

## List of Sources

Hawkins, R. H, T. J. Ward, D. E. Woodward, and J. A. Van Mullem. 2009. Curve number hydrology: State of the practice. Reston, VA: American Society of Civil Engineers.

US Department of Agriculture, Natural Resources Conservation Service. 2003. NRCS national engineering handbook, part 630, hydrology. Washington, DC: US Department of Agriculture.

US Department of Agriculture, Soil Conservation Service. 1954 (et seq). National engineering handbook, section 4, hydrology. Washington, DC: US Department of Agriculture.

———. 1986. Urban hydrology for small watersheds. TR-55. Washington DC: US Department of Agriculture.

US Environmental Protection Agency. No date. Healthy Watersheds initiative. [www.epa.gov/healthywatersheds](http://www.epa.gov/healthywatersheds).

## Contributors

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## Metropolitan Portland, Oregon, Urban Growth Boundary: A Land Use Planning Tool Protecting Farms, Forests, and Natural Landscapes

In the early 1970s, Oregon Governor Tom McCall and a unique coalition of farmers and environmentalists convinced the Oregon State Legislature to adopt the nation's first set of land use planning laws to help protect the state's natural beauty from a rising tide of urban sprawl. The resulting state goals and guidelines require every city and county in Oregon to have a long-range plan addressing future growth that meets both local and statewide goals by using urban land wisely, protecting natural resources, and setting urban growth boundaries (UGBs).

A UGB separates urban land from rural land. It promotes the efficient use of land, public facilities, and urban services, such as roads, water and sanitary sewer systems, parks, and schools, inside the boundary. Land outside the UGB is served by a rural level of roadways, does not allow the development of sanitary sewer systems, and is zoned exclusively for farm and/or forest use or rural residences.

Metro, the regional government created by voters in 1979 for the Portland metropolitan area, is responsible for managing the Portland region's UGB, which contains portions of 3 counties, 25 cities, and more than 60 special service districts. The UGB line is more than 322 km long and includes an area of approximately 103,600 ha. State law requires Metro to have a 20-year supply of land for future residential development inside the boundary. Every 5 years, Metro must complete a 20-year forecast for population and employment growth; conduct a capacity review of the land inside the UGB; and, if necessary, expand the boundary to meet the requirement for a 20-year supply of

land. As part of the capacity review, the cities and counties within the Metro UGB also have the opportunity to develop policies, provide incentives, and plan for more intense uses through increased densities or the development of mass transit projects, which can reduce the need to expand the UGB for additional housing.

Two challenges arose with this system as originally implemented. First, landowners near the UGB were under periodic threat of urban expansion with little certainty about where the next expansion would occur. Second, although the identification of areas to preserve was fairly clear-cut, City and regional leaders lacked a method for determining the ideal locations and conditions for urban growth. As a solution, Metro and the three surrounding counties, Clackamas, Multnomah, and Washington, have instituted a regional process for identifying lands suitable for future urban development and for the protection of valuable farms, commercial forests, and other environmentally important natural areas.

In 2007, the Oregon State Legislature passed Senate Bill 1011, 2007 Or. Laws chapter 723, which allows for the designation of lands outside the UGB as urban or rural "reserves," as a way to direct future development while protecting existing rural and/or ecologically significant lands. The legislation prescribes factors for placing land into either reserve category. Lands designated as urban reserves are areas deemed suitable for "city-building," to which future urban development outside the UGB will be directed. Lands recognized for their agricultural or environmental value are placed into a rural reserve and become completely off-limits

for all urban development for the next 50 years. By controlling and directing urban expansion through this program, Metro has preserved and enhanced the natural ecological systems of the land while avoiding or minimizing adverse effects on rural or natural lands. For more information on the urban and rural reserves process, see the Metro webpage included in the List of Sources.

The effectiveness of the UGB in concentrating development and limiting the conversion of forest or farmland is evident from examining the data on growth trends. Since the inception of the Portland region's UGB in 1979, it has been expanded to include approximately 11,331 ha of land, an increase in land area of 11%. Between 1980 and 2008, the population of the UGB increased by an estimated 507,000 people, or 35%. This amounts to a conversion of about 0.02 ha of land per capita, which is much lower than the nationwide trend noted in the US Department of Agriculture's 2000 National Resources Inventory (NRI). According to the NRI, developed land in the contiguous United States increased 34% between 1982 and 1997. During the same 15-year period, according to the US Census Bureau, the population grew by about 15%; thus, nationwide, land consumption occurred at more than twice the rate of population growth as a result of modern settlement patterns. The effectiveness of the UGB in limiting the conversion of rural lands for development is described in the Oregon Department of Land Conservation and Development's *2008–09 Farm & Forest Report*, which documented that the rate of farm loss in Oregon is less than one-third the rate of farm loss for the nation as a whole.

The UGB is one of the tools in the Oregon Statewide Planning Program that is used to protect farms and forests by restricting low-density rural development through the promotion of compact urban communities and a balanced transportation system for bicycling, walking, driving, and public transit. This supports the goals of (1) building complete communities by providing jobs and services close to where people live and (2) maintaining a more natural landscape in rural watersheds.

## List of Sources

Metro. No date. Urban and rural reserves. [www.oregonmetro.gov/index.cfm/go/by.web/id=26257](http://www.oregonmetro.gov/index.cfm/go/by.web/id=26257).

Natural Resources Conservation Service. 2000. Summary report: 1997 National Resources Inventory (revised December 2000). Washington, DC: US Department of Agriculture.

Oregon Department of Land Conservation and Development. 2011. 2008–09 Farm & forest report. Salem, OR: Oregon Department of Land Conservation and Development.

US Census Bureau. 2000. National population projections. [www.census.gov/population/projections/nation/summary/np+1.txt](http://www.census.gov/population/projections/nation/summary/np+1.txt)

## For More Information

For more information, contact Tim O'Brien, Metro Planning and Development (503-797-1840 or [Tim.O'Brien@oregonmetro.gov](mailto:Tim.O'Brien@oregonmetro.gov)) or visit [www.oregonmetro.gov/](http://www.oregonmetro.gov/).

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