



NIOBRARA NATIONAL SCENIC RIVER 2013 RESOURCE BRIEF



Above: Typical view of the Niobrara NSR

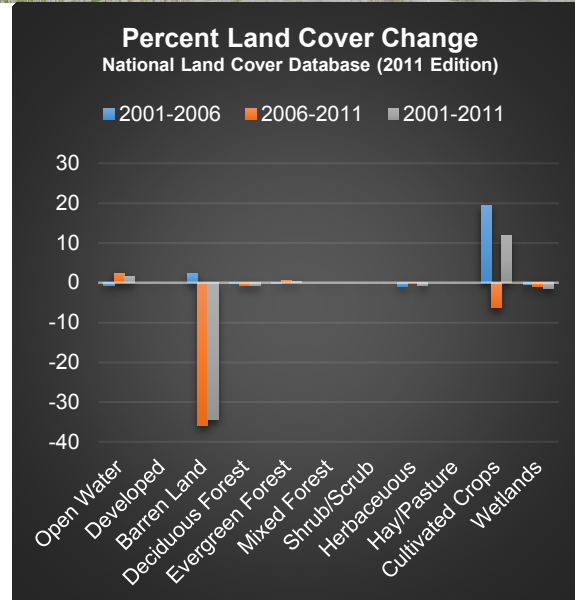
Above Right: Percent land cover change across various years using the National Land Cover Database.

LAND USE CHANGE

Overview: National Land Cover Database 2011 (NLCD 2011) was released on April 4, 2014. This release was remarkable since it provided, for the first time, the capability to assess spatially explicit national land cover changes in the United States from 2001 to 2011. The 16-class (30 meter spatial resolution) land cover classification scheme based on Landsat satellite data is available for 2001, 2006, and 2011.

Highlights: Niobrara NSR is located in north-central Nebraska where six major land cover types converge including northern boreal forest, ponderosa pine forest, eastern deciduous forest, tallgrass prairie, mixed-grass prairie, and shortgrass prairie. Based on NLCD 2011, grassland/herbaceous (42%), forest (20%), open water (17%), and wetlands (14%) are the predominant land covers in Niobrara NSR. Less dominant land covers consisted of planted/cultivated (4%), developed (2%), and barren land (1%).

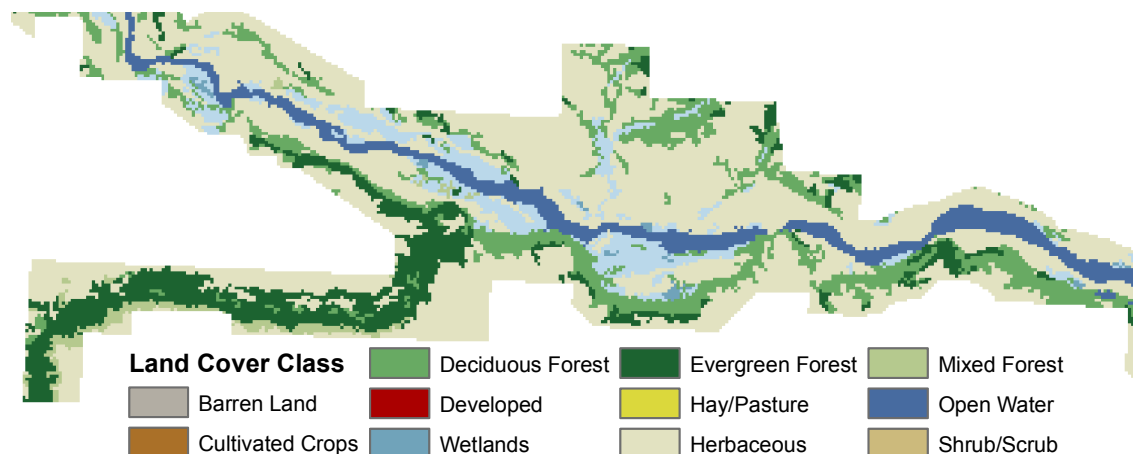
Overall rates of land cover conversion from



2001 to 2011 were low, with less than 3% of the Park changing from one land cover class to another. Of the land cover classes that changed, almost all shifted from either grassland/herbaceous to planted/cultivated or open water. Specifically looking at land cover percent change relative to each land cover class, barren land declined by approximately 35% and planted/cultivated crops increased by about 11% (see graph above).

Right: Data from the National Land Cover Database show the predominant cover types at Niobrara NSR are grassland/herbaceous and forest.

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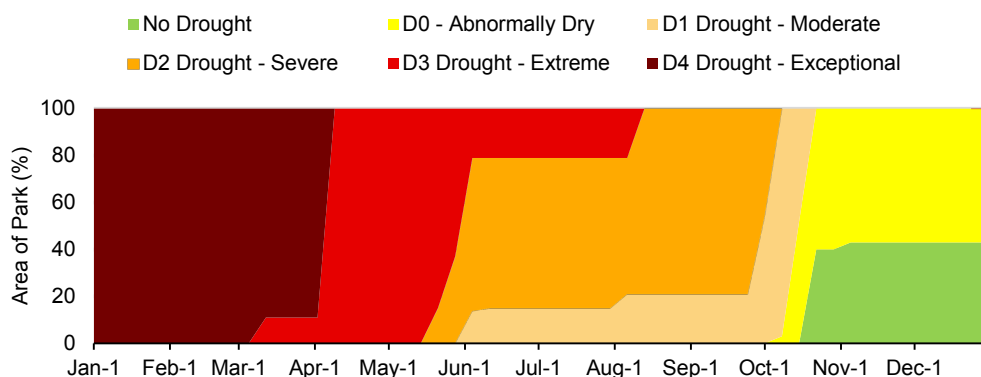


WEATHER AND CLIMATE MONITORING

Overview: Weather is a fundamental driver of ecosystems in the Great Plains and may help explain trends seen in other natural resources. Drought categories are based on local reports and drought indicators including: Palmer Drought index, CPC Soil Moisture, USGS Streamflow, Standardized Precipitation Index, and Objective Short- and Long-term Drought Indicator Blends.

Highlights: As with the other National Parks in Nebraska, the Niobrara NSR was impacted by drought conditions throughout 2013. Drought severity gradually decreased over time but over 50% of the park was still abnormally dry in December.

Niobrara National Scenic River Drought Monitor Classes (2013)



Data Source: The U.S. Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration.

Left: Percent area of Niobrara NSR under drought conditions in 2013. Colors represent different drought classes.

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WATER QUALITY MONITORING

Overview: NGPN is embarking on its second full season of water quality monitoring at select Parks. The focus in 2014 is on the Niobrara River system with sites at Agate Fossil Beds NM, Niobrara NSR, and Missouri NRR. Continuous water temperature, specific conductance, pH, and dissolved oxygen will be collected by the USGS Nebraska Water Science Center during the 2014 ice-free season.

Highlights: Continuous water quality monitoring was initiated at the USGS Niobrara River near the Sparks, NE station on March 23, 2014. Real-time data are available at http://waterdata.usgs.gov/ne/nwis/uv?site_no=06461500.



Left: Staff from USGS deploy water quality monitoring equipment on the Niobrara River at Niobrara NSR.

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