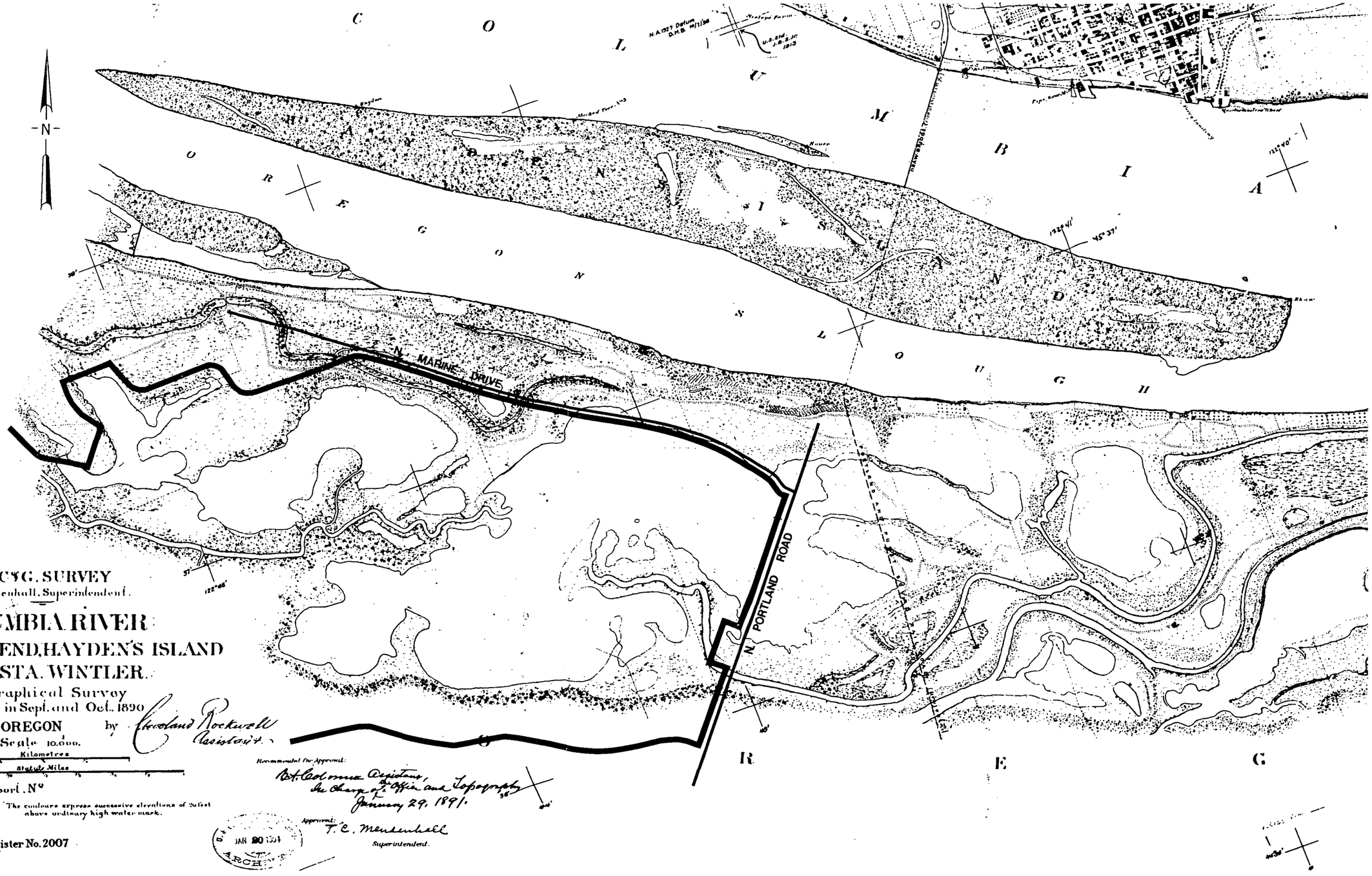
Not very long ago, as human history is measured, the Columbia River was an untamed and dynamic waterway that exerted a powerful force within its floodplain. The bottomlands adjacent to this great river were a maze of channels and sloughs, shallow lakes, ponds, marshes and forests. The configuration of this complex landscape changed with the seasonal fluctuations of the river and with major flood events. Large and small mammals, waterfowl, birds of prey and numerous other species, were very abundant in this productive habitat. Resident and migratory fish thrived in the river, its side channels, and wetland habitats.

This dynamic system has changed dramatically in the historical blink of an eye since the arrival of white settlers. Dredging, diking, filling, land clearing, dams and other impacts have resulted in a very different landscape. What is left of the natural system is generally scattered and in decline. Without the benefits of Columbia River floods and freshets, the natural aging process characteristic of floodplain systems is accelerated.

Few semi-natural remnants of the once extensive Columbia River bottomlands remain in the Portland area and Smith and Bybee Lakes is the largest of these. The area proposed as the Smith and Bybee Lakes Management Area occupies more than 2,000 acres along the Columbia Slough near the confluence of the Willamette and Columbia Rivers. This area includes the remnants of two large, shallow lakes and a complex of sloughs and marshes (Figure 1). The present configuration of the proposed Management Area is defined primarily by features of our urban landscape such as roads, levees and areas filled for urban development and solid waste disposal (Figure 2).

The *Smith and Bybee Lakes Management Plan* represents a vision. The Plan seeks to implement the management framework, provide the funding, and institute the processes needed to restore and maintain the lakes to the extent possible in a way that is "faithful to their original natural condition." This is the consensus of property owners, neighborhood organizations and residents, environmental interest groups, and governmental agencies. The common vision shared by this diverse group is a natural area reserved for fish and wildlife habitat and non- or low-impact recreational uses. The attainment of this vision is only possible through informed management decisions based on a strong and viable Management Plan.

The future of the proposed Smith and Bybee Lakes Management Area is at a critical crossroads. Choosing not to act now would result in a system of degraded habitat for fish and wildlife, and limited opportunity for human recreation and enjoyment. Implementing the *Smith and Bybee Lakes Management Plan* will result in the creation of a regionally important urban natural resource area with numerous benefits for fish and wildlife, and for human recreation, education, research, and enjoyment.



U.S.C.&G. SURVEY
T.C. Mendenhall, Superintendent.

COLUMBIA RIVER
FROM LOWER END, HAYDEN'S ISLAND TO Δ STA. WINTLER.

Topographical Survey
Executed in Sept. and Oct. 1890
OREGON by Cleveland Rockwell Assistant.

Scale 10,000.
Kilometres
Statute Miles

Descriptive Report. No

Note: The contours express successive elevations of 20 feet above ordinary high water mark.

Register No. 2007

Recommended for Approval:
Asst. Coast and Geodetic Survey,
In charge of Office and Topography
January 29, 1891.

Approved:
T.C. Mendenhall
Superintendent.

Port of Portland

0 500 1000 2000
SCALE IN FEET

SMITH & BYBEE LAKES MANAGEMENT PLAN
MANAGEMENT AREA 1890 SURVEY
FIGURE 1 RG 90-10 1/4 (C-1)

SUMMARY

The *Smith and Bybee Lakes Management Plan* proposes a set of policies and actions enabling the establishment of a major regional environmental and recreational resource for the Portland metropolitan area. The Management Plan adopts as its overall goal protection and enhancement of the natural resources at the Lakes and compatible recreational uses.

The existing set of circumstances at the Lakes appear to favor the successful adoption and implementation of the Plan. Even though ownership of the Smith and Bybee Lakes Management Area is divided among many parties, there is a strong consensus that the recommendations included in the Management Plan provide the proper management and best use of the area. The Management Plan offers a blueprint for landowners and involved public agencies to take action.

The adoption of the Management Plan by the City of Portland, the Port of Portland, and the Metropolitan Service District is sought in order to confirm proposed responsibilities and to authorize the needed financial base for implementation. Approval by the Portland Planning Commission is also being sought to ensure that the requirements of the e-zone can be met by the Plan.

Background Information

Beginning with the *North Portland Peninsula Plan* produced in 1972, the Smith and Bybee Lakes and Columbia Slough were again recognized (as, in general, the system of lakes and sloughs on the south shore of the Columbia River had been recognized by the 1903 Olmsted Report to the Municipal Park Commission) as a viable natural asset for the Rivergate District. The *North Portland Peninsula Plan* established a balance between development and preservation of natural resources which has preserved the opportunity now addressed by this Management Plan.

The Port of Portland and the City of Portland's Bureau of Environmental Services supported an *Environmental Studies* completed in September 1987, which described the existing set of environmental conditions and developed conclusions and recommendations for environmental management.

The findings of the environmental report were included in an earlier form of the *Smith and Bybee Lakes Management Plan* which was developed to a "recommended draft" stage by January 1988. This Plan, however, was not forwarded for adoption because it did not address all e-zone requirements (which had been developed concurrently) nor did it include obligations resulting from a multiple party agreement between the Port and enforcement agencies involved with the Rivergate fill permit. During this interval specific recommendations for closure of the St. Johns Landfill were developed by Metro. These recommendations created a significant change in the set of environmental assumptions used for the development of environmental management options. Much of the adopted *St. Johns Landfill End Use Plan* also was put in doubt by the closure recommendations.

A significant effort has been made by the Port and the Bureau of Parks in the last half of 1989 and early 1990 to bring the Management Plan to its present form. The Plan now incorporates findings of the *Environmental Studies*, the January, 1988 recommended draft, and reflects the needs and changed conditions brought about by the e-zone and new data on environmental conditions, especially those connected to the proposed landfill closure.

Plan Organization and Format

The Management Plan seeks to establish a clear goal statement and an initial set of objectives to establish a management direction for the foreseeable future.

The Management Plan then attempts to provide sufficient context (legal and historical) and sufficient information regarding the planning process to be helpful for the understanding of the rationale and recommendations that follow.

The "Environmental Assessment" section is a summarized review of the complex set of environmental conditions associated with a remnant of a natural system. The section outlines the major concerns and identifies needed environmental projects, monitoring programs, and information
gaps.

The "Recreation Assessment" discusses recreation needs and opportunities presented by the Lakes. An outline for recreation and education use is offered and supporting infrastructure needs are also outlined. Management of the recreation uses proposed in this section will seek to limit such uses to types and levels that do not degrade the natural resources.

The existing set of conditions; the quality of, as well as the problems associated with, the environment; and the proposed uses with attending recreation infrastructure and management needs are sufficient to raise many issues. These are discussed along with strategies which addressed them in the "Issues" section. The discussion of the issues is intended to provide adequate rationale for the development of reasonable policies and specific actions.

The "Policies & Actions" section is a collection of specific policies and actions recommended as part of the Management Plan. When adopted, the Policies become effective and the Actions can be authorized by the (proposed) Management Committee. The "Actions" identify who is responsible for the action and the relative priority of the action.

Plan Highlights

Overall management responsibility for the Smith and Bybee Lakes Management Area will rest with a Management Committee composed of representatives from the City, Metro, the Port, state and federal resource agencies, citizen groups, and property owners. Specific responsibilities will be assigned to appropriate agencies, such as the Portland Parks Bureau for recreation management. The Port of Portland has agreed to implement certain environmental management projects as mitigation for fill in Rivergate.

Implementation of the Plan will require either signed agreements with property owners or the outright acquisition of property from willing sellers.

Specific development plans for environmental projects and recreation facilities will be developed by the Management Committee from the more general recommendations included in the Management Plan.

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.

The Management Plan will meet many of the objectives of the City adopted *St. Johns Landfill End Use Plan.*

The Management Committee shall develop and recommend annual budgets for the "Smith and Bybee Lakes Trust Fund" which shall be created for the phased implementation and ongoing management of the lakes as provided by the Management Plan. The Trust Fund will be established with funds already collected and reserved for implementation of the *St. Johns Landfill End Use Plan.* Additional funding and resources will come from mitigation agreements, from the 1989 Parks Levy, and from grant sources. A large portion of the Trust Fund will be reserved and managed as an endowment fund for the ongoing operation and management of the Smith and Bybee Lakes Management Area.

A review process through the City of Portland Planning Bureau and Planning Commission is established with the Management Plan to provide for development in conformance with the Plan.

GOAL STATEMENT AND OBJECTIVES

The goal statement and objectives which follow are the basic expression of the Management Plan's policy direction. This overall direction has been set by the Advisory Committee after long and careful consideration of the Environmental Studies, previous planning efforts, an assessment of potential impacts, and the stated preferences of interested parties and organizations. As provided by City of Portland Code (Chapter 33.635, Environmental Concern Zone), the Management Plan provides a set of recommendations which may be implemented with certainty and provides a mechanism for handling exceptions and modifications. The goal and objectives have been used as the basic principles guiding the formulation of the Management Plan's recommended set of land uses, activities and projects for the Smith and Bybee Lakes area.

Goal Statement

The goal of the Management Plan is to protect and manage the 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 natural 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.

Objectives

1 Control water level in order to manage the lakes' environmental system.

2 Provide for and maintain habitat diversity representative of lower Columbia River floodplain wetlands.

3 Maintain and enhance water quality in the lakes.

4 Implement a monitoring program to assure early detection of potential environmental problems, and to quantify management programs.

5 Provide access to Smith and Bybee Lakes which supports appropriate types and levels of recreation.

6 Encourage appropriate types and levels of recreational activities which are compatible with environmental objectives.

7 Incorporate Smith and Bybee Lakes into the Metropolitan Wildlife System Project, Metro's Regional Natural Areas Program, and the 40 Mile Loop recreation trail system.

8 Develop upland areas in a manner which is compatible with the preservation of the wetlands and use of the lakes for passive recreation.

9 Provide opportunities for wetland and environmental system research and education.

10 Develop appropriate funding strategies to implement environmental and recreational improvement projects.

11 Provide opportunities for compensation to private land owners for public use of their property.

12 Provide an organizational structure to manage all lakes areas property as a single management unit to ensure consistent implementation of the Management Plan.

13 Integrate management of the lakes with management of the St. Johns Landfill property when landfilling activities are terminated.

STUDY AND MANAGEMENT AREA BOUNDARIES

At the outset of the planning process, an area of study was defined, and then modified to include not only Smith and Bybee Lakes and contiguous uplands, but also other land and water bodies which are closely associated with the lakes natural systems. The Study Area was thus bounded by the fill/development line on the north and N. Portland Road on the east. On the south it was decided to include the Columbia Slough to the top of its southern bank because of the close habitat linkage between it and the lakes area. The western study area boundary was initially the fill/development line, but was later modified to include all major unfilled lands in the Rivergate industrial area (Figure 3).

The Management Area boundary was defined based on information gathered during the study process. The northern boundary remains the fill/development line, with the addition of the small wetland area just north of the Burlington Northern railyard which drains into Smith Lake. The eastern boundary is N. Portland Road, except that the Matson yard area has been excluded. The southern boundary will follow the top of the bank of the south side of the Columbia Slough. The western boundary will follow the new fill/development line in Rivergate. The wetlands area under the BPA and PGE power lines is also added to the Management Area since it is a contiguous natural area (Figure 2).

Major Features

Physical Urban Features

- Road system around perimeter of Management Area
  N. Portland Road
  N. Marine Drive
  N. Lombard Street
  N. Columbia Boulevard
  N. Suttle Road
- Urban development on fill
  St. Johns Landfill
  Rivergate Industrial District
  Suttle Road industrial area
  N. Columbia Blvd. and N. Portland Rd. industrial areas
- Bridges
  N. Lombard St. bridge
  Landfill bridge
  N. Portland Rd. bridge
- Storm and combined sewer outfalls
  Bybee Lake (North Rivergate District)
  Smith Lake (Marine Drive and proposed Marine Drive)
  Columbia Slough (south shore)
- Water control structure between North Slough and Bybee Lake

Physical Natural Features

- Columbia Slough
- North Slough
- Smith Lake
- Bybee Lake
- Channel connecting Smith and Bybee Lakes
- Nearby Willamette and Columbia Rivers

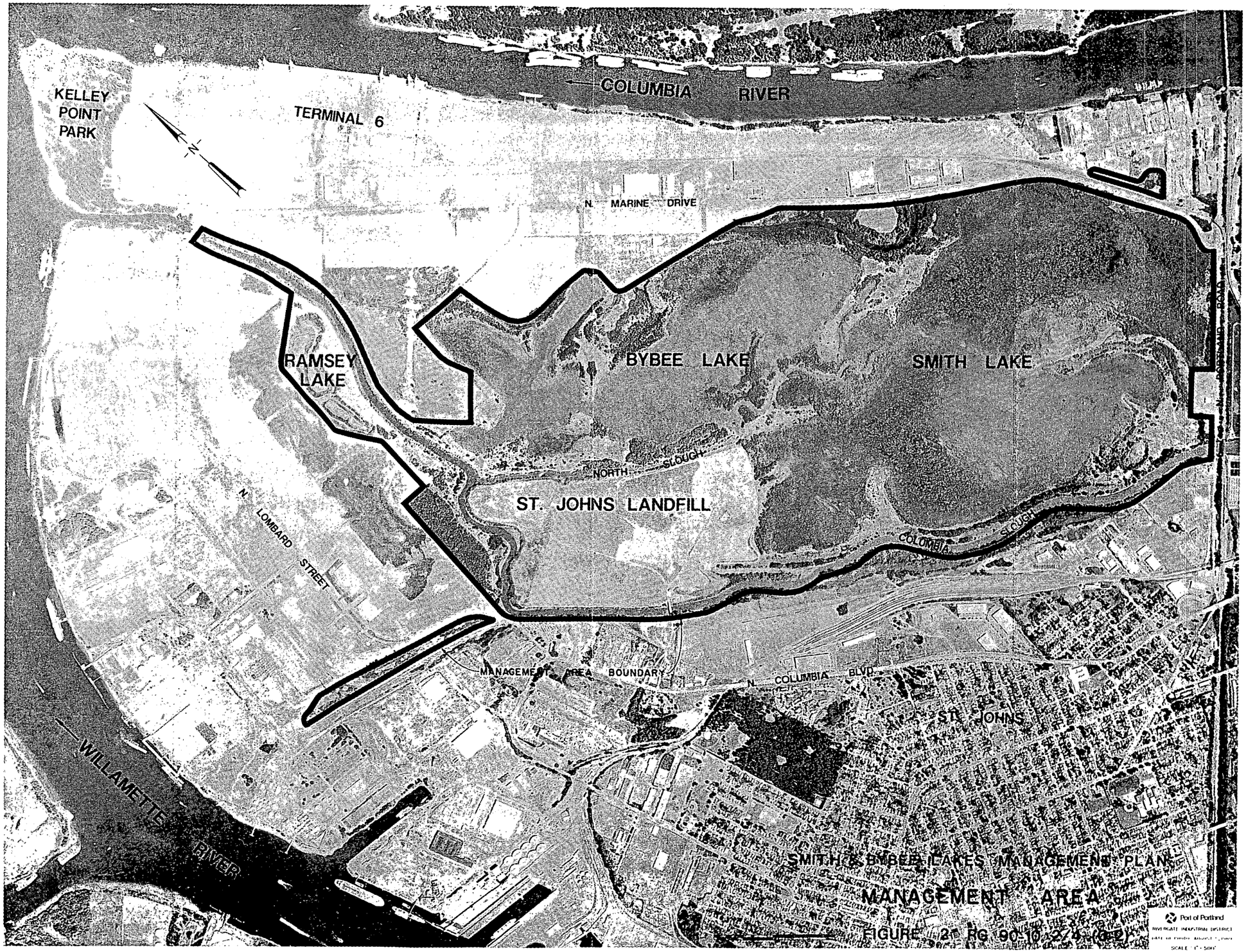
Biological Features: Habitat

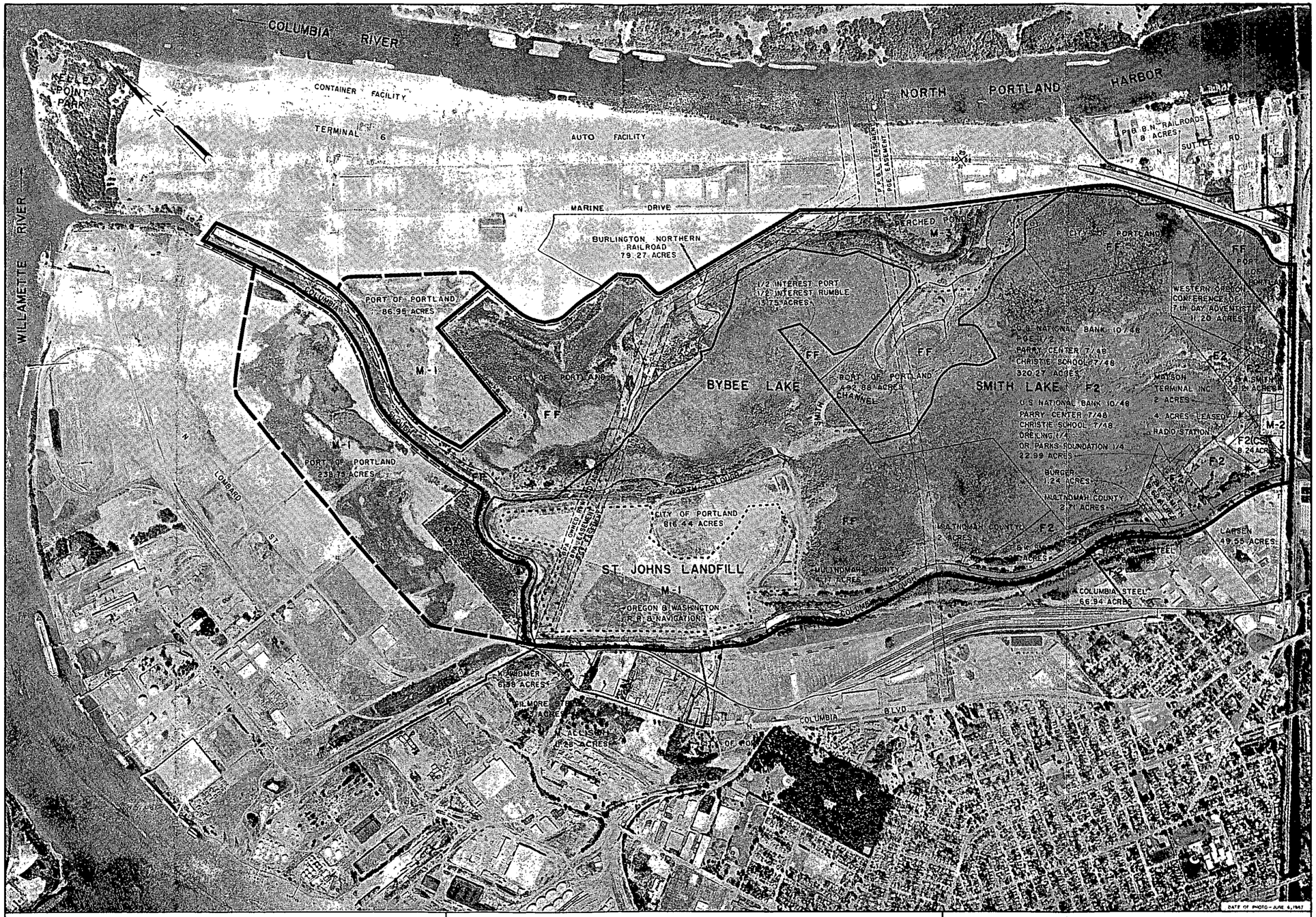
- Shallow lakes (2), including open water, smartweed swamp, and willow swamp areas
- Forested wetlands, primarily willow, with some areas of Oregon ash and black cottonwood
- Sedge meadow wetlands
- Seasonal ponds
- Upland grassland, riparian woods and woodlands

Biological Features: Fish and Wildlife

- 17 species of fish identified, including resident warm water game species, non-game species, and migratory salmonids
- 72 species of birds observed, an additional 25 species expected to occur
- Numerous species of reptiles, amphibians, mammals, insects, and aquatic invertebrates

These features of the Management Area are discussed in more detail in the "Environmental Assessment" section.


COLUMBIA RIVER
KELLEY POINT PARK
TERMINAL 6
N
N. MARINE DRIVE
RAMSEY LAKE
BYBEE LAKE
SMITH LAKE
N. PORTLAND ROAD
NORTH SLOUGH
ST. JOHNS LANDFILL
N. LOMBARD STREET
COLUMBIA SLOUGH
MANAGEMENT AREA BOUNDARY
N. COLUMBIA BLVD.
ST. JOHNS
WILLAMETTE RIVER
SMITH & BYBEE LAKES MANAGEMENT PLAN
MANAGEMENT AREA
FIGURE 21 RG 90 10 274 (02)
Port of Portland
RIVERGATE INDUSTRIAL DISTRICT



LEGEND

- PORT DEVELOPMENT BOUNDARY (1972)
- ELECTRICAL UTILITY EASEMENT/R.O.W.
- RIVERGATE INDUSTRIAL DISTRICT BOUNDARY
- PROPERTY OWNERSHIP LINES
- STORM OR SANITARY SEWER EASEMENT
- ZONING BOUNDARY
- FF ZONING (CITY OR COUNTY)
- ✱ RESIDENCE
- STUDY AREA BOUNDARY
- MODIFIED STUDY AREA BOUNDARY (1987)
- EXISTING FOOTPATH (UNIMPROVED PUBLIC OWNERSHIP ONLY)
- WATER CONTROL STRUCTURE

Port of Portland

GRAPHIC SCALE IN FEET

500 0 500 1000 1500 2000 2500

SMITH AND BYBEE LAKES

MANAGEMENT PLAN

EXISTING DEVELOPMENT CONDITIONS

SUBMITTED BY: SENIOR PLANNER, LAND DEVELOPMENT

DRAWING NO: RG 87-40 1/2 (C-1)

FIGURE 3

PLANNING PROCESS

Development of the Management Plan for the Smith and Bybee Lakes study area included several important elements: forming and working with an advisory committee; carrying out basic environmental studies; and development of the plan's policy direction and implementation projects.

Advisory Committee

At the outset of the management planning effort (June 1986), an Advisory Committee was formed to ensure that all community interests were represented in the Plan's formulation. The study area has 13 separate property ownership interests, both public and private (see Figure 3). As a result, a representative mix of those interests had to be a major part of the Committee. The adjacent neighborhood interests, both residential and industrial, also had to be represented. Finally, the environmental resource agencies and environmental organizations which had jurisdiction, oversight, or interest in ongoing management of wetland or other natural areas needed to be part of the Committee. Advisory Committee membership was limited to no more than 11 in order to maintain an effective working group size. The list of original members and the interest(s) each represented, the Management Plan objectives, and the Advisory Committee's mission statement developed to guide the Committee in its meetings can be found in Appendix A.

The Advisory Committee met on a regular basis at least once (sometimes twice) a month from spring 1986 until January 1987. In that time the Committee: reviewed, discussed, and commented on the environmental studies; assisted in the development of alternative scenarios for the lakes' future; analyzed those scenarios; evaluated their potential impacts; and recommended, by consensus, a policy direction and uses for the lakes, and potential implementation projects. Starting again in June 1987, the Committee met to refine the plan and discuss the organizations and funding sources that might be used to implement the projects and effectively manage the area in the future. The January 1988 Draft Management Plan is a product of their work.

Environmental Studies

A study of the environmental systems was a basic requirement to lay the groundwork for a comprehensive management plan. A consultant team led by Fishman Environmental Services performed the needed studies, which have been published separately in two volumes: *Smith and Bybee Lakes Management Plan Environmental Studies - Summary and Technical Appendices*. The principal conclusions from these studies are summarized in the "Environmental Assessment" section. In addition, the consultant team studied the impacts of existing adjacent development and the potential impacts of each of the alternatives for the lakes' future, and made recommendations for projects which would meet the Plan's objectives. The knowledge and experience of the consultant team played a major role in the development of the overall plan.

Plan Policy Development

While the environmental studies were being conducted, Port staff initiated the process that would develop the policy direction of the Management Plan, determine appropriate land uses for all parts of the study area and recommend projects to carry out the Plan.

The first step in this process was the documentation of existing development in the area, including easements, trails, structures, etc. The second step was the development of a range of possible uses for each discrete part of the study area, and a list of potential projects that might be desireable in order to accomplish this variety of environmental, recreational, and commercial/industrial activities. These projects and uses or activities were then combined into five different scenarios for the future of the lakes area.

Formulation of the Management Plan's policy direction was the third and most important step in developing the plan. After five months of information sessions on the Environmental Studies and discussing possible alternative scenarios, the Advisory Committee decided on the goal and objectives for the Management Plan. For such a diverse group, there was remarkable consensus on the Plan's direction. The "Goal Statement and Objectives" section is the result of that effort. Once the policy direction was set, the appropriate activities or land uses for each part of the lakes area evolved from an analysis of the scenarios. A consensus developed around Scenario 2 and, with some modifications, it is recommended as the most consistent with the Plan's goal and objectives. The final step was to devise improvement projects to stabilize the lakes environmentally. These were based on the recommendations of the consultant team, and the expertise of Advisory Committee members, and are included is the "Environmental Assessment" section.

Plan Approval

The Recommended Draft of the *Smith and Bybee Lakes Management Plan* was published in January 1988. Since the City of Portland was in the process of completing the e-zone environmental regulations at that time, consideration of this plan was put off until the new zoning was in place. In the interim, Metro proceeded with studies leading to development of the St. Johns Landfill Closure Plan, which have indicated certain changes for the Smith and Bybee Plan. To modify the plan, a revision subcommittee consisting of City, Port, neighborhood, agency, and consultant representatives met and recommended changes to the overall Advisory Committee. The Advisory Committee then approved this revised Management Plan, which is forwarded to the City, the Port, and Metro for adoption.

ENVIRONMENTAL ASSESSMENT

Existing Environment

The Smith and Bybee Lakes Study Area is approximately 2100 acres. This study area includes the Smith and Bybee Lakes wetlands bounded by North Portland Road, Columbia Slough, and the Rivergate Industrial District. The study area also includes Columbia Slough, the Ramsey Lake wetland mitigation area, and the St. Johns Landfill.

The configuration of vegetation/habitat types in the Smith and Bybee Lakes wetlands is primarily determined by surface water hydrology. Historically, these wetlands were part of an extensive complex of sloughs, marshes and lakes that occupied the south shore of the Columbia River. Most of this original complex has been drained, filled or subject to other development impacts. The Smith and Bybee Lakes complex represents the largest remnant of this habitat in the Portland area.

The Smith and Bybee Lakes wetlands have been manipulated in recent history for purposes of hunting, other recreational activities, and waterfowl management. Various dikes, dams and channels were constructed by property owners to control water levels and flows in the lakes. By 1980, the entire north end of the complex along the Columbia River shore, from Portland Road to the mouth of Columbia Slough, had been filled for industrial development. Any historic connections between the lakes and the Columbia River had long been eliminated. The lakes complex was open to Columbia Slough through North Slough; water levels in the lakes therefore responded to level fluctuations in the Willamette and Columbia Rivers. Descriptions of the lakes from the late 1970's indicate that Bybee Lake experienced daily fluctuations in water level, while Smith Lake did not. The fluctuations in Bybee Lake were either tidal changes conveyed through Columbia Slough, cyclical tidal factors conveyed through the groundwater connection to the Columbia River, or a combination of these.

In 1983, a water level control structure was installed on North Slough for the purpose of maintaining high water levels in the lakes through the summer. This structure was planned by the U.S. Fish and Wildlife Service for the purpose of controlling avian botulism outbreaks experienced in the late 1970's and early 1980's. The Service obtained the necessary permits for the structure and impoundment. The permit was later transfered to the Oregon Department of Fish and Wildlife. Since 1983, the lakes have been maintained at a perched elevation of 10.5 feet MSL or lower; water depths in the lakes have generally not decreased below 3 feet. Prior to installation of the structure, Smith Lake had often lost most of its water by the end of summer, and summer levels in Bybee Lake had been very low.

The impoundment of water in the lakes since 1983 has dramatically changed the vegetation types in the wetlands. The lakes were classified in 1982 (before impoundment) as "palustrine", generally thought of as marsh or swamp. The 1986-87 environmental studies reclassified the lakes as "lacustrine", or lake habitat (FES 1987, Tech. App. E).

The Smith and Bybee Lakes study area can be characterized as two shallow lakes surrounded by extensive shrub willow swamp and forested areas. The most extensive forested areas are willow; stands of cottonwood, ash, or mixtures of these, are less extensive. The lakes include areas of open water and smartweed swamp; Bybee Lake is more open than Smith Lake. Sedge meadows, grasslands and small seasonal ponds are interspersed throughout the area. Upland, or non-wetland areas include the landfill and areas bordering the study area. Upland habitat types include grassland, some forested areas, and developed fill areas.

The hydrology of Smith and Bybee Lakes, based on 10 months of data collected during 1986, is dominated by two factors: (1) Columbia/Willamette River levels greater than 10.5 ft MSL (mean sea level), and (2) the net balance of precipitation and evapotranspiration (FES 1987, Tech. App. A). The holding weir on North Slough isolates the lakes from the slough/rivers at approximately 10.5 ft MSL. Thus, river levels below 10.5 ft have no direct effect on lake levels, whereas higher river levels overflow into the lakes. River levels typically exceed 10.5 ft during winter and spring Willamette and Columbia River freshets, and lake levels rise accordingly to levels above 10.5 ft.

When river levels are below 10.5 ft, lake levels are mainly influenced by the balance between precipitation, evaporation, and plant transpiration. The water budget calculations for the 1986 study period demonstrated that the small inflows from the creek under Marine Drive were approximately balanced by leakage losses through the control structure. Changes in lake levels matched rainfall amounts and evapotranspiration curves for the Portland area.

A possible "window" between the lakes and a large regional aquifer occurs under Bybee Lake, where a ridge of gravel rises to about sea level (FES 1987, Tech. App. B). The gravel ridge is part of a Pleistocene gravel formation found beneath the alluvial sand and overbank deposits characteristic of the Columbia River floodplain. This Pleistocene gravel aquifer is one of the most productive aquifers in Oregon. The Columbia River acts as a regional outflow boundary to groundwater in the Pleistocene gravels. Groundwater flow in the aquifers of the area converges towards the river during low river stages; groundwater pressures rise in the aquifers during high river stages. Bybee Lake, in its natural condition (not impounded) probably served as an outflow-inflow boundary for groundwater in the Pleistocene gravels. Water levels in the lake could have fluctuated with groundwater hydrology, and some natural exchange of water probably occurred at times between Bybee Lake and the underlying gravel aquifer.

Groundwater mounding has occurred due to leachate buildup in the St. Johns landfill, and natural recharge of sandy deposits making up the Rivergate District fills. Shallow groundwater flow from these areas is generally downward and outward, towards the sloughs, wetlands and underlying aquifers. Existing and potential groundwater contamination sources, such as the landfill, and existing and future industrial sites, could pose long-term environmental threats to water quality in study area wetlands. Leachate contaminated groundwater has been shown to have reached the upper parts of the Pleistocene gravel aquifer along the north margins of the landfill (FES 1987, Tech. App. B; SE/E 1989); this probably does not pose a significant threat to water quality in the lakes due to dilution factors. Existing monitoring wells, however, along the north side of the landfill do not penetrate deeply enough into the Pleistocene gravel aquifer to determine the true nature, severity, and extent of contaminated groundwater. Smith Lake is probably not at risk from deep groundwater contamination because it is underlain by a thick protective layer of low-permeability clay and silt.

Surface water quality of North Slough and Columbia Slough has been sampled approximately four times per year since 1977; Smith and Bybee Lakes water quality sampling was added to this program in 1987. This sampling program is conducted by DEQ and the landfill operator as a requirement of the St. Johns landfill NPDES permit.

Water quality parameters indicative of the presence of leachate (chloride, ammonia, COD, conductivity, hardness, and alkalinity) have shown an upward trend in both North Slough and Smith and Bybee Lakes and to a lesser extent in Columbia Slough during the period of

record (1977-89) (SE/E 1989). Data collected during the period 1987-89 indicates that concentrations of these water quality parameters are higher than the historical means and ranges (Metro/DEQ, unpublished).

The quality of water in Smith and Bybee Lakes is a frequently mentioned environmental concern. Maintenance of good quality water is an essential element of the Management Plan for the lakes. Studies conducted during 1986, and review of water quality data in DEQ files for the past 10 years, showed that the lakes are presently in a eutrophic condition (high levels of plant nutrients), and are out of compliance with several state water quality criteria (for the Willamette River and tributaries). The impoundment of water in the lakes has probably increased plant growth, resulting in more accumulation of nutrient-rich sediments, thus contributing to the eutrophication problem. Although out of compliance with state criteria for phosphorus and nitrate, water quality in terms of nutrients appears to be acceptable for fish and wildlife as well as the intended recreational activities of the lakes.

Since completion of the Smith and Bybee Lakes study in 1986, additional surface water quality data have been collected four times per year from sites in North Slough and Columbia Slough. The Sweet-Edwards/EMCON water quality study (SE/E 1989) indicated that historic average nitrate levels in Columbia Slough below the confluence with North Slough were higher than historic average nitrate levels in Bybee Lake. Construction of the water control structure has probably helped to stem the inflow of certain nutrients into Bybee Lake.

Construction of the water control structure has probably also improved water quality in respect to other parameters, such as fecal coliform bacteria, by isolating the lakes from the poor quality waters of Columbia Slough. Fecal coliform bacteria levels in the lakes between 1982 and 1986 appeared to be in compliance.

Columbia Slough waters are frequently out of compliance for a number of standard parameters. The data indicate that fecal coliform levels probably frequently exceed standards during the period November - May. Information on pesticides and metals is sketchy, but the slough appears to contain levels of certain contaminants similar to other industrial/urban area streams around Portland (Portland BES 1989).

A survey of lake and slough bottom elevations and bottom sediment characteristics was conducted during 1986. Bottom elevation in Smith Lake ranged from 3.7 to 5.7 ft above sea level; Bybee Lake values were 2.8 to 6.1 feet MSL (FES 1987, Tech. App. D). Columbia Slough bottom elevations between the Willamette River and the landfill bridge are generally below sea level (-1 to -5 ft MSL), with the exception of a shoal area off the mouth of North Slough (about 1.5 ft MSL); the slough bottom was slightly above sea level near Portland Road (0.2 ft MSL).

Bottom sediments in the lakes were characteristically silty; the percentage of silt at many stations exceeded 80%. Columbia Slough sediments were generally dominated by sand; samples between the mouth of North Slough and the landfill bridge were 80% or more sand, samples between North Slough and the Willamette 95% or more sand. The silt content of slough sediments was progressively greater with distance from the Willamette; a sample near Portland Road was 66% silt (FES 1987, Tech. App. D).

Zooplankton sampling in the study area found that samples in lake and river water were similar, while those from slough water were characteristically different (FES 1987, Tech. App. F). Cladocerans dominated lake samples during late May; copepods were relatively more abundant during September. Rotifers dominated slough water samples.

Samples of bottom-dwelling animals indicated that aquatic worms (oligochaetes) were the most abundant organism; in fact, most Smith Lake and Columbia Slough samples contained only these worms (FES 1987, Tech. App. F). Bybee Lake and Smith Channel samples had a greater diversity of bottom animals compared to Smith Lake and the slough. A statistical relationship was demonstrated for the abundance of bottom organisms and the volume of organic debris in sediment samples. A 1988 study (Portland BES 1989) described Lower Columbia Slough as an area with low diversity of bottom-dwelling animals.

Samples of fish populations in the study area resulted in the identification of 17 species, including several warm-water game species (FES 1987, Tech. App. G). An interesting result was the great abundance of juvenile chinook salmon found everywhere in the study area during the spring, and the complete absence of this species during summer and fall. This suggests that the sloughs and lakes provide rearing habitat for young salmon during late winter and spring. High river levels during late winter and early summer provided connections between the river-slough system and the lakes, allowing salmon to enter, and presumably leave the lakes; predation could also account for the absence of juvenile salmon in early summer samples.

The abundance of each fish species varied with season, water body, and habitat. Carp was the most numerous species in most areas and most seasons. Exceptions to carp dominance included the slough during spring (salmon and suckers more abundant), and the lakes and slough during fall (young bluegill more numerous in the lakes, goldfish in the slough).

Growth and food habits information was collected for most species of fish. Results indicated that populations of game and non-game species generally have an age structure indicating successful reproduction in the area. Bass and crappie populations seem strong enough to support recreational fisheries; bluegill populations are more dominated by smaller fish. The food of most species examined is primarily zooplankton, particularly cladocerans, with very few bottom organisms consumed.

Smith and Bybee Lakes and Columbia Slough appear, from this limited information, to have larger populations of non-game fish species, and fewer numbers of certain species typical of the Columbia River, than other lower Columbia River sloughs and lakes that have been studied. Smith and Bybee Lakes, however, appear to have a more well developed warm-water game fish fauna dominated by bass and crappie, with a good base of small bluegill available as forage.

Wildlife data collected for the study area resulted in the identification of 72 species of birds actually observed, and another 25 species expected to be present FES 1987, Tech. App. H). Waterfowl numbers were very low in all habitats of the study area during late spring, early summer, and fall, 1986. An exception to this finding was the large numbers of waterfowl in the remnant Blind Slough area of the St. Johns landfill; the majority of mallard and cinnamon teal broods observed were in this area. The Blind Slough remnant has since been filled with solid waste. Greater numbers of waterfowl were observed in the lakes during a one-day survey in March, 1987.

Large numbers of scavenging bird species, such as starlings and crows, were observed in various habitats around and on the landfill. These birds feed in the landfill, and roost in nearby cottonwood and willow forests. Many nesting cavities in these areas were occupied by starlings and sparrows rather than the normally occurring species. Large mixed-species flocks of gulls also feed in the landfill and roost on nearby areas of Bybee Lake.

Bald eagles have been observed over the study area, but no roosting or nesting eagles have been seen.

Ecosystem Summary

The Smith and Bybee Lakes wetlands are a complex of sloughs, ponds, lakes, marshes, meadows, shrub/scrub and forest habitats. These habitats support a variety of resident and migratory fish and wildlife species. The Smith and Bybee Lakes complex has been identified by the City of Portland and groups such as the Portland Audubon Society as a valuable and unique urban wildlife resource for its ecological and recreational/educational values.

The structure and function of the wetlands complex is presently largely determined by surface water hydrology. The hydrology of the system is controlled by human development, particularly filling activity and water control structures. The system is dependent on a controlled, or manipulated hydrologic regime; the future environment of the wetlands complex will therefore depend on hydrologic management practices.

Major changes in habitat, as evidenced by vegetation structure, have occurred over the past 5 years as a result of impoundment. The major environmental features of the system now include large areas of standing water year-round, limited exchange between waters of the lakes and sloughs, and probably reduced exchange between the lakes and groundwater aquifers.

As a result of these hydrological features, the major vegetation types of the system are smartweed swamp, fringing shrub-willow swamp that has experienced major die-back of young trees, and forested areas that are inundated for longer periods of time. Growth of smartweed, pondweeds and algae in the lakes appears to have increased as a result of impoundment. Water quality in the lakes appears to have deteriorated in terms of eutrophic factors; there are also indications that other water quality parameters, possibly indicative of contamination, have increased in the past 3-4 years when compared with historical levels. Isolation of the lakes from Columbia Slough seems to have reduced the levels of certain contaminants originating in the slough system.

The population dynamics of the fish fauna in the Smith and Bybee Lakes study area are driven by a combination of hydrological conditions and habitat variables. Impoundment has had definite effects on fish populations, although these are difficult to quantify due to a lack of historical information. The lakes offer the potential of a viable recreational fishery if managed properly.

The Smith and Bybee Lakes wetlands were analyzed using the Wetland Functional Assessment method developed for the Federal Highway Administration (Adamus 1983). The results of this analysis provide a tool for planning and management of wetland resources, but must be carefully interpreted using actual data when available. When compared with the technical studies conducted for this project, the functional assessment underscores the value of the Smith and Bybee Lakes complex for wildlife habitat, passive recreation, canoeing, and sediment trapping.

Existing Environmental Impacts

The Smith and Bybee Lakes wetlands complex was assessed in light of existing environmental impacts. Impacts from five major sources were examined for more than a dozen wetland functions; results were presented as a review matrix. The impact sources identified for the wetland complex are listed below with their attributes. The sources are human activities; attributes are the specific features of the source that result in impacts to the wetlands environment.

Impact Source	Source Attributes
St. Johns Landfill	Leachate, scavangers, appearance, noise, odor, traffic, growth, groundwater mounding, runoff
Industrial development	Runoff, diking, contaminated effluent, noise, appearance, odor, traffic
Water control structure	Water impoundment, location/design
Columbia Slough	Water Quality
Public use	Access activity

Major impacts are defined as those that affect wetland functions to a sufficient degree to cause an impairment or change of function beyond the ability of natural processes to return the function to its former functional level within several years. Moderate impacts affect wetland functions for more than a year, but are unlikely to affect the integrity of any system-wide wetland function.

Groundwater mounding and resulting groundwater flow from the landfill produces potentially major impacts on groundwater recharge and discharge functions, habitat for fish, and active recreation functions of surrounding sloughs and wetlands. Surface water runoff patterns from the completed portions of the landfill and the newly developed industrial areas have major impacts on groundwater recharge, flood storage, and sediment trapping functions. Diking, represented primarily by the Rivergate fill, has major impacts on flood storage, nutrient retention and removal, habitat for fish and wildlife functions. Industrial effluent, evident in at least one area bordering Smith Lake, result in major impacts to food chain support, fish and wildlife habitat, active and passive recreation functions of the wetlands. The impoundment of water behind the water control structure has resulted in major impacts to most wetland functions. The design/location of the structure also results in major impacts to flood storage, sediment trapping, nutrient retention/removal, and habitat for fish.

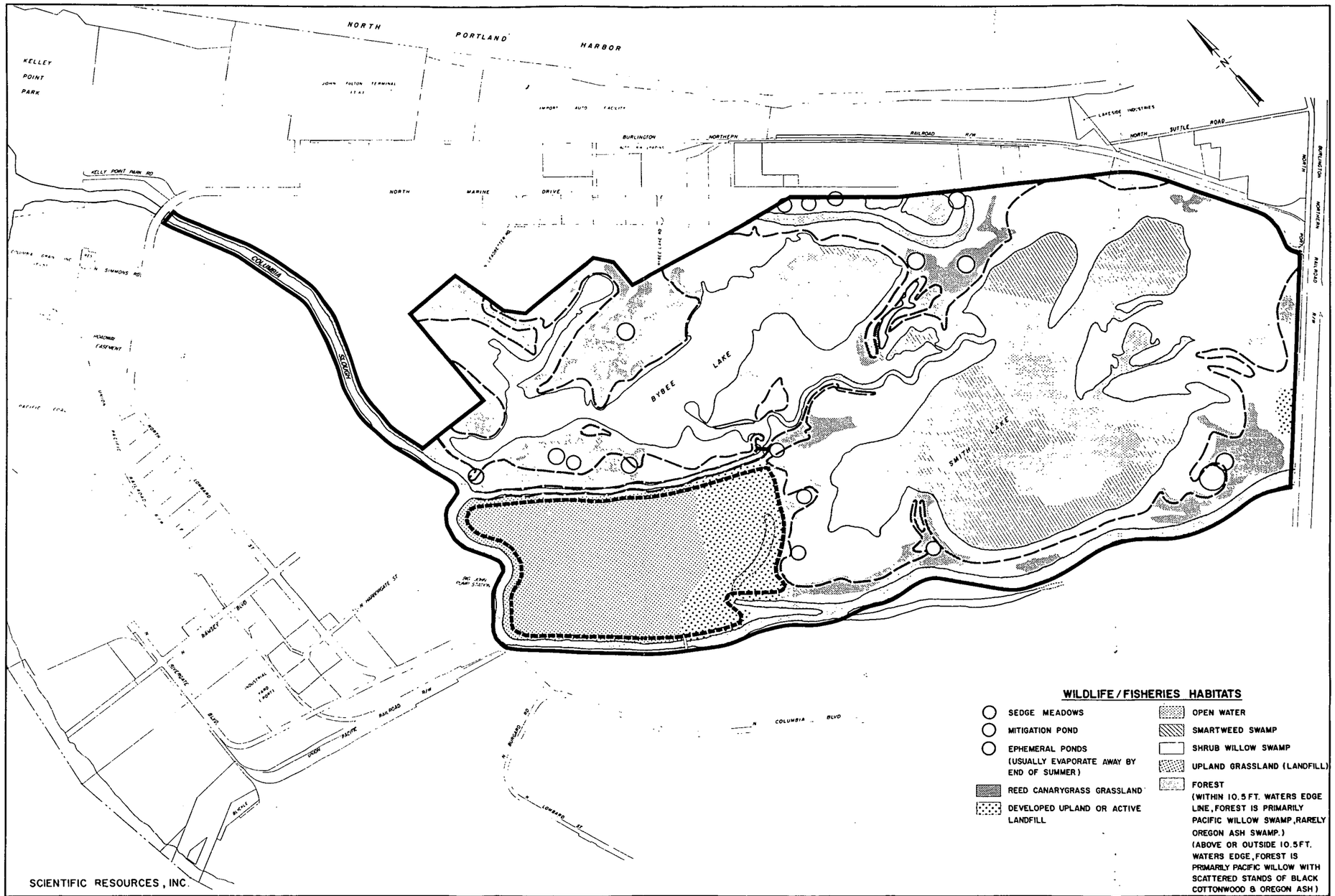
Columbia Slough water quality has a major impact on active recreation, importance to disease vectors, and probably habitat for fish functions of the wetlands.

Moderate impacts to various wetland functions were scored for landfill scavengers, odors and runoff; and industrial development noise, appearance and odors.

Potential Environmental Projects

ENV1 Smith and Bybee Lakes Water Quality Monitoring Program

- **Comments:** The water quality data for Smith and Bybee Lakes is limited to quarterly sampling at two locations in the south ends of each lake; this is part of the landfill permit monitoring requirement. Groundwater quality data are also limited to the landfill monitoring program. A water quality monitoring program needs to be developed that is specific to Smith and Bybee Lakes Management Area and includes data collection points related to development in Rivergate, existing industries in the Suttle Road area, and other potential point and non-point sources.



LEGEND

DATUM	ALL ELEVATIONS = USGS.
	LANDFILL DIKE
	CONTROL STRUCTURE
	TREE / SHRUB LINE-SMITH & BYBEE LAKES ; SHORELINE-COLUMBIA SLOUGH
	STUDY AREA BOUNDARY / TOP OF BANK (APPROX. 30 FT.)
	APPROX. LAKE SHORE LINE (10.5 FT. CONTOUR)

Port of Portland

GRAPHIC SCALE IN FEET

500 0 500 1000 1500 2000 2500

DECEMBER, 1986

SMITH AND BYBEE LAKES
MANAGEMENT PLAN
ENVIRONMENTAL STUDIES
STUDY AREA HABITAT MAP

SUBMITTED BY: J. Corbett
SENIOR PLANNER, LAND DEVELOPMENT

DRAWING NO.: RG 86-511 19/23 (C-19)

FIGURE 4

- **Information needs:**
  What WQ contamination point sources presently exist in the SBL watershed?
  What WQ non-point sources presently exist in the SBL watershed?
  What specific materials are handled at existing and future industrial sites that could pose environmental problems if introduced into the Smith and Bybee Lakes system?
  A data collection network is needed for surface and groundwater throughout the Management Area.
- **Recommendations:** Develop and initiate a surface and groundwater monitoring program specific to the SBL Management Area.
- **Priority:** High

ENV2 Flood Gate in the Existing Water Control Structure

- **Comments:** Water level management appears to be a needed option for vegetation management, fish population management, water quality management, and perhaps for ground/surface water relationship experiments.
- **Information needs:**
  What is the desired range of water levels?
  What is optimum gate size/flow capacity for water level management?
  What are the needed performance capabilities?
- **Recommendation:** Develop needed information (above); produce facility design and cost estimate; construct facility.
- **Priority:** High

ENV3 Dynamic Hydraulic Model of the Columbia Slough and Smith and Bybee Lakes

- **Comments:** A major data gap is the hydraulics of the slough and lakes systems. The City Bureau of Environmental Services (BES) has a static model of the slough used for the water quality project, and is planning to develop a dynamic model. This hydrodynamic model is being developed by Portland State University under contract with BES, Metro, and Port of Portland. This information is critical for a complete understanding of lake hydrology, water quality, and for assessing the feasibility of connecting the slough and Bybee Lake.
- **Information needs:**
  What are the relationships between Columbia and Willamette River levels and Columbia Slough levels and flows?
  What is the behavior of Willamette River water in the slough during flood tides?
  How will opening a connection between slough and lake impact flows in Columbia Slough? flushing in the lake?
- **Recommendation:** Metro should coordinate with BES and the Port of Portland to provide input to scope of work for hydraulic modeling.
- **Priority:** High

ENV 4. Modify Existing Storm Outfall from BN Property

- **Comments:** This is the only untreated major storm water system draining directly to Smith and Bybee Lakes. This outfall should be routed through an appropriate water quality protection facility to protect water quality in the lakes.
- **Information needs:**
  What flow volumes are discharged through this outfall?
  Will future development increase flow volumes?
  What is the quality of this storm water?
  What space is available for a WQPF?
- **Recommendation:** <u>All</u> Existing and future storm water outfalls should include a WQPF.

Collect flow and water quality data from this outfall during winter and spring, 1990.
Design and obtain permits for a wetland WQPF based on specifications developed from monitoring data.
Construct WQPF in fall 1990.

- **Priority:** High

ENV 5. Construct New Outfalls for Maximum Habitat and Water Quality Protection

- **Comments:** Contaminated storm water is potentially a major contributor to water quality degradation in the lakes. The Management Plan should identify areas of future potential discharges and areas that can be utilized for WQPF construction. (Also see monitoring program item)
- **Information needs:**
  What future development is planned in the SBL watershed?
  Do existing or potential outfall points impact sensitive habitats?
  What existing upland or wetland areas are suitable for construction of WQPF's?
  What other options are available for storm water treatment in addition to created wetlands?
- **Recommendation:** Obtain needed information, above; review Columbia South Shore WQPF specifications and incorporate (with modifications, if needed) into the SBL Management Plan; incorporate, by reference, new City sediment control rules into Management Plan.
- **Priority:** High

ENV 6. Clear the North Slough and the Mouth of Columbia Slough

- **Comments:** Boating access to the lakes via North Slough is restricted due to grounded barge, numerous snags (woody debris), and shoaling. A shoal in Columbia Slough at the mouth of North Slough is a navigation hazard for motorized boats. There are some reports of shoaling in the mouth of Columbia Slough; this could have some impact on the hydrology and water quality of the slough in relation to tidal flows from the Willamette River. The barge and snags in North Slough provide habitat for fish.
- **Information needs:**
  How does shoaling at mouth of North and Columbia Sloughs affect hydrology of the system?
- **Recommendation:** Determine the effects of shoaling on system hydrology; clarify status of Columbia Slough as navigational waterway by US Coast Guard and Army Corps of Engineers; determine importance of North Slough clearing to recreational potential; develop cost estimates for clearing and dredging work, including disposal options.
- **Priority:** Medium to High

ENV 7. Habitat Enhancement and Restoration Projects

- **Comments:** Degradation of certain Management Area habitats has occurred as a result of impoundment, landfill operation, illegal trash dumping, filling, and other activities. An inventory of degraded habitats and of lost historical habitats could be produced that would guide restoration/enhancement activities.
- **Information needs:**
  What historical habitats have been lost?
  What existing habitats are degraded, and what are the causes?
- **Recommendation:** Obtain the needed information, above; develop program plans for restoring or enhancing habitats consistent with other Management Plan

elements (i.e. landfill closure, Rivergate filling, water level control structure changes, etc.); initiate restoration and enhancement plans that are appropriate.

- **Priority:** High-Medium

ENV 8. Connecting Columbia Slough with Bybee Lake Dam Across the Narrows in Bybee Lake and an Opening at the West End of Bybee Lake

- **Comments:** A major goal of the Management Plan is to restore historical habitat to the lakes; this includes intertidal mudflat. The original Plan included a proposal to connect Bybee Lake and the Slough just downstream from the mouth of North Slough. Information from Metro and BES consultants questioned the wisdom of this plan in regards to water quality issues. A modification of the proposed plan was developed that would isolate the west arm of Bybee Lake from the rest of the lake, and connect this area to the Slough. Other modifications also are possible.
- **Information needs:**
  Results of hydraulic model of the Slough
  Additional groundwater data points
  Slough water quality data
- **Recommendation:** Restoration of intertidal mudflat habitat is a major goal of the Management Plan. Develop conceptual plans for feasible options involving a connection between the Slough and Bybee Lake; determine construction specs and costs for each option; develop an environmental assessment for each option; select a preferred option; reach a decision on the wisdom of constructing the preferred project in relation to water quality concerns; design a monitoring program to document existing water quality in gravel aquifer and to determine impacts of Slough water quality and landfill leachate on lake water quality after construction of the project; develop a contingency plan to close the connection if necessary; build the project if consensus is reached that this large-scale experiment is justified.
- **Priority:** High, for pre-decision tasks

ENV 9 Construction of Large-Scale Wetlands at Ramsey Lake for the Treatment of CSO Effluent

- **Comments:** The City has proposed this project as part of the Columbia Slough Water Quality Management Plan. The proposed project needs to be reviewed in regard to consistency with the SBL Management Plan.
- **Information needs:**
  Adequate information exists in City reports.
- **Recommendation:** SBL Management Plan policy requires review of proposed projects; the Park Bureau and/or SBL Advisory Committee should provide comments on the proposal related to Management Plan consistency.
- **Priority:** High (for review tasks only)

ENV 10 Water Augmentation (groundwater wells or Columbia River)

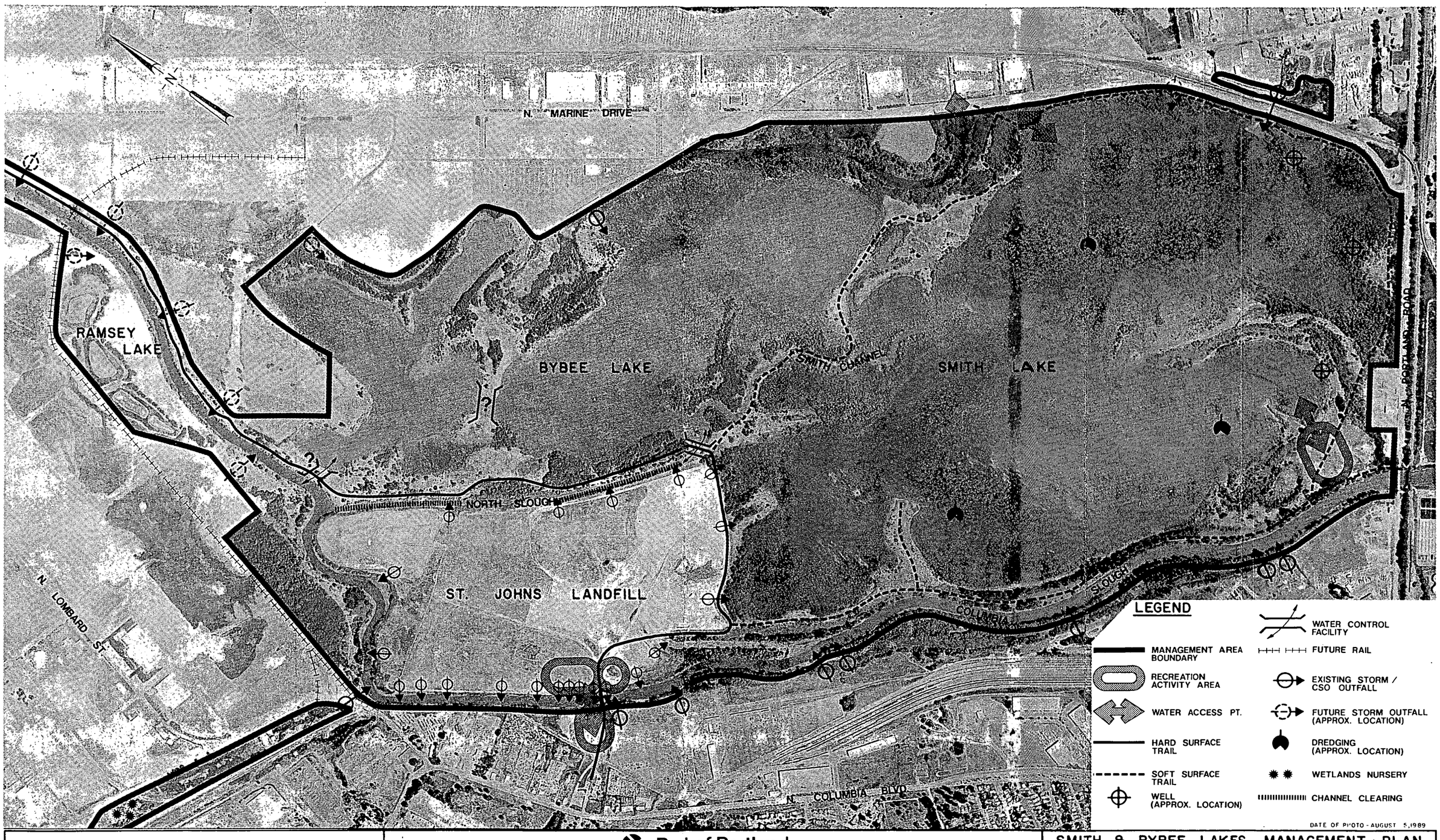
- **Comments:** Present water quality in lakes appears to be acceptable for proposed uses; nutrients are somewhat high. Water level management is perhaps a greater need than water quality management at this point.
- **Information needs:**
  What is present water quality of gw source?
  What is the potential well capacity? (5K-8K gpm?)
  What is goal of augmentation in terms of: nutrien levels; water level management, flushing, others?
- **Recommendation:** Establish water quality and quantity goals; obtain needed information (above); assess need for augmentation; determine feasibility and costs.
- **Priority:** Medium

ENV 11 Dredging to Create Mud Flats Fish Channels and Boating Trails

- **Comments:** Maintenance of mud flat habitat will be difficult or impossible without daily tidal or seasonal fluctuations in water levels. Fish channels in the dense smartweed areas of Smith Lake and/or deeper pool areas in both lakes would be desireable for fish populations, particularly deep pools for summer refuge if lake levels are manipulated. Boating trails through the dense smartweed areas in Smith Lake would enhance recreational opportunities.
- **Information needs:**
  What type of equipment is needed?
  What is existing sediment quality (for disposal options)?
  What are the options for disposal (create islands, create uplands, use as soil amendment for wetland nursery or landscaping?
  What are benefits vs. costs?
- **Recommendation:** Obtain needed information (above); determine management goals related to fish and wildlife habitat, water level management and recreation.
- **Priority:** Medium to Low

ENV 12. Wetlands Nursery and Lab

- **Comments:** Smith and Bybee Lakes wetlands provide an opportunity to develop nursery and/or seed source materials for regional wetland projects. Plant materials could be inventoried to determine species available and their distribution/abundance in the Management Area. The Management Area also provides an opportunity for wetlands research, including potential areas for plant culture and noxious plant control experiments.
- **Information needs:**
  What areas would be appropriate or inappropriate for nursery and/or lab activities?
- **Recommendation:** Identify areas where plant and/or seed harvesting for use in Management Area projects is appropriate; encourage local colleges/universities to establish research programs in the Management Area; initiate a wetland nursery and research program at the local high school to develop community interest and involvement.
- **Priority:** Low



Port of Portland

0 500 1000 2000
SCALE IN FEET

SMITH & BYBEE LAKES MANAGEMENT PLAN

PROJECTS

FIGURE 5 RG 90-10 3/4 (C-3)

RECREATION ASSESSMENT

In keeping with the Management Plan's Goal Statement, all contemplated recreational uses must be determined to be compatible with the protection of desired levels of wildlife population, wildlife habitat, and the preservation of the natural environment before such uses are allowed or encouraged. The type, level, and location of recreational activities must be carefully considered in order that natural resource values are not compromised.

Recreation Needs

Recreation needs of North Portland as well as those of the City and the metropolitan region have been substantiated through increased inquiry and use of existing parks facilities, from specific requests through the City's neighborhood needs process, and from the findings of the Parks Futures Study conducted by Portland Parks and Recreation.

A major recurring need expressed through these sources is the desire to walk for pleasure. The Parks Futures Study found walking for pleasure to be Portland's most popular recreational activity. Where people like to walk in Portland and why has not been studied. Parks and Recreation professionals agree, however, that walking is more pleasurable for most people in a setting that offers an escape from the urban environment and subtle stimulation from nature. At Smith-Bybee the need for hiking opportunities is shown by the existence today of an informal hiking trail between Smith and Bybee Lakes, along the channel connecting the lakes, and along the south edge of Smith Lake.

It is not unreasonable to say that bicycling for pleasure has been revolutionized by the development of the all-terrain or mountain bike. This development has at once expanded the population of recreational bicyclist and created the need for additional bicycling opportunities. Where opportunities are not developed and regulated, natural resources (especially in or near urban areas) may suffer significant degradation.

The St. Johns Landfill End Use Plan, developed in 1987, addressed a variety of recreation needs including model airplane flying and archery. In light of current recommendations for closure, it is unlikely that the landfill site will be able to accommodate other needs, but facilities for model airplane flying, archery, and 40 Mile Loop Trail could be developed provided that vehicle access is limited or not allowed north of the landfill bridge.

More specific, recreational needs that can be described as "wetland dependent" are also recognized. As recreational opportunities have diminished due to the loss of wetlands, the interest in preserving remaining opportunities has increased. Sales of recreational equipment such as canoes and scopes and field guides for bird watching have never been higher. Fishing, canoeing, bird watching, wetland biology and ecology are areas of recreation and recreation education that are on the increase in Portland and throughout the country.

Undoubtedly these needs will be amplified over the next 15 to 50 years as the "baby boom" population reaches and enjoys retirement. Low cost, passive recreation opportunities will be needed at levels that are unprecedented and not presently available at parks facilities within the region.

Recreation Opportunities

Smith and Bybee Lakes is the largest lake system within Portland's city limits. It is the only remnant of what once was a series of shallow lakes located along the south shore of the Columbia River. Its natural resource value as wildlife habitat remains high and this value is its single greatest asset.

Opportunities to allow and encourage appropriate types of recreation exist at the lakes. Recreational activities would require control in their level and their location. Examples of appropriate recreation include:

- Non-motorized boating (e.g., canoeing and canoe/sailing)
- Fishing
- Observing nature (e.g., bird watching)
- Hiking/walking
- Bicycling
- Recreational education (wetland biology and ecology)

Smith and Bybee Lakes is located on the 40-Mile Loop, a metropolitan-wide system of recreational trails which at present connects the cities of Portland, Troutdale, and Gresham, and Multnomah County. The 40-Mile Loop features many significant developed parks and natural resource areas on its route, and Smith-Bybee would be another major feature. The relationship of the Loop and Smith-Bybee would be mutually beneficial.

Smith-Bybee is also a major component in the region's Wildlife Refuge System. Comprised of significant areas and corridors with high wildlife habitat values, the system calls attention to the characteristics critical to sustaining wildlife within the Portland region. Created by the Portland Audubon Society, the system has brought together local professionals and agency staff to provide needed assistance in the management of these resources. This assistance should be utilized as specific plans are developed regarding type, location, and level of recreational activities. In addition, monitoring programs should be established which trigger appropriate management action when and if desired wildlife populations or critical wildlife habitat is threatened by recreational use.

"Friends of Smith and Bybee Lakes," a non-profit organization, has been organized out of the development of the Management Plan. Comprised primarily of residents of North Portland, owners of Smith-Bybee Lakes land parcels, and representatives of interest groups such as Portland Audubon, 40 Mile Loop Land Trust, and the Oregon Bass and Pan Fish Association, the organization is promoting the adoption of the Management Plan and the policies and specific actions it recommends. The Friends are also monitoring closely the activities of agencies responsible for management of the St. Johns Landfill and other actions affecting Smith-Bybee. The Friends plan to support implementation of the Management Plan through fund raising and volunteer activities.

The City of Portland's Bureau of Parks and Recreation has indicated that it is willing to assume overall recreational management of Smith-Bybee. This would provide the comprehensive and coherent management needed for the preservation of resource values and for the provision of recreational and educational opportunities. Parks Bureau staff were included on the Advisory Committee and have been involved in the completion of the Management Plan.

The Parks Levy passed by Portland voters in June, 1989, provided approximately $80,000 for trail development. The Smith-Bybee "share" should be approximately $20,000 for application to hiking, bicycling, or canoe trails within the Smith-Bybee Management Plan area.

Educational/Research Needs and Opportunities

Similar in nature to the recreational needs and opportunities already discussed are the needs and opportunities relating to education and research.

It is widely perceived in the Portland region that local primary and secondary schools, particularly the public systems, offer too little in the way of environmental education. Little or no money is appropriated within local school budgets for curriculum development or site visits utilizing publicly-owned natural resource areas only minutes away from schools. Interest of local educators is increasing, however, due primarily to "Country in the City" symposiums of 1988 and 1989.

Also due to the symposiums, the interest shown by local colleges and by Portland State University has increased. Oaks Bottom Wildlife Refuge has been selected by four PSU graduate students for projects and will be used by Reed College beginning in the fall of 1989. Also, a non-affiliated macro-invertebrate study is planned for Oaks Bottom. Similar opportunities for research exist at Smith-Bybee.

Participation at the university and college level may be critical to established needed baseline information and to monitor the health of Smith-Bybee over time.

Development and Management Recommendations

In order to support even the relatively low impact levels of recreational and educational uses envisioned by Scenario 2, a certain amount of infrastructure development and ongoing maintenance is required. The development, maintenance, and service highlights that follow are supportive of the Goal and Objectives and are proposed for implementation through the Management Plan.

At the present time, the greatest infrastructure need is the need for controlled public access. Specified, areas for parking and canoe launch are required, as are designated trails for hiking, bicycling, and canoeing. In the event that an Interpretive Center is added, it should be sited to take advantage of access, trail, and appropriate recreation/education opportunities. As the Advisory Committee has recommended, activity zones must be located carefully to preserve environmental values important to wildlife and wildlife habitat.

Potential Development Projects:

REC 1 Vehicle parking along N. Marine Drive on Port of Portland property. (Completed by the Port of Portland, 1989.)

REC 2 Vehicle access and parking from N. Portland Road to the upland area near the southeast corner of Smith Lake.

REC 3 40 Mile Loop Trail (hiking only) along the north bank of the Columbia Slough. Hiking trail to be constructed to meet City of Portland adopted Pedestrian Recreational Trails Construction Standards.

REC 4 40 Mile Loop Bicycle Trail along N. Marine Drive with bicycle parking provided at the N. Marine Drive parking lot (noted above). Bicycle route to Interpretive Center from the 40 Mile Loop Bicycle Trail would be added later.

REC 5 **Hiking trails all the way around Smith Lake.** Generally located back from the water's edge with access points for viewing and fishing specified.

REC 6 **Canoe launching points at the "blind slough" next to the N. Marine Drive parking lot and at the southeast corner of Smith Lake.** Portage routes developed between the "blind slough" and Bybee Lake, around all water control structures, between the Columbia Slough and the southeast corner of Smith Lake, and between the west end of Bybee Lake and the Columbia Slough.

REC 7 **Model airplane flying facilities and archery facilities on the south portion of the St. John Landfill site with supporting parking facilities nearby.** The parking area would also support access to the 40 Mile Loop Trail and a trailhead information kiosk should be developed.

REC 8 **Boat launch facilities adjacent to the parking area located immediately south of the landfill bridge might be developed for the Columbia Slough.** Facilities would be used for canoes and small motorized boats.

REC 9 **Canoe Trail developed in Smith Lake with marked points of interest, directions to next point, and interpretive information.**

REC 10 **Trail signs at trailheads and junctions for orientation purposes. Interpretive sign/maps at major access points such as N. Marine Drive parking lot and at southeast corner of Smith Lake.**

REC 11 **Public restroom (two units, single person occupancy) at southeast corner of Smith Lake.** Open seasonally.

REC 12 **Interpretive or Education Center location to be determined, but sites likely to be considered are: upland area at southeast corner of Smith Lake, near N. Marine Drive parking lot between Smith Lake and Bybee Lake, and near southwest corner of Smith Lake.** E Zone Transition Standards shall be observed. Center should have connecting links to the 40 Mile Loop hiking and bicycle trails.

REC 13 **Interpretive Trail with designated stops at points of interest. Interpretive information provided at stops and/or with guide book.** Should include stops at both Smith Lake and Bybee Lake, Columbia Slough, water control structure(s), and at various habitat type sites.

REC 14 **Park accessories such as garbage cans, benches, drinking water, lighting, electricity, gates, bumper logs, etc., should be provided at a (minimal) level needed to achieve control of access and support desired types and levels of recreation.**

REC 15 **Caretaker residence (if needed) should be located at a public entrance.** Near entrance from N. Portland Road to southeast corner of Smith Lake is a likely site. E-Zone Transition Standards shall be observed.

REC 16 Recreational Vehicle Park should be considered only if site can be adequately screened from the Lakes and the Columbia Slough and if environmental values can be adequately protected from unwanted impacts. Likely site is the upland area near the southeast corner of Smith Lake. E Zone Transition Standards shall be observed.

Recreation Management Highlights:

- Trail maintenance. Repair of surfaces, pruning back vegetation, drainage repair.
- Signage (trail and interpretive) maintenance/replacement. As needed.
- Specific vegetation control. Identification, monitoring, and control of undesired vegetation. Species candidates include purple loosestrife, smartweed, Canada thistle, Scots broom, Himalayan blackberries, willow species (if overabundant), reed canarygrass (if overabundant), and others. (Some assistance may be available from the Oregon State Dept. of Agriculture's noxious weed program.) Control of vegetation will be in conformance with the Bureau of Parks and Recreation's Integrated Pest Management Policy.
- Maintenance and operation of water control structures to keep them in functional condition and to achieve desired results.
- Litter removal. Removal of incidental litter and emptying garbage cans (if provided).
- Garbage removal. Removal of large amounts of illegally dumped debris such as lawn debris, old tires, household garbage.
- Restroom cleaning and maintenance. Daily cleaning of public restroom and making needed repairs arising from normal use and due to vandalism.
- Security. Locking access point gates at the end of normal park use hours.
- Repair/replacement of park accessories. As needed due to age or vandalism.
- Vehicle and equipment access for maintenance will be required on an as needed and sometimes on a routine basis in areas not otherwise open to vehicles and equipment.
- Inspections for unsafe or unsanitary conditions. Checking surfaces and overhead for hazards such as broken glass, hanging dead limbs, etc.
- Maintenance of Interpretive Center (if provided). Building maintenance and custodial care, security services, and utilities.
- Insect and rodent control. Reduction of populations of unwanted insects and rodents. (Control of nuisance and vector species provided by Multnomah County. Multnomah County personnel will utilize the County's adopted Integrated Pest Management Policy.)
- Monitoring. A comprehensive and regular monitoring program to track resource value improvement/degradation. Would require trained personnel who could be assisted by knowledgeable volunteers. Needed to provide information for management decisions.
- Habitat enhancement projects. Planting projects, erosion control, providing needed artificial habitat, etc.
- Policing. Enforcement of Park Codes (City) and other laws.
- Interpretive Services. Preparing and providing information, guiding tour groups, and organizing and providing classes.
- Marketing. Providing the general public with appropriate type and level of information regarding Smith-Bybee which supports the desired image and the goals and objectives of the Plan.
- Administration. Administrative support in the form of contract and project management, budget development and administration, staffing the Management Committee, and miscellaneous support services (e.g., accounting).

Problems and Needs

The following problems and needs have been identified with respect to the implementation of envisioned recreational uses. A full discussion of the problems and needs identified here and in other sections of the Management Plan follows in the "Issues" section and recommended policies and specific actions dealing with the issues appear in the "Policies and Actions" section.

- Fragmented ownership of area which could result in problems with public access and use, public information, relationships among landowners, liability, infrastructure development, and maintenance.
- Lack of technical staffing within local parks agencies.
- Inherent difficulties in determination of appropriate types, levels, and locations of recreational activities.
- Insufficient and/or inappropriate City Codes to control public behavior at Smith-Bybee.
- Lack of appropriated funds to cover ongoing maintenance cost associated with Smith-Bybee.
- Lack of dedicated funding for infrastructure development needs.
- Lack of specific development plans.
- Lack of program to monitor impacts of public recreation.
- Lack of recreation policy.
- Lack of public information and recreation/education program materials needed to encourage appropriate recreational and educational use of Smith-Bybee.
- Need to revise the recommendations of the *St. Johns Landfill End Use Plan* to reflect closure recommendations and to respond to the needs of the citizens of North Portland.

ISSUES

During the creation of the Management Plan many issues were discussed before the recommended set of policies and specific actions were developed. This "Issues" section of the Management Plan outlines these discussions and provides the background and the rationale for the recommendations brought forward.

Ownership of Property

The issue of property ownership is a critical one to the successful management of Smith-Bybee. The present ownership pattern is not conducive to coordinated management of the environment, nor does it make very possible the public recreation uses envisioned in the Management Plan.

Many private property owners appear to be very interested in selling property to an appropriate public entity. Reasons include their desire to end property tax payment obligations on property that does not provide economic return, their desire to reinvest in other areas, and their recognition that the most appropriate use of their property is for a more general public benefit (in agreement with the goals and objectives of the Management Plan) which is most appropriately provided through public ownership. Some private property owners have clearly expressed their desire to sell as soon as possible to the appropriate public agency. It should be the Policy of the Management Plan for the appropriate public agency to purchase property from willing sellers as the first priority. It should be the Policy of the Management Plan to purchase for fair market value as determined by an independent party.

It should be made known to all private property owners that an acquisition program exists to acquire property from willing sellers on a fair market value basis.

Provided that the policies and actions of the Management Plan are recognized, adopted, and implemented by all public agencies involved in the Management Area (Metro, City, Port), it does not appear to matter which public agency actually holds title to properties. It is likely that considerations such as the renewed Agreement between the City and Metro regarding responsibilities for the St. Johns Landfill, environmental mitigation programs (committed or planned) by the Port, and the desire by public agencies to remain involved on a property ownership basis will, for the foreseeable future, mean that the City, the Port, and Metro will be involved as property owners.

Some private property owners may also want to remain involved to preserve environmental mitigation options or because their objectives are in line with the goals and objectives of the Management Plan (e.g., PGE, Oregon Parks Foundation). Protection of remaining private property from unwanted access will be considered prior to construction of facilities and as levels of use increase over time.

(Since the divided ownership situation will not be resolved quickly, implementation of the Management Plan will require agreements with cooperating property owners to enable overall management and use.)

The Trust Fund Manager should acquire property and should be responsible for execution of the property acquisition program. Funds for the acquisition program covering costs of property and transaction costs should be appropriated by the Trust Fund Manager.

If funds set aside for the implementation of the St. Johns Landfill End Use Plan are made available for property acquisition, there would be no reason not to proceed with acquisition immediately.

Property Agreements

A standardized agreement between property owners and the public entities responsible for management (Portland Parks or Metro) should be in place to enable coordinated and comprehensive management of the environment and public recreation.

Agreement should supersede the present Agreement with the Oregon Department of Fish and Wildlife.

ORS 105.655-105.680 is helpful in this regard as it provides liability limitations for public recreational use of private lands provided that no fees are charged for such use.

Management of Smith-Bybee

The Management Committee to oversee the implementation of the Management Plan and to develop subsequent revisions of the Plan should be created. The Management Committee should include representation from virtually all significant parties having interest in the management area. The Management Committee should recommend assignment of or contracting with the appropriate public agencies for plan implementation. (For example, the Portland Parks Bureau could be assigned responsibilities for management of the public recreation aspect of Smith-Bybee and Metro could be assigned responsibilities for management of the environment.)

The Committee should be responsible for recommending appropriation of funds from resources dedicated to the Smith-Bybee Lakes Management Area.

The Committee should be professionally staffed to facilitate its management responsibilities.

Environmental Issues

The Smith and Bybee Lakes system, including lower Columbia Slough and the St. Johns landfill, has been the focus of numerous studies in recent years. There remain, however, critical questions concerning the present condition of the ecosystem and its basic driving forces.

Major environmental issues needing resolution are listed below; recommendations for providing needed information or actions were presented in the Projects portion of this section.

- Surface and Groundwater Quality
- Hydrology of the Columbia Slough and lakes system
- Physical mechanism for managing water levels in the lakes
- Management of storm water from developed/developing areas in the lakes' watershed
- Restoring an open connection between the lakes and Columbia Slough

Economic Issues

Implementation of the Natural Resources Management Plan will result in economic impacts to private properties within and adjacent to the Plan area, when compared to existing environmental regulations. The possibility of increased levels of trespass is one of the major negative impacts. This is addressed in two ways: (1) placing the recreation trails and planned activity areas north of the slough, away from industrial property south of the slough, and (2) addressing the various protection measures for remaining private properties within Smith Lake as recreation trails are constructed and levels of use increase.

Positive impacts include allowance of water-dependent uses on industrial lands along the south bank of the slough, subject to a determination of no net loss of resource value (Policy 21, page 54). This will provide more flexibility than the existing E zone approval criteria, which requires a property owner to first minimize adverse impacts and then meet specific standards, in addition to the requirement to mitigate in a manner which results in "no net loss" (City Code subsection 33.635.080.B). If the slough is developed in the future to allow navigation, property owners will be able to take advantage of this provision.

There are a number of privately-owned lands within Smith Lake which are totally wetlands, some of which have no access. As such, development cannot take place without costly and lengthy approval processes with local, state, and federal agencies. Plans for purchasing property within Smith Lake will result in a positive economic impact for those property owners who have been unable to fill and develop the wetlands (Policy 7, page 51).

Other positive economic benefits include amenity values which will be reflected in increased values of nearby properties, decreased costs for recreation due to nearness to population centers, fisheries enhancement for anadromous as well as warm-water fish, increased sales of sporting equipment for fishing, wildlife observation, and other planned recreation activities, and the potential for use of the resource area for education and research.

Landfill Closure

The following section is intended to explain and guide the administration of Policy 19 with respect to the St. Johns Landfill including the riparian strip (e-zone) around the landfill site. Policy 19 includes the land use review (exceptions) process for the landfill site and the riparian strip (e-zone) around the landfill site during the extended closure period (temporary activities) and during post closure (permanent activities).

Immediate remedy of potential environmental degradation by closure of the St. Johns Landfill is a key part of the Management Plan. The September 1989 *Revised Closure & Financial Assurance Plan for the St. Johns Landfill* (Metro), estimated to cost $26.7 million for implementation, has been incorporated into this Management Plan as Appendix B. It is a conceptual plan for a state-of-the-art closure of a 50 year-old landfill. It is intended that consistency with this incorporated plan shall be deemed consistent with this Management Plan until the Final Closure Plan, with detailed design and specifications, is available for review.

Preclosure tests at the landfill since the environmental studies used in this Management Plan's "Environmental Assessment" indicate that portions of the earth dike separating the landfill from the sloughs adjacent to both the landfill and Smith and Bybee Lakes were constructed with landfilled garbage. This requires excavation and removal of such material to the operating cell of the landfill, in addition to the repairs of leachate seepage through the dikes anticipated in the 1989 Revised Closure Plan.

Discovery of changed conditions such as this during closure of the landfill may increase the need recognized in this Management Plan for expeditious implementation of the Revised Closure Plan strategy. The known risk, itself, is significant:

> "A significant amount of rain water enters the buried solid waste by percolating through the clay cover soil. The water percolates through this solid waste and leaches out contaminants...Thus a leachate mound develops in the landfill which drives downward and outward movement of contaminated water."[1]

The Environmental Assessment of this Management Plan indicates that landfill leachate is an increasing threat to water quality in the North Slough and Smith and Bybee Lakes. Reversal of that threat is central to the Management Plan:

> "Maintenance of good water quality is an essential element of the Management Plan for the lakes."[2]

Reducing seepage of contaminated leachate into surface and groundwater by lowering the existing leachate mound within landfilled garbage is the cornerstone of the Revised Closure Plan. The Revised Closure Plan seeks to accomplish this goal by the following strategies; each containing conceptual implementation elements:

1) Final grading that promotes runoff rather than percolation;
2) Final cover by a geomembrane barrier over the entire landfill;
3) Storm water management systems to protect the final cover barrier;
4) Leachate migration control;
5) Gas control; and
6) Environmental monitoring.

Policy 19 shall be administered during the construction period to utilize the exceptions process only for significant differences, modifications and changes to Revised Closure Plan's strategies and the conceptual elements of these strategies. Implementation Procedures at p. 67-68 of this Management Plan are intended to apply to new permanent development within the Management Area, rather than to interim closure construction activities implementing the Revised Closure Plan incorporated into this Management Plan.

It is also recognized that the landfill is surrounded by a significant natural resource unique to the City of Portland, protected by the City's environmental regulations, and recognized as a major passive recreational asset to the North Portland area. Permanent or long-term structures or activities which will remain after closure may have adverse impacts on the surrounding protected resources for which mitigation would be appropriate.

Activities related to landfill closure allowed in this Management Plan are intended to provide flexibility within the Revised Closure Plan to address the strategies listed above, while continuing to protect the natural resource and natural resource values of the management plan area. Greater freedom of activities should be allowed within the interior of the landfill than along the perimeter riparian area (e-zone). Temporary activities (those

---

[1] Revised Closure & Financial Assurance Plan for the St. Johns Landfill, September, 1989, Page 1-5

[2] Natural Resources Management Plan for Smith and Bybee Lakes, page 21.

remaining only during the period of landfill closure) related to landfill closure should also be given greater flexibility than permanent structures and activities.

Specifically, the following exceptions shall be reviewed at the time that the Final Closure Plan required by ORS 459.268 is approved by DEQ for these post closure uses and activities:

1) permanent local road and utility construction (IIa);
2) permanent expansion of the landfill site beyond the site identified in the Revised Closure Plan (IIc);
3) permanent changes in site development/buffer standards (IId);
4) post closure temporary easements, pipelines and outfalls beyond those indicated in the Management Plan (IIe);
5) post closure modifications of landscape requirements beyond the requirements established in a general mitigation plan for resource restoration adopted under Policy 19 (IIf);
6) permanent addition of paved areas within the buffer area (IIg);
7) placement of materials within the slough beyond the requirements established in a general mitigation plan for resource restoration adopted under Policy 19 (IIh);
8) permanent modifications of the St. Johns Landfill road system (IIj); and
9) permanent storm water outfalls and passive water treatment (Major Exception a.).

St. Johns Landfill End Use

Many of the development features and uses prescribed by the City-adopted *St. Johns Landfill End Use Plan* are no longer realistic due to substantial differences between the set of assumptions accepted at the time the Plan was developed in 1986-87 and the environmental recommendations accepted by Metro in 1989 for closure of the landfill. The likely scenario for closure of the landfill includes the development of surface contours that, because of steepness, preclude most of the recreational uses envisioned by the 1987 End Use Plan. Also likely are the addition of a plastic membrane to reduce the surface water penetration into the landfill and the associated management recommendation to prohibit public vehicle access. Significant expenses related to repair of damage to recreation facilities due to settlement of the site over time also remains as a factor. Finally, revenue assumptions from natural gas generation are out of date with the current assumption being that revenues will be much lower, perhaps barely able (or not able), to cover expenses associated with gas collection.

Given that many of the end uses envisioned for the landfill site by the City and the St. Johns community are now recognized as unlikely by agencies responsible for the landfill as well as by members of the community, a new set of recommendations is needed which brings to the community and the region a significant benefit in line with the benefits proposed by the End Use Plan.

The first two stated objectives of The End Use Plan are:

- "Use the landfill site as access and leverage to develop Smith and Bybee Lakes as a natural resource/wildlife habitat area, opening ready access to the community."
- "Provide a passive recreation resource (few people or structures, unprogrammed) attracting visitors from throughout the region as well as serving nearby community residents, and ultimately changing the community's image."

The End Use Plan also recognized that implementation is dependent on safe closure of the landfill site. It is the consensus of the Smith and Bybee Lakes Advisory Committee and the agencies responsible for the landfill that the landfill site be closed in an environmentally responsible manner, that responsible closure not be compromised by unwise recreational use of the landfill site, that environmental impacts from the closed landfill be carefully monitored, and that the site could be re-evaluated at some point in the future for possible uses supportive of the goals and objectives of the *Smith and Bybee Lakes Management Plan.*

It is with the encouragement of the St. Johns Community and the cooperation of the agencies involved that this Management Plan calls for the application of funds reserved for the implementation of the *St. Johns Landfill End Use Plan* to the Smith and Bybee Lakes Management Area in order to achieve the stated objectives of the End Use Plan.

Adjacent Industrial Development

There are three principle types of potential impact from industrial development adjacent to sensitive natural areas: 1) human intrusion; 2) storm water runoff; and 3) visual/noise impacts.

1 Human intrusion can be very disruptive to wildlife. In order to minimize this type of impact, habitat areas need to be protected by eliminating access. As a result of their own security needs, industrial areas do this quite well generally by fencing off their sites from surrounding property. The Management Plan should restrict access to habitat areas by constructing a trail system that intentionally provides no access to large segments of the management area.

2 Storm water runoff from industrial development has had an impact on wetlands, and continues to be a potential source of pollution from industrial wastes, chemical spills, etc. New federal and state regulations are now in effect which will govern the construction of future storm outfalls. The City of Portland will implement these regulations, which require both pre-treatment and emergency containment capability for water systems that discharge into the management area. Existing outfalls need to be retrofit on a project-by-project basis to assure that all potential pollutant sources are eliminated.

3 Indirect impacts such as visual or noise pollution can have a significant impact on natural areas adjacent to the source of the impacts. Light sources, especially at night, can cause habitat disruption, and noise is a deterrent to both animal use and human enjoyment of the natural area. Views of industrial activities from the natural area can also be displeasing to some. The zoning code addresses noise pollution by minimizing allowable impacts off-site. Providing a vegetative buffer will not significantly damper noise. Vegetative screens will provide some relief from night lighting impacts on habitat areas, and can block unappealing views. The size and maturity of much of the natural vegetation at the edge of the industrial development indicates that there will only be an occasional need to require screening as part of the industrial development. The Management Plan should provide policies that take these factors into account.

Financing

The most difficult questions that arise when planning for the proper management of natural resource areas are questions of finance. How can environmental improvements, recreation and education facilities and programs, ongoing monitoring programs, property acquisition, and other needs be financed?

A potentially sound financial program does exist for Smith and Bybee Lakes. The program's success depends upon the development of an appropriate mix of funding sources and agencies willing to accept specified responsibilities. Success is also dependent upon the ability of the Management Committee to effectively execute its overall management and fiscal responsibilities and to follow a development strategy that insures the long term health of the environment and the recreational and educational infrastructure.

- **Revenue Sources** There are several identified sources of funding that could be applied to Smith and Bybee Lakes.

  1 **St. Johns Landfill End Use Fund.** This fund was established with the City's adoption of the St. Johns Landfill End Use Plan in 1987, and was anticipated by the City/Metro Agreement adopted in May, 1986. The sources discussed below have been providing income, but two other sources identified in the End Use Plan (natural gas production net income; park user fees) are not considered viable at this time.

     a The End Use Plan provided an initial grant from the City's Refuse Disposal Fund of $1,500,000 (January 1, 1987). Interest has been accumulating at the rate of return on the City of Portland's Investment portfolio.
     b The City/Metro Agreement provides that "tipping fees" collected by Metro at the St. Johns Landfill at the rate of $.40/ton and subsequently transferred to the City on an annual basis be applied to landfill end use subject to limitations of the needs of the End Use Plan. Tipping fees will be collected through January, 1991, (or until solid waste disposal ceases at St. Johns Landfill). Interest has been accumulating on funds from this source at the rate of return on the City of Portland's Investment Portfolio. As of June 30, 1990, the accumulated amount, including interest, was $908,070.48
     c Another revenue source to the End Use Fund is an unspecified amount applied from Metro's monthly lease payments to the City. (Metro's monthly payments are in the $25,000 to $30,000 range.) The contribution to the End Use Fund from this source has been set at 40% of the lease payment, or about $11,000 per month. Like the tipping fees, it could be assumed that the lease payment contribution would continue through January, 1991. These lease payments have been added to the City's Refuse Disposal Fund. Interest has also been accumulating at the rate of return on the City of Portland's Investment Portfolio.
     d The City/Metro Agreement, adopted on November 8, 1990, provides that Metro shall contribute a "tipping fee" of $.50/ton to the Smith & Bybee Lakes Trust Fund for any solid waste deposited by Metro in the St. Johns Landfill after February 1, 1991.

     Expenses from the End Use Fund for the development of the St. Johns Landfill End Use Plan have totalled approximately $215,000.

     The cash value of funds from sources "a" and "c", above, less the expenses, is estimated to be $2,233,522 as of June 30, 1990.

The cash value of funds from all the above sources ("a" through "c") is estimated to be $3,141,592 as of June 30, 1990.

The accumulated amounts noted above are subject to an audit report to be completed by the Portland City Auditor before December 31, 1990.

All funds from the above sources should be consolidated and managed by Metro as a single trust fund entitled the Smith and Bybee Lakes Trust Fund

2 **Mitigation Project Funds.** Development projects which negatively impact wetlands are required to mitigate or compensate for those impacts. Both the Port of Portland and PGE are planning development projects in the area which will have impacts on wetlands, thus requiring them to develop mitigation projects as compensation. The Port has recently entered into the Rivergate Fill Agreement with five environmental resource agencies. This Agreement requires the Port to implement *Smith and Bybee Lakes Management Plan* projects as partial mitigation for continuing to fill wetlands in Rivergate. Other organizations may also (eventually) be able to contribute to the implementation of the Management Plan in this manner.

3 **Metro's Landfill Reserve (Closure) Fund.** Metro has been accumulating a "sinking fund" from disposal fees to finance projects needed to close the St. Johns Landfill and to ensure that the landfill does not cause environmental damage in its closed condition. This fund had a balance of nearly $13,000,000 as of 7/1/89. It is anticipated that the fund will total more than $31,000,000 by the planned 2/1/91 date for ceasing solid waste disposal. Metro's Revised Closure and Financial Assurance Plan for the St. Johns Landfill (Sept., 1989) is currently being reviewed by the Oregon Department of Environmental Quality (DEQ) for sufficiency. Some of the projects needed to ensure the environmental health of the landfill area may be projects which could also benefit the Smith and Bybee Management Area generally.

4 **Portland Parks Bureau Levy.** The Parks Levy passed by voters in June, 1989, allocates approximately $20,000 to trail development at Smith and Bybee Lakes. Subsequent Parks Levies could contain provisions for additional projects.

5 **Grants.** Although not well funded in recent years, several federal grant programs still exist. Several of the most appropriate are: the Clean Lakes Program; the Land & Water Conservation Fund; Dingell-Johnson Funds; and U.S.D.A. grants through the Soil and Water Conservation Service. In addition, several State of Oregon grant programs exist as possible sources: State Parks Grant-in-Aid Program; Department of Agriculture through local soil and water conservation districts; the Governor's Watershed Enhancement Program; and the State Marine Board.

- **Financial Responsibility** There are a variety of ways projects and programs can be matched up with funding mechanisms. The primary issues are the determination of roles of the organizations involved in implementation of the Management Plan and what resources can be counted on to accomplish the needed projects and programs.

The Port's expertise is in project development, and its need to complete mitigation obligations require it to devote its resources to this end.

The Portland Parks Bureau's expertise is in recreation management, including planning, construction, and maintenance of recreation facilities, and in recreation programming. The Parks Bureau has indicated its commitment to the realization of Smith and Bybee Lakes recreation management through its active participation in the revision of the Management Plan and its allocation of $20,000 for trails development from the 1989 Parks Levy. As proposed by the End Use Plan for the landfill site, the City's financial commitment to develop and operate public recreation facilities at Smith and Bybee Lakes should be implemented by the Park Bureau.

Metro, as the operator of the landfill, is the organization which will provide the long-term management to assure environmentally sound closure of that facility. Environmental monitoring programs and implementation of projects designed to protect the environment from unwanted landfill impacts are the major components of Metro's ongoing role. A logical extension of Metro's role are monitoring programs and environmental enhancement projects for the entire Smith and Bybee Lakes Management Area. Discussions with Metro regarding this role have been initiated with the outstanding issue being the definition of the (financial) responsibility between Metro's role at the landfill and its proposed role at Smith and Bybee Lakes. Making that definition will determine which programs or projects should be funded by Metro's landfill reserve.

This Plan identifies the proposed funding source for each project or program proposed. Possible sources of funding are described in proposed specific actions in the "Policies and Actions" section and the "Implementation Schedule". In general, the application of funding sources are proposed as follows:

Expenditure Need	Funding Source (from above)
Implementation	
Land acquisition	1
Recreation facilities	
planning	1, 4, 5
construction	1, 4, 5
Environmental facilities	
planning	2
construction	2
Operation/Management	
Recreation facilities/programs	
interpretive program	1 (interest), 5
maintenance	1 (interest)
replacement	1 (interest)
Environmental facilities/programs	
landfill monitoring	3
lakes monitoring	1 (interest)
landfill env. fac. op.	3
lakes env. fac. op.	1 (interest)
minor enhancement proj.	1 (interest), 5
Support staffing	1 (interest)
Trust Fund Growth	1 (interest)

The above approach combined with a phased implementation should enable the Management Committee to use the proposed Smith and Bybee Lakes Trust Fund to provide for the long-term operation and management needs of the lakes area.

Budget

The development of a detailed budget is beyond the scope of this first Management Plan. The Plan places the responsibility for developing a budget proposal with the Management Committee. The budget will be submitted to the Trust Fund Manager for approval. Administrative responsibilities directly connected to the management of the lakes and for budget development should be paid for by the Trust Fund (interest earnings) on an ongoing basis.

Balancing Recreational Use and Environmental Protection

At issue since the outset of the Management Plan's development is the need to achieve an acceptable balance between use and protection. The Goal Statement is careful to state that "only those recreational uses that are compatible with the preservation of wildlife habitat will be encouraged." This statement is followed by objective statements which recognize the need for limiting recreational activities to those that are compatible with environmental objectives. Also included as an objective is the establishment of a monitoring program which should detect problems as they appear.

Other than providing for the establishment of monitoring programs, the Management Plan provides examples of "passive" recreation and education uses that would seem to be acceptable given the present knowledge of the area. Canoeing, canoe-sailing, fishing, hiking, bicycling, observation of nature, and wetland biology and ecology are listed as appropriate forms of use.

Another two (more active) uses are also included. Space for model airplane flying and archery were provided by the St. Johns Landfill End Use Plan and are also provided for by this Management Plan. These uses are restricted to the south portion of the landfill site near the "landfill bridge" over the Columbia Slough. Provided that model airplane and archery use remains at reasonable levels and undesirable impacts are not felt outside the area of use, the Advisory Committee supported the inclusion of these two specific uses.

It was noted that any form of recreational or educational use could be a problem if the level of use was too high. For this reason, monitoring program will be employed so that problems can be detected as early as possible and reactive measures (policies and/or specific actions) can be developed.

Another strategy employed by the Plan is intentionally not providing access facilities (e.g., nearby parking, trails, directional information) to Bybee Lake. By making Smith Lake more easily accessible, impacts from use can be directed and concentrated at a portion of the Management Area as opposed to the whole. While no overt strategy (e.g., fences, "no access" policy) will be employed at the outset to protect Bybee Lake, it is thought that the mud flat that develops at Bybee Lake from tidal influence would help discourage access and provide something of a buffer for the open water habitat.

High value resource areas will also be protected with buffers. Trails will generally be at least 25 feet back from sensitive open water and waters edge habitat areas. Observation points and fishing locations will be limited to discrete locations.

To summarize: recreation use will only be allowed if the activities and levels of use are determined to be compatible with environmental objectives. The Management Committee will be responsible for determining compatibility, using the monitoring program discussed

below, under the guidance of the Plan's policies and specific actions. The Management Committee should use formal review processes (Bureau of Planning) if its actions and policies are not provided for by the Management Plan.

Monitoring Programs

A critical component of the long term management of the lakes is the establishment of comprehensive monitoring programs. The programs should track the health of the lakes system and should seek to provide some understanding of cause and effect. As a prerequisite, sufficient base-line data should be obtained to enable subsequent comparison.

Monitoring should address the following anticipated sources of impact:

- St. Johns Landfill
- Adjacent development
- Recreational use and development
- Existing dynamics of the altered system
- Other water bodies (e.g., Columbia Slough)

Monitoring should be done by qualified professionals, primarily on a paid basis. Financial support for monitoring should come from the Smith and Bybee Lakes Trust Fund except for monitoring the impacts of the St. Johns Landfill which should be provided by funds reserved by Metro for landfill closure. If other parties are responsible for other identifiable sources of impact, funding for monitoring should be provided by those parties.

The findings of the monitoring program should be evaluated by the Management Committee on a regular and timely basis. A comprehensive annual report might be produced which would include findings, information gaps, conclusions, and recommendations for subsequent action.

The monitoring program should be used to provide the basis for manipulation and/or enhancement of the lakes environment.

Original Natural Condition

The Goal Statement includes the following statement:

> "They [the lakes] will be maintained and enhanced, to the extent possible, in a manner that is faithful to their original natural condition."

It should not be inferred from this statement that the lakes can (or even should) be returned to their original natural condition. Too many of the overall influencing factors have been irreversibly changed to seriously consider a total return. In fact, because of present conditions, it may be unwise to make certain changes back to original conditions. In addition, it should be anticipated that cost effectiveness may be an important factor.

The intent of the statement is to provide direction and to establish an important criterion for management decisions. When there are management choices to be made, the statement should be helpful in the maintenance of the lakes as a true and historically accurate remnant of the Lower Columbia River Wetland and Riparian System.

POLICIES

The following Policies developed as part of the *Smith and Bybee Lakes Management Plan* provide the basis for implementation and management of the lakes area in a manner consistent with and supportive of the goals and objectives of the Plan. The Policies provide the basis for the specific management Actions which immediately follow.

Policy 1 Management of the St. Johns Landfill site shall be subject to the terms and conditions of any in-force landfill lease or ownership agreement between the City and the Metropolitan Service District (Metro), and subject to any in-force permit from the State of Oregon.

Policy 2 Except the St. Johns Landfill site, the City of Portland shall assign all City-owned and/or City-managed properties within the Smith-Bybee Management Area to the Bureau of Parks and Recreation.

Policy 3 The Plan recognizes the Oregon Department of Fish & Wildlife's Non-Game Management Plan and shall meet the goals and objectives of the Plan through the City's management of the Smith-Bybee area.

Policy 4 Metro shall establish and manage a trust fund entitled the "Smith and Bybee Lakes Trust Fund" for acquisition of land within the Smith-Bybee Lakes Management Area; and for the development, operation, and ongoing maintenance of the recreational, educational, and environmental facilities and programs proposed by the *Smith and Bybee Lakes Management Plan* .

As the agency with appropriation authority over the Smith and Bybee Lakes Trust Fund, Metro will be the Trust Fund Manager.

Money for the Trust Fund shall be made available from funds reserved for implementation of the *St. Johns Landfill End Use Plan*. The Trust Fund may be augmented by contributions and appropriations from other sources.

Interest earned by the Trust Fund's principle shall be appropriated to the Trust Fund.

The Trust Fund shall be maintained as an endowment fund to provide for the ongoing maintenance and operation of recreational, educational, and environmental facilities and programs. Appropriations from the Trust Fund may also be made for acquisition of land and for development of facilities called for by the Management Plan provided that these appropriations do not endanger the facilities and programs dependent on the endowment income. It shall be the responsibility of the Management Committee to develop and submit to the Portland City Council or the Metro Council for approval annual budgets for the Trust Fund.

Policy 5 The Trust Fund Manager shall form a Management Committee to oversee implementation of this Plan and provide ongoing policy guidance. The Committee will include but not be limited to the following, or their representatives:

- Superintendent of Parks and Recreation
- Administrator of the Bureau of Environmental Services
- Director of the Port of Portland
- Director of the Oregon Department of Fish and Wildlife

- Executive Officer of Metro
- Metro Councilor
- President of Portland General Electric
- President of the Friends of Smith and Bybee Lakes
- President of the 40 Mile Loop Land Trust
- President of the Board of the Portland Audubon Society
- A representative of other private landowners within the Management Plan boundary, if any.
- President of Peninsula Neighbors

The Management Committee is the principal advisory body to the Trust Fund Manager. A primary responsibility of the Management Committee is to develop and recommend a budget to the Trust Fund Manager for approval. Duties of the Management Committee shall include:

- review and recommend for approval acquisition of land within the Management Area;

- general oversight for development, maintenance, and operation of recreational and educational facilities within the Management Area; and

- recommendations for environmental programs within the Management Area except as provided for or required elsewhere (e.g., the *Revised Closure and Financial Assurance Plan, St. Johns Landfill*, by Oregon D.E.Q. permit, etc.).

The Trust Fund Manager will be responsible for designating the chair of the Management Committee or the process through which the chair will be determined.

Policy 6 The Smith and Bybee Lakes Trust Fund Manager may enter into agreement with landowners for the purpose of obtaining public recreational use of lands within the Smith-Bybee area. Such agreements are limited to a term of 5 years but may be renewed.

Policy 7 The Trust Fund Manager may negotiate with owners of land within the Smith-Bybee area for the purpose of acquiring such land in order to better achieve the goals and objectives of the *Smith and Bybee Lakes Management Plan.* Such negotiations shall be limited to willing sellers with every effort being made to accommodate sellers without delay. Funds reserved for the implementation of the *St. Johns Landfill End Use Plan* shall be made available to accomplish these acquisitions.

Policy 8 The City of Portland, as authorized by the Trust Fund Manager, shall construct the projects designated in this plan which facilitate recreation access to Smith Lake and its periphery. These include a parking lot, canoe/small boat launch facilities, trails, and an interpretive center. Funds originally reserved for the construction of facilities as part of the implementation of the *St. Johns Landfill End Use Plan* shall be made available to accomplish these projects to the extent funding limitations allow.

Policy 9 The Port of Portland shall construct certain projects designated in this plan which facilitate environmental enhancement of the Smith-Bybee area. The exact projects shall be determined by the *Cooperative Agreement to Establish a Rivergate Development Program and an Acceptable Mitigation Program for Wetlands Impacts* (also known as the "Rivergate Fill Agreement").

Policy 10 Metro shall develop, manage and maintain certain environmental monitoring and enhancement projects constructed as part of the implementation of the *Revised Closure and Financial Assurance Plan, St. Johns Landfill* (Sept., 1989). The Trust Fund Manager shall develop, manage, and maintain certain environmental monitoring and enhancement projects constructed as part of the*Smith and Bybee Lakes Management Plan*, including mitigation projects identified in the *Lakes Management Plan* constructed by the Port and others. Funding for these activities shall come from the Trust Fund to the extent funding limitations allow, except for expenditures related to the impacts of the St. Johns Landfill, which shall be provided by funds reserved by Metro for landfill closure.

Policy 11 The Trust Fund Manager shall form a Wetland Technical Advisory Committee to assist the Management Committee and Trust Fund Manager in implementing the Management Plan's projects and programs. This group will be composed of people with technical, environmental, and recreational expertise.

Policy 12 The City of Portland and Metro will work with State and federal resource agencies to establish the Smith and Bybee Lakes Management Area as a potential site for mitigation projects. The Management Committee shall evaluate proposed mitigation projects against the goal statement and objectives of the Management Plan before they are accepted for implementation in the Management Area.

Policy 13 The Portland Bureau of Parks and Recreation shall develop a detailed recreation policy and facility development plan in conformance with the provision of this Management Plan. The Management Committee shall review and recommend this recreation plan to the Trust Fund Manager for adoption. The Management Committee shall initiate the exceptions process as outlined in the Implementation Procedures in the Smith and Bybee Lakes Plan.

Policy 14 The following policy statements shall apply to the St. Johns Landfill site subject to compatibility with the St. Johns Landfill Closure Plan:

- The landfill cover and gas and leachate collection system shall be installed, operated, and maintained by Metro with closure funds.
- Environmental monitoring wells and stations shall be installed, operated, and maintained by Metro with closure funds.
- The 40 Mile Loop Recreational Trail shall be constructed and maintained by the Parks Bureau (see Figure 7).
- Model airplane and archery facilities may be located on sites immediately north of the landfill bridge.
- No vehicles shall be allowed across the landfill bridge, except maintenance vehicles and vehicles authorized by permit issued by the landfill owner or operator. Such permitted access shall not be unreasonably withheld. .
- A parking lot and trailhead facilities shall be provided immediately south of the landfill bridge.
- The primary use of the landfill site (north of the slough) shall be open meadow habitat, which is complementary to the wetland habitat in the balance of the Smith-Bybee area.

Policy 15 Smith Lake will be the principal area for water-related recreational activities such as canoeing, rowing, fishing, and bird watching. 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. This balance of recreation and habitat preservation has been carefully considered in proposing the access facilities discussed in the Recreation Assessment of the Management Plan.

Policy 16 Bybee Lake and surrounding wetlands will be managed primarily as an environmental preserve. Bybee Lake will be available for recreational use, although access by foot and boat will be more difficult than Smith Lake. No vehicular access will be provided to Bybee Lake. It may be appropriate to carry out environmental modification projects following a period of observation and monitoring (see list of possible long term projects).

Policy 17 All areas not specifically identified for some form of recreational or educational use in other policies shall be designated as wildlife habitat and preservation areas. Use shall be limited to pedestrian access to other recreation and education areas. Development shall be limited to access trails, signing (directional and advising of prohibited uses), and interpretive signing at significant environmental and habitat features.

Policy 18 The Smith-Bybee Management Area includes the Columbia Slough from North Portland Road north and west (downstream) to Lombard and any and all management actions, plans, or policies developed for this portion of the Columbia Slough and not specifically included elsewhere in the Management Plan shall be treated as an amendment to the Plan. Upstream projects shall take into account adverse effects to Smith and Bybee Lakes and the principle of "no net loss" shall apply.

Policy 19 The Smith-Bybee Management Area includes the St. Johns Landfill. The September, 1989, *Revised Closure Plan & Financial Assurance Plan for the St. Johns Landfill* (Metro) is part of this Management Plan. Within the landfill interior (areas not protected by the City's environmental regulations), deviation from the closure plan, including minor (but not major) exceptions listed in the Implementation Chapter of this plan, is allowed without further review for temporary structures and activites which may be removed or cease upon final landfill closure. Activities and structures consistent with the *Revised Closure Plan* are temporary unless indicated as ongoing post closure activities or structures in DEQ final design and specifications pursuant to the DEQ closure permit. Permanent structures and activities in all portions of the landfill (within and outside of areas protected by the City's environmental regulations) will be reviewed for conformance with the Natural Resources Management Plan. The City and Metro will develop a process to allow temporary structures and activities to occur within areas protected by the City's environmental regulations, including a general mitigation plan for resrouce restoration and resource value protection after cessation of the activity.

Management actions and activities required by the 1989 Revised Closure Plan & Financial Assurance Plan for the St. Johns Landfill (Metro) within the following areas will not require an amendment to the Management Plan:

- Modifications of the St. Johns Landfill closure construction schedule.
- Modifications of the groundwater or surface water monitoring program.
- Changes in the costs of the St. Johns Landfill closure and post-closure care.

A final closure plan for the landfill with detailed design plans and specifications is now being prepared for review by DEQ. Upon approval of this plan for implementation, the City will review it for consistency with the Natural Resources Management Plan and, as appropriate, incorporate it into the Management Plan.

Policy 20 The Management Committee may recommend properties be added to the Smith-Bybee Management Area provided there is sufficient rationale for their addition on an environmental, educational, and/or recreational basis.

Policy 21 Water-dependent commercial and industrial uses of the Columbia Slough from properties on the south side of the Slough shall be permitted provided that adverse impacts are taken into account and the "no net loss" principle is applied.

Policy 22 Future land development bordering the Smith and Bybee Lakes Management Area will be subject to the following standards:

A New storm water outfalls that flow into the lakes or the Columbia Slough system will be designed to minimize their potential impact on water quality within the guidelines of the NPDES permit process. Drainage systems will include such features as settling ponds, sumps, or filters to assure adequate treatment of runoff before it can have a significant negative impact on the lakes' ecosystem. Natural features, such as cattail marshes, should be designed into the pollution control system. See Figure 5 for the location of outfalls known at the time of the Plan's adoption.

B The following will apply to development adjacent to the resource area:

1 Where planting is practicable (i.e., the slope is 1:3 or less, soil conditions are appropriate), fill slopes will be seeded and/or planted with appropriate species present in the adjacent lakes area. Where plantings are not practicable, other methods will be employed to prevent erosion.

2 A vegetative screen (for examples see Figure 6) of native trees and/or plants, or other species present in the lakes area, will be provided where necessary so that visually displeasing or disruptive industrial development (e.g., outdoor storage yard, 24-hour truck loading area) will not be visible from the lakes or the trail system. The screen will be at least 6 feet high and 75 percent opaque within 3 years of planting. Because of the extensive size and nature of the resource area, and the built-in buffers provided by the fill slope and slough buffer areas, a visual screen will only need to be planted in those instances where the natural vegetation does not provide an adequate screen. The screen may be located inside the boundary of the Management Area if no significant existing vegetation will be disturbed, as in cross-section B.

3 Where no reasonable opportunity exists to otherwise buffer industrial activity from the resource (i.e., development could be placed immediately adjacent to the resource as in cross-section C), a minimum 10 foot wide vegetative screen will be planted and maintained at an L3 level adjacent to the resource area.

4 Lights adjacent to the natural area will be cut-off type fixtures that do not cast direct light beyond the development/fill boundary.

Policy 23 The recommendations adopted by the City (resolution #34295, June 10, 1987) through the *St. Johns Landfill End Use Plan* are replaced by the general recommendations, specific Policies, and specific Actions included in this Management Plan.

Policy 24 Extension of a rail line through Rivergate which crosses or infringes upon the management area shall be permitted provided that adverse impacts are taken into account and the "no net loss" principle is applied. (Figure 5 shows the approximate location of the future rail line.)

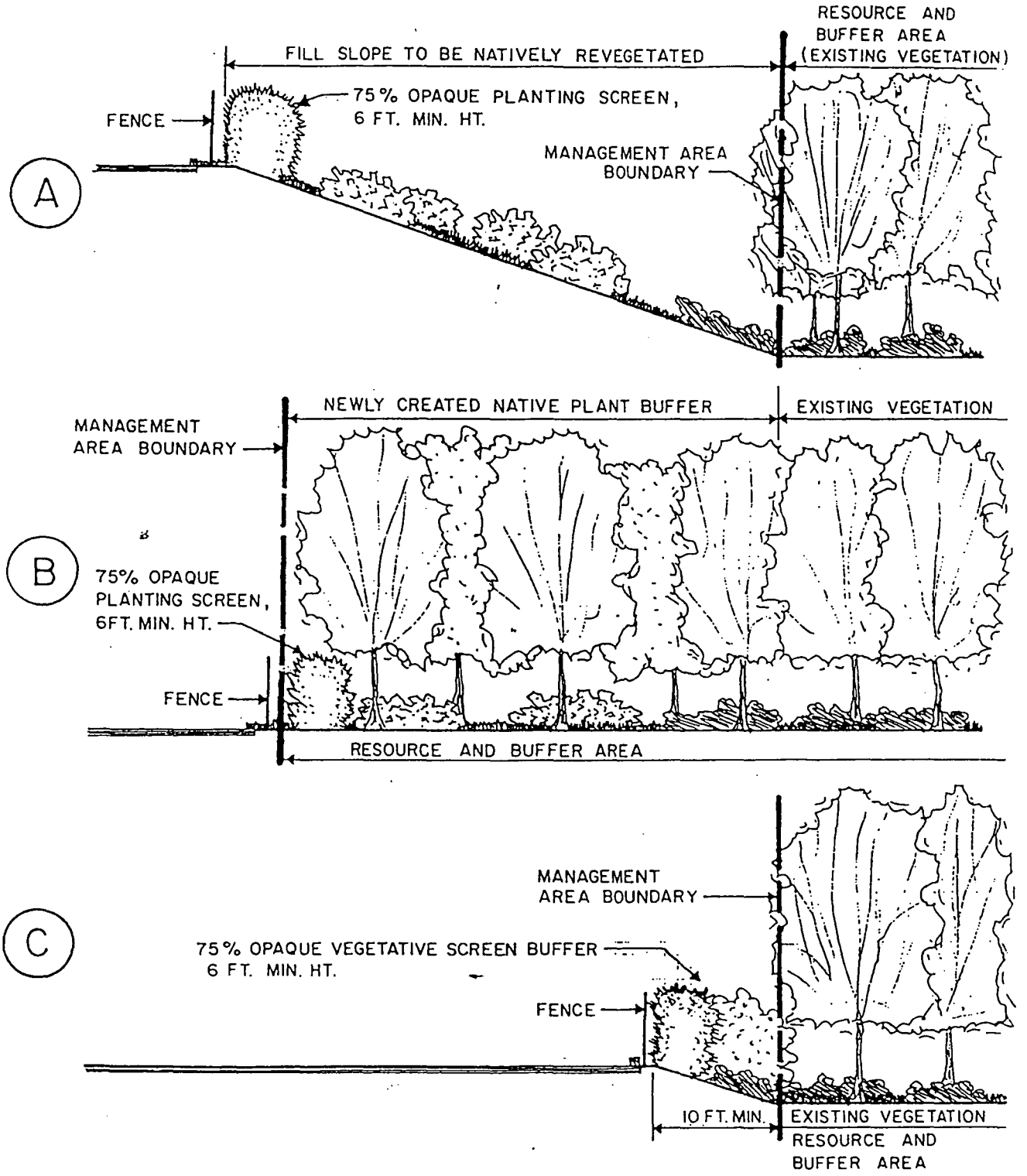
Policy 25 Habitat enhancement projects, and projects associated with construction of a wetlands nursery or laboratory, shall be permitted provided that any adverse impacts are taken into account and the "no net loss" principle is applied.

Policy 26 Facilities and projects shown in the *St. Johns Landfill End Use Plan* may be considered for funding but may be replaced by other projects after due consideration of public health and safety and other community needs has been made.

Policy 27 Archaeological resources shall be included as a major feature of the Management Area. Interpretation of archaeological resources and the prehistoric ways of life of the native peoples of the Portland area shall be integrated into educational programs developed for the Smith and Bybee Lakes area.

Policy 28 When any development within the Management Area is planned, the following steps will be taken in the area affected by the proposed development to insure protection of archaeological resources:

- Obtain information on recorded sites within the area affected from the State Historic Preservation Office;
- Evaluate the current status of the known sites;
- Conduct reconnaissance surveys in areas affected by proposed projects which include dredging, excavation, fill, or possible changes in the hydrological regime of the lakes and Columbia Slough;
- Evaluate potential impacts of the proposed project on the archaeological resource; and
- In cases where significant archaeological resources are identified, take appropriate measures to avoid impact or to develop appropriate mitigation measures through consultation with the Oregon Historic Preservation Office.



VEGETATIVE SCREENING

FIGURE 6

Actions

Specific management actions have been identified, prioritized, and assigned with an identified funding source in order that implementation of the Management Plan might begin without delay. Actions should be considered as guidance to implementing agencies and not legally binding. Actions not identified here should be developed by the Management Committee as recommendations for approval of the Trust Fund Manager. All Policies developed and actions taken shall be consistent with the Management Plan. Many Actions will be sugject to review through the Implementation Procedures described in this Plan. Figure 5 indicates the approximate location for many of the Plan's activities and projects.

Action 1 Establishment of a "Smith and Bybee Lakes Trust Fund", which implements Policy 4. Includes appropriations consistent with the terms and conditions of any in-force agreement between the City of Portland and Metro.
Priority/Timing: Highest/Immediate.
Responsible Organization: Portland City Council and Metro Council.
Funding Sources: Transfer of monies from the City of Portland Refuse Disposal Fund are expected to be $2,233,522 as of June 30, 1990; all subsequent payments from Metro collected as "tipping fees" ($.40 per ton) dedicated to St. Johns Landfill End Use; and 40% of all subsequent St. Johns Landfill lease payments from Metro to the City (or an equal amount if lease payments cease) until solid waste disposal ceases at St. Johns Landfill; any interest earned on the aforementioned Trust Fund will become part of the Trust Fund; and any additional funds described in any landfill/lease or ownership agreement between the City of Portland and Metro in effect on the effective date of a Metro Ordinance adopting the *Smith and Bybee Lakes Management Plan.*

Action 2 Establish a Smith and Bybee Lakes Management Committee which is responsible for the overall management of the Management Area, for the execution of the Management Plan, and for the development of budgets for approval of the Trust Fund Manager which implements Policy 5.
Priority/Timing: Very high/Immediate.
Responsible Organization: Trust Fund Manager.

Action 3 Provide staff support for the Management Committee and carry out specific actions authorized by the Trust Fund Manger through this Management Plan.
Cost Estimate: $55,000/year.
Priority/Timing: Very high/Immediate.
Responsible Organization: City of Portland Bureau of Parks or Metro as determined by the Trust Fund Manager
Funding Source: Smith and Bybee Lakes Trust Fund.

Action 4 Acquisition of property from willing sellers, which implements Policy 7. Property to be acquired includes all parcels which are needed for public recreational use.
Estimated Cost: $250,000 to $500,000.
Priority/Timing: Very High/Immediate.
Responsible Organization: City of Portland Bureau of Parks or Metro as determined by the Trust Fund Manager.
Funding Source: Smith and Bybee Lakes Trust Fund.

Action 5 Secure agreements with owners of property not owned by the City, the Port, or Metro to enable management and public use as provided by the Management Plan. This action implements Policy 6.
Estimated Cost: $0.
Priority/Timing: High/Immediate.
Responsible Organization: City of Portland Bureau of Parks or Metro as determined by the Trust Fund Manager.
Funding Source: not required.

Action 6 Development of recreation facilities (planning and construction), which implements Policy 8. Projects to be constructed include those listed as REC 2-16 in the "Recreational Assessment" section.
Estimated Cost: no estimate available.
Priority/Timing: High/After needed property acquisition and property agreements completed.
Responsible Organization: City of Portland Bureau of Parks as authorized by the Trust Fund Manager.
Funding Source: Smith and Bybee Lakes Trust Fund; Parks Levy ($20,000 for trails development from the Levy); Grants.

Action 7 Operation and maintenance of recreational and educational facilities, which implements Policies 2 and 4.
Estimated Cost: $100,000 to $250,000 per year, depending upon the level of facilities and programs assumed. Cost amount will move toward the high end of the range over time as facilities and programs are developed.
Priority/Timing: High/Small amount immediately, increasing over time.
Responsible Organization: City of Portland Bureau of Parks as authorized by the Trust Fund Manager.
Funding Source: Smith and Bybee Lakes Trust Fund. This cost is a major ongoing funding need for the Trust Fund and should be funded from the interest earnings of the Trust Fund in order to provide stable and secure facilities and programs. For example, if the Trust Fund realizes 7% interest earnings, $1,400,000+ would need to remain untouched as an endowment fund for $100,000 annual operation and maintenance expenditure needs. Nearly $3,600,000 would be required as an endowment to realize $250,000 expenditure needs.

Action 8 Development of environmental improvement projects, which implement Policy 9. Projects to be constructed by the Port of Portland include ENV 2 in the "Environmental Assessment" section. Projects agreed to as part of the Rivergate Fill Agreement will be added to this responsibility.
Estimated Cost: no estimate available.
Priority/Timing: Within 2-3 years.
Responsible Organization: Port of Portland.
Funding Source: Port of Portland.

Action 9 Development and management of environmental facilities and environmental monitoring programs which are designed to protect and improve the Smith and Bybee Lakes Management Area ecosystem, which implements Policy 10. Projects to be implemented by Metro include ENV 1 in the "Environmental Assessment" section. Facilities and programs recommended and approved later may be added to this responsibility. This Action shall be funded from monies reserved to implement the Revised Closure and Financial Assurance Plan, St. Johns Landfill, as approved by DEQ, and the Smith and Bybee Lakes Trust Fund.

Estimated Cost: no estimate available.
Priority/Timing: As determined by the DEQ approved closure plan and as funding is available from the Smith and Bybee Lakes Trust Fund.
Responsible Organization: Metropolitan Service District (Metro).
Funding Sources: Metro's Landfill Reserve Fund and the Smith and Bybee Lakes Trust Fund. The Landfill Reserve Fund shall be applied to the operation and maintenance of facilities and programs constructed by Metro as part of the Closure Plan for the St. Johns Landfill and to the operation and maintenance of facilities constructed by others which enhance environmental quality that would otherwise be degraded by landfill impacts. The Trust Fund will fund operation and maintenance of all other environmental facilities, projects, and programs.

IMPLEMENTATION

The Management Plan will be implemented within the context of a fairly complex regulatory framework. Many local, state, and federal regulations apply to the proposed Management Area. These regulations are highlighted in the following sub-section and are followed by an additional sub-section covering the City's e-zone.

The e-zone discussion is followed by an Implementation Procedures sub-section which provides information on the applicable review processes required to satisfy the City's zoning code.

The final sub-section is the Implementation Schedule which presents at a glance a schedule for policy enactment and implementation of the specific actions recommended in the "Policies and Actions" section of the Management Plan. The Implementation Schedule provides a non-binding framework for proceeding with implementation.

Regulatory Framework

The Management Plan is intended to be the operative document for the designated Management Area and, as such, it attempts to satisfy applicable regulations which are highlighted below.

ORS 541.622 Oregon State Law which prohibits fill permits at Smith-Bybee for areas below 11 feet above mean sea level. This statute was modified in 1987 to legalize fill permits for habitat enhancement purposes only.

ORS 105.655-105.680, Public Recreational Use of Private Land While generally helpful with its establishment of liability limitations, this statute does not permit the charging of a fee for recreational use of private land

Division of State Lands (DSL) Removal-Fill Permits are required for removal, fill, or alteration of more than 50 cubic yards of material within the bed or banks of waters of the State of Oregon. (Line is determined by high tide, bankfull stage of rivers, and aquatic/non-aquatic vegetation line.) (OAR 141-85-005 to OAR 141-85-090)

Zoning Code, City of Portland Code Chapter 33

FF Zone Farm and Forest Zone which is applied to rural and natural resource areas lying within the City of Portland. Allows single family dwellings, farm buildings, and structures related to natural resource preservation (e.g., dams).

HI Zone Heavy Industrial zone allows general and heavy industrial uses. Most commercial uses are restricted. New residential use are not permitted.

GI-2 Zone General Industrial zone allows a broad range of industrial uses. Most commercial uses and all residential uses are restricted. Applies to developing areas.

M3 Zone Light manufacturing zone allows a mix of uses including housing, commercial and light industrial.

L Zone (overlay) Indicates a height limitation due to the proximity of the airport.

E Zone (overlay) The environmental concern zone or "e zone" is an overlay zone which applies additional conditions for development in order to protect significant natural resources. (See the following sub-section for a more in-depth discussion of the e-zone.)

Zoning Code, Multnomah County

F-2 Zone An agriculture zone intended to preserve the rural character of an area while allowing appropriate development such as single family residences, farming, and other resource based uses.

Community Service (overlay) Designated for the radio tower only.

Clean Water Act

Section 401 Requires States to set water quality standards for every significant body of surface water. These standards represent the goals which pollution controls are meant to secure. States must specify the uses of each body of water (drinking water, recreation, etc.) and restrict pollution levels that permit those uses.

Section 404 This section of the Clean Water Act provides the mechanism for the Corps of Engineers to regulate the discharge of dredged or fill materials into waters of the United States and their adjacent wetlands (33 U.S.C. 1334).

Comprehensive Plan, City of Portland The Comprehensive Plan recognizes the natural resource value of the Smith and Bybee Lakes area and supports enhancement and use as open space, recreation area, and as an amenity for the surrounding area. The surrounding areas are envisioned as industrial in nature and compatible with the natural resources.

Recreational Trail The Comprehensive Plan calls for the development of the recreational trail system, including the 40 Mile Loop, along the north bank of the Columbia Slough as a condition for development.

Oregon Water Resources Department The Water Resources Department is charged with overseeing the process for acquiring and using groundwater and surface waters (which are considered properties of the State of Oregon).

Current Permits

404 Permit for Water Control Structure Oregon Department of Fish & Wildlife holds a permit for the management of the existing water control structure. Permit gives individual property owners the right to rescind permission to raise water levels which flood their property.

Case Law

Phillips Petroleum vs. State of Mississippi The Supreme Court of the United States has ruled that all lands beneath waters subject to tidal influence are property of the individual states. This includes lands that have been cut off from direct tidal influence due to structures (e.g., levees).(No. 86-870.)

E zone (City of Portland)

As mentioned above, the e-zone is a City of Portland overlay zone which applies certain additional conditions for development of areas within the Portland City Limits where significant natural resources have been identified. The e-zone was developed in order to protect the City's remaining natural resources and to satisfy Oregon's Land Conservation and Development Goal 5.

The additional conditions imposed by the e-zone typically take the form of buffers and overall height restrictions, but may include mitigation programs for unavoidable impacts.

Portland's e-zone provides protection at one of two levels.

ec zone Environmental conservation zone allows development where there are no adverse impacts on an identified natural resource areas or where impacts can be mitigated.

en zone Environmental natural zone strictly limits development of property in identified natural resource areas.

The e-zone does provide for a "management plan approach" which addresses large resources as a whole, and identifies specific approved actions and its own review process in lieu of formal review of each proposed development.

The *Smith and Bybee Lakes Management Plan* seeks to satisfy the e-zone requirements by providing the following:

- A clear goal statement and objectives which provide adequate protection for the natural resources and limits on development.
- Proposed uses of the Management Area that are relatively passive and a intended to promote appreciation for the natural resources rather than degrade them.
- A Management Committee authorized by a formal adoption process to implement the Management Plan.
- Specific policies and actions which provide a clear policy direction for the Management Area and a starting point for implementation.
- General and specific recommendations for appropriate recreation development and use.
- Specific environmental recommendations including improvement projects designed to be carried out by the Port of Portland and others as mitigation or in connection with grants or work on related systems (e.g., the Columbia Slough).
- The development of specific goals for management zones within the Management Area.
- A financing plan which, with some additional funding from grant sources, should be adequate to implement the Management Plan in phases and provide for ongoing management of the area.
- A monitoring program to record needed base-line information and to detect changes in conditions over time.
- A property acquisition program to convert private property to public ownership in cooperation with willing sellers.
- A review process intended to protect the integrity of the Goal Statement and Objectives developed within the Plan as well as to provide consistency with e-zone and other applicable regulations.

Management Zones

As a statement of policy direction for the Management Plan, and in an effort to satisfy e-zone regulations with the most specific information possible, "management zones" within the Management Area have been created with goals and objectives unique to each type of zone.

The goals and objectives developed for each zone are intended to guide the Management Committee as it contemplates future management actions and specific plans for infrastructure development.

Figure 7 illustrates the location of the following management zones:

Special Management Area (St. Johns Landfill; transmission line easement or right-of-way)

Goal: Reduce or eliminate unwanted impacts to adjoining higher quality resources.

Objectives:

- If appropriate, provide visual buffers between these areas and higher quality resources (e.g., riparian strips).
- If the area cannot be developed as wetland habitat, develop and manage as a complimentary habitat such as a meadow habitat for ground nesting or raptor nesting areas.
- Limit or prohibit any use that exacerbates unwanted impacts to the resource area such as degradation of water quality, noise, etc.
- Take active steps to reduce or eliminate undesirable developments that threaten adjoining higher value resource areas or that would delay or prohibit resource value improvement in the Special Management area (e.g., encroachment of feral dogs and cats, escape and establishment of invasive non-native vegetation).
- Employ management practices that have the least negative impact practicable on adjoining resource areas.
- Consult the Bonniville Power Administration (BPA) prior to decision-making of actions taken by the Management Committee regarding specific uses of the BPA rights-of-way or easements, such as increasing of fluctuating water levels. Detailed drawings of plans for specific uses of actions must be reviewed by the BPA to determine whether proposed uses would interfere with BPA's use of its rights-of-way, and to determine whether such actions will create safety hazards. This requirement includes underground pipes and cables, as well as above-ground lighting standards.

Special Resource Area (ephemeral ponds; other high quality and possibly fragile resource areas)

Goal: Preserve the highest possible level of resource values.

Objectives:

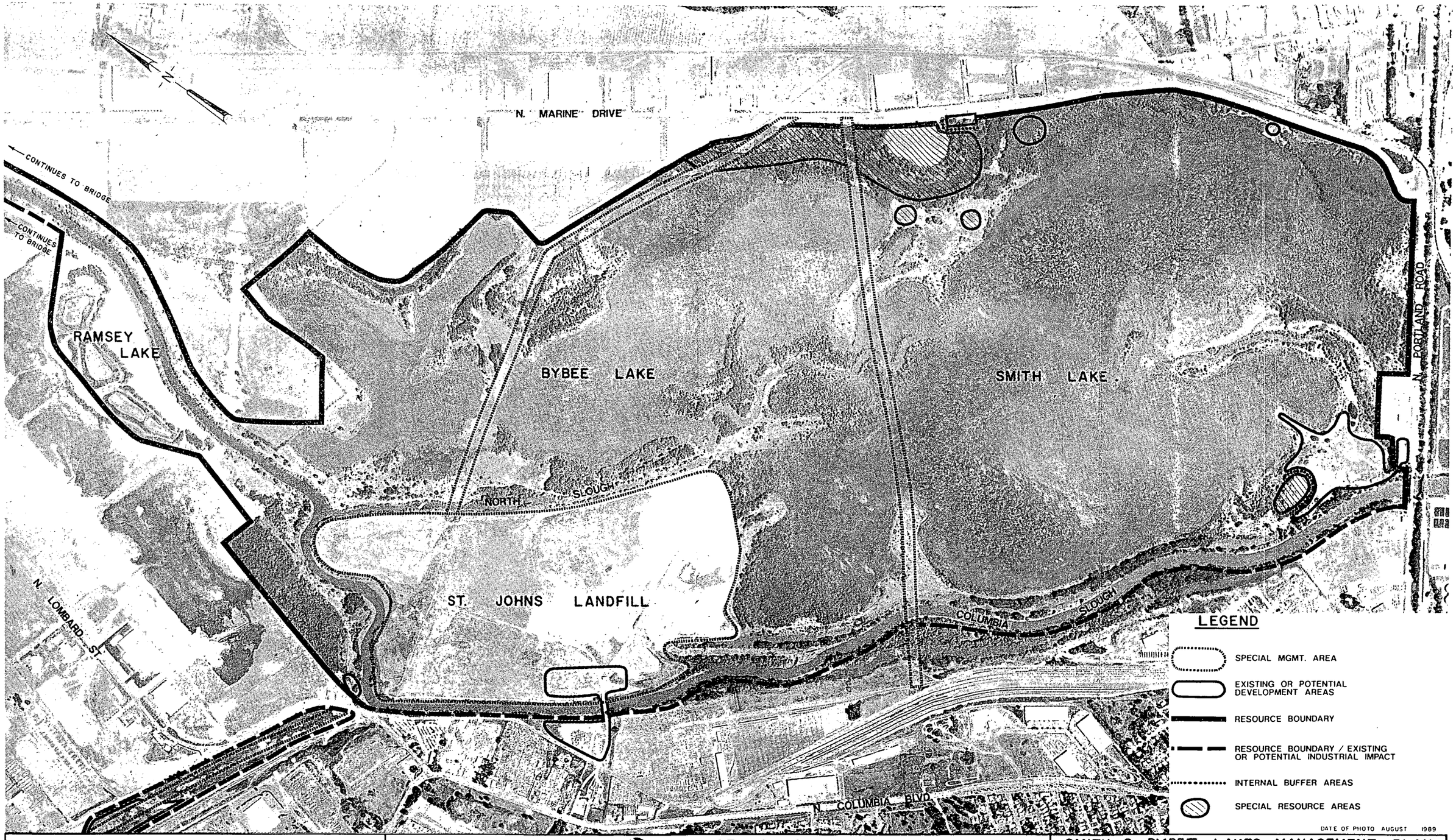
- Avoid unnecessary and harmful human intrusion into these areas.
- Monitor these areas closely to detect negative impacts as early as possible.
- Inform and educate to reinforce appropriate behavior which protects the resource values.
- Use Internal Buffers to insulate Special Resource Areas from Development Areas.

Development Areas, Existing or Potential (trails; access points; viewing areas; interpretive & maintenance areas)

Goal: Provide access and an introduction to the adjoining resource areas in a manner which encourages appropriate types and levels of use.

Objectives:

- Provide a minimum of developed physical features.
- Provide information and facilities that cue appropriate behavior.
- Provide for environmental education programming.
- Avoid developing access to sensitive resource areas.



Port of Portland

0 500 1000 2000
SCALE IN FEET

SMITH & BYBEE LAKES MANAGEMENT PLAN

MANAGEMENT ZONES

FIGURE 7 RG 90-10 4/4 (C-4)

Internal Buffers

Goal: Provide a buffering effect for Special Resource Areas from unwanted impacts.

Objectives:

- Identify potential unwanted impacts to Special Resource Areas before development and provide management and/or design alternatives.
- Identify and monitor existing unwanted impacts to Special Resource Areas and develop strategies for mitigating these impacts.
- Utilize methods of buffering that are as unobtrusive as possible and are not, in themselves, objectionable.

Resource Boundary

Goal: Provide a resource boundary that protects the natural resource values in the Management Area.

Objectives:

- Utilize external buffers that protect the resource (e.g., landscaping).
- Limit public access to the resource to desired points.
- Develop strategies in cooperation with adjoining property owners and neighborhood organizations to protect the resource.
- To the extent possible, inform users and potential users as they approach or enter the resource.

Resource Boundary with Existing or Potential Industrial Impact

Goal: Minimize unwanted industrial impacts to the resource.

Objectives:

- Utilize the "no net loss" principle to provide mitigation for unwanted industrial impacts.
- Encourage adjoining industries to make improvements which recognize, compliment, and protect the Management Area.

Implementation Procedures (City of Portland)

(Note: Description of levels of review (Type II, etc.) is included at the end of this section.)

I Development in Conformance

Procedure: Development in conformance with the Plan will be reviewed by the City using a Type II procedure, including projects identified in the Plan that meet applicable e-zone site development standards.

Approval Criteria:

a The proposed development meets the goals and objectives of the Plan.

b There will be no significant negative impacts on the resources covered in the Management Area.

II Exceptions to the Plan

Minor exceptions to the Plan will be reviewed through a Type II procedure.

Major exceptions to the Plan will require a Type III Review, unless the exception falls within quantified acceptable standards. If within the standards, a Type II procedure applies.

Minor Exceptions:

Uses and Activities

a Local road and utility construction, except storm water outfalls.
b Passive Recreational projects not identified in Plan.
c Expansions of less than 50 percent of gross site area for projects identified in the Plan.
d Changes in the site development/buffer standards identified for land regulated in the Management Plan.
e Temporary dredge pipe easements, pipelines, andoutfalls.
f Modification of landscape requirements within the resource or buffer areas by no more than twenty-five percent in species or density.
g Addition of paved areas within the buffer area provided that the paved areas do not exceed twenty-five percent of the buffer area.
h Placement of materials within the sloughs for bank stabilization or for reducing physical contact with landfill leachate or other effluent.
i Modification in the 40 Mile Loop Trail location where trail, purpose, and continuity are maintained and important natural resource values are not significantly impacted.
j Modifications of the St. Johns Landfill road system which do not significantly impact natural resource values.

Approval Criteria for Minor Exceptions:

a The activity will have no negative long-term impact on the resource values of the Management Area.
b The activity provides a buffer of equivalent quality, density, and resource value as required by the Management Plan.
c A construction management plan is provided to minimize impacts on the resource area and provide complete restoration at time of construction. Success criteria must be met within two years of construction.
d The activity is consistent with the Goal Statement and Objectives of the Plan.

Major Exceptions:

Uses and Activities

a Storm water outfalls and passive water treatment areas not anticipated in Plan.
b Active recreation facilities.
c Mitigation and enhancement projects not anticipated in the Plan.
d Changes in the Management Area boundaries.
e Private and public development projects not anticipated in the Plan.
f Modifications to the Goal Statement and Objectives of the Plan.

Approval Criteria for Major Exceptions:

a Same criteria as for a minor exception.
b Review and Approval by appropriate State and Federal resource agencies.
c There are no alternate sites within the urban area suitable for the use which will have less impact on the resource.
d Any long-term adverse impacts of the proposal on the resource values protected or created by the Management Plan are mitigated within the Management Area.
e The proposed exception is consistent with the purposes of the City of Portland Environmental Regulations (E Zone).

III Plan Modifications

Any other Plan Modifications will be processed using a Legislative procedure.

Note: **Type II** (Administrative Review with Quasi-Judicial Option) requires an application which is followed by the development of a Preliminary Recommendation by Planning Bureau staff. A Public Hearing before a City Hearings Officer may be requested by the applicant or interested or affected parties. Staff recommendation becomes final after 5 weeks. Process applies when criteria for approval are non-objective in nature and require some interpretation.

Type III (Quasi-Judicial Review) requires an application which is followed by a Planning Bureau staff report to the City Hearings Officer. Hearing date is set at time of application. Seven weeks is minimum timeline for process.

Legislative requires applicant to petition Planning Commission for consideration. Planning Bureau develops a Staff Report for the Commission. After action by the Commission, the application goes to City Council with an Ordinance for further consideration and adoption or rejection.

Figure 8
Smith and Bybee Lakes Management Plan
Recommended Implementation Schedule

Action/Policy	Responsible Organization	Funding Type	Time Frame
Action 1/Policy 4 Establish Smith and Bybee Lakes Trust Fund	Portland City Council and Metro Council		Immediately after Plan adoption
Action 2/Policy 5 Establish Smith and Bybee Lakes Management Committee	Trust Fund Manager		Immediately after Plan adoption
Action 3 Establish staff position to implement Plan	City of Portland Parks Bureau or Metro	Smith and Bybee Lakes Trust Fund	Within 2-3 months after Plan adoption by City, Port, and Metro
Action 4/Policy 7 Acquire Smith Lake property	City of Portland Parks Bureau or Metro	Smith and Bybee Lakes Trust Fund	Within 6-9 months after Plan adoption by City, Port, and Metro
Action 5 Secure property owner agreements	City of Portland Parks Bureau or Metro		Within 4-6 months after Plan adoption by the City, Port, and Metro
Action 6/Policy 8 Development of recreational facilities	City of Portland Parks Bureau	Smith and Bybee Lakes Trust Fund	Initiated within 3 months of Plan adoption; ongoing over several years
Action 7/Policies 2, 4 Operations and maintenance of recreational and educational facilities	City of Portland Parks Bureau	Smith and Bybee Lakes Trust Fund	On-going after facilities development
Action 8/Policy 9 Development of certain environmental improvement projects	Port of Portland	Port of Portland	Subject to Rivergate Fill Agreement, 2-3 years?
Action 9/Policy 10 Development and management of environmental facilities	Metro	Landfill Closure Fund and Smith and Bybee Lakes Trust Fund	Initiated after Plan adoption by City, Port and Metro
Policy 13 Development of Recreation and Facility Development Plan	City of Portland Parks Bureau or Metro	Smith and Bybee Lakes Trust Fund	Within one year of Plan adoption by City, Port, and Metro

REFERENCES

- Smith and Bybee Lakes Environmental Studies, Summary Report; Port of Portland, City of Portland, Fishman Environmental Services, September, 1987.
- Smith and Bybee Lakes Environmental Studies, Appendices; Port of Portland, City of Portland, Fishman Environmental Services, September, 1987.
- Comprehensive Plan, City of Portland.
- Clean Water Act, Sections 401 and 404.
- Oregon Non-Game Wildlife Plan, Oregon Department of Fish & Wildlife.
- Rivergate Development Plan, Port of Portland, 1986.
- Revised Closure & Financial Assurance Plan for the St. Johns Landfill; Metropolitan Service District (Metro), Sept., 1989.
- Agreement Between City of Portland and Metropolitan Service District, #23177, June 23, 1986, by City Ordinance #158522, May 21, 1986.
- St. Johns Landfill Closure Environmental Management Options, Executive Summary; Metropolitan Service District, prepared by Sweet-Edwards/EMCON, Inc., February, 1989.
- St. Johns Landfill End Use Plan (and Technical Appendix); City of Portland, Bureau of Environmental Services, May, 1987. Adopted by City Resolution #34295, June 10, 1987.
- St. Johns Landfill Water Quality Impact Investigation and Leachate Management Options; Metropolitan Service District, prepared by Sweet-Edwards/EMCON, Inc., December, 1988.
- St. Johns Landfill Closure Environmental Management Options; Metropolitan Service District, prepared by Sweet-Edwards/EMCON, Inc., February, 1989.
- Columbia Slough Planning Study Background Report; City of Portland, Bureau of Environmental Services, February, 1989.
- Permit (Clean Water Act, Section 404), issued by Corps of Engineers to the City of Portland, December 12, 1979.
- Cooperative Agreement between Port of Portland and 5 agencies to Establish a Rivergate Development Program and an Acceptable Mitigation Program for Wetland Impacts; October, 1988.
- Integrated Pest Management Policy, City of Portland, Bureau of Parks and Recreation.
- Integrated Pest Management Policy, Multnomah County, Department of Human Services, Health Division.

- Park Futures, City of Portland, Bureau of Parks and Recreation, 1989.
- Oregon Revised Statutes 105.655©105.680; Public Recreational Use of Private Lands.
- 40 Mile Loop Master Plan; 40 Mile Loop Land Trust, Inc., prepared by David Evans and Associates, Inc., May, 1983.
- Portland City Code (Environmental Concern Zone), Chapter 33.635, Adopted by City Council, June 15, 1988.
- Portland City Code ("Park Codes"); Chapters 5.32.070 (park concessions), 14.24.030 (drinking in public places), 16.22.050 (city parks, tow away), 16.26.250 (traffic regulations in parks), 19.16.060 (municipal boat landings), 20.04 (general provisions), 20.08 (permits), 20.12 (prohibited conduct).
- Portland City Code (Recreational Trails), Chapter 33.705.060. North Portland Peninsula Plan, submitted to City of Portland, December 22, 1972.
- "History of the Lower Columbia Slough and Smith and Bybee Lakes", Appendix K to Inventory of Wetlands, Water Bodies, and Wildlife Habitat Areas for the Columbia Corridor Bureau of Planning, City of Portland, January, 1989. Pages 83-95. Tamara DeRidder.
- "Smith and Bybee Lakes, An Overview", Appendix L to Inventory of Wetlands, Water Bodies, and Wildlife Habitat Areas for the Columbia Corridor Bureau of Planning, City of Portland, January, 1989. Pages 97-112. Esther Lev and Michael Jennings.
- North Portland Peninsula Plan, prepared by the Columbia Slough Environmental Improvement Task Force, 1972.
- Rivergate-North Portland Flood Control Study, U.S. Army Corps of Engineers, 1973. (See also "Plan 1" alternative from "Revised Draft Environmental Impact Statement", January, 1976.)
- Ramsey Lake Study, prepared for the Port of Portland by Cornell, Howland, Hayes & Merryfield (now CH2M Hill), 1958.
- "Rivergate and the North Portland Peninsula", prepared for the City of Portland and Multnomah County by Daniel, Mann, Johnson & Mendenhall, 1967. (Also known as "the DMJM plan".)

APPENDIX A
Smith and Bybee Lakes Advisory Committee
• Original Membership •
• Advisory Committee Mission Statement •

ORIGINAL MEMBERSHIP

ORGANIZATION OR INTEREST	MEMBER AND ADDRESS
Port of Portland	Dawn Pavitt (Chair) Port of Portland P.O. Box 3529 Portland, OR 97208 231-5000 ext. 719
City - Environmental Services	Karen Kramer Bureau of Environmental Services City of Portland 1120 SW 5th Portland, OR 97204 796-7062
City - Parks	David Yamashita Bureau of Parks & Recreation City of Portland 1120 SW 5th Portland, OR 97204 796-5193
Columbia Corridor	Chuck Olsen Portland Development Commission 1120 SW 5th Portland, OR 97204 796-5320
North Portland Citizens Committee/ St. Johns Landfill Policy Committee	Paul Craig 37 NE Morgan Portland, OR 97211 289-6786
Kelley Point Tenants Association/ St. Johns Landfill Policy Committee	Ray Steinfeld, Jr. Steinfeld's Products Co. 10001 N. Rivergate Blvd. Portland, OR 97203 286-8241
Oregon Department of Fish & Wildlife	Bob Maben/Joe Pesek/Jay Massey ODF&W 17330 SE Evelyn Clackamas, OR 97015 657-2008

U.S. Fish & Wildlife Service	Nancy Ellifrit U.S.F.W.S. 727 NE 24th Portland, OR 97232 231-6179
Audubon Society	Mike Houck Audubon Society of Portland 515 NW Cornell Rd. Portland, OR 97210 292-6855
Private land owner	Richard Niles 73 Nansen Summit Lake Oswego, OR 97034 636-2512
Private land owner	Theodore Smith 22855 W Baseline Rd. Hillsboro, OR 97124 648-7669
Management Plan Project Manager	Brian Campbell Port of Portland P.O. Box 3529 Portland, OR 97208 231-5000 ext. 724
Management Plan Environmental Consultant	Paul Fishman Fishman Environmental Services P.O. Box 19023 Portland, OR 97219 246-9832

ADVISORY COMMITTEE MISSION STATEMENT

As owner of the northern and western edges of the Smith and Bybee Lakes Area, the Port of Portland is initiating and funding a management plan of this area to accomplish the following objectives:

- To assure that the management strategy for all lake properties will be compatible with one another by involving all owners in a cooperative planning effort;
- To develop a management strategy which meets balanced economic, recreational and environmental needs by involving representatives of interest groups in an advisory capacity;
- To assure the long-term health of the lakes by basing the plan on a complete analysis of the lakes' natural features;
- And to evaluate all reasonable options for lake management.

To assist in the Management Plan the Port of Portland will create an eleven-member advisory committee as a review body to ensure that community interests are represented.

The overall mission of the Advisory Committee is to create an awareness of how the environmental and recreational amenities of the area can be preserved and made compatible with the economic development of Rivergate and North Portland.

A representative from the Port of Portland will chair the Advisory Committee and the Port will ask constituent groups that have a well defined interest in the lakes to participate on the Advisory Committee. Each member group will provide one representative to serve on the Advisory Committee but others from those respective groups are welcome to attend the Advisory Committee meetings.

The Advisory Committee will help identify issues, impacts, and potential uses and development of the area. It will also attempt to resolve any conflicts that may arise among the different community interests that are represented.

The Advisory Committee will review a funding strategy for lake improvements. These funding recommendations will only be advisory and will not commit the Port or other agencies or individuals to capital improvement projects without their agreement.

The Advisory Committee will be made aware of all data developed by the consultant chosen to conduct the environmental study, as well as all information developed by the Port staff in the course of preparing the Management Plan.

Advisory Committee members will communicate regularly with the groups which are being represented to convey necessary information both to and from those groups.

The Advisory Committee also will help review written material to ensure that it communicates effectively, especially to the general public.

Finally, the Advisory Committee will work toward a consensus set of recommendations on the management strategy for the Smith and Bybee Lakes Management Plan.

May 8, 1986

APPENDIX B

Revised Closure and Financial Assurance Plan for the St. Johns Landfill
Prepared by the Metro Solid Waste Department - September, 1989

(For entire document, please contact the Metro Solid Waste Dept. at 503/221-1646)

TABLE OF CONTENTS