

**DRAFT**

**BEFORE THE METRO COUNCIL**

**FOR THE PURPOSE OF AUTHORIZING )  
THE EXECUTIVE OFFICER TO REPLACE )  
THE DAM AT SMITH AND BYBEE LAKES )  
WITH A WATER CONTROL STRUCTURE )**

**RESOLUTION NO. 00-3015**

**Introduced by Mike Burton  
Executive Officer**

**WHEREAS, the Natural Resources Management Plan for Smith and Bybee Lakes (the "Plan") was adopted by the Metro Council and the City of Portland; and**

**WHEREAS, the Plan created a Trust Fund for the Smith and Bybee Lakes Wildlife Area and designated Metro to be the Trust Fund Manager; and**

**WHEREAS, Plan Policy No. 5 calls for the Smith and Bybee Lakes Management Committee to serve as the principle advisory body to the Trust Fund Manager, and to recommend environmental programs within the wildlife area; and**

**WHEREAS, Plan Policy No. 10 calls for Metro to implement environmental enhancement projects consistent with the management plan; and**

**WHEREAS, Plan Policy No. 11 calls for a Wetland Technical Advisory Committee to assist the management committee and Metro in implementing management plan programs; and**

**WHEREAS, the Goal Statement of the Plan provides that the goal of the Plan is to protect and manage Smith and Bybee lakes as an environmental and recreational resource for the Portland region; and**

**WHEREAS, the Goal Statement of the Plan also states that the lakes are to be maintained and enhanced, to the extent possible, in a manner that is faithful to their original natural condition; and**

**WHEREAS, Plan objectives include controlling water levels to manage the lakes' environment and maintaining habitat diversity representative of lower Columbia River floodplain wetlands; and**

**WHEREAS, the existing dam has altered the lakes' condition and destroyed habitat; and**

**WHEREAS, the Wetland Technical Advisory Committee and Smith and Bybee Lakes Management Committee recommended that the dam be replaced with a more versatile water control structure that will enable the lakes to be managed in a manner more faithful to their original natural condition and will restore habitat; and**

**WHEREAS, locating a structure at the East end of the North Slough will restore its historic connection to the lakes; approximate the original natural condition, including hydrology; and allow regulation of water levels and flow when needed; and**

**WHEREAS, biological studies have recommended restoring tidal and seasonal fluctuations, and hydrological studies have evaluated replacing the dam with a water control structure; and**

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WHEREAS, Ducks Unlimited has offered to secure funds for the project, manage construction and deliver the completed project at no cost to Metro; now therefore

BE IT RESOLVED,

That the Metro Council authorizes the Executive Officer to proceed with replacing the water control structure at Smith and Bybee lakes.

ADOPTED by the Metro Council this \_\_\_\_\_ day of \_\_\_\_\_, 2000

Approved as to Form:

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David Bragdon, Presiding Officer

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Daniel B. Cooper, General Counsel

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**Staff Report**

**CONSIDERATION OF RESOLUTION NO. 00-3015 FOR THE PURPOSE OF AUTHORIZING THE EXECUTIVE OFFICER TO REPLACE THE DAM AT SMITH AND BYBEE LAKES WITH A WATER CONTROL STRUCTURE.**

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**Date: December 28, 2000**

**Presented by:**

**Charles Ciecko  
Elaine Stewart**

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**Proposed Action**

Resolution #00-3015 requests authorization for replacing the existing dam that impounds Smith and Bybee lakes with a water control structure that would provide more versatility and control in managing water levels for fish and wildlife habitat. This resolution is placed before the Metro Council because the action will implement part of the management plan for the first time. Because there is some opposition to this management measure, this resolution before the Metro Council will provide an opportunity for public review of the issues and input from concerned parties.

**Background and Analysis**

Smith and Bybee lakes and their associated sloughs and wetlands are remnants of an extensive river bottomland area located near the confluence of the Willamette and Columbia rivers. The wildlife area is managed primarily for wildlife habitat protection and enhancement while providing passive recreational opportunities.

Considerable changes have occurred in the lakes' watershed that have had significant impacts on the lakes' system: construction of dams and dikes, filling with dredge spoils and introduction of exotic species of plants and animals. The most recent significant alteration of this system occurred with the construction of a dam in 1982 that separated the lakes from the North Slough arm of the Columbia Slough, and thus the Willamette River. The dam was built in reaction to waterfowl die-offs in the lakes. Some wildlife officials believed that avian botulism outbreaks occurred in the lakes and caused the birds' deaths; the dam was built under the belief that maintaining permanent, deep water would prevent future die-offs.

Since the dam's construction and two subsequent modifications, the lakes have essentially functioned as reservoirs. Except for rare, severe flood events, daily tidal forces and seasonal floods no longer influence the lakes. Rainfall and evaporation are the principle factors in the lakes' water budget. A flap gate on the slough side of the earth dam allows water to slowly drain out, but prevents it from entering the lakes.

The dam has had a number of deleterious effects, including:

- Off-channel habitat for downstream migrating juvenile salmon has been eliminated.
- The constant inundation has killed hundreds of acres of ash-willow forest, reducing habitat for migrating and nesting songbirds.
- The lakes' fish community is dominated by carp, which have re-suspended sediment throughout the lakes and decimated the smartweed beds that provided food for waterfowl.
- The availability of mudflats for migrating shorebirds has been greatly reduced.
- The reservoirs are ideal habitat for a burgeoning beaver population that is felling trees in the remaining forest.

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- The lakes are unable to provide important wetland functions such as flood storage because they are cut off from the slough and river.

Positive effects of the dam include:

- Year-round canoeing, except during very dry years (such as summer 2000).
- A small but popular sport fishery for largemouth bass and other warmwater game fish that are held in the lakes by the dam; anecdotal information indicates some bass are record size.

A wetland technical advisory committee was formed in the early 1990s to review the situation at Smith and Bybee lakes and recommend management actions. The committee was composed of scientists and managers from natural resource agencies and the private sector. It reviewed information from biological studies and hydrologic modeling, and in 1995 the committee recommended replacing the water control structure with a more versatile design that would restore the habitat by reinstating some of the lakes' historic flooding regime.

The Smith and Bybee Lakes Management Committee adopted the TAC recommendation in 1996 and reiterated its support for the project in August 2000. Specific recommendations were to:

1. Remove the current structure
2. Replace the dam with a structure that would allow unobstructed flow both on a seasonal and daily basis through the North Slough into the lakes
3. Retain the ability to pump water back into the lakes
4. Retain the ability to raise the water level in the event of management needs, such as responding to an occurrence of avian botulism

The two components to follow if and when feasible were:

5. Directly connect the western arm of Bybee Lake to the Columbia Slough with an adjustable weir tidegate
6. Separate the western arm of Bybee Lake from the rest of the lake with an adjustable weir.

This resolution addresses the first two items above. A tentative plan to deal with items three and four would use an irrigation pump to bring North Slough or Columbia Slough water into the lakes if needed. Staff will review the botulism issue and revise the plan if necessary. Feasibility studies of the fifth and sixth items will follow implementation of the first four recommendations.

## **Anticipated Effects**

The most important result of the proposed action is the restoration of the lakes' connection to the Columbia Slough and Willamette River, and associated restoration of seasonal and tidal flooding patterns to the extent possible. The proposed structure will allow water to flow freely between Bybee Lake and North Slough; it can also impound water at a variety of levels, or release it gradually or quickly.

Anticipated benefits of the new structure include:

- Fish passage to enable migrating juvenile salmonids to use the lakes for feeding and resting habitat, increasing the rearing capacity of the lower Willamette River.
- Ability to retain water at times to control reed canarygrass and other pest plants.
- Re-establishment of forest and emergent plant communities on hundreds of acres, benefiting wading birds, raptors, neotropical songbirds, waterfowl, amphibians, and reptiles.
- Seasonally exposed mudflats for use by migrating shorebirds.
- Reduction in the carp population and recovery of smartweed beds.
- Flood storage capability.

- Canoe and kayak access to the lakes from the North Slough at times when the launch area at the north side of the lakes is dry.

Possible drawbacks of the new structure are:

- Loss of canoe access to the lakes from the north side in late summer and early fall. This occurs in dry years with the current dam in place, but would occur in most years with an open structure.
- Reduced angling success for warmwater game fish. The more open system will no longer trap large fish in the lakes, and low water levels during most years will reduce survival and keep the population lower than it was in the late 1990s.
- Periodic die-offs of carp and other fish during low water periods. Thousands of fish (primarily carp) died during the dry summer of 2000, after the carp population had increased during years of deep and continuous inundation. The situation could be repeated if a series of very wet years is followed by a dry summer. Although carp are not a desirable species at Smith and Bybee lakes, scattered carcasses along the shoreline are not aesthetically pleasing to visitors.

### **Opposition**

Opposition to the project arises from two concerns. First, anglers report catching big largemouth bass in the lakes, and they believe that they will lose their fishery. The existing dam has trapped warmwater fish in the lakes, and the impoundment provides good growing conditions. Anglers are concerned that the large fish will move out of the lakes when the water control structure is open or remain in the lakes and die as water recedes in the summer. A modified trash rack intended to prevent adult carp from entering the lakes during the spring might also exclude large game fish from entering the lakes when it is deployed. Although warmwater game fish will continue to be available for anglers, Smith and Bybee lakes will no longer function as a trophy bass pond.

The second concern relates to whether improved water circulation and greater changes in water levels could result in contaminant movement from the North Slough into the lakes, possibly causing water quality deterioration in the lakes. In accordance with permits and policies related to St. Johns Landfill and the wildlife area, the Regional Environmental Management Department (REM) routinely monitors surface water and sediments in the lakes and Columbia Slough (including the North Slough), and groundwater around the perimeter of the landfill. REM has also modeled groundwater and surface water flow in the vicinity of the landfill. These ongoing efforts allow Metro to detect significant changes in water quality, and where required, to implement the management options necessary to address those changes. The new water control structure will not change contaminants' rate of movement through the landfill bank unless it contributes to erosion. REM will continue to monitor for bank erosion and make repairs. Parks will operate the structure to minimize water velocities in the North Slough where feasible to avoid erosion.

### **Budget Impact**

No funding from Metro is required for this project. All funds are being raised by Ducks Unlimited, a non-profit organization dedicated to wetland restoration and enhancement. Design, engineering and construction management will be performed by Ducks Unlimited, which has built hundreds of water control structures in North America. The structure will be operated and maintained by Metro.

### **Executive Officer's Recommendation**

The Executive Officer recommends passage of Resolution No. 00-3015.