

## WRIA 9 Conservation Hypotheses – Water Quality

Presented to the WRIA 9 Watershed Ecosystem Forum for Discussion and Decision as part of the WRIA 9 Salmon Habitat Plan Update

November 10, 2016

Revised based on WRIA 9 Implementation Technical Committee Review on March 30, 2016

All of the WRIA 9 2005 Conservation Hypotheses are available online at <http://www.govlink.org/watersheds/9/pdf/tieredCH.pdf>

The WRIA 9 draft Monitoring & Adaptive Management Plan (WRIA 9 Implementation Technical Committee, 2013) acknowledges that new information about the effects of high water temperatures on Chinook salmon, and the recent temperature Total Maximum Daily Load (TMDL) listings indicate a need to make reducing water temperatures a higher priority than they were in the 2005 Salmon Habitat Plan. In 2015, the ITC learned that additionally, contamination by PCBs, PAHs, and other toxins in juvenile Chinook taken from the Duwamish River is at high enough levels to cause lethal effects. Therefore, the ITC recommends that this new conservation hypothesis for reducing water temperatures and contaminants be considered by the WRIA 9 Forum as a Tier 1 Conservation Hypothesis:

### Proposed New Conservation Hypothesis All-7

*Protecting and improving water quality, specifically water temperature and chemical contamination conditions, will enhance habitat quality and lead to greater juvenile salmonid growth, disease resistance and survival. Improved water quality will also enhance survival of adult salmon, salmon productivity, and survival of salmon prey resources, such as forage fish.*

In addition, the WRIA 9 Implementation Technical Committee recommends the following **changes to Conservation Hypothesis All-1**, which is a Tier 2 conservation hypothesis (added text is shown in bold, deleted text is shown as strikethrough):

### Proposed Changes to Existing Conservation Hypothesis All-1

*Protecting and improving water quality (~~e.g., beyond~~ **beyond** temperature, dissolved oxygen, turbidity, and chemical contamination conditions) ~~by addressing point and nonpoint (specifically stormwater runoff and agricultural drainage) pollution sources~~ will enhance habitat quality and lead to greater juvenile salmon growth, disease resistance, and survival. Improved water quality will also enhance survival of adult salmon, incubating salmon eggs, and salmon prey resources, such as forage fish.*