

Public Fossil Digs Program Surges to Record Level

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By any measure the 2018 Public Fossil Dig season was the most successful in the history of the program. What began as an experiment to provide an ecotourism experience to the public nearly 20 years ago (Hoganson, 2009) has now become a wildly popular program for both tourists and local North Dakotans. To fully appreciate the current state of the program you need to understand the history of the program and how dramatically things changed over the past eighteen months.

The Lead Up

Most years the Public Fossil Digs Program followed a predictable script. The dates would be announced during the winter, usually in the January issue of *GeoNews* (e.g., Person, 2016), with registration starting immediately thereafter. Registration would continue throughout the winter, spring, and early summer. Calls would slowly trickle in, and over time certain dates would fill up. In most cases, open spots would remain at each of the dig sites until a couple weeks before the digs started, and often there would be a handful of spots that would go unfilled. The program was popular and well attended, but its size fit the demand for attendance pretty well most years. After expanding steadily from one dig site to four or five and from a few spots for attendees to several hundred, the size of the program stabilized between 2012 through 2016 (fig. 1).

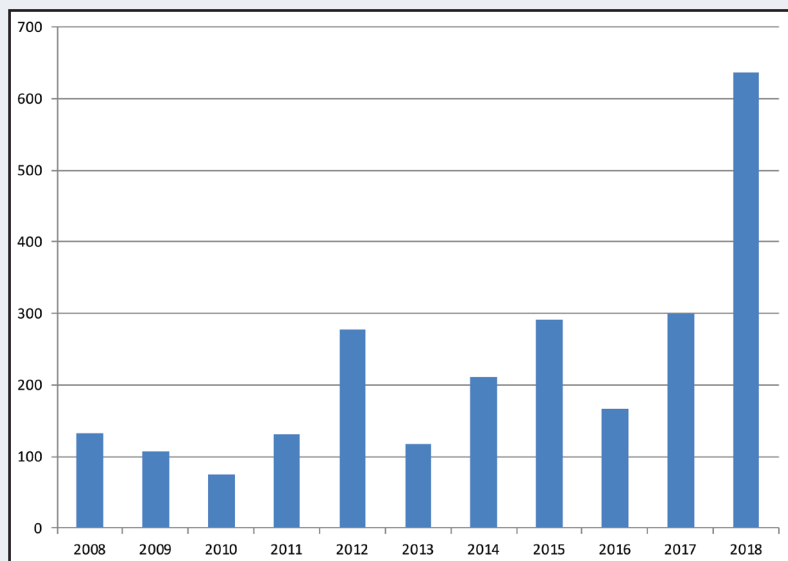


Figure 1. Graph of the number of participants in the Public Fossil Digs program between 2008 and 2018.

Things began to change in 2017. The pace of registration was a little quicker from the start and it was clear the digs were certainly going to be filled to capacity that summer. Then in the late spring we received word that the *New York Times* was planning on publishing a feature article in their Travel Section on the Public Fossil Digs Program. They attended our Dickinson Public Fossil Dig in late June, and in July published a wonderful article on our Public Fossil Digs Program (Richard, 2017; fig. 2). As one might expect given the broad distribution of the *New York Times*, interest in our Public Fossil Digs Program exploded almost overnight. All remaining spots on all the digs were filled up, and we set up a waiting list of people hoping to make it into the digs. By the end of the summer of 2017 that waiting list contained 114 people. In 2016 we had four names on the waiting list, mostly because they wanted very specific dates that had filled up early. To help accommodate some of the people on the waiting list we added a short dinosaur dig in late August that also included a film crew from NBC's *Today Show*. Their segment aired in September, further driving interest in the upcoming 2018 Public Fossil Digs.

Of course we were thrilled at the uptick in interest, but we were left with a lot of uncertainty moving forward. Was this a temporary increase in interest that would be gone by the next summer, or would the effects be lasting? Most importantly, should we continue with business as usual with the program, or overhaul the program in an attempt to account for higher interest levels? For the 2018 dig season we chose a middle path. We scheduled approximately the same number of dig spots for attendees as in previous years, but for the first time we set an official start date and time for registration to begin so everyone had an equal chance to register. We also scheduled a series of what we called reserve dig dates: additional days that would be opened for registration if the advertised days were filled to help accommodate a substantial increase in demand. If all those dates filled up it would more than double the size of the program in 2017, which itself was a record high year for attendance.

One additional step that was taken to prepare for 2018 registration was the creation of a mailing list where people could sign up to be notified about the 2018 dig dates, registration process, and other important details. That list would also help provide us with some insight into the level of interest in the 2018 digs. By the time

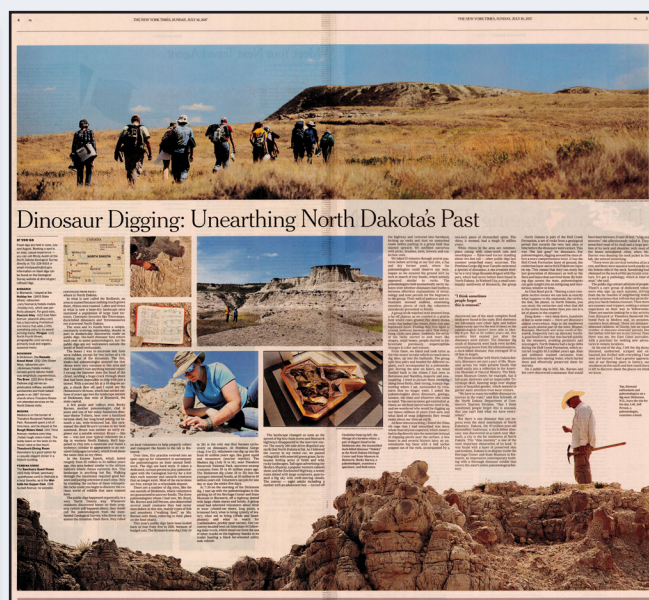


Figure 2. The article in the Travel Section of The New York Times from the summer of 2017 that helped spark increased interest in the Public Fossil Digs program.

we were prepared to announce the 2018 dig dates in January over 300 people had added their names to the mailing list. That was our first strong indication that demand in 2018 would remain high, and that we were likely to need every one of those reserve dates we had set up.

Registration Begins

Registration began at 8:00 a.m. Central Time on February 1st. A phone bank staffed by four North Dakota Geological Survey employees was ready and waiting as the clock rolled around. The phones began to ring around 7:30 a.m. as people tried to get an early jump on registration, and all four were constantly ringing when 8:00 a.m. arrived and the first call was answered. The calls were constant throughout the morning. In less than an hour dates were filling up and the first reserve dig dates were opened and filling up fast. There were no gaps in the calls until 10:30 a.m., and all four phones were staffed continuously until after lunch when the calls slowed enough to allow some people to take breaks.

By the end of the first day all the originally advertised dates were full, all of the reserved dates were open for registration, overall registration was 95% full, and every dig day had a growing waiting list should any cancellations occur. The demand was far beyond what we had expected. Some people had spent hours attempting to get through to register, only to find out that their preferred dates were already full. As the weeks passed those waiting lists grew to include several hundred people. In total, 635 dig spots were offered (the previous record in 2017 was 299, fig. 1) spread out over 40 dig days during the summer. This expansion now makes the NDGS Public Fossil Digs program one of the largest programs in the country where the public can get their

hands dirty digging real fossils that will be protected and preserved for generations to come.

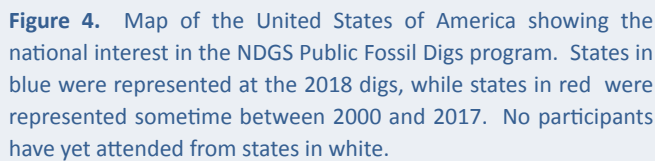
The Dig Season

The dig season itself was long, extremely enjoyable, and highly productive. We met lots of new people, many of whom had never been to North Dakota before, and made some great discoveries at all of our dig sites that will help us learn more about North Dakota's ancient past (fig. 3). The weather was beautiful, resulting in no rain days the entire summer. A total of 326 people attended the digs, with the average person spending between one and two days digging. Roughly half of those people were from North Dakota, while the other half were tourists from out of state. Between 2000 and 2015 people from a total of 28 different states

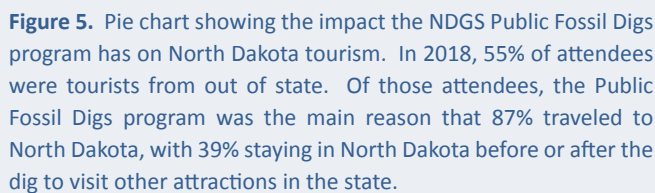


Figure 3. Some of the fossil discoveries from the 2018 Public Fossil Digs. A) Dig participant Paul shows off a crocodile osteoderm (skin bone) from the Medora Public Fossil Dig. B) A closeup of the crocodile osteoderm. C) Dig participant Trent shows off the *Tyrannosaurus rex* tooth he found at the Bismarck Public Fossil Dig. D) NDGS paleontologist Becky Barnes (right) and intern Trissa Ford (left) splitting blocks of chalk from the Niobrara Formation in the Pembina Gorge. E) Close up of some ammonite shells (an extinct squid) found in the Niobrara Formation chalk.

and our post-dig survey resulted in many helpful suggestions from the attendees. One thing was immediately clear: with our current staff there was no way we could substantially expand the size of the program any further. When the time needed for travel to and from dig sites and to unpack specimens in Bismarck from one dig and repack gear for the next dig is taken into consideration, there are few good options left for adding more field days other than to move into the wetter times of the year where rainouts become more likely. As a result, we will offer roughly the same number of dig spots for attendees in 2019 as were offered in 2018. However, we are planning several improvements to transportation, dig site amenities, and the onsite experience that should help keep attendee satisfaction at a high level.



Looking forward, the Public Fossil Digs program is only getting more popular. This fall there were over 500 people on our 2019 email notification list compared to 300 the previous year. On the NDGS Paleontology Facebook page the event notification for the 2019 Bismarck Public Fossil Dig, our most popular site since it preserves dinosaur bones, had over 1,500 people who indicated they were interested in attending. Compare that to the total of 180 dig spots available for that site in 2019. In both of those cases most of those people represent groups of at least two or three that are typically hoping to register for multiple days. With only around 600 total dig spots available for 2019, demand far exceeds supply and will likely continue to do so for the foreseeable future. The general public's growing interest in the paleontology of North Dakota will continue to be a boon to the state's tourism (Boyd, 2017), educational experiences, and scientific advancement for years to come.



Once the summer was over, our attention immediately turned to preparations for the 2019 Public Fossil Digs program. The paleontology staff kept detailed notes of what worked well and what features of the program could use some tweaking in the future,

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