Restoration of Fish Habitat on Errol Creek

A restoration project proposed
in lieu of a Natural Resource Damage Assessment
of the Thermo Fluids Oil/Acid Spill (March 15, 2004)

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Prepared for
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and

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Presented to
William G. Newton, President
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About Johnson Creek Watershed Council

The precursor to the Johnson Creek Watershed Council (JCWC), the Johnson Creek Corridor Committee (JCCC) was formed in 1989 as an outgrowth of public interest and government collaboration on the Johnson Creek Resources Management Plan. That same year, the Oregon Legislature created the Governor's Watershed Enhancement Board, now the Oregon Watershed Enhancement Board, to pursue a watershed health program based on the establishment of watershed councils whose mission is to form a common vision for the ecological and economic sustainability of their watersheds.

The *Johnson Creek Resources Management Plan* was published in 1995. It recommended the establishment of the Johnson Creek Watershed Council (JCWC) to develop collaborative, community-based solutions to key watershed issues: water quality degradation, frequent flooding, and loss or degradation of fish and wildlife habitat. The *Johnson Creek Resources Management Plan* formed the basis for extensive assessment and resource management planning in the years to come: in 2000, the Multnomah Progress Board published *Salmon Restoration in Johnson Creek;* in June 2001, the Bureau of Environmental Services produced the *Johnson Creek Restoration Plan*; and in 2003, the Johnson Creek Watershed Council completed the *Comprehensive Watershed Action Plan.*

Johnson Creek Watershed Background

The 54 sq. mi. area served by JCWC runs through 6 local jurisdictions and is comprised of 54 percent urban residential, 33 percent rural residential, 8 percent industrial and commercial and 5 percent parks and open-space. The number of jurisdictions, diverse land uses, and increasing pressure from urbanization in the watershed necessitate coordination between local governments, citizens, businesses and agencies to reach long-term goals for watershed health.

The Johnson Creek Watershed remains one of the only urban watersheds still host to historic salmon runs listed as threatened under the Endangered Species Act. As one of the last free flowing creeks in the Portland Metro Area, Johnson Creek is also one of the few places where recovery of salmonid populations is feasible in the city of Portland. In addition to salmon, Johnson Creek is also home to a number of important native fish species including lamprey, red-sided shiners, sculpin, speckled dace, and suckers.

While we may never be able to re-create pre-development conditions, the *Johnson Creek Restoration Plan and Watershed Action Plan* details restoration opportunities in no less than 58 distinct reaches of the main stem, nearly one-third of which are in the area impacted by the Thermo Fluids spill. We have identified the Errol Creek tributary located just upstream of Tideman Johnson Park as an appropriate restoration site. This high priority, core area is currently showing some, albeit limited use by salmon as spawning and rearing habitat.

The City of Portland has already committed significant financial resources to the Errol Creek project site. For example, the land available for the proposed restoration was purchased over the last four years with $750,000 in City funds. Funding for the complete restoration of the creek's aquatic and riparian habitat is not currently available. The funds requested from Thermo Fluids will be used to continue the restoration effort on this site.

Project Overview

A key factor limiting salmonid survival in Johnson Creek is a lack of refuge and rearing areas, such as tributaries and backwater channels where fish can escape warm summertime water temperatures, high wintertime stream flows and other stressors. During the Thermo Fluids spill, an unusually high number of fish were observed at Crystal Springs, a tributary in lower Johnson Creek. Fish refuge areas such as Crystal Springs are limited in Johnson Creek due to fish barriers in tributaries and the limited connectivity of the creek to its floodplain. In particular, Errol Creek is currently inaccessible to fish due to the presence of the stone work in Johnson Creek installed as a Works Progress Administration project in the 1930's and two road culverts. Also, the creek was channelized to accommodate local roads and residential development, and as a result lacks the instream complexity essential for good fish habitat.

Errol Creek is located within the area impacted by the Thermo Fluids spill (see attached map). Our proposed project will improve summer and winter refugia for fish on a portion of this productive reach, and will provide important escape habitat for should future urban stressors impact water quality. Such a refuge was available and apparently used by local fish populations on the day of the spill at nearby Crystal Springs. Had a refuge on Errol Creek been available at the time of the Thermo Fluids spill, the number of fish killed along this reach may have been reduced.

The selected restoration site on Errol Creek is part of a larger complex known as Errol Heights, a spring-fed wetland habitat. The springs originating in Errol Heights supply an excellent source of cool ground water, making it an ideal location for summertime fish refuge. The riparian corridor is moderate to narrow in width and primarily vegetated with Oregon ash, red cedar, willow and black cottonwood. Invasive plants, however, grow near the creek and impervious surfaces frequently extend to the edge of the creek, thereby limiting the riparian corridor. The headwaters begin as springs near Thomas Park at SE 49th & Tenino Court where they feed a number of large wetlands before the creek flows through the neighborhood to its confluence with Johnson Creek at approximately SE Umatilla & 43rd Streets. The stream was heavily manipulated as the area was developed leaving a straight, channelized creek with little complexity or shade cover. It is not accessible to fish because of several impassable barriers. The project is highlighted by the Watershed Action Plan and the City of Portland Environmental Services as a top tier project. To date the project focus for the area has been on land acquisition and revegetation in the headwater wetlands area of this system. The area is now ready for more extensive restoration work to improve fish passage and instream habitat.

Key Goals of the Errol Creek Restoration Project

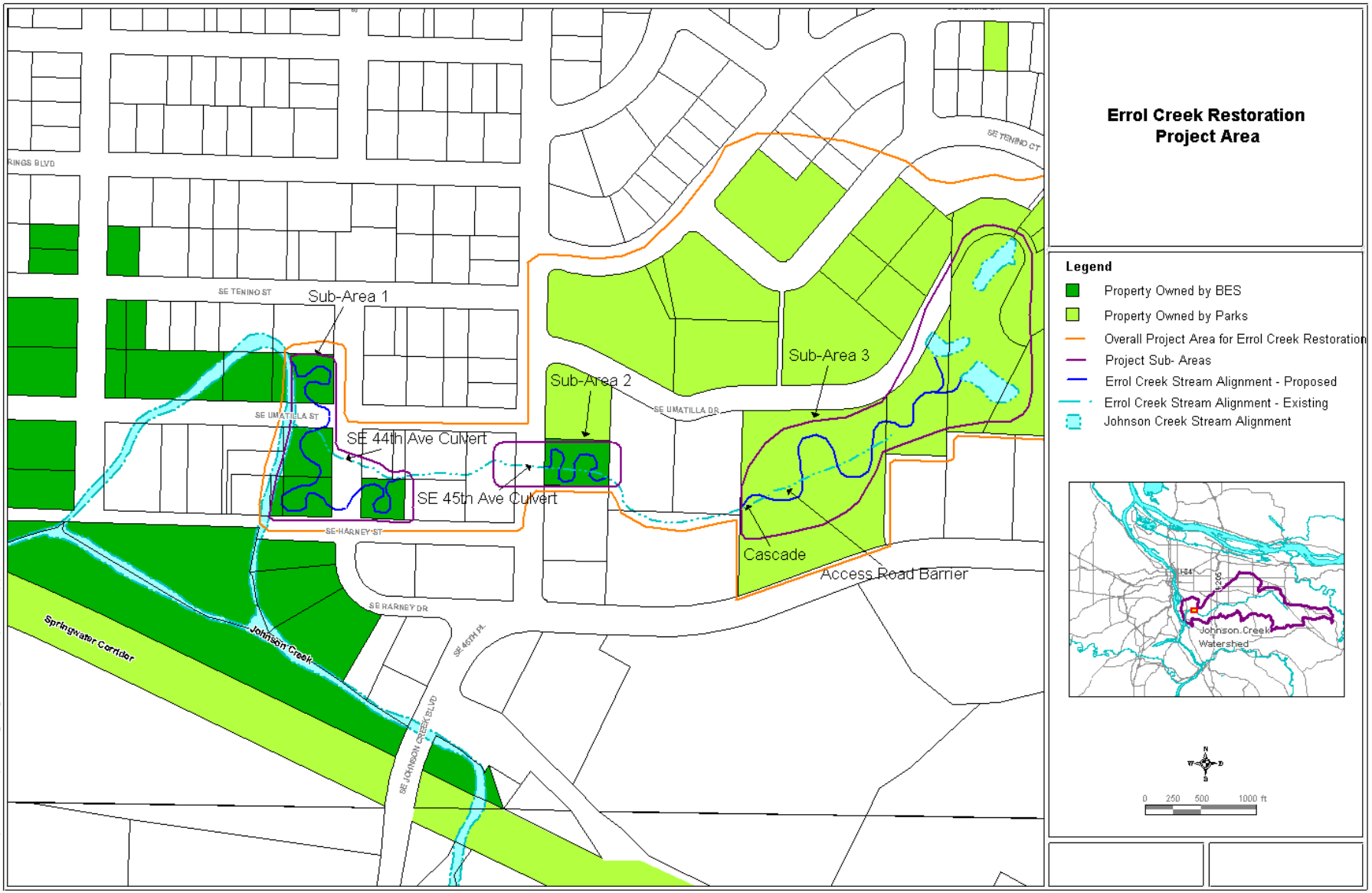
- **Remove lower fish barrier and enhance fish habitat**
- **Reconnect and restore floodplain**
- **Protect and restore an important cold water tributary**
- **Increase in-stream complexity and sinuosity**
- **Provide outreach to property owners/encourage stream stewardship**

Project Scope.

The goal of this project is to restore quality, accessible habitat for fish on the lower portion of Errol Creek (Sub-Area 1 on attached map). Work will begin at the mouth of Errol Creek where a fish barrier will be removed and 800 feet of stream will be remeandered. Gravel will be added to the bottom of the stream to enhance spawning/rearing habitat. Large woody debris will be placed in the creek to create plunge pools and enhance cover habitat for fish. Once the stream channel is restored, the banks will be vegetated with native plants to provide additional cover for fish and decrease solar inputs to the creek. When completed, the project will provide outstanding fish habitat.

Preliminary assessment and design for the restoration project has already been completed. Further assessment on hydrology, channel connectivity and habitat and water quality are needed before completing final restoration plans and designs. Should Thermo Fluids agree to fund this project, permits could be applied for this winter for the 2005 July-August instream work window.

Public/media interest in the Thermo Fluids spill and restoration effort has been high. Therefore, public outreach will be an important component of this restoration project. A property owner initiative will ensure that project design and implementation is effectively communicated to local residents. All interested members of the community will be kept informed of the progress of the restoration effort. Public investment and citizen support is strong along Errol Creek making it an excellent site for the investment of restoration funds.


Errol Creek Restoration
Project Area
Legend
Property Owned by BES
Property Owned by Parks
Overall Project Area for Errol Creek Restoration
Project Sub- Areas
Errol Creek Stream Alignment - Proposed
Errol Creek Stream Alignment - Existing
Johnson Creek Stream Alignment
Sub-Area 1
Sub-Area 2
Sub-Area 3
SE 44th Ave Culvert
SE 45th Ave Culvert
Cascade
Access Road Barrier
Springwater Corridor
Johnson Creek
SE TENINO ST
SE UMATILLA ST
SE UMATILLA DR
SE HARNEY ST
SE HARNEY DR
SE 46TH PL
SE JOHNSON CREEK BLVD
SE YENNO CT
Johnson Creek Watershed
0 250 500 1000 ft