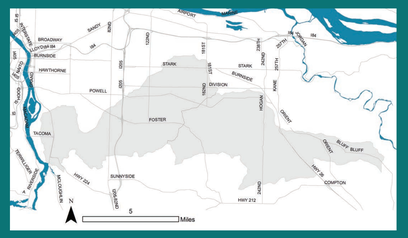
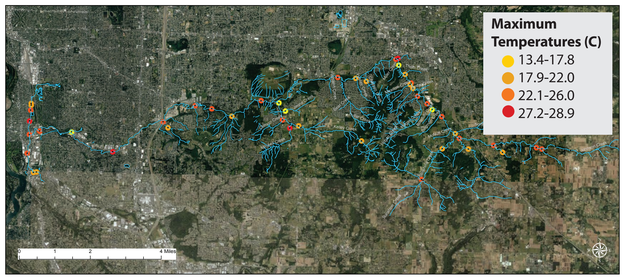


A Strategy for Riparian Restoration in the Johnson Creek Watershed

Johnson Creek Watershed Council is focusing its restoration planning on the enhancement of riparian vegetation throughout the watershed. The goal is to create The Johnson Creek Riparian Reforestation Strategy by July 2013 to serve as an action plan for achieving 80% shade cover from riparian forests along Johnson Creek.

Johnson Creek is too hot for salmon and trout.

During the summertime, Johnson Creek is often warmer than state water quality standards for rearing salmon and trout (64.4^{0}F).



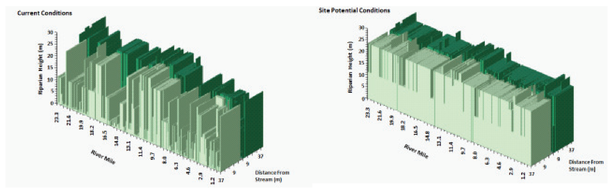
2012 temperature data collected at 46 sites in summer. 65% of sites sampled exceeded the state temperature standard for more than 30 days.

Historically, streams were kept cool by the dense forests that shaded the stream channels. As the watershed was developed, much of that forest disappeared.

Reaching Our Potential

In the 2006 Lower Willamette Subbasin TMDL for temperature, Oregon DEQ concluded that to keep Johnson Creek cool enough for trout and salmon to thrive, **an average of 80% effective shade over the stream channel will be required.** Getting to this level of shade will take years of restoration, but reaching our goal is possible.

Using temperature modeling, GIS vegetation layers, and effective shade data, Oregon DEQ assessed the current vegetation conditions and the potential for improvement.

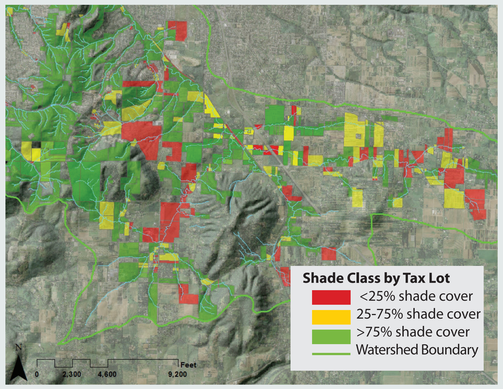


The figures display the current (left, as of 2002) and potential (right) riparian vegetation heights and distributions for both sides of the stream bank along Johnson Creek. ***In 2002, the average effective shade over mainstem Johnson Creek was just under 40%.***

Steps to Develop
A Strategy to Achieve 80% Shade

1. **Protect past restoration investments**
   Assess maintenance needs of past restoration sites (weed control, inter-planting).

2. **Assess current riparian conditions**
   - **GIS aerial photo analysis** of shade level by tax lot, to identify properties with highest opportunity for improvement (see map at right).
   - **Use updated Heat Source model** (in progress) to measure current and potential effective shade on all Johnson Creek tributary stream miles.
   - **Support accuracy of digital analysis** with field measurements of riparian cover.



Johnson Creek Riparian Shade Class by Tax Lot in the Upper Johnson Creek Watershed

3. **Prioritize parcels** that would yield the most benefit from restoration and maintenance based on the following criteria:
   - **Low shade**/canopy cover
   - **Continuity** with existing riparian forest
   - **Tributary headwater areas**
   - Additional considerations such as: presence of trout and salmon, relative thermal load, invasive plant threats to existing canopy, and riparian forest diversity

Timeline of Goals

Spring/summer 2013: Begin initial outreach to landowners as high priority lots are identified through strategy development process.

July 2013: Riparian strategy is complete.

Summer/fall 2013: Continue landowner outreach, and begin restoration work on properties as permission is given.

2014: Engage 30 new landowners and plant on two miles of streambank by the end of year 1 of strategy implementation.

After 10 years: Planting is completed at prioritized parcels where permission has been granted.

After 20 years: Plantings are maintained to reach free-to-grow status.

After 40 years: 80% shade is achieved or will be achieved without further intervention.

Johnson Creek Watershed Council has a history of successful restoration projects, thanks to strong landowner relationships and community engagement.

Private property at 307th and Orient Dr., in the upper watershed, 2009 and 2012

ODS Health property near the mouth of Johnson Creek in Milwaukie, 2003 and 2008

Crystal Springs Apartments in Sellwood, 2010 and 2012

Implementing the strategy will include key actions such as landowner outreach and volunteer engagement.

Coordination with Partners

Johnson Creek Watershed Council works in collaboration with these organizations to achieve success in watershed-wide restoration: City of Damascus, City of Gresham , City of Milwaukie. City of Portland, Clackamas County Soil and Water Conservation District, Clackamas County Water Environmental Services, East Multnomah Soil and Water Conservation District, Friends of Trees, Metro, Multnomah County, SOLVE

Johnson Creek Watershed Council

For more information,
contact Jill Bonnano, JCWC Riparian Technician
jill@jcwc.org or 503-652-7477