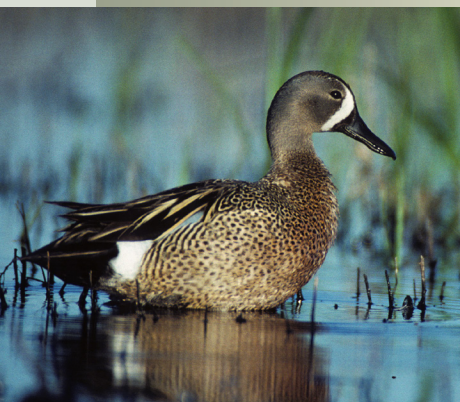




DEVILS TOWER NATIONAL MONUMENT 2013 RESOURCE BRIEF



Above: The Blue-winged Teal (*Anas discors*) was confirmed to occur in the park as a result of monitoring efforts. Photo Credit: Dan Licht, NPS

Right: The Common Raven (*Corvus corax*) was added to Devils Tower's species list as a result of the 2013 monitoring surveys. Photo Credit: Bill Thompson, USFWS

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. In 2013, a total of 1,580 birds spanning 54 species were recorded at Devils Tower NM. Landbird

monitoring will resume at the park in late May in 2014.

Highlights: The most common species at Devils Tower NM were the Chipping Sparrow and American Robin, each representing 8% of all birds detected. Two new species were found at Devils Tower NM in 2013: the Common Raven and Eurasian Collared-Dove. In addition, three other species that were previously listed as unconfirmed in the park's certified NPSpecies list were confirmed as present in the park. These species included the Blue-winged Teal, Grass-hopper Sparrow, and Lark Bunting.



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.
Water Quality		
Water Chemistry/Discharge	TBD	Data collected in 2013 have not yet been fully analyzed.
Plant Community		
Upland Plant Community Structure and Composition	●	Native species diversity is fairly low, especially in riparian areas of the park. Only one of eight sites surveyed fell within the natural range of variation.
Exotic Plant Early Detection and Management	●	Monitoring efforts showed high cover of exotic species in many areas of the park. Only one site surveyed had <10% exotic cover. Kentucky bluegrass was common throughout.
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."		

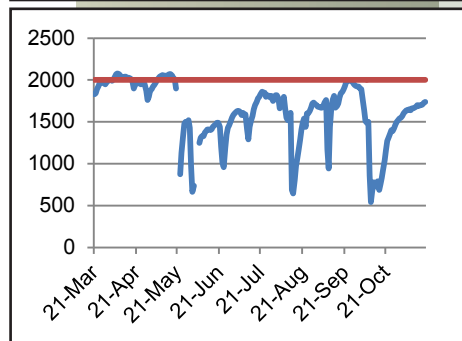
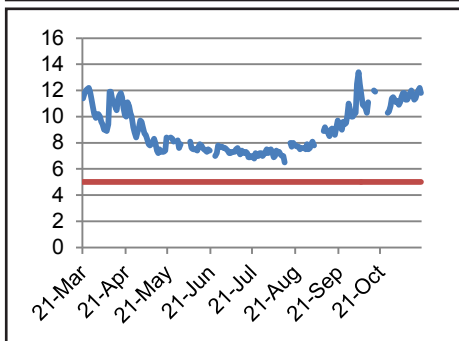
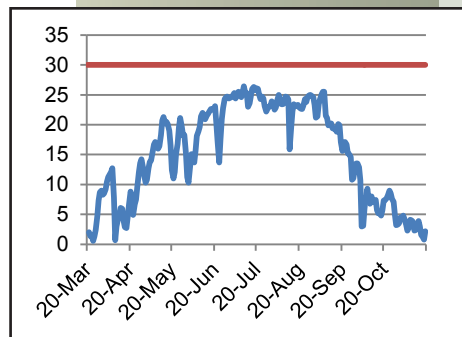
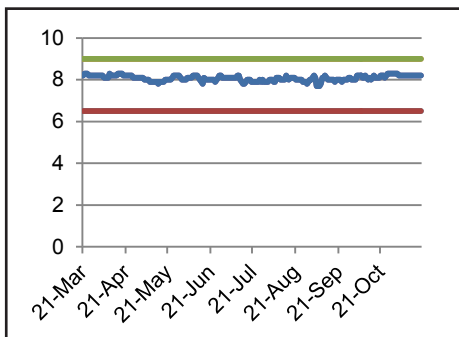
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WATER QUALITY MONITORING

Overview: NGPN initiated water quality monitoring in 2013, contracting with the USGS Wyoming Water Science Center to deploy equipment to collect and provide continuous data for four core parameters (water temperature, specific conductance, pH, and dissolved oxygen) during the ice-free season. Data was made available in real-time on the USGS National Water Information System Website. On March 21, the USGS deployed the equipment on the Belle Fourche River at Devils Tower NM from the Highway 110 bridge.

Highlights: We found approximately 11% of the specific conductance data points exceeded the State regulatory threshold. However, due to the naturally occurring soils through which the Belle Fourche River passes, these conductance values (closely related to the total dissolved solids) may be typical for this part of Wyoming.



Clockwise from top left: Daily pH with high and low regulatory thresholds, daily water temperature with threshold, daily specific conductance with regulatory threshold, and daily dissolved oxygen with regulatory threshold. Blue lines indicate metric values, green and red lines indicate regulatory threshold values.

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PLANT COMMUNITY MONITORING



Overview: NPGN staff completed the third year of plant community monitoring at Devils Tower NM in 2013. A total of 8 plots were visited and 126 species were documented in the park. A forest health survey was conducted as well, with 75 plots within the park visited.

Highlights: I&M staff found two rare target species, Emory's sedge (*Carex emoryi*) and whorled milkweed (*Asclepias verticillata*) during their surveys. Rare plants are often sensitive to habitat disturbance; the presence of these uncommon plants may indicate that the ecosystem in which they are found is in good condition at Devils Tower NM.

Left: Whorled milkweed (*Asclepias verticillata*), an uncommon wildflower found in Devils Tower NM in 2013. Photo Credit: Chris Evans, Illinois Wildlife Action Plan, Bugwood.org.

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