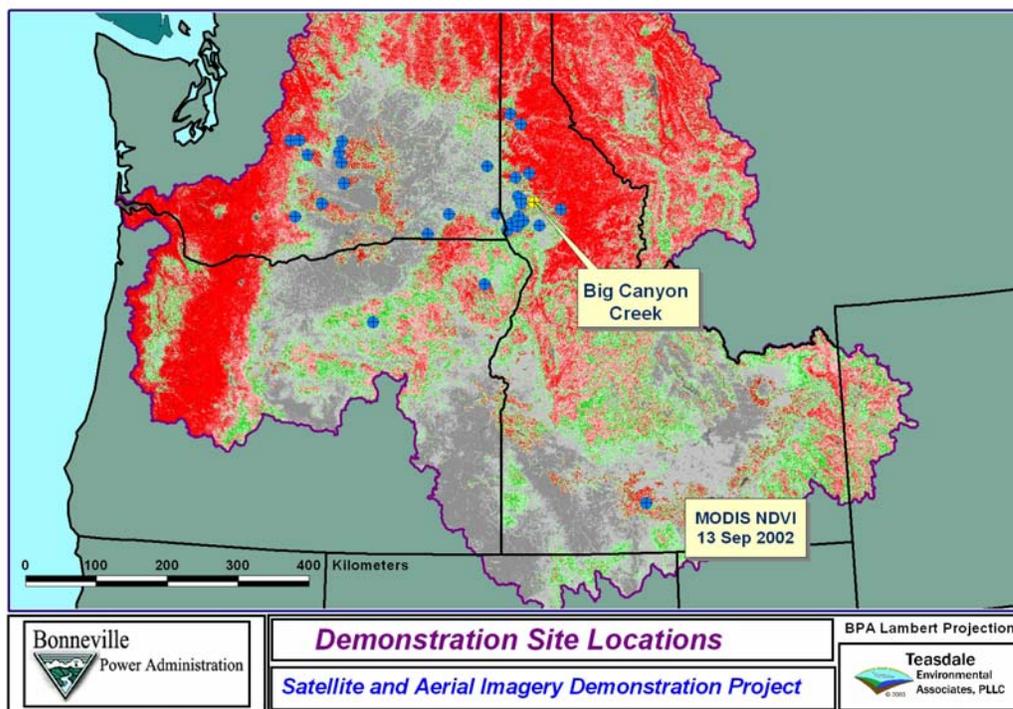


<b>Big Canyon Creek Demonstration Site</b>	
<b>Location</b>	Nez Perce, Clearwater and Lewis Counties, ID, Nez Perce Reservation
<b>Water body</b>	Big Canyon Creek
<b>Ecological Provenance</b>	Mountain Snake
<b>Subbasin Name</b>	Clearwater
<b>BPA Hydrologic Unit Code ID</b>	3676
<b>Hydrologic Unit Code, 6<sup>th</sup> Level</b>	170603061001
<b>Watershed Name</b>	Clearwater



### Unique Characteristics

Big Canyon Creek is an alluvial stream with steep canyon lands in the lower reaches that drains the non-irrigated agricultural lands of northern extend of the Camas Prairie. Bed materials of the channel are highly mobile during significant hydrologic events. The riparian zone and flood plain is narrow to broad and transitions to seasonally dry canyon land vegetation. Residential and some agricultural use occupy the riparian zone along the lower reaches the stream.

Satellite imagery for this site include Landsat 5, Landsat 7, MTI, and ASTER. Digital color and color infrared aerial imagery was acquired on several flights in 2001 and 2003. Ancillary data includes topographic

DRG's, DOQ's, watershed boundaries and national land cover data. The imagery and supporting data reveal the characteristics of riparian vegetation and stream channel, status of riparian plantings, stream improvement structures, proximity of development.

### **Objective**

The primary objective was to acquire an initial very high-resolution aerial imagery coverage of the riparian zone of lower Big Canyon Creek to monitor trees and shrubs planted during recent restoration work. A secondary objective was to compare several land cover classification processes on Landsat and ASTER imagery of the Big Canyon Creek watershed.

### **Results**

Planting sites could be discerned in both the true color and CIR digital aerial imagery. The aerial imagery also show macro structure of the stream. A comparison of 1992 NAPP photography and the 2002 digital aerial imagery in stream channel alignment, likely the result of a major flood in 1996.

The image processing and classification techniques appeared able to separate major land cover types (forest, agricultural, canyon range). Species discrimination was not possible. For small areas direct interpretation of the Landsat imagery was probably the most accurate, but more time consuming.