



31 May 2011

Ms. Margaret Glowacki
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Department of Planning and Development
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RE: Shoreline Master Program Comments

Dear Maggie:

I wish to comment on one proposed item in the draft Shoreline Master Program.

I remain puzzled why DPD is continuing to propose, in Section 23.60.202.D.5.f, to prohibit living or storage space below the waterline in new floating homes that would be replacing older floating homes.

As is well known, most existing, older floating homes have floats constructed of cedar logs underlain by foam and air barrels. The depth of these floats are typically in the 10 to 15 foot range below water level. Constructing a new floating home with habitable space below the waterline typically would not increase the depth impacts of a floating home. Meanwhile, most boats on the lake have habitable space below the waterline. With thick concrete walls and continuous insulation, sound and heat transfer from habitable floats into surrounding waters are minimal - nothing compared to a typical boat.

In regards to impacts on migrating salmon, scientific study indicates that deeper floating home depth is, if anything, better for salmonids. From past correspondence with Dan Nickel of the Watershed Group, I quote the following:

In follow-up to our conversation earlier today, I wanted to give you a brief synopsis of my discussions with several scientific experts from around the region regarding the impact of permitting a houseboat basement along the east shore of Lake Union in Seattle. The key question is what impact, if any, results from permitting a houseboat basement that extends approximately 9 feet below the water level instead of a standard houseboat which may extend 4 to 5 feet below the water level. Below is a summary of responses.

Per Roger Tabor, Fisheries Biologist with the U.S. Fish and Wildlife Service (Telephone conversation with Dan Nickel on October 3, 2005). Juvenile salmonids have been found to avoid overhead cover when possible, since they do not like to venture into dark areas. Juveniles are typically migrating in the upper water column, but as outmigrating smolts, they may be in deeper areas. Thus, it is highly unlikely that a juvenile migrating in the upper water column would then swim under a structure, whether it is a standard houseboat or an extended basement. They would more than likely swim around such a structure. He indicated that impacts from predation are unknown. He was not sure whether bass would be utilizing the structure down to 9 or 10 feet below the surface. However, he did mention that predation was likely higher at the 4 to 5 foot range. Thus, in his opinion the impact from increasing the depth of the houseboat would be negligible.

Per Kurt Fresh, Fisheries Biologist with National Marine Fisheries Service (NOAA Fisheries) (Telephone conversation with Dan Nickel on October 3, 2005). Mr. Fresh's response was very similar to Mr. Tabor's; not much research has been conducted

regarding how salmon are migrating around overhead cover and what the predation response may be to such a structure. His responses were "speculative." However, he did say that in his opinion, the proposed use of a basement instead of a standard houseboat float (out in deep water) would not likely change bass use. Bass would most likely continue to utilize the floating structure in a similar manner as a standard houseboat float. While the structure may impact how juveniles migrate by forcing them to go around the structure, a change from 4 or 5 feet below surface to 9 or 10 feet below surface would have a negligible impact.

In summary, based on the information provided by the above mentioned individuals and my personal knowledge of juvenile salmonid movement, the impact from changing the depth of the proposed houseboats, which are located in water nearly 30 feet deep, is negligible. The following three areas of concern have been discussed. (1) Predation: while some of the potential impacts are merely speculative (bass utilization), the general consensus was that the change from a standard houseboat float to a basement (an increase in depth of approximately 5 feet) would not result in an increase in bass predation. However, it is noted, to the best of my knowledge, that research on this topic has not been performed. (2) Salmon Movement: impacts to juvenile salmonid movement are also believed to be negligible since it is known that juveniles typically prefer to move around large areas of dark overhead cover. Recent work by Dr. Paul Kemp found that nearly 75% of migrating fall chinook smolts avoided overhead cover in a test flume (Kemp et al. *in Press*). Thus, it is highly unlikely that a change from a standard houseboat float to a basement would result in a change in the manner in which juveniles avoided the structures. Based on existing information, juveniles would move around both structures in similar manners. (3) Light Impacts and Shading: impacts to ambient light availability are also believed to be negligible. While shading is a major concern regarding such things as juvenile migration and aquatic plant growth, the change between a 4- or 5-foot-deep structure to one of 9 or 10 feet deep would not significantly impact the water column at the proposed houseboat location. Most available light is utilized in the upper water column (~5 feet) and thus shading from the proposed basement would not likely affect nearshore substrate or aquatic plant beds.

More recently, Pentec Environmental's study dated 29 April 2010 found that the juvenile salmon migratory route is offshore and is not "associated with the Lake Union nearshore either at floating home communities or at the Gas Works Park reference site". (*Juvenile Salmon Use In Lake Union in Relation to Floating Homes: Seattle, Washington*; Houghton, Jon et al, 19 April 2010).

Thus, recent scientific study and local scientific experts agree that floating homes and the depth of their floats have minimal impact on endangered salmon and the lake. So why prohibit living or storage space below the waterline in new floating homes that would be replacing older floating homes? I strongly support removing this language from the proposed Shoreline Master Program.

Best Regards,



William Vandeventer