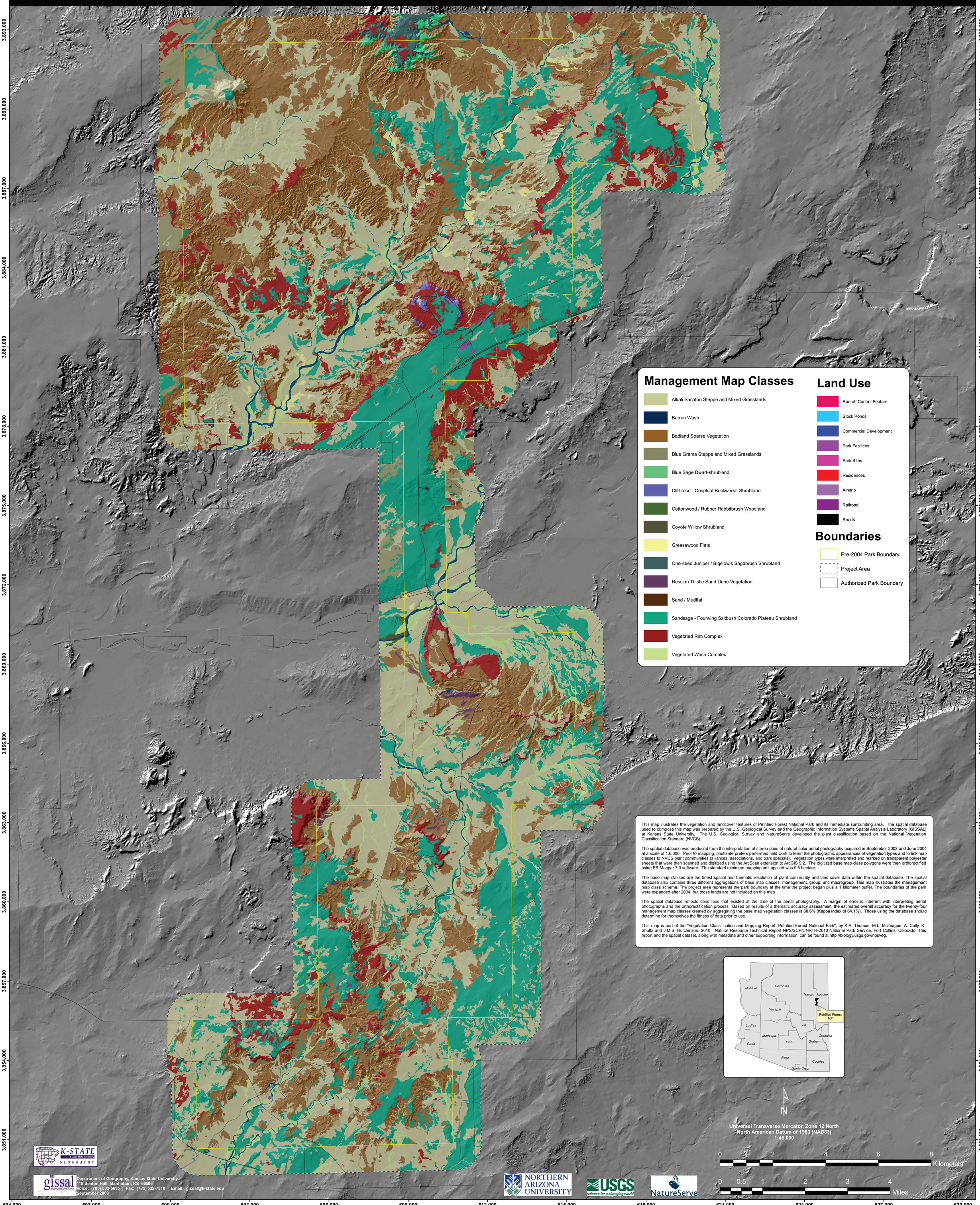
Petrified Forest National Park
Vegetation Classification and Distribution Mapping

National Park Service
U.S. Department of the Interior



This map illustrates the vegetation and landcover features of Petrified Forest National Park and its immediate surrounding area. The spatial database used to compose this map was prepared by the U.S. Geological Survey and the Geographic Information Systems Spatial Analysis Laboratory (GISSAL) at Kansas State University. The U.S. Geological Survey and NatureServe developed the plant classification based on the National Vegetation Classification Standard (NVCS).

The spatial database was produced from the interpretation of stereo pairs of natural color aerial photography acquired in September 2003 and June 2004 at a scale of 1:6,000. Prior to mapping, photointerpreters performed field work to learn the photographic appearances of vegetation types and to link map classes to NVCS plant communities (alliances, associations, and park specials). Vegetation types were interpreted and marked on transparent polyester sheets that were then scanned and digitized using the ArcScan extension to ArcGIS 9.2. The digitized base map class polygons were then orthorectified using ER Mapper 7.0 software. The standard minimum mapping unit applied was 0.5 hectare.

The base map classes are the finest spatial and thematic resolution of plant community and land cover data within the spatial database. The spatial database also contains three different aggregations of base map classes: management, group, and macrogroup. This map illustrates the management map class schema. The project area represents the park boundary at the time the project began plus a 1 kilometer buffer. The boundaries of the park were expanded after 2004, but those lands are not included on this map

The spatial database reflects conditions that existed at the time of the aerial photography. A margin of error is inherent with interpreting aerial photographs and the orthorectification process. Based on results of a thematic accuracy assessment, the estimated overall accuracy for the twenty-four management map classes created by aggregating the base map vegetation classes is 68.6% (Kappa index of 64.1%). Those using the database should determine for themselves the fitness of data prior to use.

This map is part of the "Vegetation Classification and Mapping Report: Petrified Forest National Park", by K.A. Thomas, M.L. McTeague, A. Cully, K. Shultz and J.M.S. Hutchinson, 2010. Natural Resource Technical Report NPS/SCPN/NRTR-2010 National Park Service, Fort Collins, Colorado. This report and the spatial dataset, along with metadata and other supporting information, can be found at http://biology.usgs.gov/npsveg.