



Volume 16, Issue 4

Official Newsletter of the Maah Daah Hey Trail Association



Turtle Tracks

President's Message

First a big THANK YOU to the board members for all you DO and are continuing to do for the MDHTA. I really appreciate it and it goes without saying the MDHTA would not be doing much if it were not for you folks. Thanks AGAIN.

Second Thanks to all the people who renewed or became new members, THE MDHTA cannot function without all of you, so a BIG THANK YOU to all our members. Roger Ashley MDHTA Treasurer, will be sending out gentle reminders in December to all of you who have let your memberships lapse.

The fall, or should I say late summer, due to 50+ degrees and sunny with the grass still green and nights still not cold but just cool, is upon us and Turkey day is just around the corner as I write this.

The tasks we have been involved with since the last *Turtle Tracks* are many, one being the Magpie bridge repair, Rod Mitzel, Roger Ashley, and I placed a pier under the upstream cap beam to stabilize the structure and we are planning to add some more rock to the SW corner of the bridge to further prevent further erosion at that point.

We have been working with the FS to complete the trail surfacing on this year's contract on the Deuce at Hanley Plateau, that project is complete and ready for people to use, some 6 miles of surfacing now in place completely over the Plateau north of the Third Creek road. I also volunteered to condition survey some 20 miles of the MDH from Wannagon Camp to Elkhorn Camp for a future restoration

RTP contract, adding waterbars, clearing slumps, brushing, and putting the trail back where it was originally prior to braiding and lack of regular trail maintenance.

The website is up and running very good, we have had numerous orders since Roger Ashley got the final touches on the site. And we have a lot of merchandize ready for the Holidays, just take a look at the store on the website. We also have some new Mile Marker members, THANK YOU. We will have to work with the FS to get a new program in place due to changing the rules on putting signs on USFS lands.

We did also volunteer and help Nick Ybarra out with the MDH100 and other races he has organized, his article will show up in another portion of the TT.

Have a wonderful Holiday season and please take a look at the website for any information about the MDH Trail System.

Happy Trails,

Curtis W. Glasoe, President - MDHTA



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Special points of interest:

- *The diverse landscape that the MDHT traverses supports the greatest diversity of bat species in ND.*
- *Bats in the U.S. provide insect control services valued between \$3.7 and \$53 billion annually*

U.S Forest Service Season in Review—2016

by Greg Morel, Trails Manager, U.S. Forest Service, Dakota Prairie Grasslands

We had another productive year on the Maah Daah Hey due in large part to favorable weather and increased volunteer support. Spring brought very few major trail issues and this fall was very mild and allowed for an extended field season. These conditions over the last few years have allowed for continual improvement of trail conditions instead of having to focus on the newest damage each year. Coupling those conditions with our growing volunteer efforts have resulted in the trail being in overall excellent condition. We still have many areas that need attention, but there have not been this many miles of trail in this good of condition since I started working for the FS in 2008.

Volunteer efforts have been growing each year for the last four years, but this year we saw a major jump in hours on the MDH. There were over 1,600 recorded hours on the MDH trail system this year. This was over three times the hours from the previous year. Many of these hours were also counted as match for RTP projects, which is critical to improving the trail. I would like to say thank you to all of the volunteers that showed their support for the trail by donating some of their time making the trail better.

We also had three FS trail seasonals this year. One of which was able to work April through November. This was the most seasonal time on the trail since 2012 as we have been shifting our funding to provide more on the ground dollars. We hope to continue increasing our seasonal maintenance funds in the future.

In 2016 we completed the 6.1 miles of surfacing over Hanley Plateau. This was an RTP project that was made possible in part by the volunteer support we received on the project. The 2016 National Trails Day surfacing provided a little over half of the match and Curt Glasoe was able to volunteer his time and experience to complete contract inspections that accounted for the remainder of the volunteer match.

The Third Creek surfacing project, which will surface 4.7

miles of trail, was awarded late in the year and the contractor decided to complete the work in the first half of 2017. We have also completed a survey on 17 miles of trail between Wannagan and Elkhorn campgrounds. This section of trail is an older piece of trail and in need of repair and will have restoration work done next year. I again want to thank Curt Glasoe for his time surveying and staking the trail this fall. We are also preparing a contract that will complete the surfacing down to Burning Coal Vein campground along with much needed restoration work on the entirety of the Buffalo Gap trail.

There continues to be an increased interest from users and events on the Maah Daah Hey. This year saw more new events and growth of established events. There were more event participants on the trail this year than any other year. A large part of this was due to the ever popular MDH100. These events have helped grow the exposure of the trail both locally and nationwide.



Looking ahead we are currently working on our RTP application for 2018 projects which are due at the end of January. Our trails budget has continued to decline since 2011 with another 10% reduction this year, but we will continue to do more with less. Even with the reduction in budget we currently have funding for five seasonal trail crew members in Dickinson next summer. Seasonal hiring applications

have been moved up another month sooner and will be open online from January 4th through 10th. Please refer any potential applicants to me before the application period. This will allow me to walk them through the process. We have had difficulty finding enough applicants to fill our positions recently so spread the word. We will work with school schedules and have government housing available.

In closing, I would like to thank everyone who has contributed to making the Maah Daah Hey a premier trail. I look forward to next year and building off what was accomplished this year.

Membership Recognition—Thank You!

Life Members:

Roger & Pat Ashley
Glenn & Jolene Baranko
Tom & Sherri Dickson
Ken Eberts
Curt & Carol Glasoe
Jesse Hanson & Lisa Kudelka
Dale & Jennifer Heglund
Mark Liebig
Ron & Aileen Luethe
Don & Susan Mayer
Medora Convention and Visitors Bureau
Charles & Sandra Peterson
Brian Selland
Dwight & Loa Tober
Theodore Roosevelt Medora Foundation
Glennys Ulschak
Nick & Lindsey Ybarra

Mile Marker:

Tawna Boyko
Denton Zubke

Trail Boss:

Carol Carter
Phillip & Beth Helfrich
Stephen & Janet Wieser

Founding:

Curtis Alkire
Bruce & Roberta Bishop
Kim Callahan
Dickinson Convention & Visitors Bureau
Eric Selle
Robert Stein
Freida Tebelius
Mark Zimmerman

Bridge Repair on Magpie Creek

by Rodney Mitzel

A partial washout of the Magpie Creek bridge occurred due to a heavy rain in the fall of 2015. After consulting with Greg Morel, Trails Manager for the USFS, MDHTA board members Curt Glasoe, Roger Ashley, and I initiated the repair on the bridge. We dug down to the base of the creek channel, laid a solid 2 feet x 2 feet concrete sill, and then installed two 6”X6” vertical beams to support the bridge’s washed out corner. Rocks were gathered and stacked around the beams to reduce the risk of future washouts. Additional rocks will need to be hauled in for the final completion of the project to be done later this fall.



The First Annual Maah Daah Hey Buck-Fifty Bike—Run—Race

by Nick Ybarra

Over 150 miles of continuous, point-to-point, badlands single track in one day! Is that even possible? It is, and it is a journey that can only be experienced on the Maah Daah Hey Trail. After the official opening of the additional 47 miles of the MDH II, known as the “Deuce,” it was only a matter of time before somebody was going to attempt to ride the entire trail, in one day. That first somebody ended up being me! I became the first person in the world to ride the whole trail, end-to-end, from CCC Campground to Burning Coal Vein Campground in less than 24 hours. I am the race director of the MDH100, so of course it was not long after my 150 mile ride that I announced the dates for the first MDH BUCK-FIFTY Bike-Run-Race.

On September 17th over a dozen crazy endurance athletes lined up at the MDH150 starting line, including thirteen mountain bikers and one ultra endurance runner. Participants had multiple options for attempting the grueling 150 mile racecourse; 1 day, 2 days of 75 miles, 3 days of 50 miles, or 6 days of 25 miles each day. The four mountain bikers riding the 2x75 option were the first ones to take off, at 8:00am MDT. None of the 2x75 racers made it to the finish line. At 9:00am the three 3x50 riders took off. Two of them rolled across the finish line, at CCC, three days later, the other one did not finish. The one and only ultra runner put feet to dirt on the trail at high noon. He made it about half way and was forced to drop out due to a foot injury. Finally at 7:01pm the six 1x150 mountain bikers jumped on the trail and rode out into the sunset with bright lights and high hopes of riding the entire Maah Daah Hey Trail in under 24 hours. Five of the six finished!

The trail itself was in the best shape that it has been in for years. This summer the SAVE THE MAAH DAAH HEY nonprofit organization partnered with the USFS and contributed 1,141 hours of volunteer trail maintenance. Over

40 die-hard #SAVEtheMDH volunteers pitched in and helped between June and September. Those hard-working volunteers drastically improved the condition of over 170 miles of the Maah Daah Hey, and connecting trails. SAVE THE MDH volunteers are allowed to mow, weed-whack, trim branches and shovel dirt, under their volunteer agreement with the USFS. The difference in the physical condition of the trail before and after the volunteers work on each mile of the trail is like the difference between night and day. It would never have been possible for any of the MDH150 participants to ride the entire trail in under 24 hours without the backbreaking volunteer trail work that was selflessly done by the dedicated volunteers. You can see some of the videos and pictures of the volunteer trail work that was accomplished this summer at www.SAVEtheMDH.com, or the SAVE THE MAAH DAAH HEY Facebook page.

The first annual MDH BUCK-FIFTY was a huge success. Whether racers finished or not, they were stunned by the majestic beauty of the North Dakota badlands and humbled by the difficulty of the terrain on the world-famous MDH Trail. The current record holder of the MDH100, Kelly Magelky, finished the 106-mile course in 8:56:22, in 2014. He also set the record for the MDH150, completing the 151-mile race in 17:31:47, proving that it is possible to ride 150 miles of continuous, point-to-point, badlands single track in one day. Kelly had a smile on his face, as usual, when he rolled through the finish line. But he was not content with his record setting, first place finish. He believes that he can ride the MDH150 racecourse in under 15 hours. He vowed to return for the 2017 BUCK-FIFTY 1x150 race on September 9th. You can find more info on this race at www.MDH150.com

Tree Trimming Party

by Bruce Bishop

Saturday, September 10, 2016, Roger and Pat Ashley and I did tree pruning along the trail on about 2 miles of the Maah Daah Hey. It was a beautiful day with long vistas of the badlands and prairie making it a great place to volunteer our efforts to maintain the trail. We started just west of where the Maah Daah Hey Trail meets the Long X Trail and worked towards the boundary of the North Unit of Theodore Roosevelt Park. We trimmed back branches that were hanging over the trail and obstructing users of the trail. Roger says that in terms of tree pruning this section of the trail should be good for around 10 to 15 years since we used proper tree pruning methods.



The Science Behind Tree Pruning

by Roger Ashley

Hacking through overhanging limbs along a trail may sound like the best way to clear a trail of a hazard. After all this method of clearing a trail was romanticized in 1950's "jungle" movies. Well today we know that it isn't so, especially if we want to preserve the natural beauty of the North Dakota Badlands.

Alex Shigo, a plant pathologist and long-time USDA Forest Service employee, was appalled by the amount of diseased and dead trees resulting from poor pruning techniques. Alex studied how trees grow, how injury occurs, and how trees overcome injury. He found that trees are "Compartmented woody perennial shedding plants," that have eight natural



Tree killed by improper pruning, note the large stumps where disease entered this tree.

boundaries for preventing the entry of disease and secondary wood rotting organisms. Proper pruning incorporates these natural boundaries to reduce the risk of disease and disfiguring the tree. Proper pruning reduces labor. Some folks will hack away at over growth of the same tree year after year when a properly applied cut to the offending branch permanently takes care of the situation.

The primary natural boundary that we use in pruning trees is near the branch collar where the branch attaches to the main stem or a major branch. The

branch collar contains antimicrobial substances which develop after the branch dies or is cut off. The proper place to cut the branch is outside the collar about ¼ inch between the branch that needs to be removed and the collar. Cutting into or removing the collar invites rapid disease infestation. Leaving a large part of the branch or stub (more than ¼ inch) provides disease a food source to get started for infecting the tree. Wound compounds or tree paint is never used as these

substances do more harm than good.

When properly cut a ring or doughnut of callus tissue will completely surround the wound thus sealing it from entry by a pathogen.



Callus tissue sealing the wound.

I wish you could hear Alex Shigo give his lecture on proper tree pruning but he passed away several years ago. We are fortunate that he did publish his extensive work in a book titled *A New Tree Biology*, in 1986. He wrote and illustrated it in a format that most people will find interesting. The book is available from NDSU through interlibrary loan at your local public library.

Whether you join us on a tree pruning project along the MDHT or you need to prune a tree in your own yard, the technique described by Alex Shigo should be a great help.



Branch collar is to the right of the red line. Yellow line shows where cut should occur.

Bats—A valuable nighttime resource in the badlands

by Dr. Paul Barnhart, Assistant Professor of Biology at Dickinson State University

When people think of wildlife in the badlands they think of antelope, deer, elk, bighorn sheep, buffalo, coyotes, and mountain lions. These are all wildlife that can be seen during daylight hours and have had some media attention.

But do you ever wonder why there aren't more mosquitoes, flies, moths, and gnats along the Maah Daah Hey Trail? Is the weather so dry that mosquitoes can't get started? Aren't there enough slow hikers for these pests to feed on? Is the Forest Service applying insecticide to control these pests of recreationists? There is plenty of water for mosquito larva to develop; hikers, bikers, and equestrian riders are plentiful and the Forest Service doesn't treat for flying insects. However, Mother Nature's Air Force, which includes bats, provides a valuable service over the badlands.

I am a bat biologist (chiropterologist) and have dedicated my life to the further understanding and conservation of these amazing animals. There are many misconceptions regarding bats, so let's get some things straight: 1) Bats are not blind, in fact bats see about as well as you or I; this is seen in the relatively similar number of rods and cones located in the eyes of bats and humans. 2) Bats will not land in your hair or attack you. Bats are attracted to insects and insects are attracted to the heat radiating from the top of your head. So yes, occasionally one eager bat may make a mistake and touch your hair but you were not the target. 3) You are more likely to get rabies from your pet dog than from a bat. Bats have gotten a bad rap in terms of rabies but skunks, raccoons, and fox are the most common ways of rabies transmission from wildlife to humans. 4) Finally, bats are not flying mice. They are in fact more closely related to primates than they are to rodents! Bats evolved from a group of gliding mammals, many such species are still alive today. Bats are integral components to every ecosystem in the world, excluding the Arctic and Antarctic regions. They fill very similar ecological niches as birds do and are often considered the ecological "night crew". All bats in North Dakota are insectivorous, meaning they feed on insects. Many of these insects are pests (such as the mosquito discussed earlier) that can carry a multitude of diseases or have significant economic consequences. A recent paper calculated that bats actually provide nontoxic pest control services totaling \$3.7 to \$53

billion dollars each year in the U.S. alone!

Now that we have that out of the way, let's focus into the importance of the night and the scientific lack of knowledge regarding bats. Before I began my PhD program at North Dakota State University, the managing agencies in North Dakota did not know much about bat species. We had no idea what resources they were utilizing, what habitat characteristics were important to them; we actually didn't even have a good idea about what species were found in the state. Unfortunately, these problems are not unique to North Dakota. Across the world bats are, in many cases, the least understood and researched group of animals. Even though they are often overlooked, their importance cannot be minimized. Thus

began my graduate career, addressing these questions and filling in the gap of the scientific bat knowledge. During my graduate work, the oil boom of western North Dakota began. I did not immediately think about the potential impact of such activity on bats until near the end of my studies. At that time, when analyzing the years of data, I noticed that western North Dakota was actually the most species-rich location in all of North Dakota. The badlands ecosystem played a large role in this finding. The flaring that is associated with these well sites produces large amounts of light pollution and has caused bat behavioral changes. However, no

research has hypothesized about this relationship yet. The point being, there is so much we have yet to discover about these nocturnal species; not just bats but all nocturnal species are lacking in knowledge about their life history characteristics.

Bats are currently facing extreme pressures, some of which are extinction level events. In particular, bats of North America are currently being threatened by an unlikely foe, white-nose syndrome (WNS). WNS is a fungal pathogen that was first introduced by spelunkers to a New York cave in 2006. Since then, WNS has spread across North America leaving millions of bats dead in its wake. In fact, in many cases, WNS causes mortality rates as high as 100%. Needless to say, WNS has the potential

(Continued on page 7)



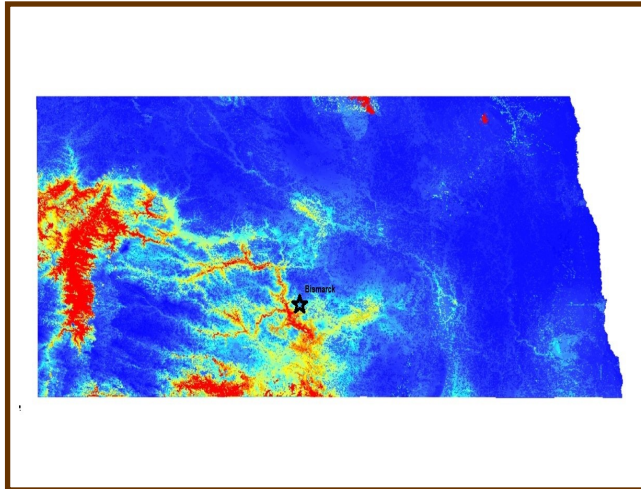
Townsend's Big-eared Bat captured at Peaceful Valley Ranch, Theodore Roosevelt National Park South Unit. Photo by Dr. Josiah Nelson

Bats (Continued from page 6)

of decimating bat populations.

Another cause of major concern for bats comes in the form of wind-turbine blades. As our society pushes to reduce our carbon footprint, wind energy has been an effective green alternative. Unfortunately, bats are killed in large numbers by wind-turbines. Now remember, bats are not blind and these turbine blades can stretch over the length of a football field. So how are the turbines killing bats? It is called barotrauma. The wind moving from the tips of the turbine blades is traveling about 90 meters per second. Think of this in terms of a football field, in essence the wind is moving so quickly that could fly across an entire football field in 1 second! This causes a huge reduction in pressure. As the bats fly through this air, the pressure in the lungs almost instantaneously becomes too high (as a

result of the extreme low pressure caused by the spinning blades) which results in the hemorrhaging of the lungs. This is very similar to why divers must ascend slowly from deep depths.



North Dakota bat habitat—red areas are extremely important providing prime habitat suitability, blue areas are less suitable and have low importance to bats. (Bismarck is indicated by the star.)

These are only a couple examples of the pressures bats are currently facing. To save this group of animals we need to know more about their habits and other factors threatening their survival, such as light pollution. So, the next time you look up at the stars take note of how lucky you are to be in a place that you can actually see the milky way.....there are not too many places remaining where this is possible. Then, think about the importance of the darkness on our ancestors and how their interpretations of those tiny lights hanging in the darkness has shaped our present. But don't forget to also think about all the wildlife out there that are dependent on the darkness remaining. So as you are getting ready for bed tonight remember to turn the lights off for the bats!

Membership Application

Yes! I want to join the Maah Daah Hey Trail Association

- \$25 Individual/Family Member
- \$70 Individual/Family Member for 3 years
- \$75 Founding Member
- \$500 Mile Marker Member
- \$750 Gatekeeper Member
- \$1000 Life Member
- Cap or Tshirt S M L XL
- \$200 Trail Boss Member - S M L XL

Make checks payable to: MDHTA, P. O., Box 156, Bismarck, ND 58502

PLEASE PRINT

Date: _____ Phone: _____

Name: _____

Address: _____

City/State/Zip: _____

Email: _____ Email newsletter: Yes No

**Maah Daah Hey Trail
Association**

PO Box 156
Bismarck, ND 58502
E-mail: info@mdhta.com

We're on the Web!
mdhta.com



**MAAH DAAH HEY TRAIL ASSOCIATION
Officers and Board of Directors**

President—Curt Glasoe
Vice President—Rod Mitzel
Second Vice President—Nick Ybarra
Secretary—Bruce Bishop
Treasurer—Roger Ashley

The Maah Daah Hey Trail Association is a nonprofit organization dedicated to providing and maintaining a linear, non-motorized, sustainable, recreational trail system in southwest North Dakota, through voluntary and public involvement, and in cooperation with the USDA Forest Service.

Dates to Remember

December 17	Bold St. Nick's Fatbike Race (experienceland.org)
March or April TBA	Maah Daah Hey Trail Association Annual Meeting (MDHTA.com)
June 3	National Trails Day (MDHTA.com)
July 29	Maah Daah Hey Trail Run (experienceland.org)
August 5	Maah Daah Hey 100 (experienceland.org)
September 9	Maah Daah Hey 150 (experienceland.org)