

# AMERICA'S PREMIER SURVEYOR



**Life & Times  
of  
Andrew Ellicott**

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### **Life and Times of Andrew Ellicott**

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## **Lorna Hainesworth**

### **On The Cover**

There are but few known portraits of Andrew Ellicott. He sent the original of this miniature to his wife Sally from New Orleans in February of 1799. The artist, he told Sally, was "a Spanish lady," who had also produced several copies of it for him. At the time of this painting, Andrew Ellicott was forty-five years of age.



**Andrew Ellicott**  
**America's Premier Surveyor**

**The Life and Times of Andrew Ellicott**

On a Monday, August 28, 1820, a great man died at West Point Military Academy. He had just turned sixty-six years of age earlier that year on January 24 and was reported to be in excellent health having completed what would become his last survey in the middle of the previous year. He had even commented to his wife at the start of that survey, which was to determine the 45<sup>th</sup> parallel of latitude, i.e. the border between the United States and Canada, "So far I have experienced no fatigue whatever..."

To do the survey at the request of John Quincy Adams standing in for the Secretary of War, John C. Calhoun, Andrew Ellicott had to take a leave of absence from his position as a professor of mathematics at West Point. By all accounts he was well liked by his students who had nicknamed him, "Old Infinite Series." Ellicott's last survey began around the end of July 1819 and had ended sometime in late autumn. In the summer of 1820, he traveled to New York to visit his daughter and was returning home by steamboat when he was felled by a massive stroke. His wife Sarah, whom he called Sally, met him at the boat and administered to him along with his son-in-law, but to no avail.

During his lifetime, Andrew Ellicott had many great accomplishments and was the recipient of several awards such as a Master of Arts from William and Mary College, membership in the American Philosophical Society and membership in the National Institute of France. He surveyed the borders of no less than eleven of the current and future states. He surveyed both the northern and southern boundaries of the United States. He completed the Mason-Dixon line and laid out the city of Erie (originally known as Presque Isle), Pennsylvania. He surveyed the area designated for the new national capital at Washington D. C. and carried forth the design for the city. He accurately measured the height of Niagara Falls and surveyed a road diagonally from southeast to northwest through the state of Pennsylvania, roughly equivalent to today's US-322.

The following is an accounting of the life of this Great American:

**Chronology**

- 1754**—Born in Solebury, Bucks County, PA Jan 24, the son of Joseph Ellicott and Judith Bleaker who had been married in December, 1753; Joseph is one of the founders of Ellicott City, MD, originally Ellicott's Mills, then Upper and Lower Ellicott's Mills; Andrew and John—uncles of AE were also founders; Andrew's sons (AE's cousins) were Jonathan (president of Baltimore-Frederick Turnpike Company) and George (surveyed road from Lower Mills to Baltimore—1787 and from Lower Mills toward Frederick—1790; AE's brothers were Joseph and Benjamin
- 1768**—before age 15 made complex musical clocks with father Joseph; probably gave rise to AE's ability to make delicate surveying instruments, AE had instrument shop in Baltimore, Smithsonian has some of AE's instruments, Fort Necessity has compass

- 1769**—Robert Patterson came from Ireland in 1768 to Solebury, taught school, AE was his 15 year old student, RP supervised AE's observation of Transit of Venus in June 1769; later both were mentors for Meriwether Lewis
- 1775**—Married Sarah Brown Dec 31, from Newton in Bucks County—called her Sally; they took up residence with family
- 1775**—in December moved with parents, Joseph and Judith, to Ellicott's Upper Mills
- 1778**—commissioned as captain and later major (title use about and to him from then on) in the Maryland Militia: Elk Ridge Battalion; was a Quaker who respected religion's principles, but not entirely sympatric with Quaker position of not fighting, rarely used plain language (thee, thou); staunchly against slavery, views on slavery are on page 2 of *The Journal of Andrew Ellicott*, where he says slavery is morally and politically wrong
- 1781**—wrote Almanac for mid-Atlantic area in 1780 for 1781 and a 1782 almanac for United States in 1781; his talent for making astronomical observations for his almanacs won his reputation and put him on the team for Virginia to complete the Mason Dixon line,
- 1784**—by July 30 had set up observatory on Mount Welcome; November 16 finished Mason-Dixon line—basically from Dunkard Creek to the SW corner (distance of 21.9 miles), cloudy/foggy most of the time due to volcanic eruption in Iceland; 1779 law stipulated line had to go from Delaware River, 5 degrees (from 75 degrees longitude to 80 degrees longitude) to form the SW corner of PA and then form a median to define the western edge of PA; companions—see addendum for Players in the Completion of the Mason Dixon Line, AE represented VA; November surveyors went home agreeing to meet on May 16 at the SW corner of PA to draw the meridian for the western end of PA
- 1785**—March 17 his son George dies prompting move from Ellicott City
- 1785**—April moved to Baltimore, house on east side of Liberty Street; taught mathematics at Academy of Baltimore (may have been Friends School in Baltimore started in 1784)
- 1785**—from early June (left home May 13) to August 23, finished survey of western border of PA from SW corner to the Ohio River, arrived August 24, future Point of Beginning for the Seven Ranges, brother Joseph is with AE; when AE crossed Ohio River represents PA; Sept 12 Rittenhouse departed to return to Philadelphia; AE surveyed 40-50 miles north of Ohio River then suspended survey until the next spring when it was completed by Andrew Porter and Alexander McLean
- 1785**—well connected visit to Philadelphia for a two-week period (11/28-12/13, 1785), on one date alone, Dec 1 sees Doctor John Ewing and Robert Patterson, visits David Rittenhouse (born April 23, 1732 making him 22 years older than AE), spends evening with Ben Franklin
- 1786**—Jan 20 given Certificate of Membership to American Philosophical Society; represented city of Baltimore in Maryland legislature; used Quaker meetings to solve mathematical problems or to contemplate the Universe,
- 1786**—early spring called to Philadelphia to confer with NY commissioners General James Clinton (father of NY Gov. De Witt Clinton) and Simeon DeWitt (replaced Robert Erskine in Department of the Geographer for the Army, 1777-1783) about running northern boundary of PA (southern border of NY); set out in April 1786, began in July 1786 to finish line begun in 1774 by David Rittenhouse and not finished due to Revolutionary War; October 12 finish survey of 90 miles from Delaware River to Tioga River
- 1787**—October 29 finished line for north boundary of PA from 90 MM (Tioga River)

- to Lake Erie. 100 years later the line had to be resurveyed because most of the markers were gone. Accuracy of first survey greatly complimented by second survey, original done with handmade instruments. See comments on p. 69 of *AE His Life & Letters*
- 1788**—appointed by Supreme Executive Council of Pennsylvania to survey the islands of the Ohio and Allegheny rivers within Pennsylvania
- 1789**—Moved from Baltimore to Philadelphia, lived at #16 North 6<sup>th</sup> Street
- 1789**—Sept. commissioned to run western boundary of the state of NY, this is his first Federal job. He had secured a certificate of appreciation regarding his abilities from Ben Franklin, which may have helped get him the job
- 1789**—October 21 arrived at British held Niagara Garrison; before he could start, he had to determine the western most point of Lake Ontario and run the median straight down from that, found all existing maps and surveys to be in error, Lake Erie too far south or too far north sometimes by 20 miles; much negotiation with British and was refused permission to stay at the garrison, see the Falls or go to Indian Village in US territory
- 1790**—January 15 very detailed account to Washington about British refusal, told to leave ASAP, traveled 100 miles to await permission from Governor of Canada, returned to Niagara, treated politely and kindly; while on the Canadian side, made first actual measurements of river and falls—data so accurate it was used for 80 years afterward
- 1790**—Began sometime in late June and finished west end of NY survey on Oct 11. Line very difficult to run, much hardship, but showed Presque Isle was 20 miles west of NY line, gave rise to Erie Triangle later purchased by Pennsylvania in 1792
- 1791-1793**—Survey of Washington D.C.—ten miles square area or 100 square miles
- 1791**—early February receives letter from Jefferson at Washington's suggestion to go immediately to Georgetown, arrives Alexandria on February 14, plan to start at upper cape of Hunting Creek (now called Jones Point) going NW (into VA) 10 miles and then NE 10 miles into MD
- 1791**—March Jefferson request L'Enfant go to Georgetown where AE is already at work assisted by Isaac Briggs, brother Benjamin and Benjamin Banneker; April 15 corner stone at Jones Point is laid; Banneker leaves for home in April; June 26 letter to Sally shows AE doesn't think much of site chosen for capital city
- 1791**—Oct 17 first sale of lots in DC; L'Enfant refused to provide a map of city needed by commissioners to sell lots; trouble brewing between L'Enfant and commissioners, L'Enfant tears down couple of houses—one was a commissioner's relative
- 1791**—December map produced by L'Enfant most likely drawn or refined by Benjamin Ellicott whom AE had sent to assist L'Enfant as he was not a skilled cartographer; sent map to Congress (HR) and given back; then L'Enfant refuses to have map used
- 1792**—February 27 L'Enfant wrote Washington saying he was totally disengaged from the enterprise. March 6 letter from Jefferson that L'Enfant's services are at an end, couldn't get along with commissioners, his job falls to AE who draws new plan from knowledge of L'Enfant's plan with some variations (improvements?); earlier joined by brother Joseph
- 1792**—Oct 10 and Dec 14 writes to Sally about being hurried (no time to shave or comb his hair), accused of wasting time by the commissioners; withdraws into himself like “a bear in his den.”
- 1792**—Nov and Dec did survey for Robert Morris who was dissatisfied with original survey, called Pre-emption Line (relates to who has first dibs or is entitled to negotiate land deals with Indians and other government entities), used own handmade transit instrument, only other one in US was made by David Rittenhouse, his line determined to be correct

- 1793**—January completes certificate and map for DC; has difficulty with James Reed Dermott head of subdivision office whom the commissioners hired to employ slaves since Ellicott wouldn't, AE accuses Dermott of tampering with master plan, sabotaging markers and stealing plans from his office; is so hassled that he and others quit, simultaneously AE is fired; Briggs certifies to Ellicott's hard working habits; AE reinstated on April 9
- 1793**—May left Washington job in hands of brothers Joseph and Benjamin and Isaac Briggs
- 1793**—April 15 commissioned by Governor Mifflin along with General William Irvine to lay out road from Reading to Presque Isle (today's US-322) plus towns of Erie (Presque Isle), Franklin (French Creek), Warren (Conewango Creek) and Waterford (Le Beouf); left Philadelphia on May 20 and surveyed throughout the summer
- 1794**—in spring Six Nations are aroused and upset over new settlements, dangerous to surveying, advised to avoid offending Indians; AE ready to meet with and negotiate; continued to work as Indians did not appear
- 1795**—returned and work continued, work finished he returned to Pittsburgh on Oct 23
- 1795**—October 27 negotiations concluded between Spain and US on Pinckney-Godoy Treaty aka Treaty of San Lorenzo; called for establishing the southern limits of US on 31<sup>st</sup> parallel in Article II as patterned after 1763 Treaty of Paris, Article III set up joint boundary commission with commissioners and surveyors from each side
- 1796**—April 24 Pinckney Treaty ratified; AE commissioned by Washington May 24; Thomas Freeman appointed surveyor; Sept 14 instructions from Pinckney called for AE to be in Natchez before Oct 25; left Philadelphia on Sept 16; took son Andrew with him
- 1797**—Jan 30 buried lead plate at confluence of Ohio and Mississippi Rivers, which accords with Doctrine of Discovery; mapped Ohio and Mississippi Rivers on his way to Natchez, map of Missouri River confluence with Mississippi River used by Nicholas King for map provided to Lewis and Clark
- 1797**—Feb 24 arrived in Natchez; Feb 29 hoisted American flag on top of a hill—told to take it down, but refused and “flag wore out upon the staff;” reference House on Ellicott's Hill; delaying tactics begin to keep from implementing treaty; Natchez is 39 miles north of 31<sup>st</sup> parallel so clearly part of US; Spanish won't clear out because Governor Gayoso says he has to protect citizens and keep peace with Indians; survey over one year getting started
- 1797**—May 11 letter asking when survey can start; sends stronger letter Oct 7
- 1798**—April 9 located starting point; actual survey of the line began in May; AE wanted to use Mason-Dixon method but that would have taken 12 years and the clearing of 40,000 acres; William Dunbar astronomer and representative for Spain was with AE from May 26 until Sept 1; later he is part of Hunter-Dunbar Expedition to explore Washita River in Louisiana Purchase; commissioner for Spain was Esteban “Stephen” Minor, adolescent friend of AE, now a Spanish plantation owner, was informative and someone AE trusted
- 1798**—Nov 14 informed the US government about four American generals receiving payments from Spanish government, including General James Wilkinson (senior officer of the United States Army); described Wilkinson's designs to detach the western country (Kentucky & Tennessee) from the US; moot point after Treaty granted right of deposit
- 1798**—November 8 expels Thomas Freeman from camp; found him an idle, lying, troublesome, discontented, mischief-making man; Freeman resented Ellicott's crusty and unnecessary interference. Freeman accused AE and son of “ménage a trios” with a washer woman hired from New Orleans; Freeman had been Dermott's assistant in Washington; later Freeman part of Custis-Freeman Expedition to Red River

- 1798**—Dec 15 arrived at Pearl River 100 miles from Mississippi; Dec 18 got to Mobile River
- 1799**—March 1 cast off from New Orleans in a two-masted schooner named *The Sally* that AE had built to transport him, his instruments and his papers; never having sailed before, AE served as the captain; gets back to the line on March 18
- 1799**—April 10 set Ellicott Stone on Seymour's Bluff (now called), which is still there; August other commissioners and surveyors are fed up with Ellicott's insistence on exactness, heading into Creek lands; suggestion to sail to St Mary and guesstimate backward to determine location of boundary
- 1799**—AE sailed around Florida taking two months to study flora and fauna among the Islands thereby annoying Spanish Rep who waited for him on Atlantic coast; masterful skipper as he used sextant, equal-altitude instrument and chronometer; even rescued some privateers
- 1800**—finds source of St. Marys River at 30 degrees and 34 minutes (means a bit more land for the US); February 26 survey of line between United States and Spanish America is complete; line marked with dirt mounds several feet tall; sails to Savanna
- 1800**—May 18 returns to Philadelphia and reunited with family; presented final report with maps to the government; Adams administration refused to pay Ellicott for work done in this survey, also refused him access to his maps; forced to sell some of his possessions, including books, to support his family
- 1801**—Jefferson offered AE Surveyor General job, but turned it down, took Secretary of the Pennsylvania Land Office appointed by Governor Thomas McKean; moves to 123 North Prince Street in Lancaster, PA and lives there until 1813
- 1803**—April 19 Meriwether Lewis arrives to receive instruction on land surveying and celestial navigation, AE knows all about surveying in the "wilderness" or on the "frontier," which will be of great help to Lewis, Lewis comments on how "Mr. Ellicott is extremely and attentive..." stays about three weeks as AE suggested 10-12 days
- 1803**—maps from Spanish-US survey released; July 22 finished journal of survey between United States and Spanish America
- 1808**—Gets fired from job as PA state surveyor; new governor Simon Snyder was friends with James Wilkinson whom AE reported was corrupted
- 1811**—commissioned to draw Georgia-North Carolina line on the 35<sup>th</sup> parallel; July 6 left Philadelphia sailing to Charleston, NC with son Joseph; arrived at place of beginning October 25, December 16 awakened by New Madrid earthquake
- 1812**—May finishes survey, does not finish report and does not get paid, 35<sup>th</sup> parallel much farther south than Governor Mitchell expected; sends next year trying to resolve issues; fiscal policies throughout the entire country often resulted in Ellicott not getting paid, but the merit of his work was never in question
- 1813**—July offered and in October takes teaching position at West Point as Professor of Mathematics, appointed by President Madison
- 1817**—last survey was dictated by the terms of the Treaty of Ghent that had ended the War of 1812; commissioned by future president John Quincy Adams at the behest of John C. Calhoun, Secretary of War under the Madison administration to survey the north United States boundary between NY and Canada at the 45<sup>th</sup> parallel, left West Point on May 18 and returned about July 16
- 1819**—May 27 called on to make further observation at the 45<sup>th</sup> parallel, is now 65 years old; July 31 while on survey comments to Sally how fit he feels
- 1820**—August 28 dies of stroke at West Point and is buried at there

**ADDENDUM**  
**Events During Ellicott's Surveying Period**  
**1784-1819**

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| <p><b>1783</b>—Treaty of Paris ends Revolutionary War</p> <p><b>1783-84</b>— Volcanic eruptions in Iceland</p> <p><b>1785</b>— Land Ordinance=rectangular land system; preparation of lands for sale</p> <p><b>1787</b>— Northwest Ordinance=no slavery in Northwest Territory; preparation for statehood</p> <p><b>1789</b>— establish new government, colonies become states, Washington 1<sup>st</sup> President</p> <p><b>1790</b>— Philadelphia becomes US capital and Harmar's defeat by Little Turtle</p> <p><b>1791</b>— St Clair's defeat by Little Turtle</p> <p><b>1794</b>— Battle of Fallen Timber</p> <p><b>1794</b>— Spain declares war on Britain</p> | <p><b>1794</b>— Whiskey Rebellion</p> <p><b>1797</b>— Adams becomes President</p> <p><b>1798</b>— Alien and Sedition Acts</p> <p><b>1800</b>— US Capital moves to Washington, D C</p> <p><b>1801</b>— Jefferson becomes President</p> <p><b>1803</b>— Louisiana Purchase</p> <p><b>1803</b>— Lewis and Clark Expedition</p> <p><b>1804</b>— Hunter-Dunbar Expedition</p> <p><b>1806</b>— Custis-Freeman Expedition</p> <p><b>1806</b>— legislation for National Road</p> <p><b>1809</b>— Madison becomes President</p> <p><b>1811-1812</b>— New Madrid Earthquakes</p> <p><b>1812-1815</b>— War of 1812</p> <p><b>1814</b>— Burning of Washington and Battle for Baltimore</p> <p><b>1816</b>— Year with no summer— no food</p> <p><b>1819</b>— Spain ceded Florida to US</p> |
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**Completion of the Mason Dixon Line**  
September 17-November 16, 1784

Representing Virginia:

**Bishop James Madison**, geographer, principal William and Mary College of Virginia, cousin to future president of the same name

**Robert Andrews**, man of prominence in public affairs, a professor of Fine Arts and Mathematics and William and Mary College, friend of Madison.

**John Page**, friend of Jefferson and afterwards Governor of Virginia

**Andrew Ellicott**, surveyor and producer of almanacs from Maryland with well-know expertise in astronomy, celestial observations and location calculations

Representing Pennsylvania:

**Dr. John Ewing**, provost or senior academic administrator for the University of Pennsylvania

**Thomas Hutchins**, geographer-general of the United states, per the Land Ordinance of 1785 would survey the Seven Ranges in Eastern Ohio from the Point of Beginning on Ohio River near East Liverpool

**David Rittenhouse**, renowned American astronomer, inventor, clockmaker, mathematician, surveyor, scientific instrument craftsman and public official

**John Lukins**, surveyor general for the commonwealth of Pennsylvania; not to be confused with Isaiah Lukins the Philadelphia clockmaker

At a meeting of the Board of Property February 28. 1805.  
Present,  
Andrew Ellicott, Secy L. Off  
John W. Kipsick, Cly.  
Samuel Cochran, Cly.  
Timothy Mattleck, M. R.

And.<sup>o</sup> Ellicott Secy L. Off

Minutes from  
February 28, 1805  
Meeting of the Board of Property  
Lancaster, Pennsylvania  
Signed by  
Andrew Ellicott  
Secretary of the Land Office

James Elliott & Co  
Baltimore  
And<sup>no</sup> Elliotts  
James Elliott  
Thomas Dyre  
of the Great Swamp  
Pennsylvania

Signature Courtesy of Virginia Surveyor David Ingram, [ingram@cfw.com](mailto:ingram@cfw.com)