



THEODORE ROOSEVELT NATIONAL PARK 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 1,742 birds spanning 70 species were recorded at Theodore Roosevelt NP. Landbird monitoring will resume at Theodore Roosevelt NP again in June of 2014.

Highlights: The most common species at Theodore Roosevelt NP was the Spotted Towhee, representing 13% of all birds detected. The next most common species included the Western Meadowlark (9%), Grasshopper Sparrow (6%), and the Field Sparrow (6%). No new species were found at Theodore Roosevelt NP in 2013. The Willow Flycatcher, previously listed as unconfirmed in the park's certified NPSpecies list, was confirmed as present in the park.



Above: The Willow Flycatcher (*Empidonax traillii*) was confirmed in Theodore Roosevelt NP as a result of the 2013 monitoring season. Photo Credit: Bill Thompson, 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.
Water Quality		
Water Chemistry/Discharge	TBD	Data collected in 2013 have not yet been fully analyzed.
Plant Community		
Upland Plant Community Structure and Composition	●	The average diversity of native plants falls within the natural range of variation for northern mixed-grass prairie in upland areas. However, riparian areas show less than half this amount of diversity.
Exotic Plant Early Detection and Management	●	Average cover of exotic species was high, with only 1 site below 10% exotic cover.
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."		

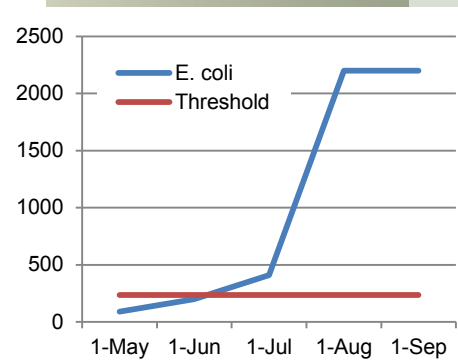
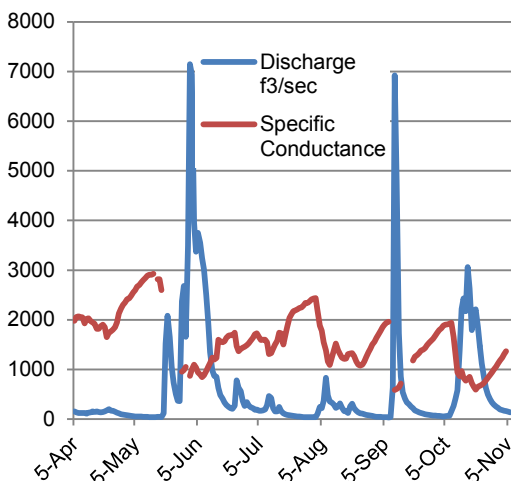


WATER QUALITY MONITORING

Overview: In 2013, the Network initiated water quality monitoring, contracting with the USGS North Dakota 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 were made available in real-time on the USGS National Water Information System Website. On April 5th, the USGS deployed the water quality monitoring equipment at Theodore Roosevelt NP on the Little Missouri River near Medora.

Highlights: We found approximately 21% of the specific conductance data points exceeded the State regulatory threshold. However, these values (closely related to total dissolved solids) may be typical for this part of North Dakota due to the soil composition and higher levels of sulfates occurring throughout the western part of the state. A comparison of discharge and specific conductance shows that when there is a high water event (blue line), the specific conductance (red line) generally decreases due to subsequent dilution of the salts, dissolved solids, and minerals in the water column.



Above: *Escherichia coli* levels (blue line) exceeded the state regulatory threshold (red line) in the latter half of the ice-free season at Theodore Roosevelt NP.

Left: Comparison of discharge (blue line) and specific conductance (red line) during the ice-free season at the park.

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PLANT COMMUNITY MONITORING

Overview: NGPN staff completed the third year of plant community monitoring at Theodore Roosevelt NP in 2013. A total of 17 plots were visited, and 234 plant species were documented in the park.

Highlights: I&M staff found two rare target species, white locoweed (*Oxytropis sericea*) and double twinpod (*Physaria bras-sicoides*), 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 eco-

system in which they are found is in good condition at Theodore Roosevelt NP.



Left: White locoweed (*Oxytropis sericea*), an uncommon wildflower found in Theodore Roosevelt NP in 2013. Photo Credit: Belinda Lo, NPS

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