

# Got Water? How Warm Does It Get?

By Jessica Jensen Jones

The Upper Nehalem Watershed Council and some of its partners are integral in funding and acquiring important data of the Nehalem basin. Recently, UNWC received the 2009 water temperature data for three points in the Nehalem River mainstem, one point in Rock Creek and one on Foley Creek. This data helps UNWC prioritize restoration and conservation projects and educate landowners in these particular stream reaches about what they can do to help cool the waters.

Factors that affect stream temperature according to Oregon DEQ are hydrology (volume, velocity, withdrawals and augmentation, point sources), channel morphology (stream/floodplain connection, channel width and depth, bank erosion) and near stream vegetation (microclimate, vegetation condition and type, effective shade, floodplain roughness). Measurements are taken during the summer months so as to determine what high temperatures are actually achievable by the body of water. Oregon stream temperature standard for salmonid rearing is 64°F. According to Woodward-Clyde Consultants and Johnson Creek Watershed Council the maximum temperature that Coho salmon can survive for short periods is 75°F.

I read this important temperature data recently and found that the highest temperature, 85°F, was recorded on July 29<sup>th</sup>, 2009 on the Nehalem River at Fishhawk Road bridge. At this location, the average high temperature was 80°F and the average low was 62°F. The Nehalem River downstream of Humbug Creek at Lower Nehalem Road was another area monitored. Temperature average there ranged from 63 - 79°F. The

maximum temperature reached was 83°F on July 29<sup>th</sup>, the same date as the Fishhawk bridge site. Another spot monitored was the Nehalem River upstream of Beaver Creek at river mile 92.8, or Treharne. The hottest temperature measured at Treharne last summer was 79°F on July 30<sup>th</sup>, one day after the other two sites. The average low here was 59°F and the high 76°F. Rock Creek, 200 feet upstream of the mouth (the Nehalem convergence) was also in the study, but numbers were only available for August and September. At this location in downtown Vernonia, the high summer temperature (in Aug and Sept's data) was 69°F on August 20<sup>th</sup>. The average low here was 57°F and the average high, 68°F. According to 2000-2001 stream measurement seven day statistic acquired by DEQ, temperatures in all but five spots monitored on the upper and lower Nehalem River, were above 64°F with most high averages being greater than 71°F. Rock Creek didn't fare much better with more than half of the areas monitored showing average highs of 64°F or better and a hot spot at the confluence of the Nehalem in downtown Vernonia at Anderson Park.

This temperature data will be presented at the July 22 UNWC board meeting at the Vernonia Grange at 7:00 PM. The public is invited. The UNWC is currently seeking 18 landowners in the upper Nehalem who wish to be involved in a restoration or conservation project. Please call 503.989.7244 or email

jesseconsults@gmail.com if you wish to participate. The UNWC assists in writing grants for landowner partners and also provides matching funds for certain projects.



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