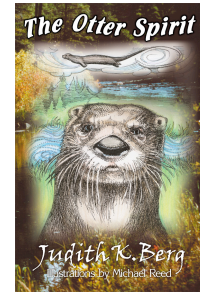


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Hearings Official
c/o Alissa Hansen, Senior Planner
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**RE: Green Valley Glen PUD – PDT 05-6
Opposition to Application**

I respectfully request that the subject Green Valley Glen PUD Application be denied because it will have a negative impact on water quality in the Amazon Creek Watershed that cascades down to the health of the flora and fauna that inhabit it.

The North American River Otter (*Lontra canadensis*) is a high level indicator species of environmental health in fresh water ecosystems, and is even a contributor to that health. Increasingly frequent sightings of river otters by reliable sources have occurred in sections of Amazon Creek, particularly during the past two years. I have been documenting this information as I receive it. That an otter showed up – and was photographed by observer – during October, 2006 at the Headwaters of Amazon Creek is indicative of the long home range required by this species. The quality of much of the river otter's habitat is decreasing in the Pacific Northwest because of clear-cut logging, urban sprawl, and pollution of the waterways (Maser 1998). Destruction of Amazon Creek Headwaters through the proposed development, will not only negatively impact that segment of Amazon Creek, but also this entire fresh water ecosystem, its river otters, and far beyond.

THE ECOLOGY OF RIVER OTTERS IN FRESH WATER ECOSYSTEMS

RIVER OTTER HABITAT

Favorable river otter habitat is non-polluted river systems that are interconnected with meandering streams, and the tributaries and lakes which feed them (Toweill and Tabor 1982; Melquist and Dronkert 1987; Reid et al. 1994). Because river otters are not physiologically adapted to live at all times in the water, this semi-aquatic species must rely on appropriate terrestrial cover that insures suitable passage between the waters across the land. Riparian vegetation adjacent to these fresh waters is a key component of good river otter habitat (Melquist and Hornocker 1983). This habitat also attracts beavers who in turn create foraging and denning sites for otters (Melquist and Dronkert 1987, Berg 1999).

Land cover is an important component for river otters' terrestrial activities of resting, shelter, movements across land bridges to reach one waterway from another, and other behaviors (Melquist et al. 2003). Beginning at the Amazon Creek Headwaters are stretches of such land cover in the form of mixed forest, wetlands, and riparian vegetation. Beaver enhancements also occur in sections of the Creek. Therefore, this freshwater habitat is good not only for river otters, but for many other fauna species which are a part of this complex web of life. Development of Amazon Creek Headwaters will destroy this freshwater ecosystem so important to river otters and those other species of flora and fauna who rely on it for their survival.

RIVER OTTERS ARE A "FLAGSHIP" SPECIES

River otters are at the top of the food chain in aquatic ecosystems. Because otters are susceptible to pollution (Duffy et al. 1996), they are considered a bioindicator for the environmental health of fresh water habitats (Melquist & Dronkert 1987; Lariviere & Walton 1998). Wetlands at the Amazon Creek Headwaters enhances the water quality of this fresh water system. Removal of vegetative species to promote development will result in erosion of soils into the waters. More human habitation at this pristine location will introduce new pollutants into these waters. River otters feed primarily on fish and, where they occur, crayfish. To a lesser extent they also feed on amphibians, and on aquatic insects plus other invertebrates (Berg 2000). Toxins entering these waters through development, irrigation, insect and other pest control, and other released pollutants will affect the waters, its aquatic species, and ultimately the river otters.

RIVER OTTERS' IMPORTANCE TO HEALTHY FRESH WATER HABITAT

Habitat in nearly all stream and riparian ecosystems have been degraded by human activities. Destruction of riparian forests can alter stream ecosystems, and vice versa, by disrupting the flow of resources that link these two ecosystems (Baxter et al. 2004). Most of the energy in headwater streams (such as Amazon Creek) is derived from the surrounding riparian forests. River otters have recently been documented as a resource to the health of this complex ecosystem (Ben-David et al. 1998a). While traveling on land, river otters deposit their aquatically derived nutrients through their scent marking behaviors (feces and urine). These nutrients have been found to influence the prevalence and growth of specific plants important to the health of these riparian systems (Ben-David et al. 1998b). This nutrient transference onto land, in turn, eventually works its way back into the fresh waters through reverse flow patterns (Wilson et al. 2004).

Streams and forests are vulnerable to habitat degradation when the fluxes of resources across the boundary between them is severed (Polis et al. 2004). Impact of these feeder streams, beginning at their headwaters - such as Amazon Creek - has a far reaching affect as these waters flow through their systems, ultimately reaching the ocean (Wilson et al. 2004).

CONCLUSION

The complexity continues. Destruction of the Amazon Creek Headwaters, through the proposed human development, will have far reaching affects of which we are only beginning to understand. The impact of erosion, pollution, and degradation of habitat will affect not only river otters, but the health and survival of so many other species of flora and fauna.

References

- Baxter, C.V., K.D.Fausch, M. Murakami, and P.L.Chapman. 2004. Fish invasion restructures stream and forest food webs by interrupting reciprocal prey subsidies. *Ecology* 85:2656-2663.
- Ben-David, M., T.A. Hanley, and D.M. Schell. 1998a. Fertilization of terrestrial vegetation by spawning Pacific salmon: the role of flooding and predator activity. *Oikos* 83: 47-55.
- Ben-David, M., R.T. Bowyer, L.K. Duffy, D.D. Roby, and D.M. Schell. 1998b. Social behavior and ecosystem processes: river otter latrines and nutrient dynamics of terrestrial vegetation. *Ecology* 79:2567-2571.
- Berg, J.K. 1999. Final report of the river otter research project on the upper Colorado River basin in and adjacent to Rocky Mountain National Park. Rocky Mountain National Park, Grand Lake, CO.
- Berg, J.K. 2000. North American River Otter Diet. *River Otter Journal* Vol.IX No.2:4-5.
- Duffy, L.K., R.T. Bowyer, J.W. Testa, and J.B. Faro. 1996. Acute phase proteins and cytokines in Alaskan Mammals as markers of chronic exposure to environmental pollutants. *American Fisheries Society Symposia* 18:809-813.
- Lariviere, S., and L.R. Walton. 1998. *Lontra canadensis*. *American Society of Mammalogists: Mammalian Species* 587:1-8.
- Mason, C. 1998. *Mammals of the Pacific Northwest: from the Coast to the High Cascades*. Oregon State University Press: Corvallis, OR.
- Melquist, W.E. and A.E. Dronkert. 1987. River otter. Pp 625-641 in M. Novak, J.A. Baker, M.E. Obbard, and B. Malloch, eds. *Wild furbear management and conservation in North America*. Toronto; Ontario Ministry of Natural Resources.
- Melquist, W.E. and M.G. Hornocker. 1983. Ecology of river otters in west central Idaho. *Wildlife Monographs* 83:1-60.
- Melquist, W.E., P.J. Polechla, Jr. and D. Toweill. 2003. River otter: *Lontra canadensis*. Pp. 708-734 in G.A. Feldhamer, B.C. Thompson, and J.A. Chapman, eds. *Wild mammals of North America: biology, management, and conservation*. Johns Hopkins University Press: Baltimore, MD.
- Polis, G.A., M.E. Power, and G.R. Huxel. 2004. *Food webs at the landscape level*. University of Chicago Press: Chicago, IL.
- Reid, D.G., T.E. Code, A.C.H. Reid, and S.M. Herreo. 1994. Spacing, movements and habitat selection of the river otter in boreal Alberta. *Canadian Journal of Zoology* 72:1314-1332.
- Toweill, D.E. and J.E. Tabor. 1982. River otter: *Lutra canadensis*. Pp. 688-703. in J.A. Chapman and G.S. Feldhamer, eds. *Wild mammals of North America: Biology, management, and economics*. Johns Hopkins University Press: Baltimore, MD.
- Willson, M.F., G.M. Scott, and P.A. Bisson. 2004. Anadromous fishes as ecological links between ocean, fresh water, and land. Pp.284-301. in Polis, G.A., M.E. Power, and G.R. Huxel, eds. *Food webs at the landscape level*. University of Chicago Press: Chicago, IL.