



METRO

To: Mike Burton, Executive Officer
cc: Terry Petersen, Director, Regional Environmental Management Department
From: Charles Ciecko, Director, Regional Parks and Greenspaces Department *CKD*
Elaine Stewart, Manager, Smith and Bybee Lakes Wildlife Area
Date: August 10, 2000
Subject: Smith and Bybee Lakes and St. Johns Landfill issues

I. Introduction

The Smith and Bybee Lakes Wildlife Area and St. Johns Landfill are currently confronted with a number of complex issues involving water quality, public use and vegetation management. Concurrently, a record of decision (ROD) is expected in the near future regarding Jones v. Port of Portland. One likely element of the ROD is payment of \$285,000 by the Port of Portland toward projects to restore or enhance Smith and Bybee lakes in a manner consistent with the Smith and Bybee Lakes Management Plan.

The purpose of this memorandum is two-fold. First, brief overviews of major issues confronting Smith and Bybee lakes and the St. Johns Landfill are provided. Second, staff is providing preliminary suggestions for projects which may fall within the constraints of the ROD and the existing management plan.

II. Background – Major Issues

a) Water Control Structure – Smith and Bybee Lakes

A dam has blocked Smith and Bybee lakes' connection to the Columbia Slough since 1982. It was built in reaction to waterfowl dieoffs in the lakes; wildlife officials believed that avian botulism outbreaks occurred in the lakes and caused the birds' deaths. Consensus about the cause of death and source of disease was not reached, however, the structure was built anyway. It has succeeded in maintaining higher water levels through late summer and fall, when low water levels could concentrate birds and contribute to the spread of disease if and when it occurs.

The existing structure functions as a dam with minimal water control options. Deleterious effects of the dam include the elimination of off-channel habitat access for ESA-listed juvenile Chinook

salmon. This type of habitat provides refuge during high flows, as well as feeding and resting habitat during downstream migration. Smith and Bybee lakes are some of the last potential off-channel habitat in the lower mainstem Willamette River. Very few restoration opportunities are as promising.

The existing dam also caused considerable habitat degradation. The sustained artificially high water levels flooded the wetland forest beyond its adaptability, and hundreds of acres of trees have died. Smith and Bybee lakes are also on the state 303(d) list of waters which do not meet water quality standards, and for which further action is needed to restore water quality. The listed water quality parameters relate to impoundment of the lakes by the dam.

Metro has been working with Ducks Unlimited (DU) to replace the dam with a water control structure that allows fish passage and much more flexibility and control in managing water levels in the lakes. DU has considerable engineering and project management expertise, and has raised nearly \$200,000 toward the estimated total project cost of \$300,000. The new structure will restore the lakes' connection with Columbia Slough while providing the ability to regulate water flow between the lakes and the slough. Staff is preparing a presentation and resolution for the Metro Council's consideration of this project. State and federal natural resource management agencies reviewed and approved Metro's water management strategy and the conceptual water control structure.

Water quality in the lakes should improve with the re-connection to the Columbia Slough. The lakes may be removed from the 303(d) list as the historical hydrology is restored. Modeling work indicates that the lakes will receive primarily Willamette River water once the dam is removed, which tends to be cooler and higher in dissolved oxygen than slough and lake water. The effects of combined sewer overflows (CSO) in the Willamette River will continue to decline as CSO outfalls are gradually eliminated.

b) Vegetation Enhancement – Smith and Bybee Lakes

Reforestation projects in the lakes area have been under way for the last five years. Metro has worked in partnership with the City of Portland (BES) to replant native vegetation on higher sites around the lakes. Approximately 40 acres have been planted to date. Removal of the dam will allow re-establishment of native plant communities.

b) “Triangle Property” – Smith and Bybee Lakes

The Recreational Facilities Plan was adopted in December 1999. This plan outlined facilities to be developed at a site currently owned by the Port north of Smith Lake and old Marine Drive known as the “triangle property”. Metro has talked with the Port of Portland about purchasing the property, but the appraised value is prohibitive. Another option under consideration is a land swap for Metro-owned property at the Expo Center. The Expo parcel is adjacent to the Port-owned “radio towers” mitigation site and would provide additional mitigation opportunity for the Port. Master plan development for the Expo Center is under way and includes the Expo parcel that could be traded for the triangle piece. A level 2 environmental assessment is also needed to determine whether contaminants are present on the Expo parcel.

c) Public Access Enhancement – Smith and Bybee Lakes

Smith and Bybee lakes is in dire need of improved recreational facilities. The existing parking lot is too small and has no bus parking. When North Marine Drive is widened in 2001, it will be 40 feet closer to the parking lot. Amenities are limited to a portable toilet at the trailhead. Boaters must paddle through a slough used heavily by western painted turtles and portage to Bybee Lake. The Recreational Facilities Plan, developed for the triangle property north of Smith Lake, includes parking for school buses, better car parking, a canoe and kayak launch, toilets and an interpretive kiosk. Implementation of the plan is contingent on securing the triangle property and funding.

d) Bank Erosion – St. Johns Landfill

St. Johns Landfill (SJLF) is located within the Smith and Bybee Lakes Wildlife Area, and is managed by Metro's Regional Environmental Management Department under the Revised Closure and Financial Assurance Plan submitted by the Metro Council in 1989 to the Oregon Department of Environmental Quality (DEQ). The 1989 plan noted that rainwater leached contaminants from the solid waste, contributing to the formation of a leachate mound within the waste. This mound pushes contaminated ground water slowly through the low permeable sediments around the waste and eventually into surrounding sloughs via ground water seepage.

The primary method to control contaminant migration was to interfere with leachate generation by blocking the movement of rainwater into the waste. From 1991 to 1996 Metro spent about \$35 million to construct a multi-layered cover over 225 acres of solid waste. Metro is also taking measures to stabilize the natural and man-made perimeter dike that separates the waste from surrounding surface water.

In addition to recommending that Metro repair areas where surface water has eroded the dike bank, Metro's consultant for this work predicted that removing the dam (without a replacement structure) would increase water velocity in North Slough. This could potentially contribute to bank erosion of the section facing North Slough, requiring extensive engineered protections for the bank. As an alternative to additional bank stabilization work, methods to offset the increased flow velocity could be employed, such as replacing the existing dam with a new structure capable of regulating flows during seasonal flood periods.

As required under the federal Clean Water Act, DEQ established limits for selected water quality parameters in the Columbia Slough known as Total Maximum Daily Loads (TMDLs). These limits were based on a water body assessment by the City of Portland, including information from DEQ, Metro and other agencies. In establishing the TMDLs, DEQ evaluated contaminants of concern from St. Johns Landfill. Based on this evaluation DEQ established a limit for lead from SJLF of 1.31 kilograms per year. DEQ stated that "Initial results of modeling conducted as part of landfill closure indicate that with the cap installed, pollutant loads from St. Johns Landfill are negligible." DEQ also stated that "there is no local source of dioxin in the area of the landfill."

III. Preliminary staff suggestions

The greatest funding need at Smith and Bybee lakes is the remaining \$100,000 - \$125,000 needed to replace the water control structure. Considerable funding will also be needed to continue re-planting the native trees and other plants that were killed by the sustained high water levels caused by the dam.

Recreational facilities are also a high priority. Executing the recreational facilities plan is contingent on securing the "triangle" property, owned by the Port, as the facility site. Trail construction for visitors is of great interest to many management committee members, however, the trail alignment through the wildlife area is under review and will take some time to resolve.

The management plan is due for revision by Metro, City of Portland, Port of Portland and the Smith and Bybee Lakes Management Committee. The management plan is ten years old, and many parts of it are now obsolete. Examples include:

- Trail location: habitat loss has made areas like the south side of Smith Lake important to leave undisturbed
- Recreational facility location: the site noted in the plan, at the southeast corner of Smith Lake, was under several feet of water during the 1996 flood
- Integrated pest management: plan refers to the Portland Parks plan, we use Metro's
- Dredging fish channels and boating trails: generally not recommended anywhere
- Mitigation bank: Port and others pay into the trust fund as mitigation for their actions
- Metro Council and Management Committee: clarify roles and responsibilities

Our preliminary suggestions* for spending the \$285,000 is as follows:

\$ 100,000	Water control structure
75,000	Recreational facility (matching funds for grants)
50,000	Re-vegetation (can be leveraged)
60,000	Management plan update

*Note: It is anticipated that the ROD will include language regarding the role of the Smith and Bybee Lakes Management Committee in the selection of projects.