



AGATE FOSSIL BEDS NATIONAL MONUMENT 2013 RESOURCE BRIEF

LANDBIRD MONITORING

Overview: The Northern Great Plains Inventory and Monitoring Network (NGPN) jointly developed a long-term landbird monitoring protocol with Rocky Mountain Bird Observatory (RMBO) and three other Inventory and Monitoring (I&M) Networks (Sonoran Desert, Chihuahuan Desert, and Southern Plains). The 2013 breeding season was the first year of surveys for 11 of the NGPN Parks.

The basic sampling unit is a 1 km² grid that contains 16 evenly-spaced sample points, separated by 250 m. RMBO technicians stand at pre-determined fixed points and record birds observed/heard over a 6-minute period. After completing the survey, the technicians navigate to the next point using GPS units. Last summer, a total of 971 birds spanning 49

species were recorded at Agate Fossil Beds NM. Landbird monitoring will resume at the park in June of 2014.

Highlights: The most common species at Agate Fossil Beds NM were the Western Meadowlark and Red-winged Blackbird. Three new species were found at Agate Fossil Beds NM in 2013: the American Bittern, Eurasian Collared Dove, and Red-headed Woodpecker. In addition, six other species that were previously listed as unconfirmed or probably present in the park's certified NPSpecies list were confirmed as present in the park. These species included the Bullock's Oriole, House Finch, Red-breasted Nuthatch, Song Sparrow, Violet-green Swallow, and Warbling Vireo.



Above: The Red-headed Woodpecker (*Melanerpes erythrocephalus*), a Partner's in Flight Species of Concern, was a new species detected at Agate Fossil Beds NM. Photo Credit: Dave Menke, USFWS

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Condition Indicator	Current Status/Trend	Rationale for Resource Condition
Landbirds		
Selected Breeding Bird Species of Concern	TBD	Data collected in 2013 have not yet been fully analyzed.
Weather and Climate		
Drought Severity	●	The park was under drought conditions throughout 2013. Conditions improved over the course of the year, but were still abnormally dry by the end of December.
Plant Community		
Upland Plant Community Structure and Composition	●	Overall species diversity and herbaceous cover was high, and the diversity of native plants falls within the natural range of variation for mixed-grass prairies.
Exotic Plant Early Detection and Management	●	Upland areas of the park showed low cover of exotic species, though invasive Russian thistle was fairly common. Riparian surveys indicated high cover of invasive species.
Note: Table based on State of the Parks Reports - see annual report for more details. Green indicates "good condition", yellow indicates "caution", and red indicates "significant concern. Line thickness indicates confidence with dashed lines indicating "low confidence" and thick solid lines indicating "high confidence."		

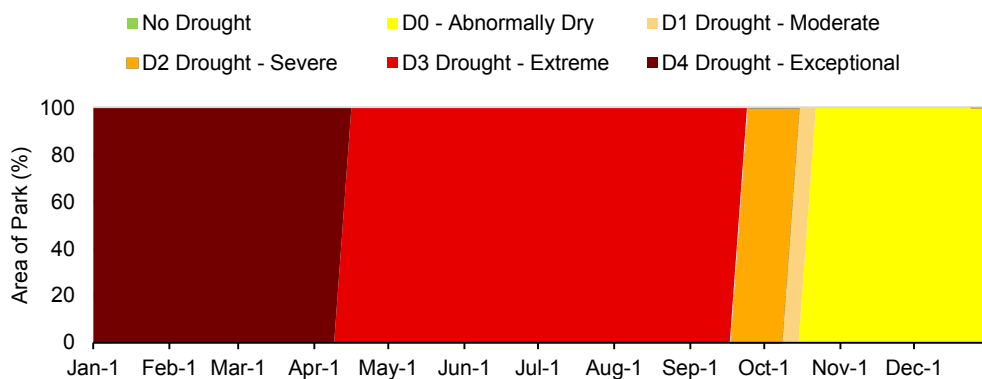


WEATHER AND CLIMATE MONITORING

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: Similar to most of the High Plains region at the beginning of 2013, Agate Fossil Beds NM continued to experience exceptional drought (D4) conditions. However, as the year progressed, drought conditions gradually subsided to only abnormally dry (D0).

Agate Fossil Beds National Monument 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 Agate Fossil Beds NM under drought conditions in 2013. Colors represent different drought classes.

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PLANT COMMUNITY MONITORING

Overview: NGPN staff completed the third year of plant community monitoring at Agate Fossil Beds NM in 2013. A total of 22 plots were visited in riparian and upland areas, and 138 species were documented in the park.

Highlights: I&M staff found two rare target species, spotted fritillary (*Fritillaria atropurpurea*) and silverleaf phacelia (*Phacelia hastata*) in the course of their surveys. Rare plants are often sensitive to habitat disturbance and alteration; the presence of these uncommon plants may indicate the ecosystem in which they are found is in good condition at Agate Fossil Beds NM.



Left: Spotted fritillary (*Fritillaria atropurpurea*), an uncommon wildflower found in Agate Fossil Beds NM in 2013. Photo Credit: Patrick Alexander, courtesy of Southwest Environmental Information Network.

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Network Parks: Agate Fossil Beds NM • Badlands NP • Devils Tower NM • Fort Laramie NHS • Fort Union Trading Post NHS • Jewel Cave NM • Knife River Indian Villages NHS • Missouri NRR • Mount Rushmore NMEM • Niobrara NSR • Scotts Bluff NM • Theodore Roosevelt NP • Wind Cave NP