

# NATIONAL GEOGRAPHIC NEWS

## Saving the Mason-Dixon Line

by Bijal P. Trivedi, National Geographic Today

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Most Americans know the Mason-Dixon Line as the divider between North and South; freedom and slavery. But the line's origins have nothing to do with slavery and actually predate the United States.

The line is, in fact, the result of a bloody land dispute between proprietors of Pennsylvania and Maryland when the country was just a collection of British colonies.

Yet the very stones that mark this infamous boundary are weathering, damaged, vandalized or missing altogether. For the last ten years, two surveyors, Todd Babcock and Dilwyn Knott, armed with a passion for American history and a Global Positioning System (GPS) are locating and documenting each and every stone laid by Charles Mason and Jeremiah Dixon more than 200 years ago.



"We're losing (the stones) at an increasing rate so it's very important that we obtain the precise location of each stone so we can go back and repair damaged stones and replace lost ones," says Todd Babcock, president of the Mason-Dixon Line Preservation Partnership (MDLPP).

"I think Mason and Dixon are lost in the history. Something that we hope to do, is to tell people a little bit about Charles Mason and Jeremiah Dixon," Babcock says. "They weren't some senators who debated slavery on the House floor. They were surveyors and astronomers."

Mason was an astronomer employed by The Royal Society in Greenwich, England. He spent his time observing the stars and the moon, and establishing lunar tables that could be used to determine longitude.

Dixon was a surveyor from Cockfield in Durham County in England, and was educated by John Bird, a renowned maker of high precision astronomical instruments.

In 1763, Mason and Dixon landed the monumental task of resolving an 80-year property dispute between the Calvert family of Maryland and Penn family of Pennsylvania, and were asked to lay stone markers indicating the boundary.

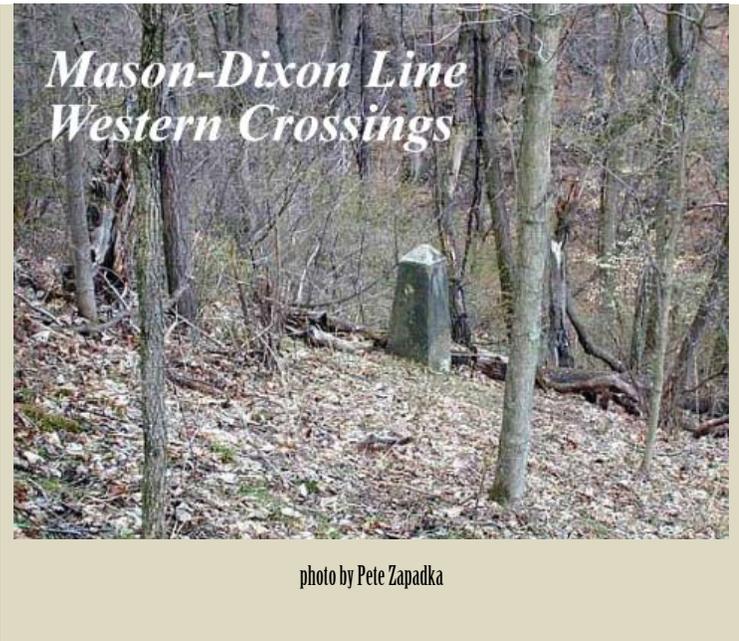
The boundary began at 15 miles south of the southern-most tip of the city of Philadelphia and followed a constant latitude west to a point between western Pennsylvania and what we now call West Virginia.

GPS measurements taken by Babcock and Knott, a member of MDLPP, reveal that the line was off the mark by as little as one inch in some places and never more than 800 feet.

Mason and Dixon used the stars to calculate this path through the wilderness and mark out the 233-mile-long boundary line between Pennsylvania and Maryland, and the 83 miles long north-south boundary between Maryland and Delaware; the effort took five years.

The stones—huge blocks of limestone between 3.5 and 5 feet long and weighing between 300 and 600 pounds—were quarried in Southern Great Britain and shipped to America.

Carried by wagon to their final resting place on the line, the stones were placed at one-mile intervals. Mile markers were decorated with vertical fluting and a P on the north face and M on the southern face; every fifth mile along the line the stones were engraved with the Penn coat of arms on the Pennsylvania side and the Calvert coat of arms on the other.



Towards the end of the line the terrain got more hilly so Mason and Dixon did not lay markers, but erected large rock groupings or cairns instead. Later, additional surveys done by the United States Coast and Geodetic Survey in 1901 and 1903 replaced the cairns with leftover markers.

Since the last inventory in 1980, several stones have been destroyed or damaged by vehicles. "I took a picture of one stone in October and three months later in January of 1996 a snowplow hit it, broke it and pushed it down into the farmer's field," Babcock says. "It had been on the line for over 200 years. Now it sits in a farmer's barn."



Some damage is due to vandalism. "A lot of times we've seen places where people actually shoot (the stones) with a rifle. You can see marks on the side where they shoot it with a gun," Babcock says.

Although there is nothing scientifically groundbreaking about the calculations made by Mason and Dixon, creating a boundary with almost constant latitude was "a logistical achievement and represented hard core science done under harsh conditions," Knott says.

"When you walk the line you get a better feel of the conditions involved in hauling huge granite monuments 132 miles across hostile terrain," Knott says. "Up, down through streams, through marshes, through all kinds of weather conditions. It's not an easy task for anybody."

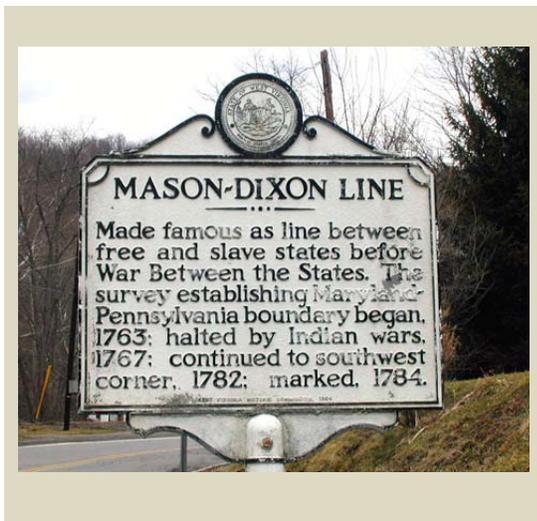
At minimum it took a couple of weeks to make each set of observations. "They would be up at night taking their astronomical observations of the stars in temperatures sometimes 20 degrees below zero," Babcock says. They would essentially lie on their backs and look through a six-foot-long telescope measuring the angles between stars and the meridian, the due-north line.

Mason and Dixon actually used instruments made specifically for this project. The zenith sector, designed by Dixon's mentor John Bird, was the most advanced instrument of the day for determining latitude. Bird said it was accurate to within 100 feet.

Babcock and Knott photograph each marker they find on all four sides, and record its color, condition, weathering and the state of the coat of arms.

It is not just the historical importance that drives the team. "I feel a kinship with Mason and Dixon and every time I come out I learn something new about the methods that they used and I have a greater respect for what they went through," says Babcock.

"Cream of the crop of their day," says Dilwyn Knott. "Few people at that time could accomplish what they did."



"Mason and Dixon were surveyors and astronomers, very well educated men of their time and we hope to have credit given where credit is due," says Babcock.

Babcock and Knott have been documenting the stones for ten years. Of the 230 stones that delineate the Pennsylvania and Maryland border, 80 to 90 stones lack GPS coordinates. Although Babcock and Knott say it is a little embarrassing that their project has taken twice as long as the original Mason-Dixon Line they emphasize that this is a hobby for them and that Mason and Dixon were paid.