OUTLINE OF HABITAT RESTORATION PLANS AT SBLWA

This outline provides the overall framework for habitat improvement projects at Smith and Bybee lakes. It will be flexible; circumstances will change, as well as our understanding of wildlife needs. This outline focuses solely on parts of the wildlife area that cannot be managed with the water control structure. It also excludes the Ramsey mitigation pond area, since a court decree will dictate that work. The Port of Portland is revisiting its work on the westernmost portion of the wildlife area (the finger of land and ponds located between rail lines west of the landfill), and Metro will collaborate with the Port on this site, separate from the current document.

For planning purposes, all sites are treated as wildlife habitat, disregarding recreational activities such as trails. This assumption is not realistic, but it allows identification of the full range of wildlife habitat opportunities. As recreational opportunities are identified and planned, their tradeoffs with wildlife habitat potential can be clearly identified and evaluated, and a good balance can be achieved.

This habitat planning approach conserves biodiversity at Smith and Bybee lakes by restoring and maintaining examples of naturally occurring plant community types. This is consistent with the management plan goal of maintaining and enhancing the lakes, to the extent possible, in a manner faithful to their original natural condition. Other management plan objectives are to provide for and maintain habitat diversity that is representative of floodplain wetlands, and to develop upland areas in a manner compatible with preserving the wetlands. The general approach is refined by considering:

- Guild needs: habitat patch sizes and characteristics required by guilds, or groups of species that use similar habitats in similar ways.
- Individual species' needs: special needs of sensitive species or a potentially limiting factor for a guild member.
- Landscape: how Smith and Bybee lakes is used (or could be used) by metapopulations of species and guilds occupying other sites in the broader landscape.
- Restoration limitations: current conditions and limitations that affect the plant community types that can be restored.

Smith and Bybee lakes historically had several plant communities that have been highlighted by the Oregon Natural Heritage Program as priorities for protection. Willow shrublands were recommended for the highest priority for protection, because of their vulnerability to loss with current land-use practices. Riparian forest was identified as a high priority throughout the Willamette Valley ecoregion. Perenniel bunchgrass dominated native upland prairie sites, which have been nearly (if not completely) extirpated. The bunchgrass prairie habitat is important for Western meadowlarks and probably served as nesting habitat for painted turtles where it occurred near water. Both meadowlarks and turtles are listed as Sensitive-Critical by ODFW, indicating that listing as threatened or endangered may be imminent.

It will take at least 10 years to accomplish the initial work, and habitat maintenance and adjustments will continue indefinitely. Although particular species and groups are highlighted, this approach will benefit a much wider array of species. At this time, the painted turtle is the only individual species for which sites are managed. Other species

are listed as examples of members of guilds that benefit from providing particular habitat types.

The site names and sizes used in the following pages were developed in discussions with BES' watershed revegetation program. This breaks the wildlife area down into manageable units, and allows Metro to work with BES site-by-site in restoring habitat at the lakes. This outline will dovetail with agreements between Metro and BES for specific revegetation projects. Projects are listed in anticipated chronological order. Ideally, Metro and BES will enter into an umbrella agreement that will allow work to proceed on individual projects as time and resources dictate.

1. North bank of North Slough (32 acres)

Wildlife objectives:

- improve riparian forest for neotropical migrants;
- reduce optimal habitat for brown-headed cowbirds;
- provide basking and nesting habitats for painted turtles;
- provide habitat for amphibians, reptiles and small mammals.

Habitat objectives:

- regenerate ash forest and reduce forest fragmentation;
- increase plant diversity;
- preserve turtle basking and nesting habitats;
- establish mixed wet and upland prairie patch.

Prescription:

- plant ash throughout existing ash forest and forest openings; interplant shrubs in ash forest;
- establish occasional evergreen shrub and/or tree patches in ash forest;
- plant shrubs in power line right of way through forest;
- seed native herbaceous plants (e.g., sedges, bunchgrass) on approximately 5 acres extending into Bybee Lake from forested bank area.

Measures of effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- establishment of unbroken canopy along bank (long-term);
- visual surveys to document turtle use of habitat (ongoing);
- spot surveys to document use by key wildlife species (long-term).

2. West side of Smith Lake (5 acres)

Wildlife objectives:

- provide shrub habitat for neotropical migrants (e.g., willow flycatcher);
- improve amphibian habitat;
- explore habitat improvement projects for bats.

Habitat objectives:

- establish mixed tree and shrub habitat for neotropical migrants (e.g., willow flycatchers);
- provide vernal pools, hummocks and shrubs for amphibians, reptiles, birds and small mammals.

Prescription:

- excavate shallow depressions along bench, using excavated material to form mounds; plant area with shrubs and scattered trees;
- plant depressions with emergent vegetation;
- if available, place dead trees' trunks and rootwads on mounds and near depressions to improve habitat complexity.

Measures of effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- establishment of dense shrub habitat (long-term);
- point count surveys to document bird use (long-term);
- amphibian surveys to document habitat use (long-term).

3. Forest, ponds and sloughs near North Marine Drive (50 acres)

Wildlife objectives:

- improve riparian forest for neotropical migrants (e.g., warblers);
- reduce optimal habitat for brown-headed cowbirds;
- improve interior forest for neotropical migrants (e.g., Swainson's thrush);
- improve basking and nesting habitats for painted turtles.

Habitat objectives:

- regenerate mixed forest and reduce forest fragmentation;
- increase understory density and complexity in forest;
- increase plant diversity throughout area;
- provide additional basking structures for turtles;
- establish appropriate plant community on turtle nesting sites.

Prescription:

- plant trees in forest and openings;
- interplant shrubs throughout forest;
- establish scattered evergreen shrub or tree patches in forest for winter bird use;
- remove sand fill along North Marine Drive and establish plant community dominated by clumping grasses (e.g., bunchgrass) and other native herbaceous plants;
- plant scattered shrubs along North Marine Drive, except for a dense thicket of thorny shrubs along 40-mile-loop trail to discourage human intrusion;
- as available, place tree trunks for basking structures.

Measures of effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- establishment of unbroken canopy with dense understory in forest (long-term);

- visual surveys to document turtle use of habitat (ongoing);
- point counts to document use by interior forest birds (beginning 2001 or 2002).

4. South peninsula of Smith Lake (5 acres)

Wildlife objectives:

 provide suitable habitat for grassland birds, small mammals, reptiles and amphibians.

Habitat objectives:

- establish upland prairie including native grasses and other herbaceous plants for foraging and nesting habitat for a variety of snakes, mice and birds;
- include scattered shrubs for perching and cover.

Prescription:

- seed area with a diverse mix of native herbaceous plants;
- plant scattered shrubs.

Measures of effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- point counts to document bird use of site (beginning 2001 or 2002);
- spot surveys to document other wildlife use (long-term).

5. North peninsula of Bybee Lake near Ford facility (47 acres)

Wildlife objectives:

- improve riparian forest for neotropical migrants (e.g., warblers);
- reduce optimal habitat for brown-headed cowbirds;
- improve interior forest for neotropical migrants (e.g., Swainson's thrush);
- explore habitat improvement potential for bats;
- improve amphibian habitat.

Habitat objectives:

- regenerate mixed forest and reduce forest fragmentation;
- increase understory density and complexity in forest;
- increase plant diversity (and complexity of plant community) throughout area;
- provide undisturbed roosting habitat for bats;
- provide habitat complexity (vernal pools and shrubs) for amphibians, reptiles, birds and small mammals.

Prescription:

- plant trees in forest and openings;
- interplant shrubs throughout forest;
- establish scattered evergreen shrub or tree patches in forest for winter bird use;
- plant vernal pool sites with native emergent vegetation;
- plant shrubs around vernal pools;

 top selected trees to facilitate bat roosting sites, consider placing roosting structures if needed.

Measures of effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- establishment of unbroken canopy with dense understory in forest (long-term);
- point counts to document use by interior forest birds (beginning 2001 or 2002);
- spot surveys to document other wildlife use (long-term).

6. Northwest portion of Bybee Lake near Columbia Sportswear facility (15 acres)

Wildlife objectives:

- preserve turtle basking and nesting habitats;
- provide shrub habitat for neotropical migrants (e.g., willow flycatcher);
- improve amphibian habitat.

Habitat objectives:

- improve habitat at known and likely turtle nesting sites;
- establish shrub habitat for neotropical migrants (e.g., willow flycatchers);
- provide additional habitat complexity for reptiles and amphibians.

Prescription:

- plant scattered shrubs and seed appropriate herbaceous plants at known and likely turtle nesting areas;
- plant additional shrubs and scattered trees in understory of open forest;
- plant shrubs in open areas that are unlikely turtle nesting habitat;
- seed understory herbaceous plants in dense shrub habitat.

Measures of effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- establishment of dense shrub habitat and multi-layered forest (long-term);
- point count surveys to document bird use (beginning 2001 or 2002);
- amphibian surveys to document habitat use (long-term).

7. East perimeter of Smith Lake (108 acres)

Note: portions of this area are in shared or fully private ownership. Those sites present opportunities for wet and upland prairie restoration, but this work will be planned later in cooperation with landowners.

Wildlife objectives:

- improve riparian forest for neotropical migrants (e.g., warblers);
- reduce optimal habitat for brown-headed cowbirds;
- improve interior forest for neotropical migrants (e.g., Swainson's thrush).

Habitat objectives:

- regenerate mixed forest and reduce forest fragmentation;
- increase understory density and complexity in forest;

• increase plant diversity throughout area.

Prescription:

- plant trees in forest and openings;
- interplant shrubs throughout forest;
- establish scattered evergreen shrub or tree patches in forest for winter bird use.

Measures of effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- establishment of unbroken canopy with dense understory in forest (long-term);
- point counts to document bird use of interior forest (beginning 2001 or 2002).

8. Smith and Bybee isthmus (18 acres)

Wildlife objectives:

- improve riparian forest for neotropical migrants (e.g., warblers);
- reduce optimal habitat for brown-headed cowbirds;
- improve interior forest for neotropical migrants (e.g., Swainson's thrush)
- improve amphibian habitat.

Habitat objectives:

- regenerate mixed forest and reduce forest fragmentation;
- increase understory density and complexity in forest;
- increase plant diversity throughout area;
- build on existing wet prairie (Columbia sedge) patches.

Prescription:

- plant trees in forest and openings (initial planting done spring 2000);
- interplant shrubs throughout forest;
- establish scattered evergreen shrub or tree patches in forest for winter bird use;
- replace reed canarygrass stand along interlakes trail with Columbia sedge.

Measures_of_effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- establishment of unbroken canopy with dense understory in forest (long-term);
- expansion and persistence of Columbia sedge patch (long-term);
- point counts to document bird use of interior forest (beginning 2001 or 2002);
- amphibian surveys to document habitat use (long-term).

Habitat Objectives for Areas Covered by the Consent Decree

1. Ramsey Ponds

Wildlife objectives:

- provide shrub habitat for neotropical migrants (e.g., willow flycatcher);
- improve basking and nesting habitats for painted turtles;
- provide habitat for amphibians, reptiles and small mammals.

Habitat objectives:

- establish mixed tree and shrub habitat for neotropical migrants and other wildlife;
- provide vernal pools with appropriate vegetation for amphibian reproduction;
- provide additional basking structures for turtles;
- establish appropriate plant community on turtle nesting sites.

Prescription:

- in excavated area between ponds and slough, plant shrubs and seed with emergent plants;
- install additional woody debris (tree trunks) around pond perimeters;
- on east side of ponds ("buffer area"), establish plant community dominated by clumping grasses (e.g., bunchgrass) and other native herbaceous plants.

Measures of effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- establishment of dense shrub habitat surrounding vernal pools (long-term);
- visual surveys to document turtle use of habitat (ongoing);
- spot surveys to document use by other key wildlife species (long-term).

2. Columbia Slough Banks

Wildlife_objectives:

- improve riparian forest for neotropical migrants;
- provide corridor for wildlife moving between Kelly Point Park and the wildlife area;
- provide habitat for amphibians, reptiles and small mammals.

Habitat objectives:

- regenerate riparian forest along slough and reduce forest fragmentation;
- establish mixed tree and shrub habitat in swale areas;
- provide continuous riparian forest band along Columbia Slough.

Prescription:

- plant ash, cottonwood and willow throughout existing forest and forest openings along slough, with maximum possible riparian width;
- establish occasional evergreen shrub and/or tree patches in riparian forest;
- in excavated swales, plant shrubs and emergent plant seeds.

Measures of effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- establishment of unbroken canopy along bank (long-term);
- establishment of dense shrub habitat surrounding swales (long-term);
- spot surveys to document use by key wildlife species (long-term).

3. East Perimeter of Leadbetter Peninsula

Wildlife objectives:

- provide riparian forest and shrub habitat for neotropical migrants;
- explore habitat improvement projects for bats;
- provide a wildlife corridor to other parts of the wildlife area, and habitat for resident wildlife;
- provide habitat for amphibians, reptiles and small mammals.

Habitat objectives:

- regenerate wetland forest;
- establish shrub and emergent habitats around low patches and swales that provide vernal pools.

Prescription:

- plant riparian trees and interplant with shrubs;
- establish occasional evergreen shrub and/or tree patches in forest for winter wildlife use;
- plant shrubs and overseed with emergent plants in low spots and swales.

Measures of effectiveness:

- vegetation surveys to determine successful plant establishment (short-term);
- establishment of unbroken canopy surrounding Leadbetter Peninsula and connecting it with forested areas along the Columbia Slough bank and the northwest corner of Bybee Lake (long-term);
- establishment of dense shrub habitat surrounding vernal pools (long-term);
- spot surveys to document use by key wildlife species (long-term).