

## **Report of Adverse Effects to site 40Mr408, the Trail of Tears National Historic Trail**

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Pursuant to and in compliance with the terms and conditions of the National Historic Preservation Act of 1966, as amended, the USDA Forest Service herein self-reports an adverse effect to site 40Mr408, the Trail of Tears National Historic Trail located on the Tellico Ranger District of the Cherokee National Forest, Monroe County Tennessee.

### **Background and History of the Trail of Tears National Historic Trail/Unicoi Turnpike (designated in Monroe County, Tennessee, as Tennessee State site number 40MR408)**

#### **A History of the Route of the Trail of Tears**

The Unicoi Turnpike, earlier termed by many names, including in the 18<sup>th</sup> Century the Unaka/Unicoy Road, and the Charleston Road, is one of the oldest, if not the oldest traces in North America. This is because, prior to the advent of railroads in the late 19<sup>th</sup> Century and paved roads, which were constructed only well into the early 20<sup>th</sup> century, the route of this trace presented the best means by which one could proceed from the Atlantic Coast and cross the formidable and forbidding barrier of the Appalachian Mountains into the interior Southeast. For this simple geographic and topographic reason, this trace has been the primary route which many peoples have employed to cross the Appalachians, for many reasons, beginning with the American Indian far back into prehistoric times, literally for thousands of years. Later, it was employed by Europeans; first, as a route of exploration by the Spanish beginning with Hernando DeSoto in 1540, and later still by other Spanish and then English explorers.

Then, in the late 17<sup>th</sup> Century, this trace evolved into a trade route. It was named the Unaka Road, or the Charleston Road, and served as the main route for trade (particularly for the burgeoning fur trade) between the then-young colonial town of Charleston, South Carolina, to the Indians, principally the Cherokee, located to the west “Over the Hills” (the Appalachian Mountains).

Still later, in the 18<sup>th</sup> Century, the Unaka Road became not only the main trade route for the British but also, during the French and Indian War (1756-1763), a military route and focal point in the struggle for control of the continent between these two European powers; forts (Fort Loudoun and Fort Prince George) being established on either side of the Appalachians by the British to protect this route from the French (Bass 2004, see Unaka Road/Turnpike and Stuart maps, Figures 1 and 2).

In 1816 the Unaka Road was incorporated into a commercial turnpike; and from that time until the beginning of the American Civil War it was known as the Unicoi Turnpike. Extending from

Tennessee, through the Cherokee Nation to South Carolina (see attached Unaka Road/Turnpike map, Figure 1), the Unicoi Turnpike became an very important route of commerce for the then-young United States; serving as a stock road along which literally millions of head of livestock, principally swine, but also sheep, cattle, and even turkeys and ducks, were driven to feed the markets and large plantations of the ante-bellum South located on the Atlantic side of the Appalachians. As a result of this commerce, stock “stands,” stations where the drovers and their livestock could rest, were established approximately every eight miles along the Turnpike through the Cherokee Nation and beyond (Riggs and Greene 2006, Riggs 2014).

Tragically, it was during this period that the section of the Unicoi Turnpike extending from present-day Hayesville, North Carolina to Athens, Tennessee, became, with enactment of the Indian Removal Act of 1830, a principal route for the removal of the Cherokee (and Creek refugees among the Cherokee) to Oklahoma, The Trail of Tears (Riggs and Greene 2006, Riggs 2014).

It was also during this period that one of the stock stands, Merony’s Stand, located in present-day Coker Creek, was commandeered by the United States military and the only military installation located within the Cherokee Nation prior to the Removal, Fort Armistead, was constructed in 1832 (see Figure 3). Ironically, although first established along the Unicoi Turnpike to bar Euro-American gold-seekers from illegally settling on Cherokee lands, Fort Armistead then later became, from 1836 to 1838, one of the principal military installations employed by the United States government for the removal of the Cherokee on The Trail of Tears.

Subsequent to the Civil War and the disappearance of slavery and the plantation system and the almost simultaneous appearance of railroads in the region, the Unicoi Turnpike (Trail of Tears) ceased to function as a stock road. Consequently, the stock stands and much of the Unicoi Turnpike/Trail of Tears, including the portion that runs from the area of Cooper Hollow directly to and through the Fort Armistead site were abandoned and bypassed by history, literally; being superseded by the Madisonville Murphy Road, which itself was later superseded in the 20<sup>th</sup> century by Tennessee Highway 68 and the Joe Brown Highway (see Figures 3 and 4). As a consequence, it was along this later route that the great naturalist, John Muir, walked in 1867 in his thousand mile walk to the Gulf and totally missed the Fort Armistead site, yet when he arrived in Murphy, North Carolina, he was shown the ruins of Fort Butler, a Trail of Tears period removal fort that today has been completely obliterated with the growth of the town of Murphy, North Carolina (Muir, 1916, pages 39-43).

## **Management of the Unicoi Turnpike and the Trail of Tears**

The first national recognition of the significance of the Unicoi Turnpike occurred in 1999 when First Lady Hillary Clinton dedicated that portion of the Unicoi Turnpike that extends from Murphy, North Carolina to the old Cherokee capital of Chota on the Little Tennessee River as the flagship Millennium Trail (see Figure 1).

Also recognizing the significance of the Unicoi Turnpike, and the fact that it was part of the Trail of Tears (albeit as yet not officially designated as such), the Cherokee National Forest initiated a program to preserve portions of the Unicoi Turnpike/Trail of Tears (also now Millennium Trail) located on the Cherokee National Forest and, if possible, acquire and protect further segments of the Unicoi Turnpike/Trail of Tears.

Toward the end, the preserved portion of the Unicoi Turnpike/Trail of Tears located on the Cherokee National Forest extending from Unicoi Gap to the area of Cooper Hollow was rehabilitated as a hiking and biking trail and, pursuant to and in compliance with the terms and conditions of the National Historic Preservation Act, a Memorandum of Agreement (MOA) and Historic Preservation Plan (HPP) was signed between the Forest Service and the Tennessee State Historic Preservation Office in 2004 to preserve and protect this portion of the Unicoi Turnpike/Trail of Tears (see Figure 5).

Additionally, in 2005 the Heritage Resources Program of the Cherokee National Forest pursued and completed the acquisition of the tract that putatively contained the Fort Armistead site (see Figure 3). This acquisition was primarily for the protection and preservation of the Unicoi Turnpike/Trail of Tears, the roadbed which, as with the portion of the trail extending from Unicoi Gap to Cooper Hollow, is clearly still visible throughout the tract.

However, this tract was also acquired to preserve the Fort Armistead site (40Mr708), some remains of which it was hoped were still present. Indeed, archaeological investigations performed by UNC-Chapel Hill in partnership with the Forest Service from 2008 to 2012 have demonstrated that the Fort Armistead site is an almost a completely preserved archaeological site (Riggs et al., 2014). As such, it is, quite literally, the only example of its kind; all of the more than two dozen forts employed in the Cherokee Removal of 1838 located in Alabama, Georgia, North Carolina and Tennessee themselves having been long since completely removed without trace. Given this singularity, its remarkable state of preservation and its significance for the history of this nation, the Fort Armistead site is now in the process of being designated by the Forest Service in conjunction with the National Park Service and others as a National Historic Landmark, for that, in fact, is its significance: a landmark whose historical significance is national in scope (Riggs and Fitts, 2014).

Importantly, it also was during this period of investigations, in 2009, that the significance of the segment of the Unicoi Turnpike/Trail of Tears that extends from Hayesville, North Carolina, to

Athens, Tennessee, was formally recognized by Congress and officially added to the Trail of Tears National Historic Trail system.

It also was during this period that the Heritage Resource Program of the Cherokee National Forest actively pursued acquisition of the private tract of land located between Joe Brown Highway and Doc Rogers field. Acquisition of this tract was pursued because it contains a well preserved, entrenched segment of the Unicoi Turnpike/Trail of Tears National Historic Trail that runs directly to/from the Fort Armistead site (see Figure 3). As such, its acquisition would serve to almost completely connect the portion of the Unicoi Turnpike/Trail of Tears National Historic Trail on Forest land and now under management pursuant to the MOA/HPP with the portion of the Unicoi Turnpike/Trail of Tears National Historic Trail and Fort Armistead purchased in 2005; providing the Forest Service with almost contiguous ownership of the Trail of Tears National Historic Trail, and Trail view shed, from Unicoi Gap at the Tennessee/North Carolina state line through the Fort Armistead site (see Figures 3, 6 and 7).

However, although it was learned in 2009 that this tract was available for acquisition, traditional Forest Service funding sources for land acquisition and resource preservation (i.e., Land, Water, Conservation Fund – LWCF) was not then available. The Heritage Resources Program and the Realty Specialist of the Cherokee National Forest then pursued acquisition of the tract through The Conservation Fund, and principally with the justification of the acquisition and preservation of the still well-preserved segment of the Trail of Tears National Historic Trail located on that tract that connects directly to the Fort Armistead site and the portion of the Unicoi Turnpike/Trail of Tears (see Figure 3). Under this aegis, in 2011 The Conservation Fund agreed to purchase the 461 acres of this 571-acre tract and hold it until such time as the Forest Service could purchase the tract from The Conservation Fund (see Figures 6 and 7). In 2012 The Conservation Fund purchased the tract and in 2013 gave the Forest Service the option to purchase the tract. In 2013, Nancy Paracini of LWCF, Washington Office of the USDA Forest Service, under request of the Southern Region Heritage Resources Program, Atlanta, made a special visit to inspect the proposed acquisition tract and in 2014 funding was provided through LWCF for the Forest Service to purchase the tract, which purchase was finalized September 25, 2014.

In order to provide for an overall program of management of the Trail of Tears National Historic Trail (40Mr408) and the Fort Armistead site (40Mr708) located on the Cherokee National Forest (Figure 8), the Heritage Resources Program of the Cherokee National Forest initiated in 2012 the development of plan elements to be incorporated in the Memorandum of Agreement (MOA) and Historic Preservation Plan (HPP) for the Trail of Tears National Historic Trail (40Mr408) and Fort Armistead (40Mr708), pursuant to and in compliance with the terms and conditions of the Section 110 process of the National Historic Preservation Act (16 U.S.C.470h [now 54 U.S.C. 306101 et seq.] and 36 CFR 800) and to be incorporated into the Revised Forest Land and Resource Management Plan for the Cherokee National Forest.

Toward this end, a design charrette for the Trail of Tears National Historic Trail and Fort Armistead site and view shed was hosted by the National Park Service, National Trails Intermountain Region Design Charrette Team, on the Cherokee National Forest from July 13 to July 20, 2015 at Tellico Plains, Tennessee. Invited to the charrette were all federally recognized Cherokee tribes and the Muscogee/Creek tribe and tribal towns, the National Park Service National Historic Landmark (NHL) program, the National, Tennessee and North Carolina Trail of Tears Associations and numerous other federal and state agencies and other stakeholders. In attendance at the charrette was the Cherokee Nation, the Eastern Band of Cherokee Indians, the Thlopthlocco (Creek) Tribal Town, the National Trail of Tears Association (all members of the tribal council of the Cherokee Nation), the North Carolina and Tennessee Trail of Tears Associations, the NPS NHL program, the TVA, the agencies of the State of Tennessee, the Monroe County Mayor, several heritage groups and numerous other stakeholders.

On July 14 field work and review of the Fort Armistead site and the Trail of Tears National Historic Trail route within the proclamation boundary of the Cherokee National Forest was conducted by the NPS charrette team prior to meeting with the Tribes on July 15 and stakeholders on July 16 and the formulation of the charrette design plan by the NPS team July 17-19 with presentation of the preliminary design plan to the Tribes and stakeholders on July 20.

In the course of the field review the NPS charrette team, the NPS NHL program manager, members of the NC Trail of Tears Association, Dr. Brett Riggs, members of the National Trail of Tears Association, the Heritage Program Manager of the Cherokee National Forest and the Forest Hydrologist of the Cherokee National Forest visited the Trail of Tears National Historic Trail located on the new acquisition tract. All who visited the tract were confronted by an extensive series of (20-30 estimated) tank traps throughout the entire length of the Trail of Tears National Historic Trail on the recent acquisition tract. Each of these tank traps included a trench and berm that completely transected 40Mr708, the Trail of Tears National Historic Trail.

The Forest Supervisor and the staff of the Cherokee National Forest were immediately notified that there was a significant adverse effect to a historic property, to wit, 40Mr708, the Trail of Tears National Historic Trail. The Cherokee National Forest determined, in consultation with the Forest Service Southern Region, that an action plan was to be formulated to address this adverse effect to a National Historic Trail and this was to include conducting a formal inquiry into this adverse effect as well as conduct a field investigation and condition assessment of the damage to this segment of the Trail of Tear National Historic Trail, this report.

### **Field investigation and assessment of alterations to site 40Mr408, the Trail of Tears National Historic Trail**

Field investigation of the alterations of the segment of 40Mr408, the Trail of Tears National Historic Trail/Unicoi Turnpike, situated on the tract recently acquired (September 25, 2014) from

The Conservation Fund, was performed on August 4, 2015, by Quentin Bass and Chris Bassett, Heritage Program, and Anita Bailey, GIS/GPS specialist, Cherokee National Forest. Field investigations included GPS location, preliminary photography and measurement of every tank trap and stream alteration and all other heavy equipment ground or stream alterations along the Trail of Tears National Historic Trail/Unicoi Turnpike in the acquisition unit. These field investigations documented the installation of a total of 35 tank traps (and alteration of the course of Peels Branch) by use of heavy equipment. The location of each tank trap was determined by Global Positioning System (GPS) and is displayed in Figure 9.

Differential weathering and vegetation growth on these tank traps suggests installation of the tank traps (and excavation of the Trail of Tears National Historic Trail) occurred in at least two episodes, with the most recent episode occurring within the last calendar year and the earlier tank traps being installed possibly two years ago.

Descriptions of the dimensions of the tank traps and a preliminary photograph of each tank trap are attached in Appendix A.

## **Conclusions and Recommendations**

### **Conclusions**

Field investigations of site 40Mr408, the Trail of Tears National Historic Trail, illustrate that the installation of the 35 tank traps by Forest Service personnel has resulted in a clear, and extensive, adverse effect to this National Historic Trail as stipulated in 36CFR800.5(a) (2) (i, ii, and iv):

*“(i) Physical destruction of or damage to all or part of the property;*

*(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;*

*(iv) Change of the character of the property’s use or of physical features within the property’s setting that contribute to its historic significance;”*

The implementation of this project also constitutes a violation of the terms and conditions of the National Historic Preservation Act of 1966, Protection of Historic Properties (incorporating amendments effective August 5, 2004), as this project was implemented without prior review as required by the Section 106 process of the Act (36CFR800.3, Subpart B).

As such, it should be clearly noted that the installation of these tank traps, and the resulting extensive alteration/destruction of this entire segment of the Trail of Tears National Historic Trail (see again Figure 9) was performed entirely outside the Section 106 process and, indeed,

the scheduled Program of Work for the Cherokee National Forest, and the Heritage Program of the Cherokee National Forest was in no way informed of this project by even email or telephone call.

### **Recommendations**

It is recommended that, pursuant to and in compliance with 36CFR800, part B, the Forest Service initiate formal consultation with the Advisory Council on Historic Preservation, the Tennessee State Historic Preservation Office, the Cherokee and Muscogee/Creek Tribes and Tribal Towns, the National Trail of Tears Association, the Tennessee Trail of Tears Association, the North Carolina Trail of Tears Association, the National Park Service National Trails Intermountain Region, and all other stakeholders engaged in or requested to be engaged in the NPS design charrette for Fort Armistead and the Trail of Tears National Historic Trail recently held (July 14-20, 2015) at Tellico Plains, Tennessee, and 1.) formally notify these consulting parties of these adverse impacts to site 40Mr408, the Trail of Tears National Historic Trail, and 2.) request their advice and proposals for remediation of these adverse impacts.

It is further recommended that remediation (restoration and reconstruction) of site 40Mr408, the Trail of Tears National Historic Trail, be performed as early as possible, pursuant to and in compliance with the Secretary of Interior's standards for the Treatment of Historic Properties (36 CFR part 6) and that this be performed in consultation with the NPS National Trails Intermountain Region, Santa Fe, and in consultation with the Cherokee and Muscogee/Creek Tribes, the National and State Trail of Tears Associations, the NPS National Historic Landmarks, and all other stakeholders, and that restoration and/or reconstruction of the Trail be performed under the guidance, and preferably the direct supervision, of the NPS National Historic Trails, Santa Fe.

Finally, it is strongly recommended that a staff member of the Advisory Council on Historic Preservation, Washington, D.C., be engaged to conduct a Section 106 training course to all personnel on the Cherokee National Forest, who will be required to take the course before the initiation of any projects on the Forest, and who after having completed said course will be put on notice that any future violation of the Section 106 process will not be in any manner tolerated.

## Bibliography

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<http://www.nps.gov/trte/historyculture/loader.cfm?csModule=security/getfile&PageID=526089>



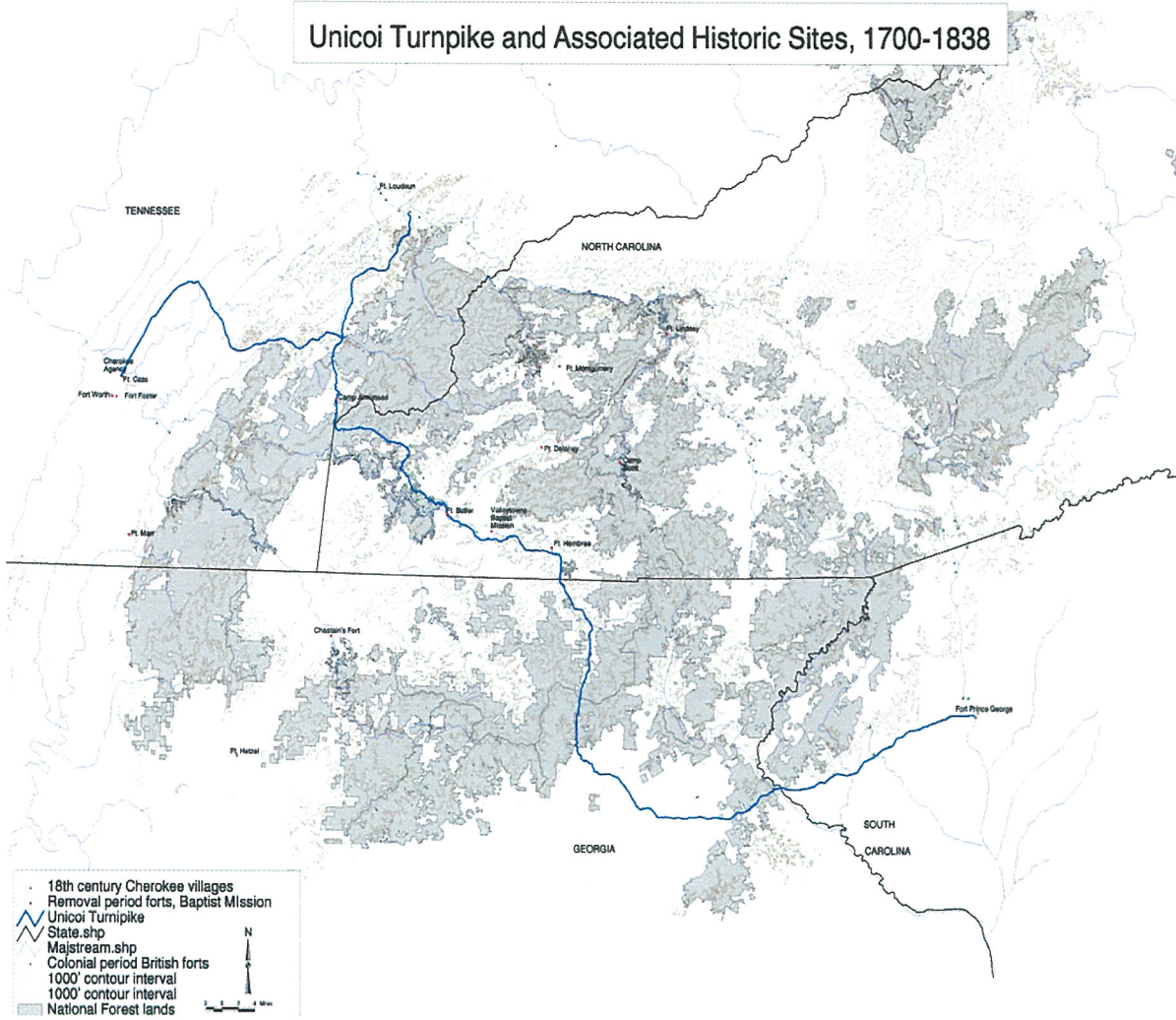


Figure 1. The Unicoi Turnpike (inclusive of the Trail of Tears National Historic Trail) extending from Tennessee to upper South Carolina.

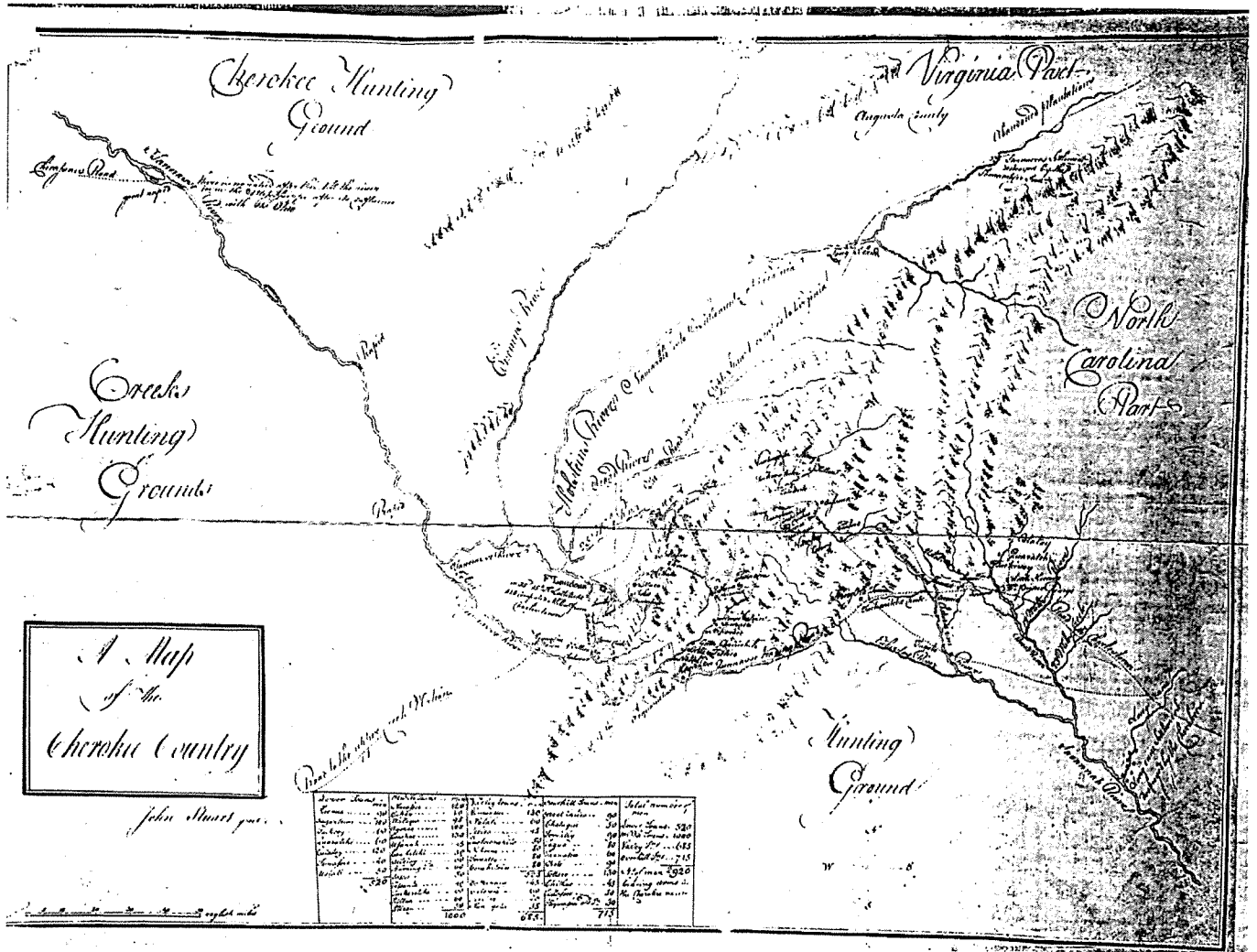


Figure 2. Stuart Map, 1760's, illustrating the "Unaka Road" (a.k.a. Unicoi Turnpike/Unicoy Road/Charleston Road and, at its western end, The Trail of Tears).

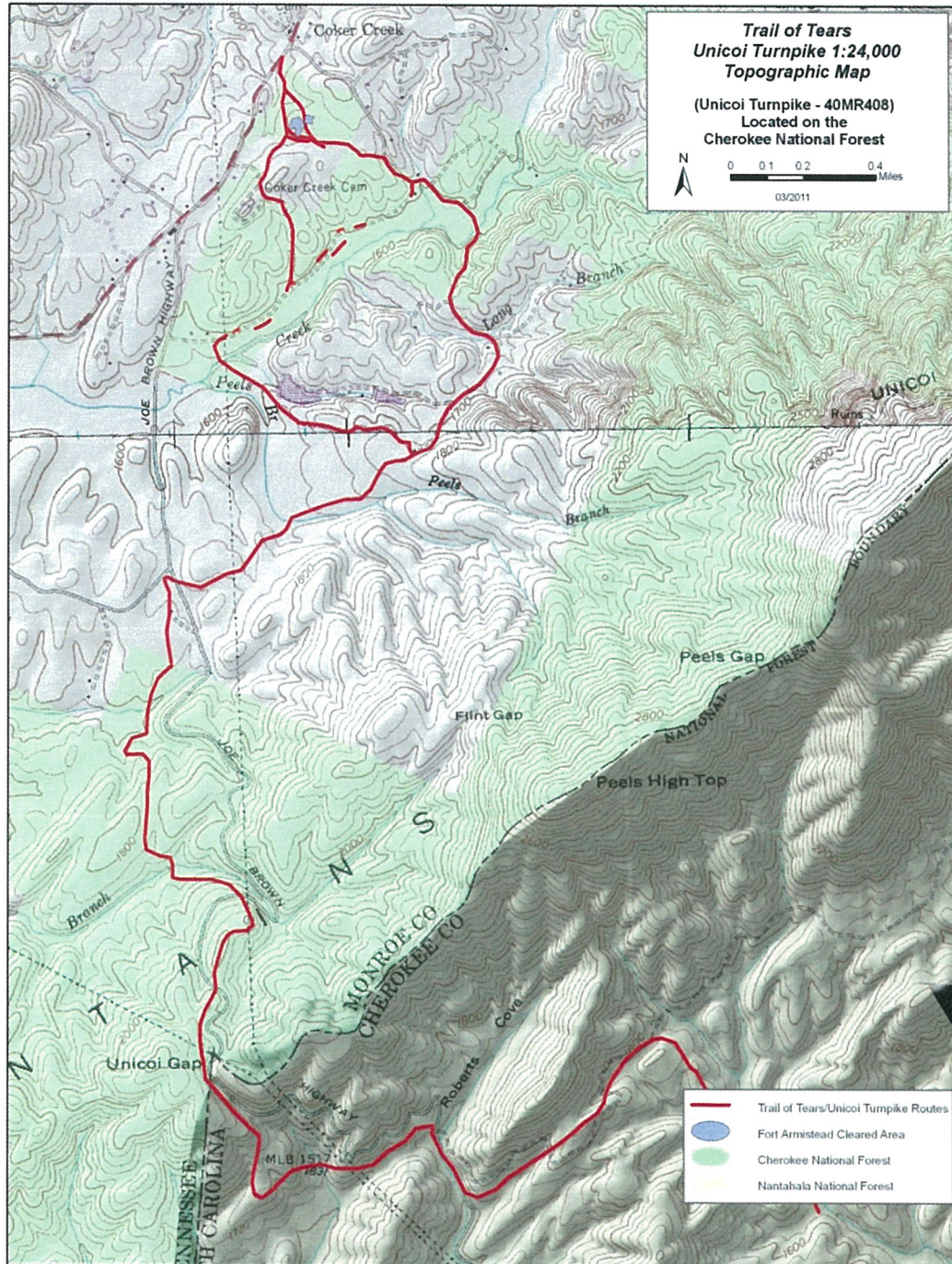


Figure 3. Trail of Tears National Historic Trail/Unicoi Turnpike extending from Unicoi Gap through Fort Armistead (site 40Mr708).

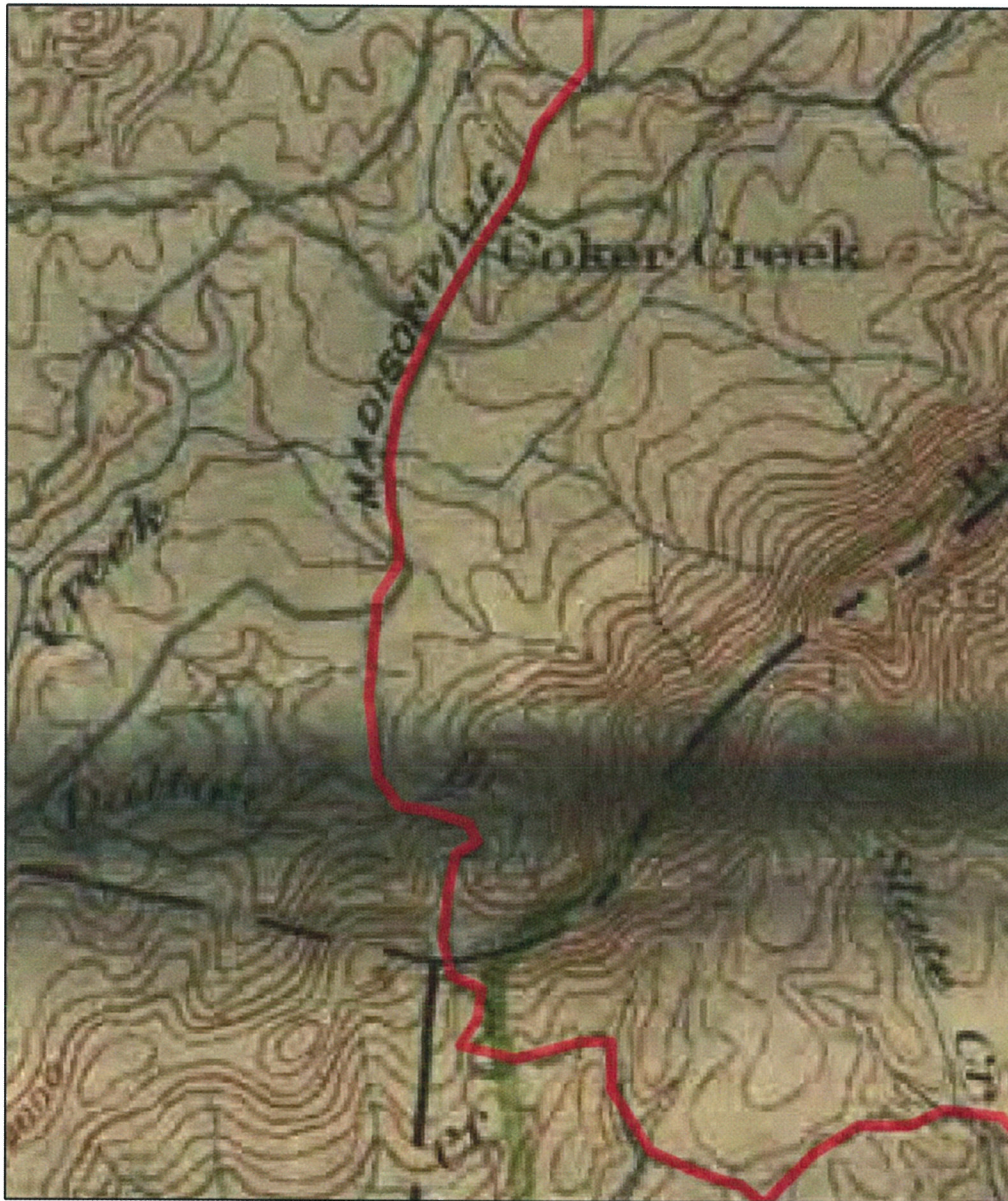


Figure 4. Close up of portion of USGS 1884 map of a segment of the Madisonville-Murphy road (in red) walked by John Muir in 1867. Note that the segment of the Unicoi Turnpike (Trail of Tears) that formerly lead to/from Fort Armistead (earlier Merony's Stand) has been abandoned and is now bypassed by the Madisonville (Tennessee) - Murphy (North Carolina) Road, which itself is later superseded by the Highway 68 and the Joe Brown Highway (see Figure 3).

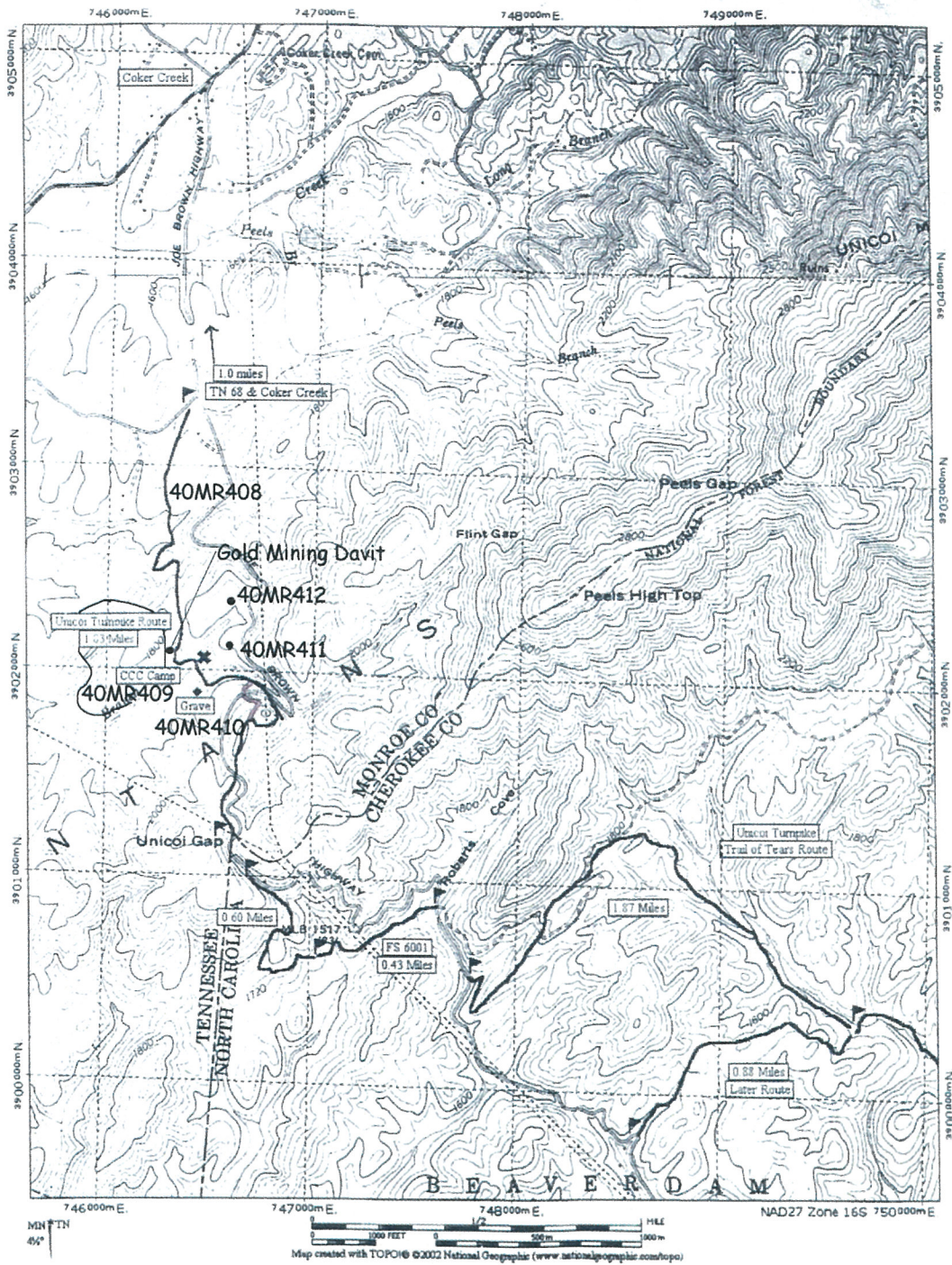


Figure 5. Topographic map illustrating location of Unicoi Turnpike (40Mr408) and associated historic sites extending from Unicoi Gap to Cooper Hollow (Bass 2004).

## SUBJECT MAP - Unicoi Turnpike

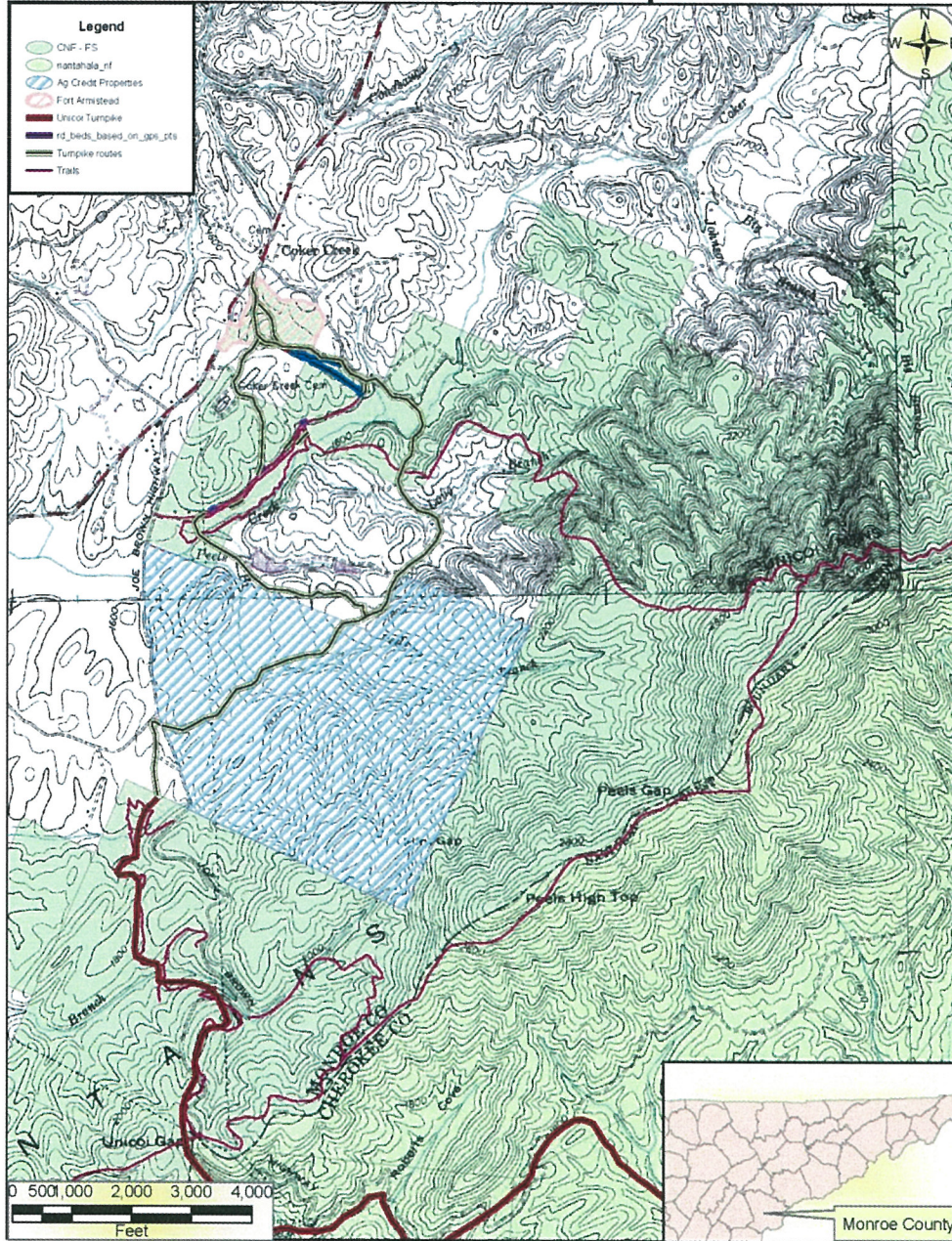


Figure 6. Ag Credit Bank tract (blue) proposed for acquisition by the Forest Service in 2011. Location of Trail of Tears National Historic Trail/Unicoi Turnpike in yellow. Portion of Trail of Tears/ National Historic Trail/Unicoi Turnpike in Tennessee designated for management under MOA/HPP in red (see Figure 3).

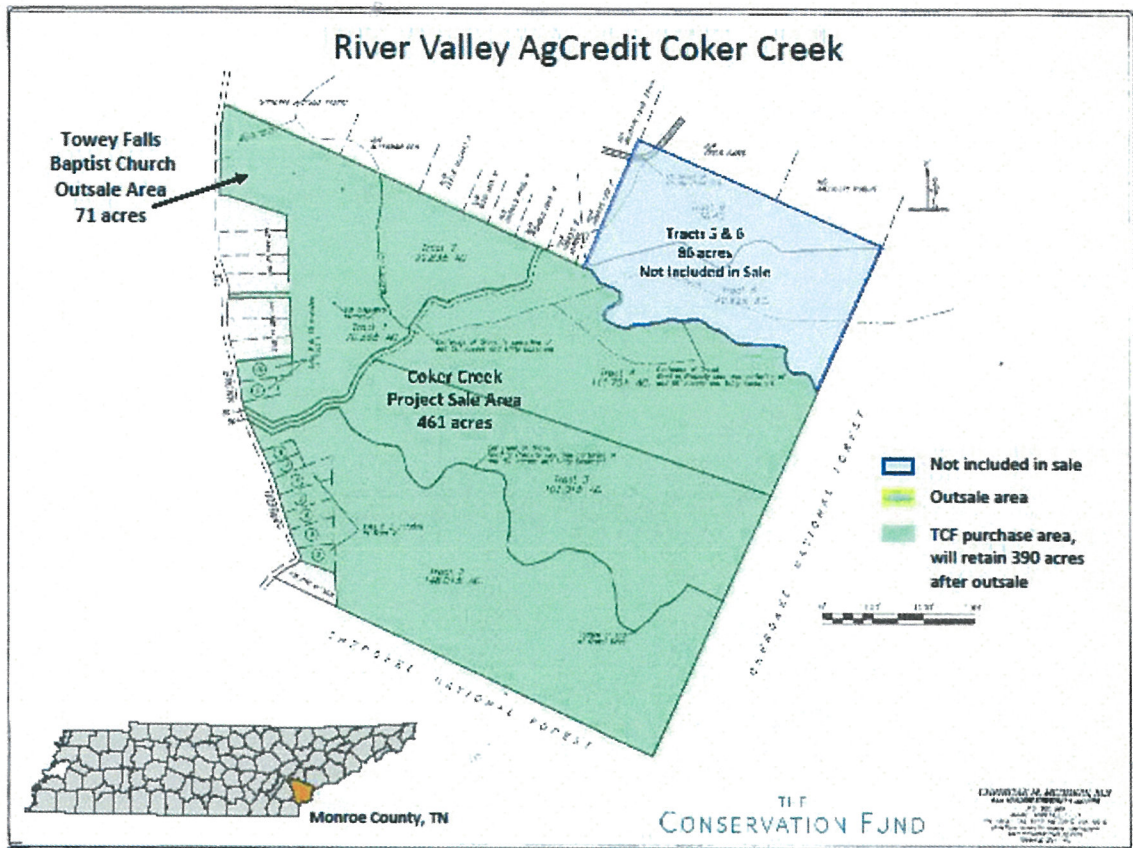


Figure 7. Ag Credit Bank tract purchased by The Conservation Fund in 2012 (green) and transferred to the Forest Service September 25, 2014.

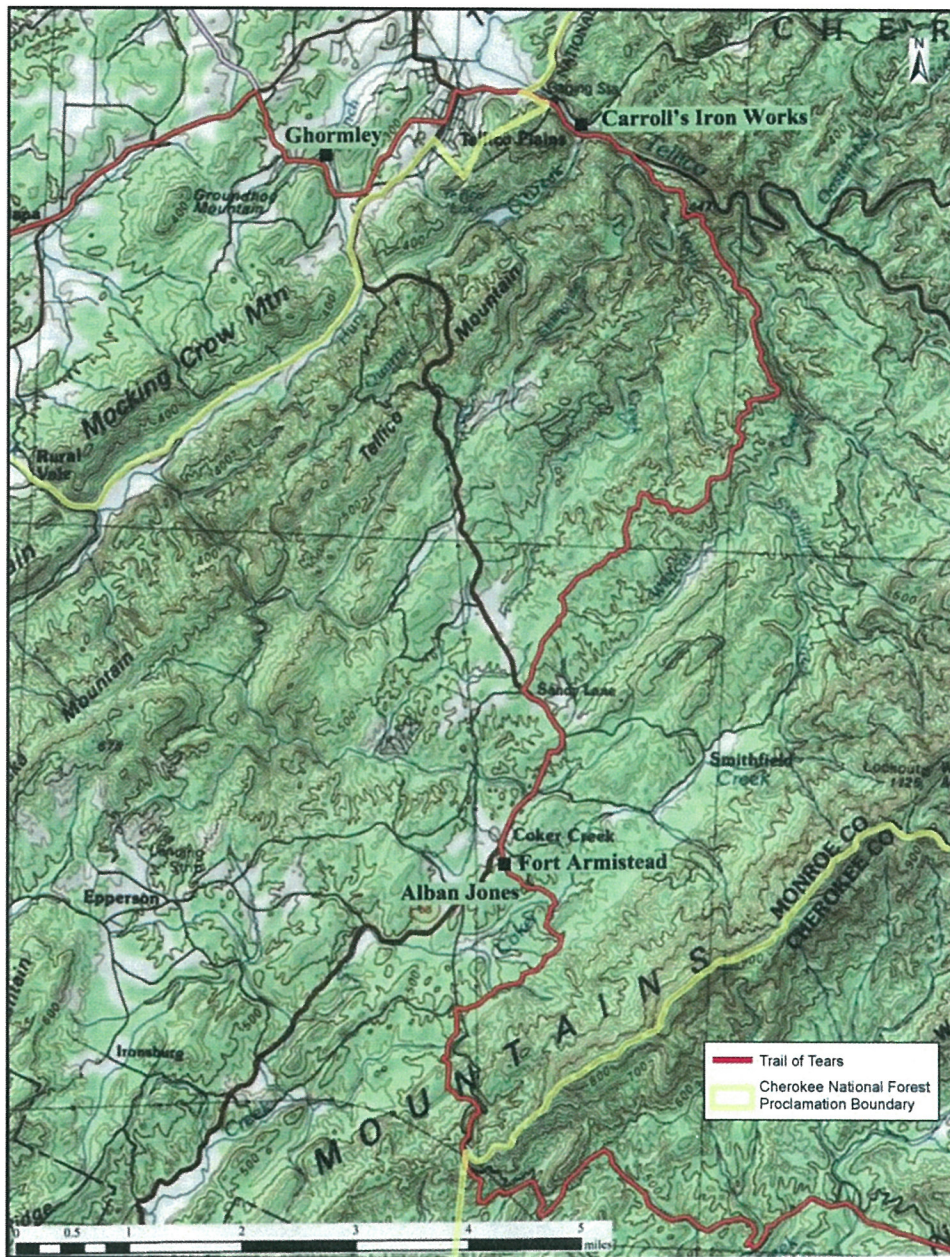


Figure 8. Location of Trail of Tears National Historic Trail (40Mr408) and the Fort Armistead site (40Mr708) within the proclamation boundary of the Cherokee National Forest (Tellico Plains to Unicoi Gap). This is the base map for the proposed Memorandum of Agreement and Historic Preservation Plan (HPP) for the Trail of Tears National Historic Trail and the Fort Armistead site. This map and the proposed HPP was distributed to all Cherokee and Muscogee/Creek Tribes in 2013 and 2014 and to all Cherokee and Muscogee/Creek Tribes, Trail of Tears Associations, NPS, and all stakeholders at the NPS design charrette for Fort Armistead and the Trail of Tears National Historic Trail held by the National Park Service at Tellico Plains, Tennessee, July, 2015.



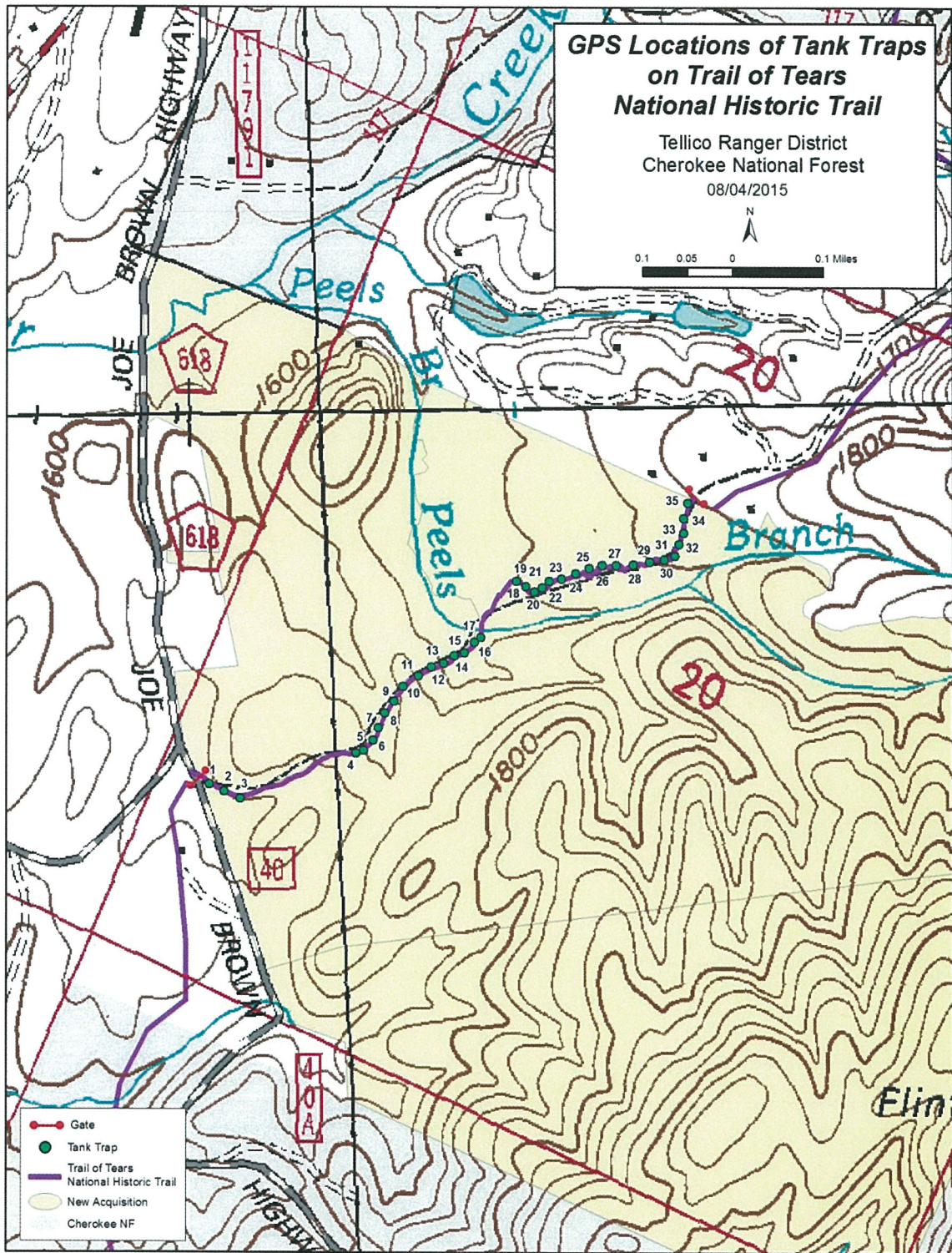


Figure 9. GPS location of tank traps on the Trail of Tears National Historic Trail (40Mr408) on the tract officially acquired by the Forest Service from The Conservation Fund, September 25, 2014.



Tank Trap 2 facing south. Tank Trap 1 in background.



Tank Trap 12 facing north

## Measurements of Tank Traps and Trenches

Field examination and documentation conducted on 8/4/15 by Quentin Bass, Chris Bassett and Anita Bailey. Starting from the South Gate access, all tank traps on The Trail of Tears National Historic Trail (ToT NHT) were GPSed, measured and photographed. Differences between how the tank traps were constructed, vegetation cover and erosion indicate that they were constructed at different times and/or by different people.

### Tank Trap 1

- Berm height is 3 ft.
- Trench depth is 2.5 ft.
- Length of tank trap across The Trail of Tears National Historic Trail (ToT NHT) is 15 ft. It completely transects the ToT NHT.
- Berm and trench width is 16 ft.

### Tank Trap 2

- Berm height is 3 ft.
- Trench depth is 2.5 ft.
- Length of tank trap across ToT NHT is 23 feet .
- It is dug through shaley clay.

### Tank Trap 3

- Berm height is 4 ft.
- Trench depth is 5ft.
- Length of tank trap across ToT NHT is 22 ft.
- Berm and trench width is 16 ft.

### Side Road

The first side road to the west was going to be the access road to the housing lots. It is not part of the ToT NHT. The erosion and vegetation growth along this road indicate that these tank traps were perhaps installed at an earlier time than the tank traps on the ToT NHT. Two of these tank traps are shallower and have an outlet for water. There are nine in total. Four are at a 90 degree angle and are bisected, apparently for drainage. Five are at a 45 degree angle but are not bisected.

### Tank Trap 4

- Berm height is 2 ft.
- Trench depth is 3 ft.
- Length of tank trap across ToT NHT is 17 ft.
- Berm and trench width is 16 ft.

#### **Tank Trap 5**

- Berm length is 62 ft.
- There is a bulldozed drain that is 13 ft wide with a maximum depth of 2.5 ft. deep.
- The breach through the ToT NHT cut bank into the drain is 16 ft. wide.

#### **Tank Trap 6**

- Berm height is 2 ft.
- Length of tank trap across ToT NHT is 19 ft.
- Berm and shaved area width is 12 ft.

#### **Tank Trap 7**

- Berm height is 2 ft.
- Length of tank trap across ToT NHT is 19 ft.
- Berm and shaved/scraped width is 12 ft.
- It is similar to Tank Trap 6

#### **Tank Trap 8**

- Berm height is 2 ft.
- Length of tank trap across ToT NHT is 19 ft.
- Berm and trench width is 12 ft.
- It is similar to Tank Traps 6 and 7
- A drain has been bulldozed to the west.

#### **Tank Trap 9**

- Berm height is 2 ft.
- Length of berm of tank trap across ToT NHT and along drain to west is 30 ft.
- Shoulder of ToT NHT cut bank is shaved off at drain.
- Bulldozed drain has maximum width of 14 ft. and narrows to a point.

#### **Tank Trap 10**

- Berm height is 3 ft.
- Tank trap length across road is 21 ft.
- Berm and shaved area width is 30 ft.
- There is no outlet from this tank trap and it retains water.

#### **Logging Road**

There is a logging road to the west between Tank Traps 10 and 11. It has multiple tank traps that do not have an outlet for water.

### **Tank Trap 11**

- Berm height is 3 ft.
- Tank trap length across ToT NHT, cut bank to cut bank, is 15 ft.
- Berm and shaved area width is 15 ft.
- There are very recent signs of motorcycle/ATV traffic.

### **Tank Tank 12**

- Berm length across ToT NHT from cut bank to cut bank is 16 ft.
- Berm and shaved/scraped area width is 23 ft.

### **Tank Trap 13**

- Berm height is 3 ft.
- Berm length across ToT NHT, cut bank to cut bank, is 15 ft.
- Berm and shaved/scraped area width is 23 ft.

### **Tank Trap 14**

- Berm length is 40 ft and extends from cut bank on the east side of ToT NHT through the cut bank on the west side.
- The breach through the cut bank of the ToT NHT has a width of 15 ft.
- Berm and shaved/scraped area width is 15 ft.

### **Tank Trap 15**

- Berm length ToT NHT cut bank to cut is 15 ft.
- Berm and shaved/scraped area is 25 ft. wide.

### **Tank Trap 16**

- Berm height is 2 ft.
- Berm length is 41 ft. and extends from ToT NHT cut bank through the cut bank on the other side.
- The maximum width of the break through the cut bank is 11 ft.

### **Tank Trap 17**

- Berm height is 2 ft.
- Berm length is 12 ft. It does **not** extend completely from ToT NHT cut bank to cut bank. It ends approximately 1.5 ft. from the cut bank.
- Berm and shaved/scraped area is 17 ft. wide.

### **Peels Branch**

Peels Branch runs between Tank Trap 17 and Tank Trap 18 and has been significantly diverted.

#### **Tank Trap 18**

- Berm height is 2 ft.
- Berm length is 15 ft. and extends across ToT NHT, cut bank to cut bank.
- Berm was scraped/shaved from a log landing located to the immediate west.

#### **Tank Trap 19**

- Berm height is 1 ft.
- Berm length is 13 ft. and extends across ToT NHT, cut bank to cut bank

#### **Tank Trap 20**

- Berm length is 15 ft.
- There is a bulldozed drain to the east.

#### **Tank Trap 21**

- Berm length is 15 ft.
- Trench depth is 3 ft.
- Width of berm and trench is 18 ft.

#### **Tank Trap 22**

- Berm length is 15 ft. and extends across ToT NHT, cut bank to cut bank.
- Trench depth is 3 ft.

#### **Tank Trap 23**

- Berm length is 15 ft. and extends across ToT NHT, cut bank to cut bank.
- Trench depth is 3 ft.
- Similar to Tank Trap 22.

#### **Tank Trap 24**

- Berm length is 15 ft. and extends across ToT NHT, cut bank to cut bank.
- Trench depth is 3 ft.
- Similar to preceding Tank Trap.

#### **Tank Trap 25**

- Berm length is 15 ft. and extends across ToT NHT, cut bank to cut bank.
- Trench depth is 3 ft.
- Similar to preceding Tank Trap.

#### **Tank Trap 26**

- Berm length is 15 ft. extends across ToT NHT, cut bank to cut bank.
- Trench depth is 3 ft.
- Similar to preceding Tank Trap.

#### **Tank Trap 27**

- Berm height is 3 ft.
- Berm length is 24 ft.
- Berm is slanted/angled.

#### **Tank Trap 28**

- Berm height is 2.5 ft.
- Berm length is 11 ft and extends across ToT NHT, cut bank to cut bank.
- Berm and shaved/scraped area is 18 ft. wide.

#### **Tank Trap 29**

- Berm length across ToT NHT, cut bank to cut bank, is 12 ft.
- Berm and shaved/scraped area width is 15 ft.

#### **Tank Trap 30**

- Berm length across ToT NHT, cut bank to cut bank, is 12 ft
- Berm and shaved/scraped area width is 15 ft.

#### **Tank Trap 31**

- Berm length across ToT NHT, cut bank to cut bank, is 12 ft.
- Berm and shaved/scraped area width is 15 ft.

#### **Tank Trap 32**

- Berm length across ToT NHT, cut bank to cut bank, is 12 ft.
- Berm and shaved/scraped area width is 15 ft.

#### **Tank Trap 33**

- Berm length across ToT NHT, cut bank to cut bank, is 12 ft.
- Berm and shaved/scraped area width is 15 ft.



**Tank Trap 34**

- Berm length across ToT NHT, cut bank to cut bank, is 12 ft.
- Berm and shaved/scraped area width is 15 ft.

**Tank Trap 35**

- Berm length across ToT NHT, cut bank to cut bank is 12 ft.
- Berm and shaved/scraped area width is 15 ft.