

The Scenario

Plan Trend 2050 assumes existing long-term plans and policies (e.g. the federal Northwest Forest Plan¹¹² and Oregon’s land use planning system^{113,114}) will be fully implemented. Where explicit long-term plans are unavailable, Plan Trend projects recent trends in human population growth, land, and water use to the year 2050. By combining long-term policies and recent trends, it depicts forest and agricultural practices, as well as residential, industrial, and commercial development. The map at right represents the landscape patterns corresponding to these assumptions.

The primary determinants of the patterns shown are comprehensive plans acknowledged at the time of this study, agency stated policies on land management, existing water rights, and projected crop patterns. All three 2050 future alternatives start from the same initial landscape configuration, represented by Map 24, Land Use / Land Cover ca. 1990, p. 79. Changes are projected using LULC ca. 1990 as a base in the amount, location, and pattern of urban, rural residential, agricultural, forest, and natural vegetation land uses. Changes in water use are projected as the existing water rights associated with changing land uses are exercised. Federal reservoir management assumes the ca. 1990 operational pattern: i.e., reservoirs store as much water as possible in the winter and spring, release it in the summer to meet existing stream-flow targets along the mainstem of the Willamette River. Each broad type of land and water use is described below.

Urban

As with each of the three future scenarios, the projected population for Plan Trend 2050 is 3.9 million people, approximately double the 1990 population of the WRB. By compiling comprehensive plans and incorporating long-range county population projections, Plan Trend shows 93% of the 2050 population living inside compact urban growth boundaries (UGBs), where residential densities increase significantly over 1990 levels, especially at the periphery of major cities. To accommodate this larger number of people, 2050 UGBs have expanded 51,000 acres beyond their 1990 extent. Of the 495,000 total acres within Plan Trend 2050 UGBs, over 80% are developed as homes, stores, roads, and other built features, with less than 20% of the area inside 2050 UGBs vegetated and available for future urban development. No explicit assumptions were stated regarding natural vegetation in urban areas under Plan Trend.

The comparatively small Plan Trend UGB expansion over 60 years is accomplished by showing new homes at higher densities (7.9 homes per acre basinwide for homes constructed 1990-2050 as compared to approximately 4.2 homes per acre basinwide existing in 1990), and by redeveloping and infilling from 10-13% (Table 35, p. 106) of 1990 urban residential areas at higher densities. In 1990, UGBs occupied approximately 6% of the WRB. In Plan Trend 2050 they occupy 6.7%, an average annual increase of 850 acres basinwide for the 60-year period. Nearly two thirds of this expansion occurs in the cities of Portland, Salem, Eugene/Springfield, Albany, and Corvallis.

Rural Residential

Consistent with current long-range plans, no new rural residential zones (RRZ) are assumed in Plan Trend 2050, but new rural residences built after 1990 are located within the vacant rural parcels in existing 1990 rural residential zones. These so-called “grandfathered” parcels were platted prior to adoption of Oregon’s Land Use Planning system in the early 1970s. Using density assumptions consistent with each county’s zoning, Plan Trend 2050 shows complete build out of all 1990 RRZs in the WRB by 2020.

In 1990 there were over 253,000 acres of rural residential zones spread throughout all counties of the WRB, with 65,200 acres in Clackamas County and 63,600 acres in Lane County. As UGBs expand under Plan Trend assumptions, some former rural residential zones are incorporated into urban areas. This occurs in over 25,700 1990 RRZ acres in Plan Trend 2050, with over 14,000 of these acres being converted from rural residential to low density urban uses in Clackamas County alone.

Agriculture

In striving to retain prime farmland in farm uses, Plan Trend 2050 agricultural land use remains similar to 1990 conditions. With the assumption that irrigation demands for water will be given top priority, Plan Trend 2050

shows increases in the nursery sector and in hybrid poplar. Grass seed remains a major crop, with orchards, berries, and Christmas trees in stable production. Riparian vegetation along currently regulated (Oregon Senate Bill 1010 and Clean Water Act section 303d) water-quality limited streams increases in area in agricultural lands by approximately 10% over 1990 conditions, and consists of woody vegetation and grass filter-strips. The total area of land in agricultural production remains at approximately 20% of the WRB in Plan Trend 2050. Approximately 40,000 acres of 1990 agricultural lands are converted to other uses by 2050 under this alternative, with most of these acres converting to urban land uses in areas adjacent to 1990 UGBs.

Forestry and Natural Vegetation

Federally managed public forest lands in this scenario follow the Northwest Forest Plan and its management prescriptions, including 300 ft. riparian vegetation zones. Late Successional Reserves defined by the Northwest Forest Plan as areas of old growth forest are aged by 60 years from 1990 conditions. Concentration of late successional forests on federal lands continues. No change is assumed in the management of the National Wildlife refuges. State and private forest lands in this scenario follow the 1995 Oregon Forest Practices Act where average 70-100 ft. riparian zones exist and timber harvest rotation schedules are based on average annual cutting rates from 1973 to 1995¹¹⁵ which equates to 60 years for private industrial and 128 years for non-industrial forest lands. The harvest schedule for State forest lands is based on a 100-yr. rotation, or 50% harvest probability. Modeled harvest units are 30 acres in size for federal, state, and private industrial lands, 5.6 acres in size for private non-industrial lands. Assumptions regarding Willamette National Forest and Mt. Hood National Forest clear-cutting are based on the decadal harvest rates specified in the respective USFS management plans.

With forestlands continuing to occupy more than two-thirds of the basin, upland natural vegetation remains extensive under Plan Trend 2050 assumptions. While few explicit assumptions were stated in Plan Trend regarding natural vegetation outside state and federally managed forest lands, land and water use and management affect natural vegetation throughout the WRB, primarily through land conversion to urban uses, agricultural activity, reservoir management, and forest management.

Water Availability

Increases in Plan Trend 2050 surface water demand reflect population and economic growth, with municipal demands nearly doubling from the year 2000, and increased demand for agricultural irrigation, all of which are met. Per capita municipal use of water is projected to decline somewhat in the Portland area but remains at 1990 levels elsewhere. Demand increases occur within the constraints of existing rights, with new surface water permits available only for self-supplied rural uses and along the lower McKenzie and Willamette Rivers.

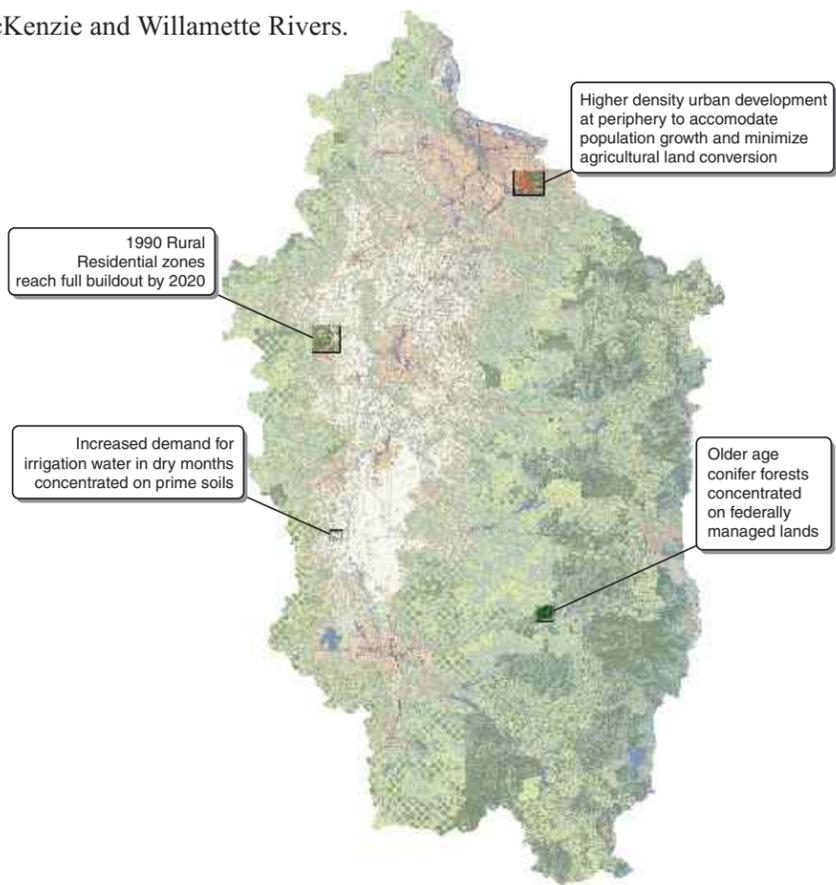
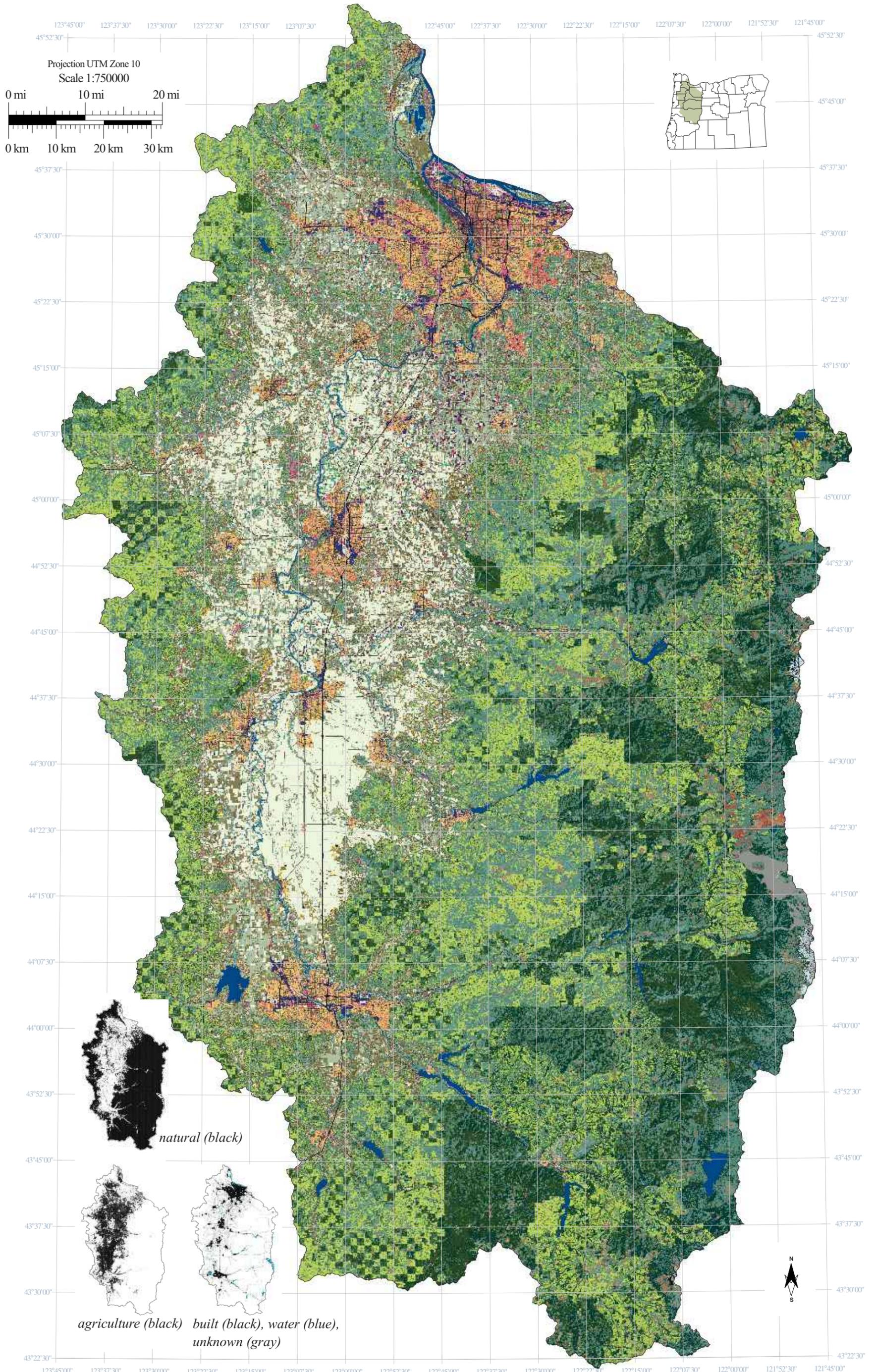


Figure 101. A diagram of the Plan Trend 2050 alternative, highlighting some key features.



Note: Legend for this map is the same as Land Use / Land Cover ca. 1990 on p. 78