



THE GREAT PLAINS MONITOR *Monthly*

KEEPING YOU UP TO DATE WITH YOUR NGPN VEGETATION MONITORS

This July and August we visited our North Dakota park units. These are our longest trips of the season and require much planning and preparation. For the most part our trips were without major incident. One stormy night camping was made a whole lot more interesting when a nearby lightning strike turned night to day and shook the earth beneath our sleeping bags. Some of us were bleary-eyed the next morning from lack of sleep, but we were otherwise unharmed.

This issue covers the last field trips of our plant community monitoring. It does not cover our final weeks of field work spent completing forest structure monitoring at Mount Rushmore and Jewel Cave National Monuments. Those last few weeks went without a hitch in large part due to the great efforts put forth by our collaborators within the Northern Great Plains Fire Ecology Program. However, that tale will be left untold, as it is my last week of work, and so this will be the last issue of the Monitor for the season.

Thanks for reading, Logan LaFleur
Biological Science Technician, NGPN



WHERE WE WERE

KNIFE RIVER
JULY 25-28

THEODORE ROOSEVELT
JULY 28 - AUG 1
AUG 8-11

FORT UNION
JULY 30-31



LOST WITHOUT LISTS



One factor we must consider when preparing for our North Dakota trips is that the species we see up north are fairly different from those we see in the other park units we visit. We take care to remember some species like big-root prickly pear (*Opuntia macrorhiza*) that are common in our other parks aren't found in North Dakota, and we pack plenty of extra unknown species data sheets for any unfamiliar species we might encounter. While we are monitoring we are also careful to double check our park species list to make sure a species has been seen within the park before we make a final call on its identity.

In fact, our park species lists are one of our most valuable tools as we monitor the vegetation within any park unit. The lists would ideally include every species that has been observed within the park unit. Every plant species is given a unique code: the first two letters of the code are the first two letters of the plant's genus,

followed by the first two letters of the plant's species. If necessary, a number is added after the four digit code to differentiate the species from another with the same code. It's sort of remarkable how long it will stick with you that ANPA4 is *Antennaria parvifolia* while ANPA19 is *Anemone patens*. Of course, the codes for less commonly seen species will often need to be cross-referenced.

These lists were originally compiled in 2006 using data pulled from existing literature. Now the lists are beginning to show their age. When we find species that are not on the list for that park we collect a voucher sample. We send these species out to our contacts at the Wyoming Natural Diversity Database to have the species independently verified. This year, that same team has been contracted to update several of the lists using park herbariums, our monitoring data, and collected field vouchers.



Mike Prowatzke examines an unknown species while Stephanie Rockwood consults a species list.



KNIFE RIVER NHS



Our Knife River species list in particular is missing quite a few of the species we came across this season during our monitoring.

At one point we realized that we had observed and recorded Indiangrass (*Sorghastrum nutans*), an important tallgrass prairie species, but it was not on our species list. We had already left the site at which we had seen it, so we stopped at the visitor center to see if we could find a specimen to photograph. We must have looked strange poking around the towering, eight foot-tall big blue stem that grows behind the visitor's center because when we finally stepped in out of the heat, interpretive park ranger Rebecca Stroup was there waiting to see who was so curious about the native prairie. We were explaining our situation when another crew member walked in through the front door to tell us he had found a specimen we could photograph in the visitor center's native plant display. We stayed and chatted with Rebecca for a while about porcupines, science, and the Black Hills before we made our way out front to photograph the *Sorghastrum nutans*.





THEODORE ROOSEVELT NP

Last year I had the opportunity to get to know THRO very well during our forest structure monitoring. Each season we focus on one or two parks to obtain a more thorough assessment of its forest structure. This season we monitored the forest structure of JECA and MORU.



We were able to commute from our office in Rapid City. Last season, in order to monitor THRO we made several eight day trips in addition to our typical four day trips and ended up spending nearly 30 work days at the park. I cannot tell you how many times I crossed the Little Missouri River (mostly enjoying the refreshing dip, but occasionally finding myself knee-deep in anoxic mud). This year we spent less time in THRO, but still we managed to get in a few river crossings. During one of our crossings we looked up to see some feral horses using the same ford. As much time as I had spent in the park the season before, I had only seen the horses from a distance, so it was a special treat to share our river crossing with the little band.

But really, it's no wonder that it took me so long to meet the park's horses. THRO is vast, and most of the park is accessible only on foot. Long ventures into the center of the park can be punishing. Badlands National Park offers similarly challenging hikes, so when comparing the two, I can only be grateful that THRO often offers shady trees and chilly river crossings along our routes.



FORT UNION TRADING POST NHS

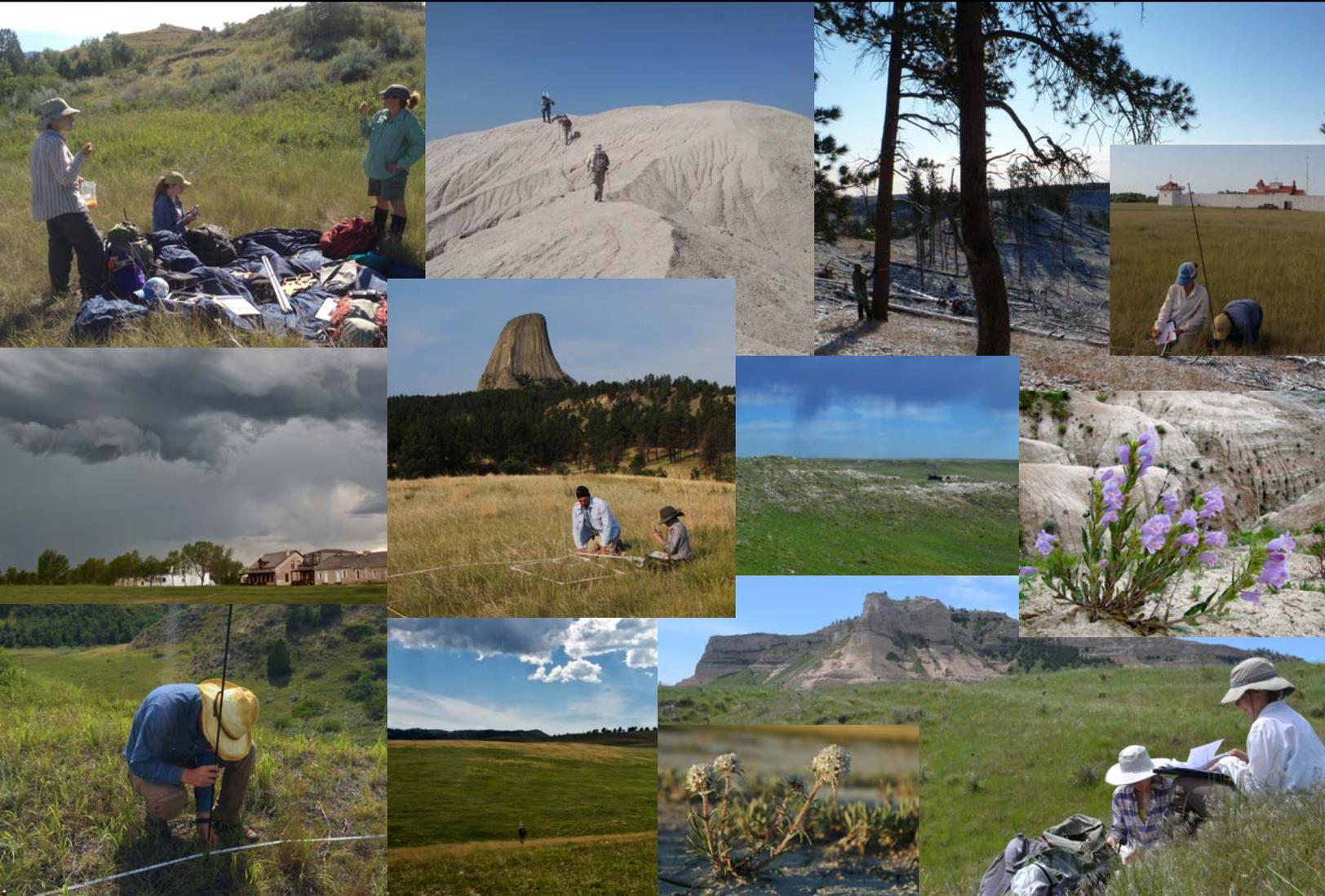


Allium stellatum

During this season's visit to Fort Union we came across *Allium stellatum*, prairie onion, a plant native to the Great Plains. Back when the fort was an active trading post, native onions were occasionally a matter of life or death. Not far from Fort Union at Fort Rice more than 50 soldiers became ill with scurvy in the winter of 1864-65. The previous summer was spent hurriedly building the fort with no time for planting a garden. The situation was made even more dire as supplies were being diverted elsewhere due to the Civil War. Many of those soldiers died, but those who survived owed their lives to the early spring onions that were urgently harvested for the sick men by desperate soldiers.

A little poking around tells me that there is no evidence that any traders at Fort Union were ever afflicted with scurvy¹. They might have avoided the illness because they had a well-established garden that provided them most years with at least a bountiful harvest of potatoes, or because for the traders of Fort Union, resupply wasn't dependent on the army, or maybe they benefited from their relationship with local tribes who could convey the benefits of native plants like buffaloberry, chokecherry, wild plum, serviceberry, wild currant, gooseberry, and grape. I am sure the interpretive park rangers at Fort Union could answer some of these questions, and if any of you read this I would be eager to learn anything more you would be willing to share!





¹Barbour, Barton. *Fort Union and the Upper Missouri Fur Trade*. Norman, OK: University of Oklahoma Press, 2002. Accessed October 20, 2016.

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Thank you for reading this season's issues of Great Plains Monitoring Monthly. It has been our pleasure to monitor your vegetation this season and along the way to meet your staff, relish the beauty of your parks, and make memories that will last a lifetime. I hope we've provided a glimpse at what it's like to do our jobs in a region as beautiful and diverse as the Northern Great Plains. As always if you have any questions you can direct them to our network coordinator, Kara Paintner-Green at kara_paintner@nps.gov.

Until next time,

Logan LaFleur, Biological Science Technician, NGPN

Acronyms used within this publication:

NGPN
North Great Plains Network

THRO
Theodore Roosevelt National Park

JECA
Jewel Cave National Monument

MORU
Mount Rushmore National Monument