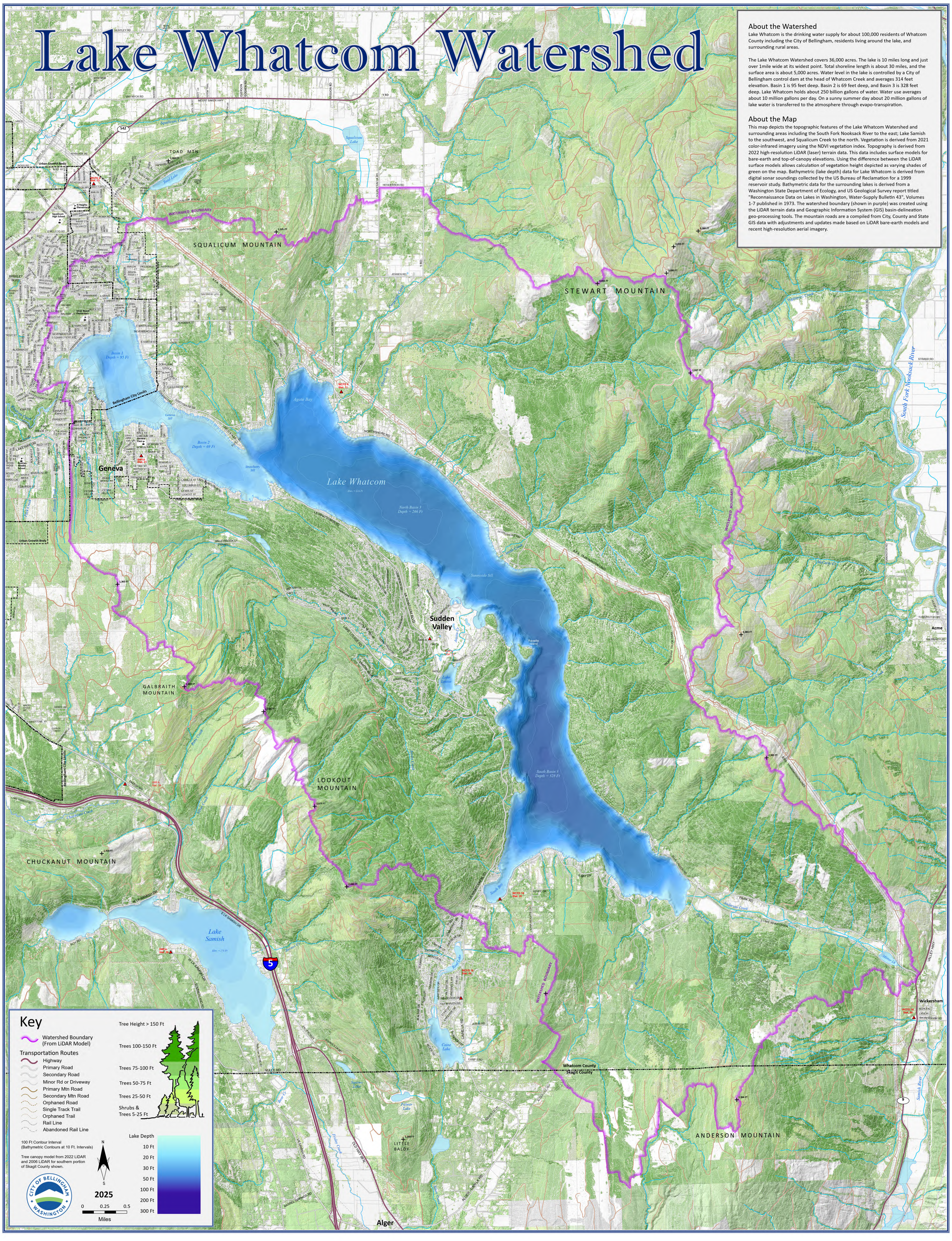
Lake Whatcom Watershed



About the Watershed

Lake Whatcom is the drinking water supply for about 100,000 residents of Whatcom County including the City of Bellingham, residents living around the lake, and surrounding rural areas.

The Lake Whatcom Watershed covers 36,000 acres. The lake is 10 miles long and just over 1mile wide at its widest point. Total shoreline length is about 30 miles, and the surface area is about 5,000 acres. Water level in the lake is controlled by a City of Bellingham control dam at the head of Whatcom Creek and averages 314 feet elevation. Basin 1 is 95 feet deep. Basin 2 is 69 feet deep, and Basin 3 is 328 feet deep. Lake Whatcom holds about 250 billion gallons of water. Water use averages about 10 million gallons per day. On a sunny summer day about 20 million gallons of lake water is transferred to the atmosphere through evapo-transpiration.

About the Map

This map depicts the topographic features of the Lake Whatcom Watershed and surrounding areas including the South Fork Nooksack River to the east; Lake Samish to the southwest, and Squalicum Creek to the north. Vegetation is derived from 2021 color-infrared imagery using the NDVI vegetation index. Topography is derived from 2022 high-resolution LiDAR (laser) terrain data. This data includes surface models for bare-earth and top-of-canopy elevations. Using the difference between the LiDAR surface models allows calculation of vegetation height depicted as varying shades of green on the map. Bathymetric (lake depth) data for Lake Whatcom is derived from digital sonar soundings collected by the US Bureau of Reclamation for a 1999 reservoir study. Bathymetric data for the surrounding lakes is derived from a Washington State Department of Ecology, and US Geological Survey report titled "Reconnaissance Data on Lakes in Washington, Water-Supply Bulletin 43", Volumes 1-7 published in 1973. The watershed boundary (shown in purple) was created using the LiDAR terrain data and Geographic Information System (GIS) basin-delineation geo-processing tools. The mountain roads are a compiled from City, County and State GIS data with adjustments and updates made based on LiDAR bare-earth models and recent high-resolution aerial imagery.