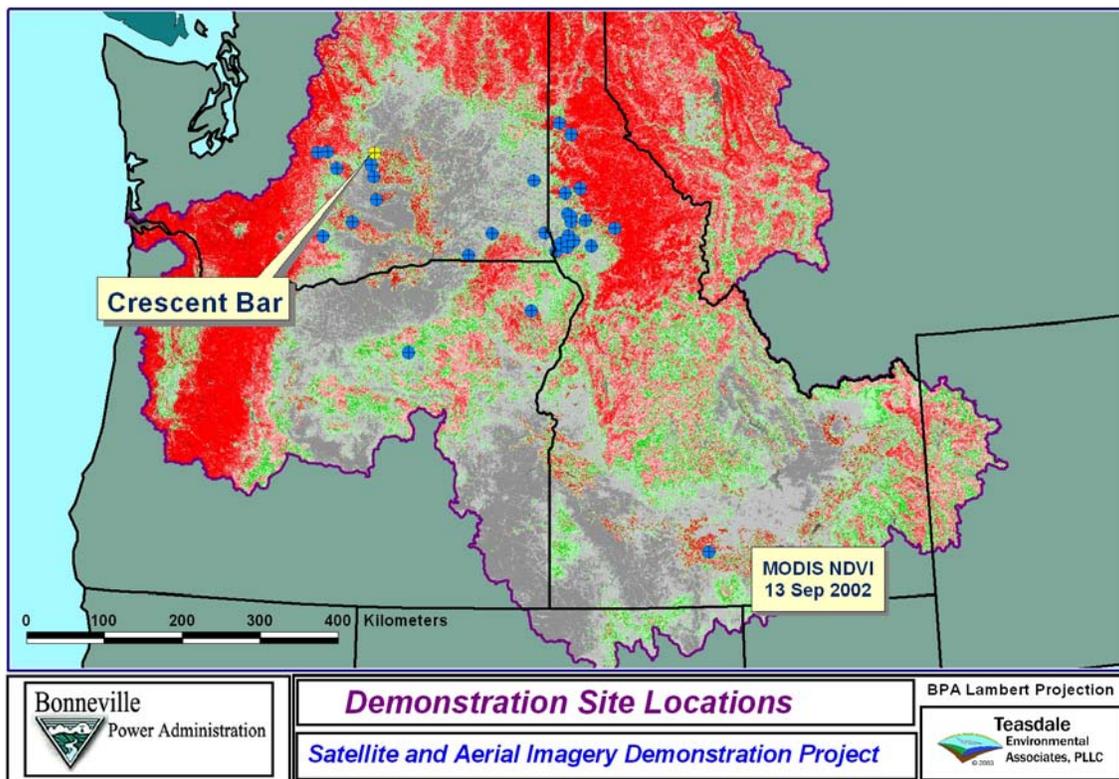


Crescent Bar Demonstration Site	
Location	Grant County, WA
Water body	Columbia River
Ecological Provenance	Columbia Cascade
Subbasin Name	Columbia Upper Middle
BPA Hydrologic Unit Code ID	2406
Hydrologic Unit Code, 6 th Level	170200100501
Watershed Name	Upper Columbia – Entiat, WA



Unique Characteristics

Crescent Bar is a small community on Wanapum reservoir on the Columbia River. The shallow protected embayment formed by the bar supports an extensive growth of macrophytes that have persisted over several decades. The relatively clear water of Wanapum reservoir allows monitoring the extent of macrophyte beds under a range of velocities and depths.

Satellite imagery for this site includes Landsat 5, Landsat 7 and ASTER. Digital color aerial imagery was acquired on September 9, 2002 and October 15, 2002. Ancillary data includes topographic DRG's, DOQ's, a

DEM, and national land cover data. Macrophyte beds are seen in both satellite and aerial imagery.

Objectives

The primary objective was to evaluate the potential of satellite and aerial imagery to detect subsurface macrophyte beds in the clear water of Wanapum Reservoir. Secondary objectives were to examine land cover of the community and irrigated agricultural lands.

Results

Macrophytes down to a depth of about 3 meters were observed in the very high-resolution digital color aerial imagery. A field survey with Grant County Public Utility District field biologists confirmed the existence of the beds. Species discrimination was not possible.

The Landsat and ASTER imagery was able to detect the presence of the submerged macrophytes, but it was necessary to view the digital aerial imagery to confirm interpretation of the beds from the satellite imagery. Irrigated fields were unambiguous in the satellite imagery compared to non-irrigated desert and canyon lands.