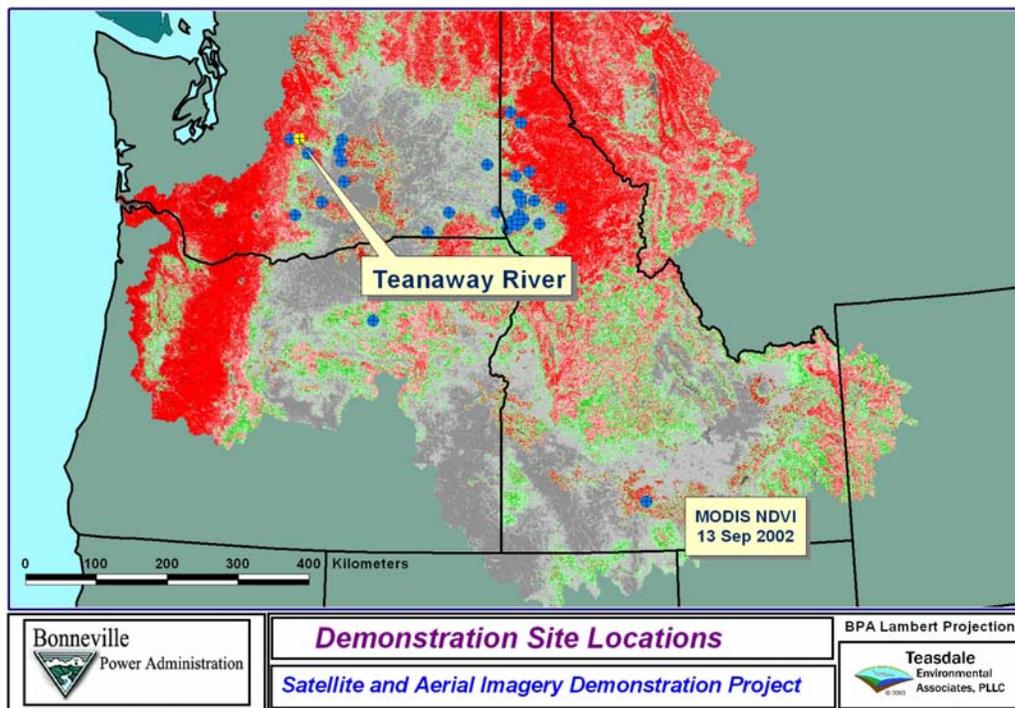


Teanaway River Demonstration Site	
Location	Cle Elum, WA
Water body	Teanaway River
Ecological Provenance	Columbia Plateau
Subbasin Name	Yakima
BPA Hydrologic Unit Code ID	2395
Hydrologic Unit Code, 6 th Level	170300011901
Watershed Name	Upper Yakima, WA



Unique Characteristics

The Lower Teanaway River is a cobble bed alluvial stream with frequent mid channel bars some of which support perennial vegetation. Bar vegetation is likely removed with major hydrologic disturbance. Channel type is Rosgen D3, though the stream has more the character of a C3 channel in some locations.

Satellite imagery for this site includes Landsat 5, Landsat 7, ASTER, MTI and IKONOS. Digital color aerial imagery was acquired on May 31, 2002 and October 15, 2002. Ancillary data includes topographic DRG's, DOQ's, watershed boundaries and national land cover data.

Objective

The primary objective was to acquire seasonal very-high resolution digital color aerial imagery of the Lower Teanaway River for assessment of stream morphology, riparian vegetation, channel shading and floodplain land cover – land use. A secondary objective was to evaluate the ability to observe hydrologic and riparian features in MTI, IKONOS and Landsat imagery.

Results

The satellite and aerial imagery shows the extent of riparian vegetation, stream channel structure, and proximity of development. Land cover and land use could be directly interpreted from the aerial imagery. Shade providing riparian vegetation is well established in some locations though diversion of low flows to exposed anabranches makes shading less effective. A GIS record of large woody debris accumulation was constructed from the aerial imagery. Comparison of the seasonal images showed significant changes in basic morphological parameters such as water surface area, width and depth category.

The IKONOS imagery revealed many stream morphology features including presence and type of bar, channel width, channel bank location, water surface area, and pool riffle sequence. Some of these features could be approximated from the MTI imagery, but the Teanaway River channel is narrow compared to the resolution of MTI for reliable measurements. Land cover and land use could be directly interpreted from the IKONOS imagery and to a lesser extent the MTI imagery.