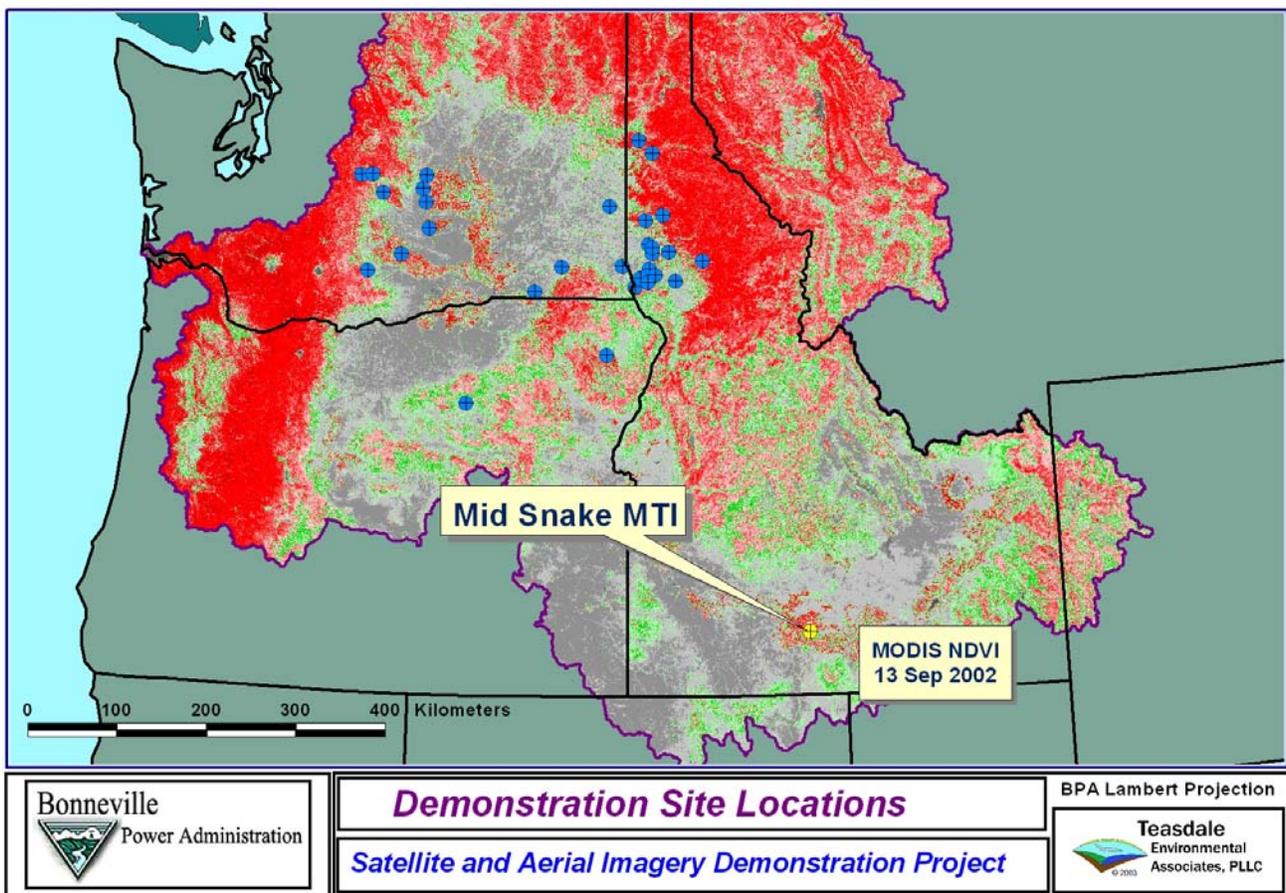


Mid Snake River Demonstration Site	
Location	Twinfalls, Jerome and Gooding Counties, ID
Water body	Snake River
Ecological Provenance	Upper Snake
Subbasin Name	Snake Upper
BPA Hydrologic Unit Code ID	9491
Hydrologic Unit Code, 6 th Level	170402121001
Watershed Name	Up Snake – Rock, ID



Unique Characteristics

The mid Snake River in southern Idaho is fully regulated with much of its water supplying irrigated agriculture in the Snake River plain. The reach between Twin Falls and Hagerman is eutrophic and supports a large biomass of macrophytes and algae.

Federal, State and local agencies are implementing water quality improvement measures and are monitoring water quality and biological integrity.

Satellite imagery for this site include Landsat 5, Landsat 7, ASTER, MTI and Ikonos. Digital aerial oblique imagery was acquired on August 7, 2001. Digital color aerial imagery was acquired on August 20, 2001. Digital color infrared aerial imagery was acquired on September 10, 2002. Ancillary data includes topographic DRG's, DOQ's, watershed boundaries and national land cover data.

Objective

The primary objective was to evaluate the ability of a satellite imagery to detect aquatic macrophyte beds and high algae concentrations in the mid Snake River. Secondary objectives were to determine agricultural land cover characteristics and examine the ability to observe river morphology in winter IKONOS satellite imagery.

Results

Macrophyte and algae beds can be detected in the satellite imagery, but delineation of the macrophyte beds is most reliable with either true color or CIR very high-resolution digital aerial imagery. The areal extent of macrophyte beds and algae mats can be measured on georeferenced aerial images. The CIR appeared to be the best source of ground truth data for confirming interpretation of satellite imagery. The winter IKONOS imagery exhibited the ability to discern detail in the river and canyon shadows even when the surrounding agricultural plain was covered with snow. The areal extent of macrophyte beds and algae mats can be measured on georeferenced aerial images.