

Kennewick Irrigation District and the Urban Forest

As one travels across the shrub-steppe hills and agricultural plains of eastern Washington, one cannot help but notice the vibrant urban forest that appears as one enters the Tri-Cities. A rarity in our arid region, this forest is made possible by irrigation, which in large areas of Kennewick and south Richland is the result of water diverted from the Yakima River and delivered by the Kennewick Irrigation District.

Contrary to the belief that cities and urbanized lands are devoid of nature and wildlife, the truth is that cities do contain habitat for a variety of species that can adapt to the urban environment. The urban forest of trees and shrubs planted along streets, in parks, and in backyards provides habitat for a variety of species, which locally can range from porcupines and raccoons to Cooper's hawks and mourning doves.

Besides providing wildlife habitat, the urban forest provides numerous other benefits to our community and other communities across the nation. The following are a few interesting facts about the benefits of the urban forest, locally and nationally:

- Nationally, urban forests constitute 25 percent of the total forest canopy
 - Locally, the urban forest includes all public and privately owned trees and woody vegetation within the urbanized areas of the Tri-Cities.
- The urban forest is a vital part of the Tri-Cities green infrastructure, which includes:
 - Trees, shrubs, grass, and other vegetation
 - Porous elements (pervious surfaces) for natural storm water management
- Trees in urban areas deliver a variety of ecosystem services in the Tri-Cities, including:
 - Supporting soil formation, photosynthesis, and nutrient cycling
 - Improving air quality, including:
 - Storing 14,771 tons of carbon, valued at \$2,056,682
 - Sequestering 496 tons per year of carbon, valued at \$69,002
 - Removing over 13 tons per year of air pollutants, valued at \$38,316
 - Including CO, NO₂, O₃, PM_{2.5}, PM₁₀, and SO₂
 - Improving water quality by reducing and treating storm water runoff, including:
 - Preventing 5.1M gallons/year of storm water runoff, valued at \$45,687
 - Reducing building energy use and associated costs
 - Cooling surface air temperatures
 - Absorption of ultraviolet radiation
- Trees in urban areas provide significant economic, social and cultural benefits, including:
 - Opportunities for outdoor recreation
 - Aesthetic, spiritual, psychological, and physiological benefits
 - Reducing noise pollution
 - Improving community well-being
 - Increasing property values by up to 20%
 - Improving commercial activities in shopping districts by 11%, on average
 - Supporting a strong landscape maintenance economy
 - \$14,000,000 payroll in Benton County in 2013

- When planting trees and shrubs, choose drought tolerant species to conserve water.
 - Benton Conservation District, Washington State University extension, and City of Kennewick have lists of recommended species and xeriscaping information

References and further reading:

Johnson, David H., and O'Neil, Thomas A. 2001. *Wildlife-Habitat Relationships in Oregon and Washington*. Corvallis, OR. Oregon State University Press.

Nowak, David J.; Greenfield, Eric J. 2010. *Urban and community forests of the Pacific region: California, Oregon, Washington*. Gen. Tech. Rep. NRS-65. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 38 p.

Nowak, David J.; Stein, Susan M.; Randler, Paula B.; Greenfield, Eric J.; Comas, Sara J.; Carr, Mary A.; Alig, Ralph J. 2010. *Sustaining America's urban trees and forests: a Forests on the Edge report*. Gen. Tech. Rep. NRS-62. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 27 p.

Randolph, John. 2004. *Environmental Land Use Planning and Management*. Washington, D.C.: Island Press.

Schwab, James C., General Editor. 2009. *Planning the Urban Forest: Ecology, Economy, and Community Development*. Planning Advisory Service Report Number 555. Chicago: American Planning Association.

U.S. Department of Agriculture, Forest Service. 2012. *Future of America's Forest and Rangelands: Forest Service 2010 Resources Planning Act Assessment*. Gen. Tech. Rep. WO-87. Washington, DC. 198 p.

Internet resources:

<http://bentoncd.org/Xeriscape.aspx>

<http://cru.cahe.wsu.edu/CEPublications/EM087E/EM087E.pdf>

http://www.go2kennewick.com/go2kennewick/dmdocuments/Landscape_Recommended_Plant_List.pdf

<http://www.ci.richland.wa.us/home/showdocument?id=1578>

<http://www.fs.fed.us/ucf/>



View of the urban forest of the Tri-Cities