Revisions to Clarify the ESEE Analysis for the

Balch Creek Watershed Protection Plan

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Introduction

The following narrative text has been prepared to address deficiencies found by the Land Conservation and Development Commission in its first periodic review of Portland's compliance with Statewide Planning Goal 5, natural resources. This text revises the original analysis prepared for this natural resource plan. The revised text occurs in the second of three steps contained in the Goal 5 Administrative Rule: (1) identification and analysis of economic, social, environmental, and energy consequences of conflicting resources on the resource, and the resource on conflicting uses (ESEE analysis), and (2) decision on the appropriate level of protection, if any, for the resource. This step is called, *Identify Conflicting Uses or ESEE analysis.* The first step is the inventory of Goal 5 resources and the third step is to develop the program to achieve the goal or implementation measures.

The revisions to the analysis for this resource plan have not resulted in any changes to the environmental zone mapping of either environmental protection (ep), or environmental conservation (ec) zones.

Background

On January 20, 1995, the Land Conservation and Development Commission held a hearing on the City's first periodic review of the Comprehensive Plan. At the hearing, the Commission adopted the staff recommendations contained in the director's report, dated November 28, 1994 and the director's supplemental report dated January 13, 1995. The Commission's adopted motion instructed the DLCD director to issue an order implementing the Commission's action on May 30, 1995. The Commission's pending order permits the City to adopt and submit to DLCD revisions to the City's final periodic review order of December 1993. Such revisions allow the City to address deficiencies identified in the director's report for the City's Goal 5 natural resources program. The department found that a more specific narrative text was needed "to provide reasons to explain why decisions are made for specific sites." The revisions address Periodic Review Work Program item 1.1.

The director's report showed that a substantial portion of Portland's work complies with Statewide Planning Goal 5. Only the ESEE analyses for Smith and Bybee Lakes (Site #55, Columbia Corridor), Balch Creek, Northwest Hills, and Johnson Creek need to be supplemented with information in the "decision" statements. The report found that, "evidence in the record is likely to be adequate to prepare these statements, without collecting new information or conducting additional analysis."

The ESEE analysis must be received by the department by April 17, 1995 for action at the May 25-26, 1995 LCDC meeting.

REVISIONS TO ESEE ANALYSIS FOR THE BALCH CREEK WATERSHED PROTECTION PLAN

Resource Site 73
This is a 2.71 acre site in Lower Macleay Park. It includes the most downstream part of Balch Creek, park lawn, public lavatories, a parking lot, storm water control facilities, second growth forests, exotic dawn redwoods, and seven houses. Identified conflicting uses include residential landscaping, park facilities, and stormwater and flood control facilities. Additional housing is not a conflicting use because, even though base zones are R5, residential structures are prohibited by Open Space Comprehensive Plan designations. Even though the R5 lots are already developed with houses, this land was not identified as needed for urban uses by the Buildable Lands Analysis conducted in 1987 for Goal 10 and Goal 14 periodic review.

Conclusion
Resource protection of the creek, forests, and dawn redwoods would result in positive ESEE consequences. Limiting additional residential development to minor expansions of seven existing houses would limit conflicting uses, and provide slighter more beneficial social and economic consequences than a strict prohibition. Limiting the existing parking lot, and lavatories for Lower Macleay Park to their present configuration will have highly beneficial social consequences with minimum environmental harm. Prohibiting and limiting development within forests will have detrimental energy consequences by precluding a source of fire wood.

Decision
The general decision is to manage the Balch Creek Watershed as a whole in order to preserve the fish, wildlife, storm water detention, flood control, and water quality values of a native forest and trout stream. These values are preserved through the following strategy.

- Conserving forest edges and protecting forest centers, which in turn moves allowed development from the center of the watershed to the edges.
- Placing all land within 50 feet of the centerline of Balch Creek and its tributaries, including seasonal drainageways and topographic lows, in environmental protection zones.
- Placing the most significant native forests in environmental protection zones.
- Placing other significant forests are placed in conservation zones.
- Limiting development within environmental zones to a dry building season.
- Limiting how much forest can be removed on any building site.
- Restricting agriculture and forest uses to ten percent of site area.

This strategy manages the watershed as a whole, and recognizes that it impossible to preserve fish populations by just protecting those stream segments where fish are present year round. Riparian buffers fifty feet wide are established to stabilize

stream banks, trap eroding soil and pollutants, and to provide a canopy to keep the water cool enough for trout. These buffers, in and of themselves, would be insufficient to protect trout, but they are supplemented by upland environmental zones. The environmental zones that cover upland forest control the intensity and length of flooding and ensure that fish and food organisms are not swept out of the stream. These measures also protect spawning gravel and provide the proper quantity and quality of water, particularly in the dry summer months. The Balch Creek trout population has maintained itself in a stable population of about 2,000 fish since the 1930's. Balch Creek is physically separated from other water bodies, so it is imperative to maintain existing stocks and habitat through the management of the entire watershed. The creeks and forests described in the individual resource sites form an ecological whole.

This watershed management scheme also provides contiguous stretches of native forests for upland wildlife. Urban areas often have abundant forest "edges", and these edges do benefit some wildlife species. What is rare in urban forests are "centers" of enough area to provide native forest values. When a forest is 1200 feet in diameter and covers about 30 acres it begins to establish its own microclimate. The area in the "center" of the forest is darker, cooler, and wetter than the edges. This microclimate effects becomes more pronounced the larger and older a forest gets. Many of the resource sites are contiguous and form forest clumps much larger than 30 acres. These contiguous forests are very important because they can support species with large habitat requirements. Forest centers select for native plants, which in turn provide the proper food and cover for native wildlife. There is also a "sponge effect" through which forest centers store water in the winter and release it slowly into streams during the dry summer months. The Balch Creek watershed is one of the few places in the City with enough large forest centers to support native populations of deer and elk. The environmental zone boundaries are drawn to provide contiguous cover between forest centers. Without associated centers, forest edges are of little value to larger wildlife species.

Resource Site 73 contains a full year stream with riparian gallery, second growth forests, and a row of mature Dawn redwood trees. In resource site 73 this general scheme is applied as follows:

Allow Conflicting Uses Fully

No decisions were made to fully allow conflicting uses with resource site 73. It should be noted, however, that Balch Creek enters a storm sewer at the lower end of Macleay Park. This sewer passes under Portland's Northwest Industrial Area. Because fish entering this sewer cannot physically re-enter Balch Creek. The sewer and the overlying industrial area were excluded from the plan inventory as insignificant.

Limit Conflicting Uses

Two R5 lots off of NW 30th were placed in conservation zones portions of five other lots, all at forest edges along NW 31st, were placed in conservation zones. The

comprehensive plan designation for all of these lots was changed from open space to residential. This change "legalizes" what were nonconforming uses and will allow minor expansions of existing residences. Also placed in the conservation zone was the parking lot, lavatories, and storm water control features in designated open space. This was done to limit them to their present locations, although minor redesigns and reconfigurations could be allowed. The stormwater features include a vertical concrete wall within the stream bed of Balch Creek. Fish falling over this wall arrive in a large pool just above the sewer inlet and cannot re-enter the creek. This pool is placed in a conservation zone because of its educational value in the park.

Prohibit Conflicting Uses

Portions of five developed residential lots, and portions of three open space lots are placed in protection zones. Although the protected portion of Resource Site 73 is small, it adjoins resource Site 74 to form an important large forest center. These protection zones are on the natural portions of the creek, on native forests, and on a stand rare Dawn redwoods. A rare deciduous conifer thought to be extinct since the Pleistocene, but discovered in China in the early 20th Century. Because these trees are a "living fossil" and because they have educational value in the park, a decision was made to protect them.

The following chart is a summary of these decisions

Base Zoning	Estimated Acreage Affected by EC Zone	Estimated Acreage Affected by EP Zone
R5	0.50	0.21
OS	1	1

Since all residential lots are developed, there is no loss in housing potential.