Cycling Comments on Wilderness Inventory, Texas National Forests And Grasslands

Abstract

Not all cycling in Texas National Forests and Grasslands is road cycling or mountain biking on trails. Gravel grinding and bikepacking are forms of cycling increasing in popularity. They are sustainable recreation tends, low impact, and require little infrastructure. Texas National Forests and Grasslands offer abundant gravel and bikepacking opportunities and the potential for managed recreation and bicycle tourism. As part of Forest Plan Revision under the 2012 National Forest Planning Rule, the National Forest and Grasslands in Texas is required to complete a wilderness evaluation process to review and consider lands that may be suitable for inclusion in the National Wilderness Preservation System (NWPS). This document reviews potential wilderness inventory and possible impacts on gravel grinding and bikepacking in Texas National Forests, and makes recommendations on which parcels of land may be suitable for wilderness and which are in conflict with current and future cycling recreation opportunities. The primary goal is to identify and preserve access for gravel grinding and bikepacking. The secondary goal is to preserve access for future single track mountain bike access. This document is written to enable cyclist comments, but is also written for Forest Service planners to provide background information on cycling trends.

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1 Introduction

Bicycles are not allowed in designated wilderness areas. As cyclists, it is our responsibility to engage with land managers and advocate for recreation access. Wilderness areas are most commonly in conflict with mountain biking and the loss of existing trail, however, as gravel grinding and bikepacking grow in popularity, potential wilderness areas must also account for those recreational needs. Quite often a forest road or trail is the only viable and safe connector between two regions. The loss of a forest road or future trail may result in dozens of additional miles on high traffic, high speed, and no shoulder paved roads, which deters recreation and jeaopordizes safety.

The 1964 Wilderness Act created the National Wilderness Preservation System, which protects nearly 110 million acres of wilderness areas in the U.S. from coast to coast. The Act created a way for Congress and Americans to designate "wilderness areas," which represent the nation's highest form of land protection. No roads, vehicles or permanent structures are allowed in designated wilderness; also prohibited are extraction activities such as timber harvesting and mining. Therefore, mechanized/mechanical forms of recreation, including bicycles, are not currently allowed in Wilderness. In order

As part of Forest Plan Revision under the 2012 National Forest Planning Rule, the National Forest and Grasslands in Texas is required to complete a wilderness evaluation process. The purpose of this process is to review and consider lands that may be suitable for inclusion in the National Wilderness Preservation System (NWPS). The Forest Service accepts public comments during this process.

The Forest Service Manual 1923 instructs the Responsible Official to use the following process to identify and evaluate lands, which may be suitable for inclusion in the NWPS and determine wilderness designation, which is detailed in the Forest Service Land Management Planning Handbook 1909.12, Chapter 70.

There are four primary steps, each of which includes public involvement. The current step in Texas National Forests is step 1, Inventory.

1. Inventory - **this is the current step**
2. Evaluation
3. Analysis
4. Recommendation

At this time, the Forest Service are asking for the public to review currently identified and other areas that may be suitable for wilderness designation. Figure

1 shows an overview map of Sam Houston, Davy Crockett, Angelina, and Sabine National Forests. Within each forest boundary, potential wilderness areas are pre-identified. The Forest Service asks:

1. Are there any areas that should be added to the list?

   Identify the area to be added.

   Explain why it should be added.

2. Are there any areas listed that should be removed?

   Identify that area to be removed.

   Explain why it should be removed.

This document explores each forests' pre-identified wilderness areas and assesses their impact on gravel grinding and cycling.

1.1 What are Gravel Grinding and Bikepacking

Cycling is a sport more diverse than road riding and mountain biking. The original form of cycling was gravel grinding, as nearly all roads in the late nineteenth century were dirt. As soon as the bicycle was created, cycling exploded in popularity and with it, demand for quality roads. At that time, the only good roads were in cities with little regional, and no State and Federal funding, planning and construction of roads. The result was mud in the winter, dust in the summer, and declining economic prospects in rural areas which were locked out of the economic booms of cities unless they were directly situated on a rail line.

Cyclists in cities, however, wanted to ride into the country, often finding the roads unsuitable. The League of American Wheelman, now known as the League of American Bicyclists, was founded to advocate for the good roads movement, ostensibly for rural development and farmer participation in the broader economy, but with the additional benefit of creating quality roads for cycling. This movement completely changed the political philosophy behind roads and resulted in the creation of the National Highway System, and greatly accelerated the uptake of automobiles thereafter, which required decent roads to operate.

Indeed, America's fascination with motor vehicles stems from bicycles. Carl Benz "world's first motor car" did not have carriage wheels, as later depicted as a horseless carriage. It was built from steel bicycle tubing and used Coventry designed tricycle wheels. The parts, including pneumatic tires, were purchased from Heinrich Kleyer's nine-story bicycle shop in Frankfurt, the House of Bicycles. The image of the first

Figure 1: Overview map of National Forests in Texas: the Sam Houston, Davy Crockett, Angelina, and Sabine National Forests. Existing wilderness areas (dark green) and potential wilderness areas for inventory (yellowish brown) are displayed within each forest boundary.

motor car having carriage wheels did not appear until the 1930's, as tricycle wheels would have given partial credit to the invention to the British cycling factories, credit not allowed in Germany given that decade's propaganda.

Aside from the material inventions, bicycles changed public consciousness on what independence means. Motoring pioneer Hiram Percy Maxim, the son of the inventor of the Maxim Machine Gun, not only continued his fathers work by inventing the silencer, he oversaw the nascent automobile division at Pope Manufacturing, then the largest bicycle manufacturer in the United States. At Pope, he won the first closed-circuit automobile race in the United States, and had patents for battery electric vehicles, running gears, and electric motors. There were previous attempts to attach steam engines to road-going vehicles in the late 1700s, 1831-1832, and in 1861. Each attempt ran out of steam due to poor roads and the concept of travel. Hiram Percy Maxim noted cycling was the missing link, and wrote in his 1936 memoirs that bicycling created motorizing, for it "directed men's minds to the possibilities of independent long-distance travel over the ordinary highway."

Today, the United States possesses some four million miles of public roads. Thankfully for cyclists, 1.4 million miles remain unpaved, as independent, long-distance travel over unpaved roads is the dominant trend in cycling, known as gravel grinding and bikepacking.

1.2 Gravel Grinding

Gravel grinding refers to riding a bicycle on gravel, dirt, or caliche roads. Some may think that act is a grind; others ride on gravel to escape the grind of life, including the grind of racing cycling culture. One of the appeals of gravel, and the reason it has grown in popularity, is that it is for everyone. Gravel events foster an inclusive environment where even if trophies and prize money are on the line, the last person who finishes is celebrated as every bit the champion as the person who finished first.

There is no such thing as a gravel bicycle, though manufacturers now make and market such geometries and components. A mountain bike, cyclocross bike, touring bike, or road bike with sufficient tire clearance are all acceptable depending on the road and gravel conditions, such as deep sand, baby-head boulders, or small crushed limestone. However, a gravel bike is generally a road or cyclocross bike with drop handlebars and tires around 35 mm to 40 mm in width (e.g., Figure 2), which differs from a mountain bike with flat handlebars and tires 50-75 mm in width, or a road bike with tires only 23-25 mm wide. Thus there are numerous bicycle geometries, wheel sizes, wheel diameters and tire widths that make a bicycle gravel oriented, and the best definition of a gravel bike is to take a current bike and ride it on gravel.

Mountain bikes, however, are a minority on gravel rides and events and gravel cyclists should not be categorized as mountain bikers.

Gravel grinding is not a new cycling discipline. Randonneurs have been doing it for a century, and riders in the midwest for decades, largely as a way to train in the early spring before the snow and slush fully disappeared. However, for the last 15 years, gravel has exploded in popularity with events of thousands of people, such as Dirty Kanza in Kansas and the Landrun in Oklahoma, selling out within minutes. Texas and the Houston area are no exception to this trend. Spinistry is a full time business outside of Dallas Fort-Worth that puts on more than a half dozen gravel events each year, including the 1000 mile race across Texas. The Castell Grind in Castell, Texas, also sells out hundreds of spots within minutes, flooding the small ranch town with welcomed money and visitors. Kolo Promotions in Houston has twice put on the HTFU Robaiux out of Stubblefield Recreation Area in Sam Houston National Forest, resulting in nearly $2000 in donations to the SHTC despite not utilizing any trail. Nearly every weekend, there is a gravel event in Texas, and within a ninety minute drive of Houston, from New Waverly to New Ulm, hundreds of persons are riding a bike on gravel roads. The group Houston Gravel Grinders has over 900 members. It is not a fad. It is a sustainable trend because the culture is inclusive, routes scenic, and participation fun.

1.3 Bikepacking

Bikepacking offers similar appeal as gravel, an escape from the stresses of modern life and a contrast to normal racing and training culture. Bikepacking is similar to bicycle touring, and emerged due to the growth of ultralight backpacking equipment. Traditional touring bikes are special built bicycles containing braze ons for lights, fenders, and front and rear racks capable of carrying significant weight. A touring bicycle may be capable of venturing offroad or onto gravel roads, but fully loaded is primarily designed for touring on pavement.

Advances in materials and equipment for backpacking changed this paradigm, as designers and small companies began creating specific accessories to enable lightweight, minimalist camping and touring on bicycles. These bike bags differ from the traditional rack and pannier setup, usually involving no rack and special bags that strap to various points of the bike. Bikepacking is designed to travel light and fast, and if up to it, far, but the intent is to carry less, be more minimalist, and more self reliant than a traditional touring setup. More important, bikepacking gear made it possible to transform nearly any bike into a touring capable bike, especially mountain bikes and cyclocross bikes, which had wider tires but lacked braze ons and mounts for

Figure 2: Example of a gravel bike, the All-City Cosmic Stallion. It looks like a road bike, but with wider tires to absorb vibrations and provide volume to float over rough terrain. These wheels are manufactured by Cantu Wheels, a small company in New Waverly, Texas, that has made a business out of making higher end, gravel wheels. The are official sponsors of numerous gravel races and events such as the Castell Grind in Castell, Texas, which sells out within minutes and provides a significant and lasting economic benefit to the small ranch town of Castell.

traditional touring gear. An example of a fully loaded bikepacking bike is in Figure 3.

Bikepacking also is not new. People have always toured, even before the Buffalo Soldiers, a regiment of black soldiers, rode bicycles including carrying all of their own equipment, spare parts, and rations, overland from Fort Missoula, Montana to St. Louis in 1897. People modified whatever bikes they had to tour far, and tour offroad. When mountain bikes were created in the early 1980's, plenty had the capability to accommodate a rack. However, bike and frame bags have completely changed the game, partnering ultralight backpacking equipment and techniques with a bicycle. Consequently, bikepacking has exploded in accessibility.

Figure 3: Example of a bikepacking bike. This bike was hand manufactured in Houston Texas, from the selection of tubing, geometry, and welding, by Matthew Schott, proprietor of Schott Cycles. It was ridden in the 2017 Tour Divide, a bikepacking event that spans 5 states and 20 national forests from Banff, Alberta Canada, to Mexico, along unsigned forest and jeep roads adjacent to the continental divide. The attached bike bags take the place of traditional touring racks and panniers.

2 Motivations and Trends

2.1 Safety

One primary driver of gravel grinding is safety. As populations grow, previous country roads become less pleasant for cycling, with greater vehicle traffic and deteriorating road conditions. This is particularly prevalent in Montgomery and other counties surrounding Houston. Many people deliberately ride in the country to experience fewer cars, and gravel roads such as forest roads tend to have few vehicles and thus fewer conflicts. However, as those counties grow in population, there are more cars. One example is highway 150 through Sam Houston National Forest. Figure 4 shows a nearly 20% increase in vehicle counts in less than a decade. Much of highway 150 lacks adequate shoulder. As the area around Houston grows in population, vehicle pressure will continue to push cyclists to Forests for safe recreation opportunities.

2.2 Bicycle Tourism

Bikepacking is a sustainable, low impact form of tourism that is particularly beneficial to small towns, as riders prefer their amenities to riding into large cities. Bicycle tourism in East Texas and Texas National Forests is particularly attractive. With more than twenty million people living within a two hour drive of a Texas forest, immense opportunity exists to develop sustainable, low impact tourism that benefits local economies.

The Texas Department of Transportation is already exploring bicycle tourism in East Texas. Under the Bicycle Tourism Trails Act, TX Transportation Code section 201.9025, the Texas Department of Transportation Bicycle Advisory Committee shall advise and make recommendations to the commission on the development of bicycle tourism trails in this state. They are currently finishing a study due in 2018 to:

1. Identify bicycle tourism trail routes
2. Foster the development of safe bicycle tourism trails
3. Identify benefits of bicycle tourism trails
4. Engage stakeholders

The study is highly preliminary and the committee is not yet at a point to engage stakeholders, only identify them. Figure 5 shows what is meant to be an example, only. Connecting east Texas forests is a regional goal. Maximizing tourism

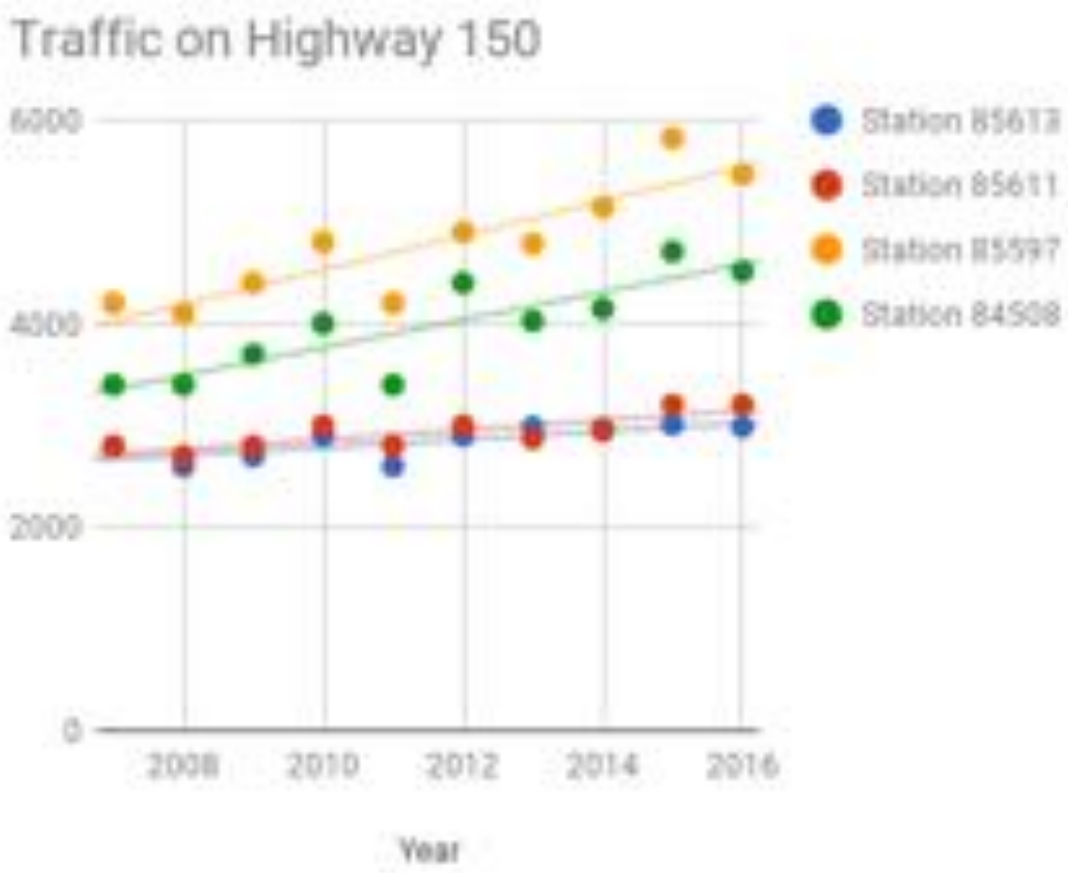

Figure 4: Vehicle counts on paved roads through Sam Houston National Forest have increased by up to 20% in less than a decade.

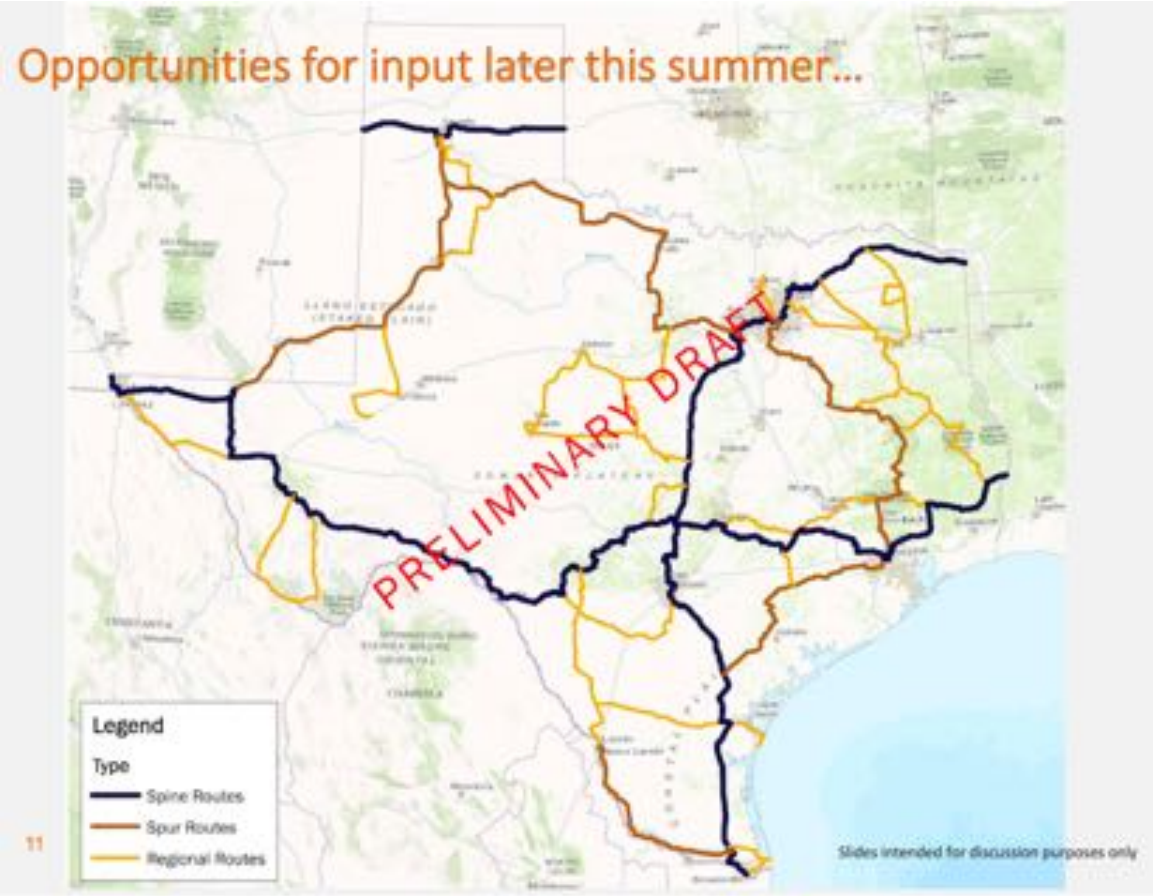

Figure 5: TXDOT Bicycle Tourism Trails Study hypothetical route map.

opportunities requires identifying gravel grinding and bikepacking opportunities as well as single track for mountain biking. The ability to connect Texas National Forests and sightseeing and pleasurable camping location is essential to this goal.

2.3 Analogs in Other Forest Systems

There are many routes across the country that promote tourism. Two of the best examples from the Adventure Cycling Association are presented in this report as analogs for what a Texas National Forest route could become for the purposes of bikepacking and bicycle tourism. Accomplishing this goal requires preservation of forest roads and potentially, a few additional miles of single track to serve as connectors across the broad region, mostly for the purposes of safety, to get cyclists off

of high speed, high trafficked, and narrow shoulder roads.

2.3.1 Great Divide

The Great Divide Mountain Bike Route (Figure 6) is an off-pavement bicycle touring route from Banff, Alberta, Canada to Antelope Wells, New Mexico, USA. The route is greater than 2700 miles long, with 90% of those miles on unpaved road, 3% on purpose built mountain bike single track trail, and only 7% on paved roads, mainly to connect to resupply points in towns along the route. The route crosses 5 states and 20 National Forests.

- Kootenai National Forest (MT)
- Flathead National Forest (MT)
- Lolo National Forest (MT)
- Helena National Forest (MT)
- Beaverhead-Deerlodge National Forest (MT)
- Caribou-Targhee National Forest (ID)
- Bridger-Teton National Forest (WY))
- Shoshone National Forest (WY))
- Medicine Bow-Routt National Forest (WY & CO))
- Arapaho and Roosevelt National Forests (CO)
- Pike and San Isabel National Forests (CO)
- Gunnison and Grand Mesa Uncompaghre National Forests (CO)
- Rio Grande National Forest (CO)
- Carson National Forest (NM)
- Santa Fe National Forest (NM)
- Cibola National Forest (NM)
- Gila National Forest (NM)

2.3.2 Idaho Hot Springs Route

The Idaho Hot Springs Mountain Bike Route (Figure 7) is a greater than 700 mile bikepacking and mountain bike route, comprised of around 500 miles of gravel roads connecting more than 200 miles of single track. The route traverses 4 National Forests.

Figure 6: The Great Divide Mountain Bike Route is an off-pavement bicycle touring route from Banff, Alberta, Canada to Antelope Wells, New Mexico, USA. The route is greater than 2700 miles long, with 90% of those miles on unpaved road, 3% on purpose built mountain bike single track trail, and only 7% on paved roads, mainly to connect to resupply points in towns along the route. The route crosses 5 states and 20 National Forests.

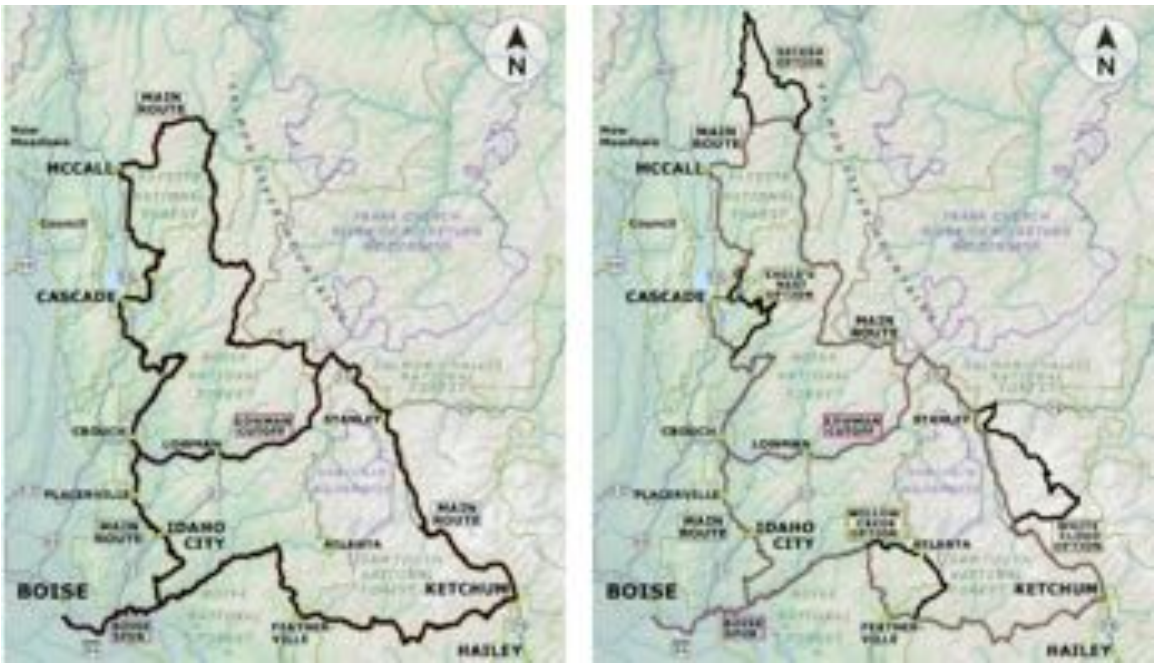

Figure 7: The Idaho Hot Spring Route traverses more than 700 miles across 4 national forests.

- Payette National Forest
- Boise National Forest
- Salmon-Challis National Forest
- Sawtooth National Forest

In 2015, the creation of the White Clouds Wilderness area disrupted some of the single track on the route, with reroutes required.

No current single track in Texas Forests is at risk in the pre-identified wilderness areas, however, broad and safe connectivity is at risk. The goal of preserving gravel and bikepacking access is safety: to keep cyclists off of dangerous roads. Aesthetics are important, but are a secondary concern to safety.

The Idaho Hot Springs Route is perhaps the best analog for Texas National Forests. All National Forests can be connected via a system of county and Forest roads with campgrounds, including primitive opportunities, identified.

2.4 IMBA and GHORBA Sam Houston National Forest Master Plan

In April 2008, the Greater Houston Offroad Bike Association (GHORBA) was asked by the US Forest Service to prepare a Master Plan for Mountain Bike Trails in the Sam Houston National Forest as a condition of its agreement to support a TP-W/RTP Grant for a major expansion of the existing mountain bike trail at Double Lake Recreation area. GHORBA partnered with the International Mountain Biking Association (IMBA) and IMBA Trails Solutions to develop a plan that addressed the current uses of existing trails by bicyclists, and to explore the opportunities and constraints for expansion, both in the immediate and long term, of a multi-use, non- motorized trail system and associated support facilities compatible with the environment and with other Forest users.

That plan identified several opportunities for cyclists.

- Expansion of Double Lake Recreation Area trail system - **complete**.
- Additional trail connecting to the Hunstville State Park System - **complete**
- Creation of an across forest connections for long distance mountain biking and camping - **now known as bikepacking**
- Creation of a west side Sam Houston National Forest mountain bike trail system

2.4.1 Broader System Connection and the "Sam Houston Trail"

The master plan discussed the need for a region-wide approach that takes into account existing and future Forest use. The future identified in 2008 has arrived in the form of gravel grinding and bikepacking. This conceptual plan seeks to link Forest lands with a shared-use, non-motorized trail from Double Lake to the Stubblefield Recreation Area, with connections to Huntsville State Park in middle. Because of the make of up public land ownership, sections of the route will necessarily travel along forest and county roads. A few options were suggested for how those connections could be made:

- Use of existing routes on the Lone Star Hiking Trail
- Creation of a new shared-use route, roughly parallel to the existing LSHT
- Some combination of the above, with reroutes to sections of the LSHT that are determined to be environmentally or socially unsustainable.

In 2015 and 2016, the GHORBA director of advocacy and cycling representative of the Sam Houston Trails Coalition formally proposed this concept, tentatively call the Sam Houston Trail (Figure 8). A complete TPW/RTP grant was developed for the concept, which required only around 2 miles of trail to be built to connect around 150 miles of forest roads, and create a route that went from Stubblefield Recreation Area, to Hunstville State Park, to Double Lake Recreation Area, and down to Shepherd, Texas. The concept had support by some persons in the Forest Service due to the general lack of new trail and had broad support by San Jacinto County officials and public figures in communities, who wanted the opportunity for bicycle tourism.

Unfortunately, in 2015, the Forest Service Region 8 informal cap on new trail resulted in a deferral of the grant proposal. It was revised in 2016 after District Ranger Warren Oja suggested simplifying it, but the Sam Houston Trails Coalition did not pursue it in favor of a motorized grant in the 2016-2017 cycle.

The demand for this concept exists. It would have support from TXDOT and TPW. The user base is large and different from the traditional mountain bike community. It would have minimal impact on public lands, mostly utilizing existing county and Forest Roads.

2.4.2 West Side Sam Houston National Forest Cycling Trail

The IMBA Master Plan also assessed the possibility for future mountain bike trail expansion in the Western Sam Houston National Forest, near the Multi-use trail system on the western side of the Forest, between New Waverly and Richards (Figure 9).

> "The current motorized trail system is technically open to bicycles, equestrians, and pedestrians, but is seldom used by these modes due to trail experience. The noise associated with frequent motorized activity interferes with those seeking a quiet or solitude experience in the forest. While this sentiment is not shared by all non-motorized users in all situations, it is generally accepted. Also, tread conditions on the multi-use trails are typically very sandy, which is also unappealing to most pedestrians and cyclists. To take advantage of the existing infrastructure of this system, however, it is proposed that a non-motorized system could be incorporated." A conceptual map showing a trail overlay is shown in Figure 9 (note: figure reference changed for this report). Careful planning would need to occur at intersections and trailheads in order to keep users on designated trails. This area would be good for use for bicycle, running, and multi-sport races, as noise tends to be less of a concern in large events

Figure 8: Sam Houston Trail proposal from 2016. The cycling community is strongly committed to this project and it represents the basis for a route connecting all of Texas National Forests.

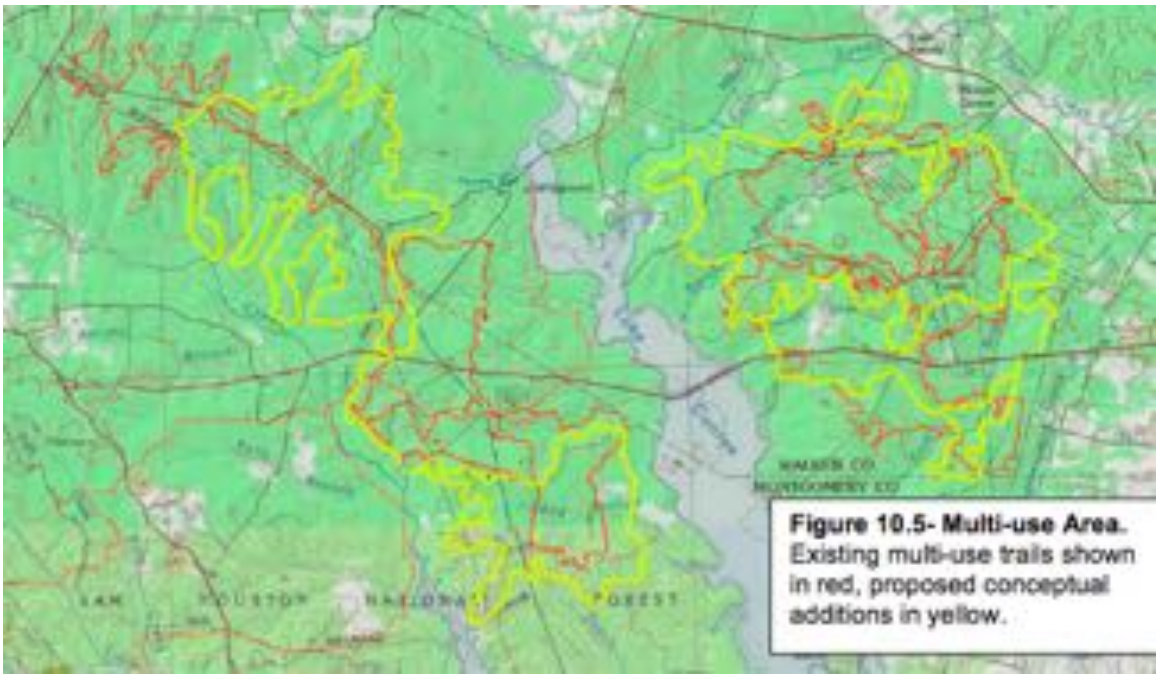

Figure 9: Potential western Sam Houston National Forest expansion from the 2008 IMBA master plan.

and the pressures of putting large numbers of users on the trails will be less felt here, than in already popular areas at Double Lake.

2.5 Sam Houston Trails Coalition 10 Year Plan

The Sam Houston Trails Coalition Ten-Year Plan, approved in 2013 and amended in 2015 after feedback from Sam Houston National Forest (SHNF) District Ranger Warren Oja, prioritized items of interest to all recreation communities. Items specific to the cycling community are in bold.

1. **Continue to maintain the Double Lake & Huntsville State Park Mountain Bike Trails.**
2. Continue to maintain the Lone Star Hiking Trail (LSHT).
3. Continue to maintain the Multi-Use Trails.
4. Set up a maintenance program for the Richards-Raven Equestrian Trails.

5. Raven-Richards Equestrian Trail Phase III: Caney Creek Bridge (2015).
6. **Change specific Forest Service Roads to Trails.**
7. Make Stubblefield Campground a Multi-Use Trail: Phase I Trailhead and extension to existing trails (USFS 2015).
8. Build a multi-use trail connecting east to west at Stubblefield Campground.
9. Build a Multi-Use trail (String II?) along FSR 208 parallel to existing string.
10. **Construct a west-side mountain bike trail.**
11. Extend a water line in easement of FM 1791 south to equestrian trailhead on FSR 209.
12. Construct an east-side equestrian trail (Cold Springs).
13. LSHT: Build two new trailheads and expand and improve existing trailheads.
14. LSHT: Improve creek crossings.
15. **Reconstruct/refurbish mountain bike trails**

Item 6 - change specific Forest Service roads to trails - was included because not all cyclists in Sam Houston National Forest, and Davy Crockett, Angelina, and Sabine National Forests, are mountain bikers seeking single track trail. Many recreate in the Forests as gravel grinders and bikepackers. Converting specific roads to trails or preserving them as routes enables safe, cross forest bicycle travel, and promotes bicycle tourism.

3 Texas National Forests

This following section reviews the potential wilderness areas in each Texas National Forest and assess their impact on cycling opportunity, with an emphasis on gravel grinding an bikepacking. Each land parcel is assessed and given one of three recommendations:

- **Neutral** - these areas are unlikely to have significant impact on cycling recreation opportunities with the exception of future single track trail access.
- **Not Wilderness** - these areas will significantly impact cycling opportunities and safety
- **Not Wilderness, Alternative Acreage Proposed** - these areas will signficiantly impact cycling opportunities and safety, but modification to the proposed wilderness areas will accommodate all goals.

3.1 Sam Houston National Forest

The Sam Houston National Forest is located 50 miles north of Houston and contains 163,037 acres between Huntsville, Conroe, Cleveland and Richards, Texas, with land in Montgomery, Walker, and San Jacinto counties. Several areas meet the potential for wilderness (Figure 10). Below, each area is individually assessed for cycling impact.

The Sam Houston National Forest is managed under a multiple-use concept. This means all forest uses, including recreation, fish and wildlife, timber, grazing, soil and water, and minerals, must be planned to maintain a balance of benefits and provision for public needs. By law, the Forest Service must consider all resources and no single resource can be emphasized to the detriment of others.

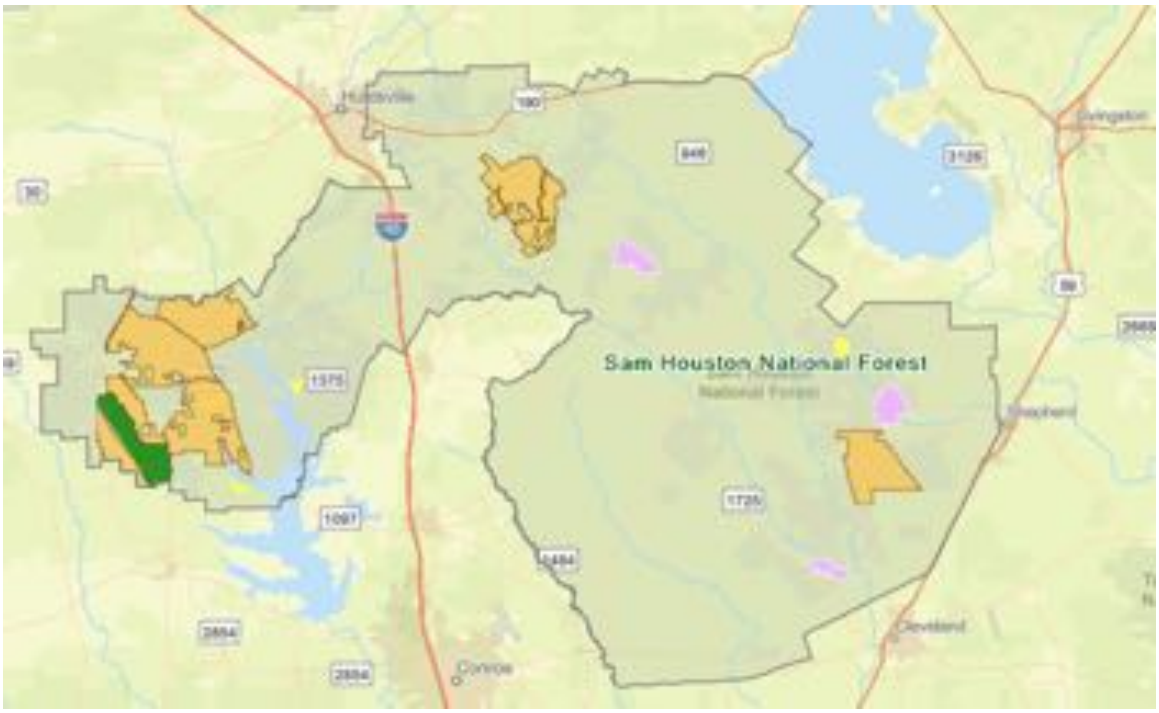

Figure 10: Overview map of potential Sam Houston National Forest Wilderness Areas. Dark green is existing wilderness, light brown potential wilderness based on size, yellow established recreation areas, and light purple roadless areas.

SH-27 **Neutral**. SH-27 (Figure 11) has limited recreational opportunity unless a west side trail system is built, potentially connecting to future trails around FR 211 and FR 203. It's northeastern boundary abuts on Little Lake Creek Wilderness Area, and thus could greatly increase that Wilderness Areas size. The southern edge of SH-27 is at the edge of the Forest boundary and could create a buffer against development pressures at the edge of the Forest.

SH-28 **Not wilderness**. SH-28 (Figure 12) should not be wilderness. FR 231, which forms the northeast boundary of Little Lake Creek Wilderness Area, and the southwest boundary of SH-28, is currently the only forest road enabling a safe and aesthetically pleasing ride on the west side of Sam Houston National Forest. It cuts miles off of FM1375, a high speed, high trafficked, and narrow shoulder road carrying many trucks and trailers. Further, FR 231 cross Pole Creek and a primitive campsite. Both of these features are important for primitive bikepackers - a place to sleep and a water source to filter. Loss of FR 231 would be devastating to the cycling community

SH-29 **Neutral**. SH-29 (Figure 13)has limited bicycle opportunity with the exception of the Northern Boundary, Forest Road 208. Forest Road 208 is an essential safety connector frequently used by gravel grinders and bikepackers. It is essential that road remain open to cyclists and its loss would be devastating to the cycling community. Fat-bike opportunities exist on the Multi-Use Trail and this could be an area of future western forest trail development.

SH-30 **Neutral**. SH-30 (Figure 14) has limited bicycle opportunity with the exception of fat-bike access on the multi-use trails or the development of a future cycling only trail system.

SH-31 **Neutral**. SH-31 (Figure 15) has limited bicycle opportunity with the exception of the Forest Road Boundaries, FR 208, FR 215, and FR216. Those roads are essential safety connectors frequently used by gravel grinders and bikepackers and their loss would be devastating to the cycling community. It is essential those road remain open to cyclists. Fat-bike opportunities exist on the Multi-Use Trail and this could be an area of future western forest trail development.

SH-32 **Not wilderness, Alternative Acreage proposed.** SH-32 (Figure 16) is an important cycling area. Forest Roads 2061, 213A and 206A allow possible bikepacking access to Hidden and Niederhoffer lakes. Just as primitive hikers utilize these resources, primitive bikepackers also desire primitive camp and water filtration locations. However, that area still retains large potential wilderness acreage not in conflict. Two alternatives are proposeed: Option A approximately 2250 acres, and Option B, approximately 2080 acres.

SH-33 **Not Wilderness**. SH-33 (Figure 17) is an important cycling area. This land parcel contains numerous Forest Roads and utility right of ways for gravel grinding and bikepacking. It's proximity to Double Lake Recreation Area enables many endurance rides and mixed cycling experiences. Double Lake also lacks primitive camping facilities, but the proximity makes it a good resupply stop for bikepackers that desire some single track on their route, but prefer a more remote camping experience.

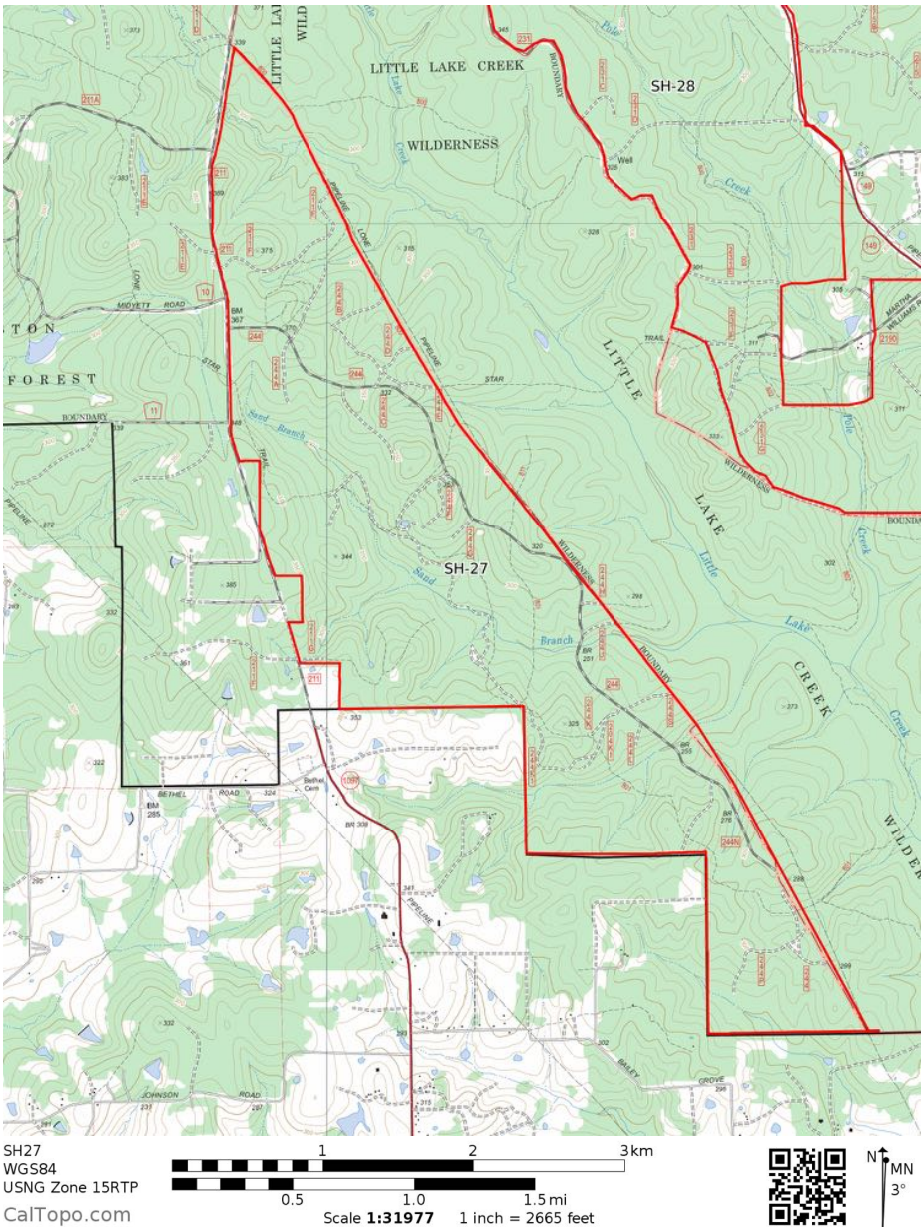

Figure 11: SH-27. **Neutral**. SH-27 has limited recreational opportunity unless a west side trail system is built, potentially connecting to future trails around FR 211 and FR 203. It's northeastern boundary abuts on Little Lake Creek Wilderness Area, and thus could greatly increase that Wilderness Areas size. The southern edge of SH-27 is at the edge of the Forest boundary and could create a buffer against development pressures at the edge of the Forest.

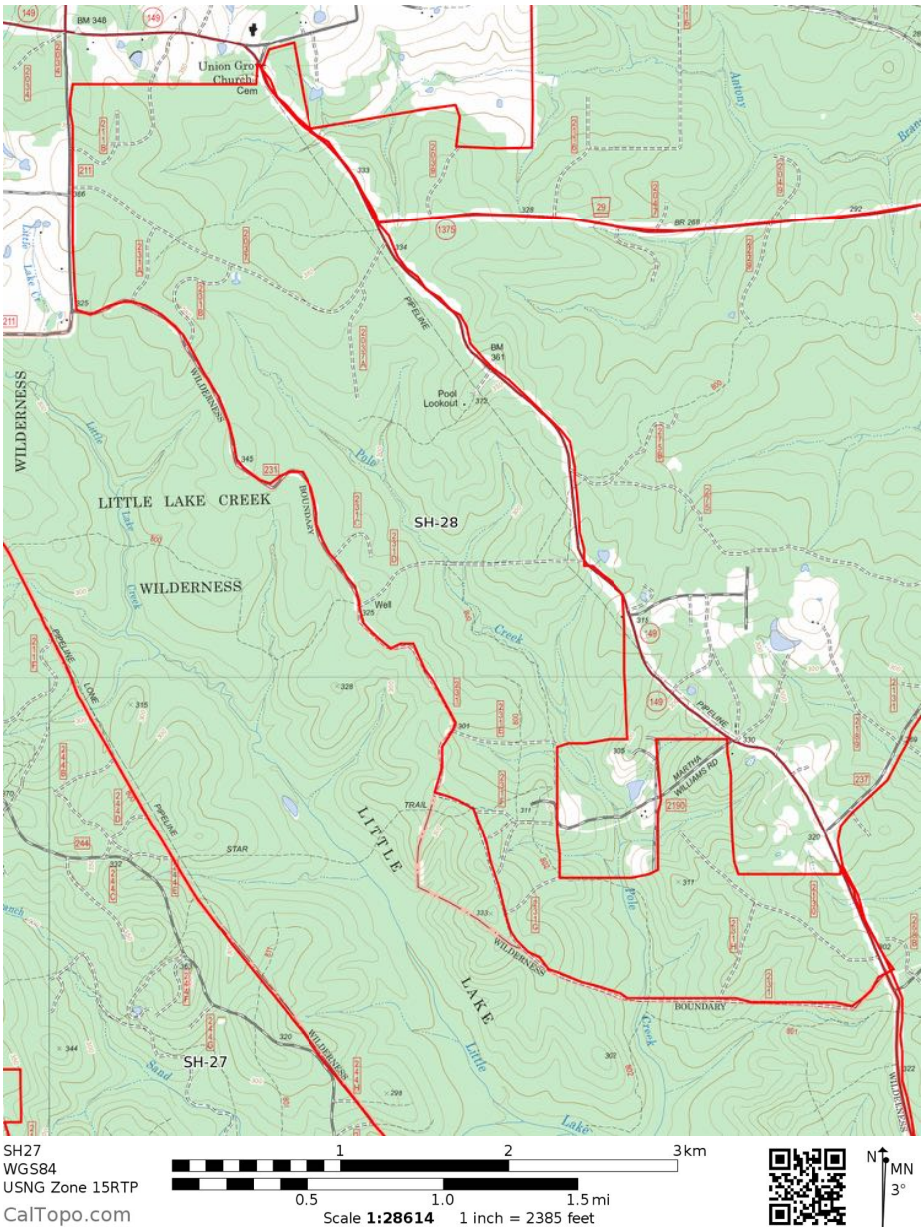

Figure 12: SH-28. **Not wilderness**. SH-28 should not be wilderness. FR 231, which forms the northeast boundary of Little Lake Creek Wilderness Area, and the southwest boundary of SH-28, is currently the only forest road enabling a safe and aesthetically pleasing ride on the west side of Sam Houston National Forest. It cuts miles off of FM1375, a high speed, high trafficked, and narrow shoulder road carrying many trucks and trailers. Further, FR 231 cross Pole Creek and a primitive campsite. Both of these features are important for primitive bikepackers - a place to sleep and a water source to filter. Loss of FR 231 would be devastating to the cycling community

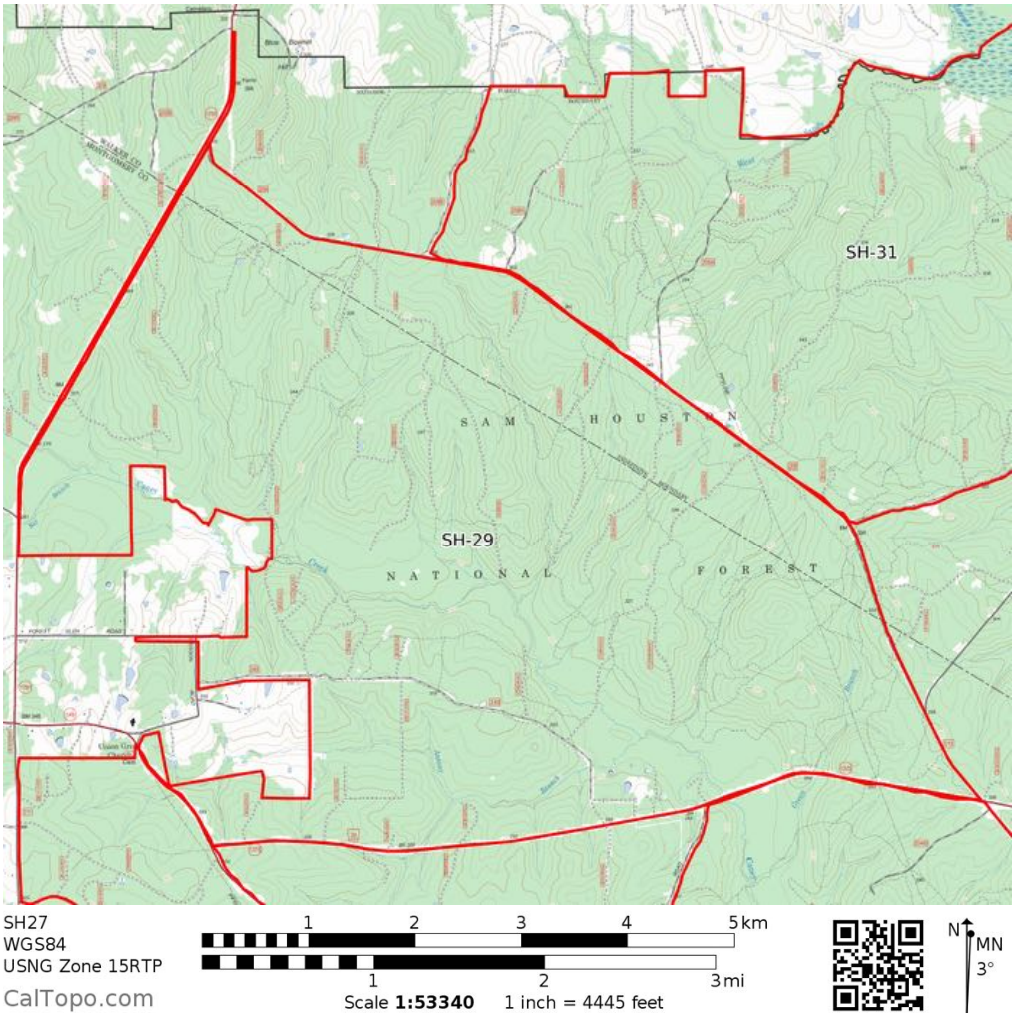

Figure 13: SH-29. **Neutral**. SH-29 has limited bicycle opportunity with the exception of the Northern Boundary, Forest Road 208. Forest Road 208 is an essential safety connector frequently used by gravel grinders and bikepackers. It is essential that road remain open to cyclists and its loss would be devastating to the cycling community. Fat-bike opportunities exist on the Multi-Use Trail and this could be an area of future western forest trail development.

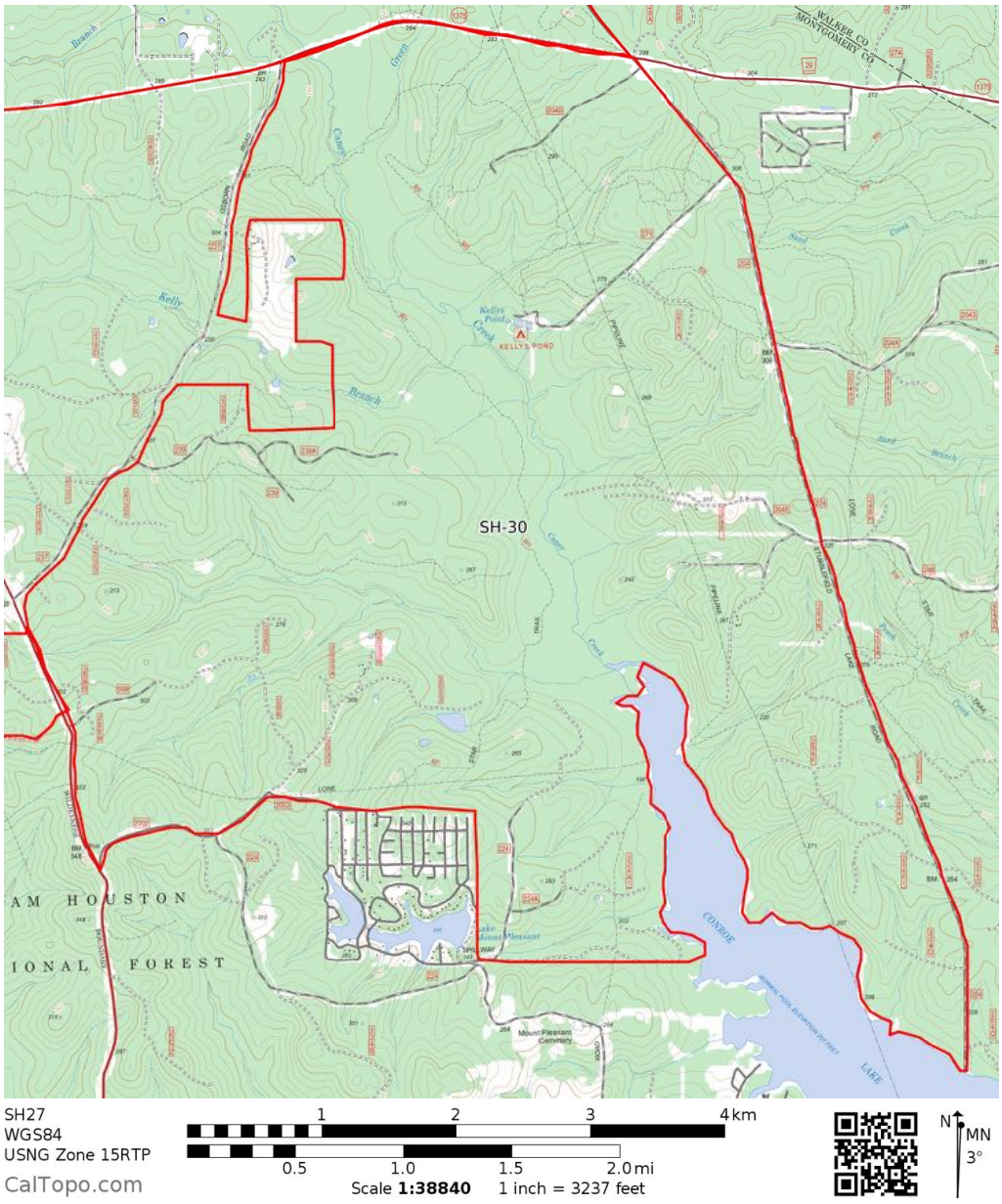

Figure 14: SH-30. **Neutral**. SH-30 has limited bicycle opportunity with the exception of fat-bike access on the multi-use trails or the development of a future cycling only trail system.

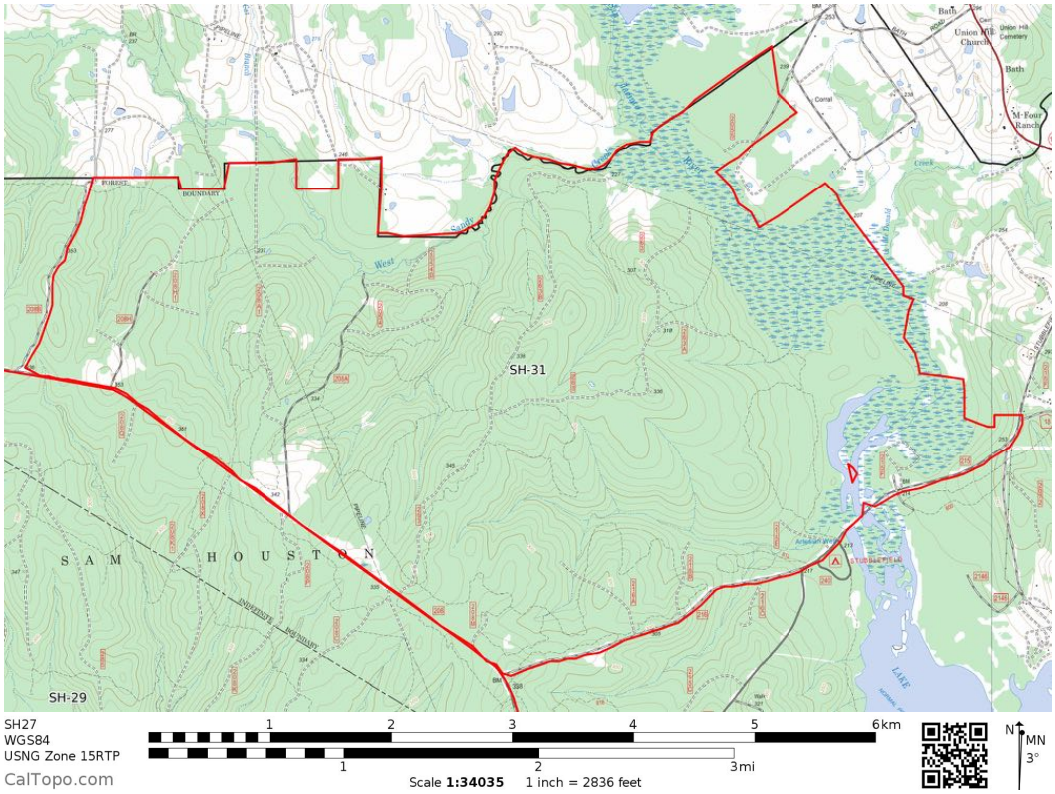

Figure 15: SH-31. **Neutral**. SH-31 has limited bicycle opportunity with the exception of the Forest Road Boundaries, FR 208, FR 215, and FR216. Those roads are essential safety connectors frequently used by gravel grinders and bikepackers and their loss would be devastating to the cycling community. It is essential those road remain open to cyclists. Fat-bike opportunities exist on the Multi-Use Trail and this could be an area of future western forest trail development.

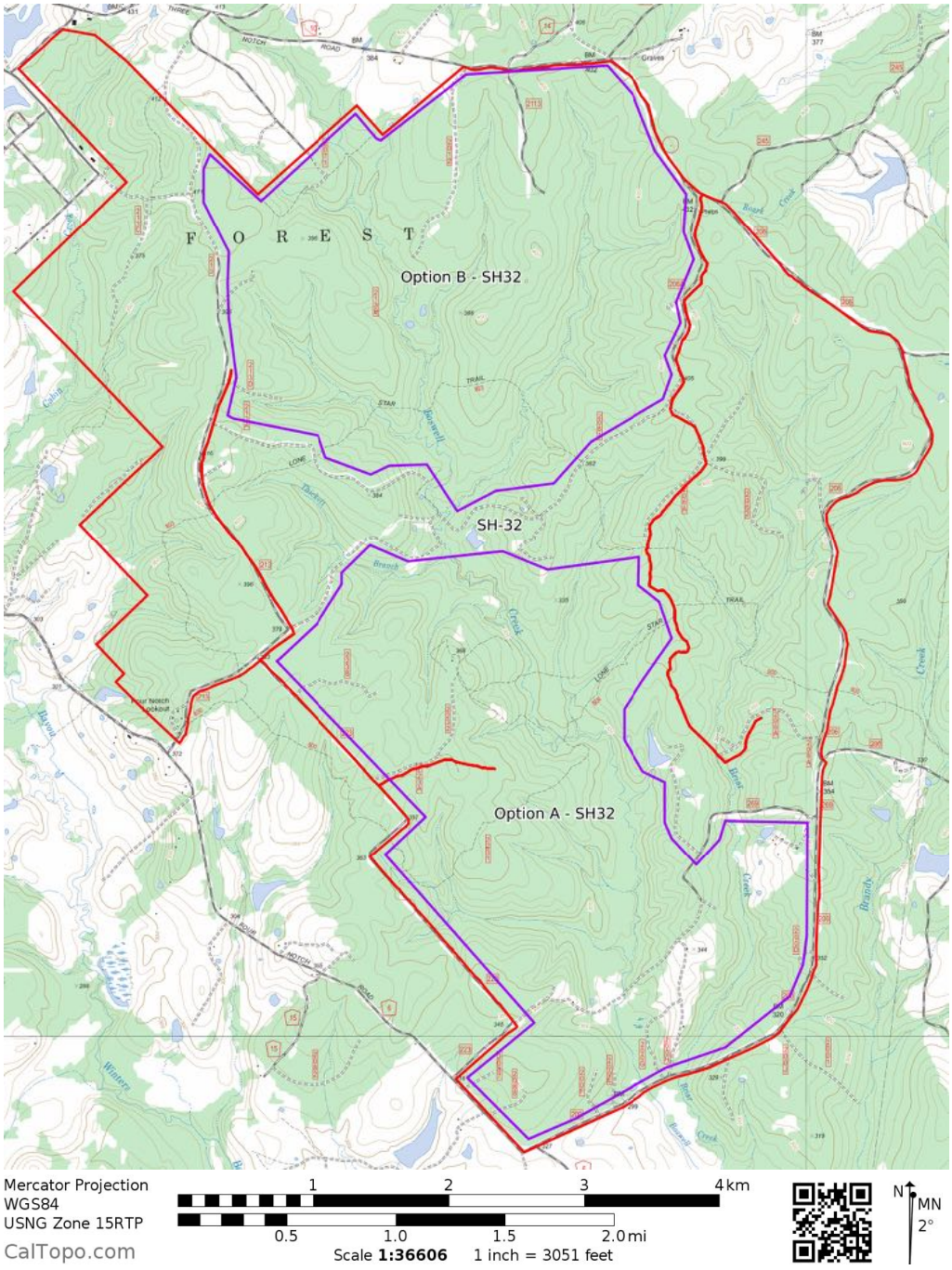

Figure 16: SH-32. **Not wilderness, Alternative Acreage proposed.** Forest Roads 2061, 213A and 206A allow possible bikepacking access to Hidden and Niederhoffer lakes. Just as primitive hikers utilize these resources, primitive bikepackers also desire primitive camp and water filtration locations. However, that area still retains large potential wilderness acreaage not in conflict. Two alternatives are proposeed: Option A approximately 2250 acres, and Option B, approximately 2080 acres.

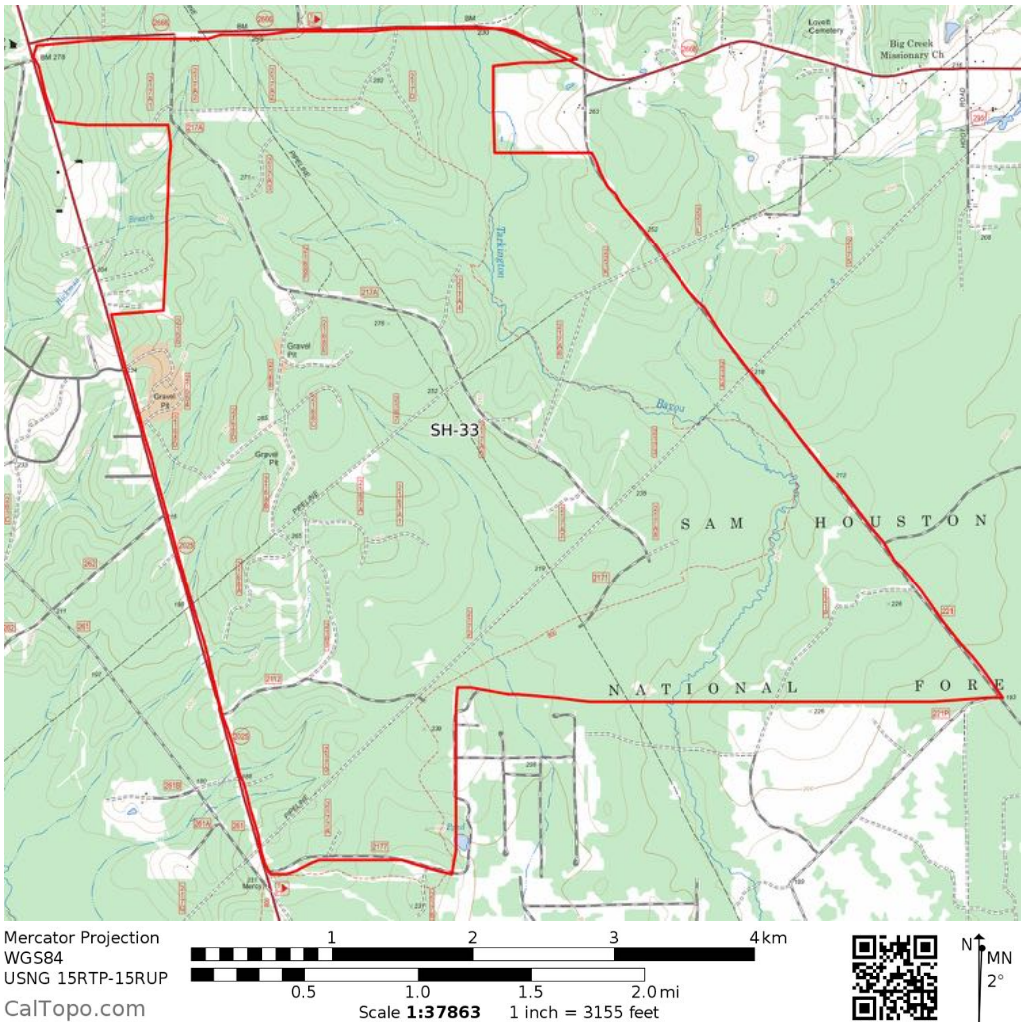

Figure 17: SH-33. **Not Wilderness** This land parcel contains numerous Forest Roads and utility right of ways for gravel grinding and bikepacking. It's proximity to Double Lake Recreation Area enables many endurance rides and mixed cycling experiences. Double Lake also lacks primitive camping facilities, but the proximity makes it a good resupply stop for bikepackers that desire some single track on their route, but prefer a more remote camping experience.

3.2 Davy Crockett National Forest

The Davy Crockett National Forest is located in Houston and Trinity Counties, within the Neches and Trinity River Basins (Figure 18). It ontains more than 160,000 acres of East Texas woodlands, streams, recreation areas, and wildlife habitat. It currently lacks any dedicated cycling trail, with only the 4C Hiking Trail (bicycles not allowed) and Piney Creek Horse Trail in existence.

Davy Crockett National Forest has ample gravel and bikepacking opportunity. It can be accessed from roads out of Onalaska to Groveton, and is easily connected to other Texas Forests. Crockett hosts a road cycling race each year and several bikepacking events traverse through the forest. Below, each area is individually assessed for cycling impact.

DC-13 **Neutral**. DC-13 (Figure 19) contains no cycling opportunities and it would expand the existing Big Slough Wilderness Area.

DC-14 **Neutral**. DC-14 (Figure 20) contains limited cycling opportunity. There is a lake that would make a good bikepacking destination, but there is otherwise no notable cycling opportunity. However, the Neches river would make a good packraft destination, and many persons carry their bicycles on packrafts so as not to utilize vehicle shuttles. This would make a good carry out destination and a Wild and Scenic River designation may be preferable to allow bicycles to utilize the Forest Roads to this location. This parcel would otherwise expand the existing Big Slough Wilderness Area.

DC-15 **Not Wilderness, Alternative Acreage Proposed**. DC-15 (Figure 21) is utliized by cyclists. FR 543 is an often used connector from Ratcliff Lake Recreation Area for gravel grinders and bikepackers to other parts of the Forest. The loss of this road would have significant impact. Also, road 4720 on the eastern boundary is essential for cycling access. An alternative polygon of 3436 acres is proposed as potential wilderness, allowing FR543 and road 4720 to remain open for cyclists.

DC-16 **Neutral**. DC-16 (Figure 22) does not conflict with cycling opportunities so long as boundary roads 511, 527, and 4740 remain open to cyclists.

DC-17 **Not Wilderness, Alternative Acreage Proposed**. DC-17 (Figure 23) possess some cycling opportunity. There currently exists no dedicated cycling trail in Davy Crockett National Forest. Bicycles are allowed on the Piney creek horse trail, though fat-bikes are useful. No alternative acreage is proposed in

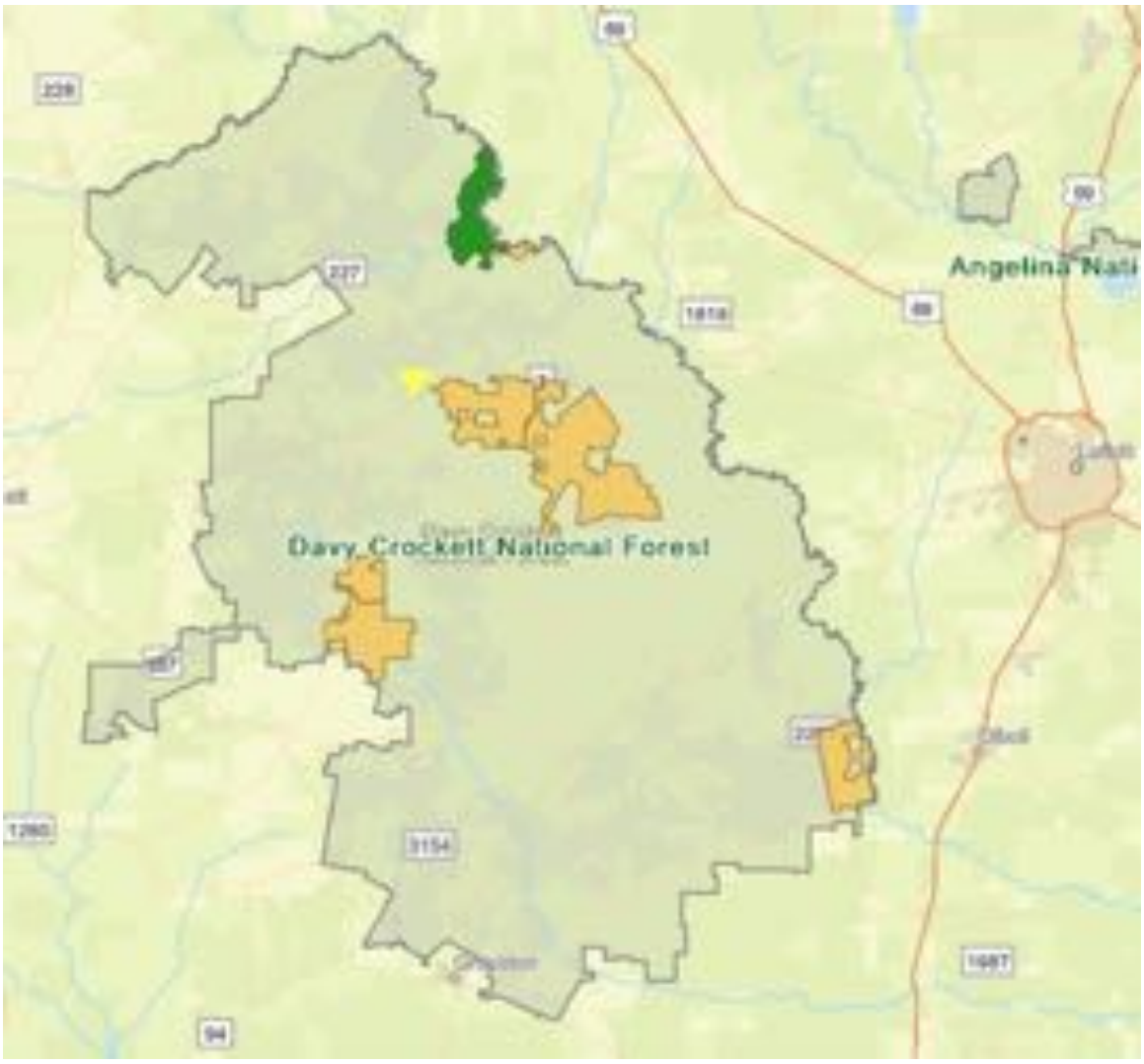

Figure 18: Overview of Davy Crockett National Forest and potential wilderness areas. Dark green is existing wilderness, light brown potential wilderness based on size, yellow established recreation areas, and light purple roadless areas.

this document. It is desired that managed use of the Piney Creek Horse Trail allow for the seldom and rare cyclist.

DC-18 **Not Wilderness, Alternative Acreage Posposed**. DC-18 (Figure 24) possess some opportunity. There currently exists no dedicated cycling trail in Davy Crocket National Forest. Bicycles are allowed on the Piney creek horse trail, though fat-bikes are useful. No alternative acreage is proposed in this document. It is desired that managed use of the Piney Creek Horse Trail allow for the seldom and rare cyclist.

DC-19 **Neutral**. DC-19 (Figure 25) has limited cycling opportunity. However, some good camp sites may exists for bikepackers and packrafters carrying their bikes. Perhaps a Wild and Scenic River designation is possible.

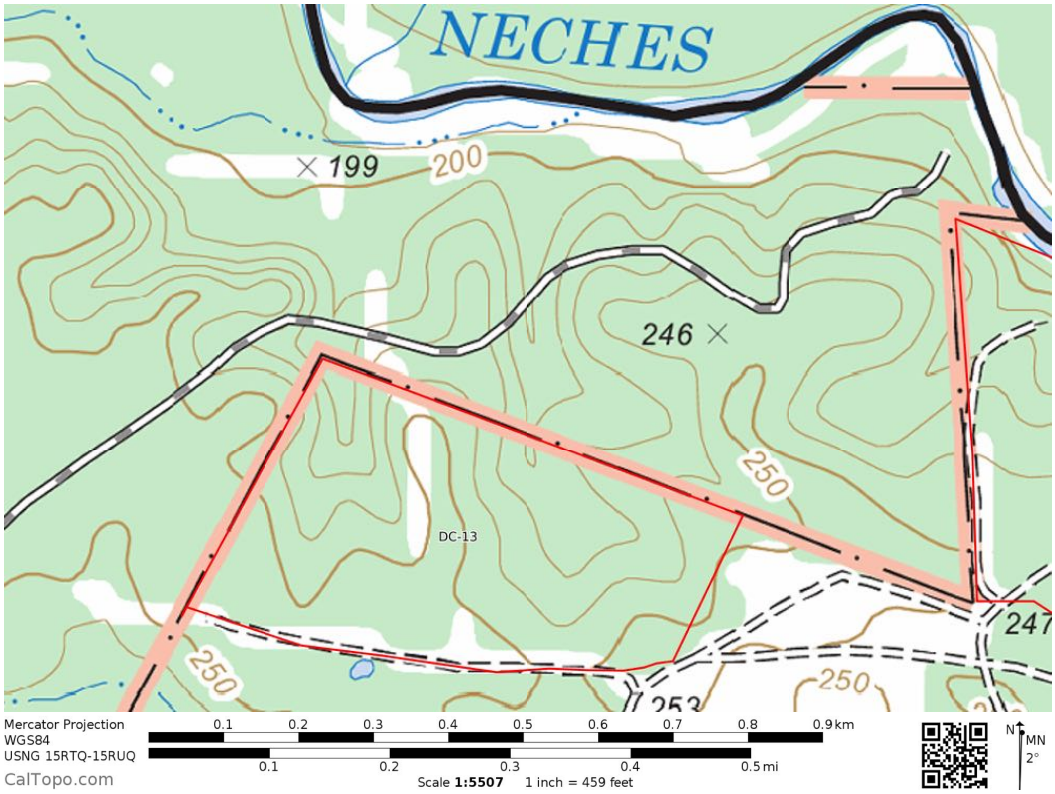

Figure 19: DC-13. **Neutral** - there are no cycling opportunities in this parcel and it would expand the existing Big Slough Wilderness Area.

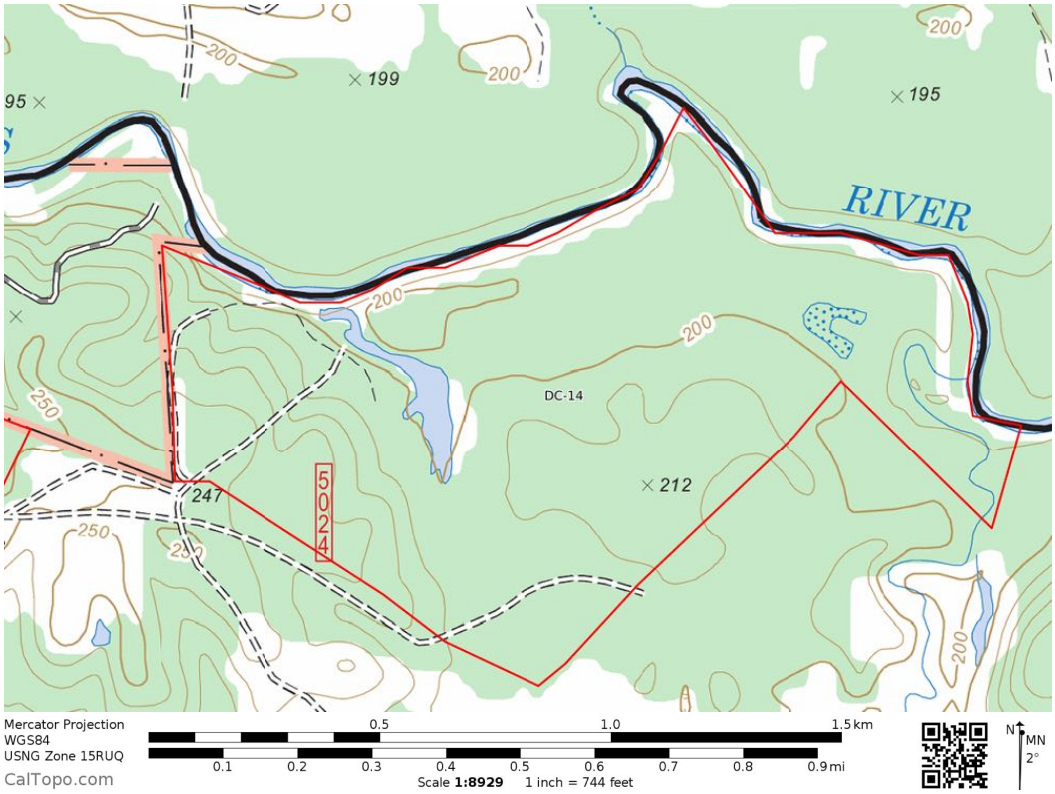

Figure 20: DC-14. **Neutral** - There is a lake that would make a good bikepacking destination, but there is otherwise no notable cycling opportunity. However, the Neches river would make a good packraft destination, and many persons carry their bicycles on packrafts so as not to utilize vehicle shuttles. This would make a good carry out destination and a Wild and Scenic River designation may be preferable to allow bicycles to utilize the Forest Roads to this location. This parcel would otherwise expand the existing Big Slough Wilderness Area.

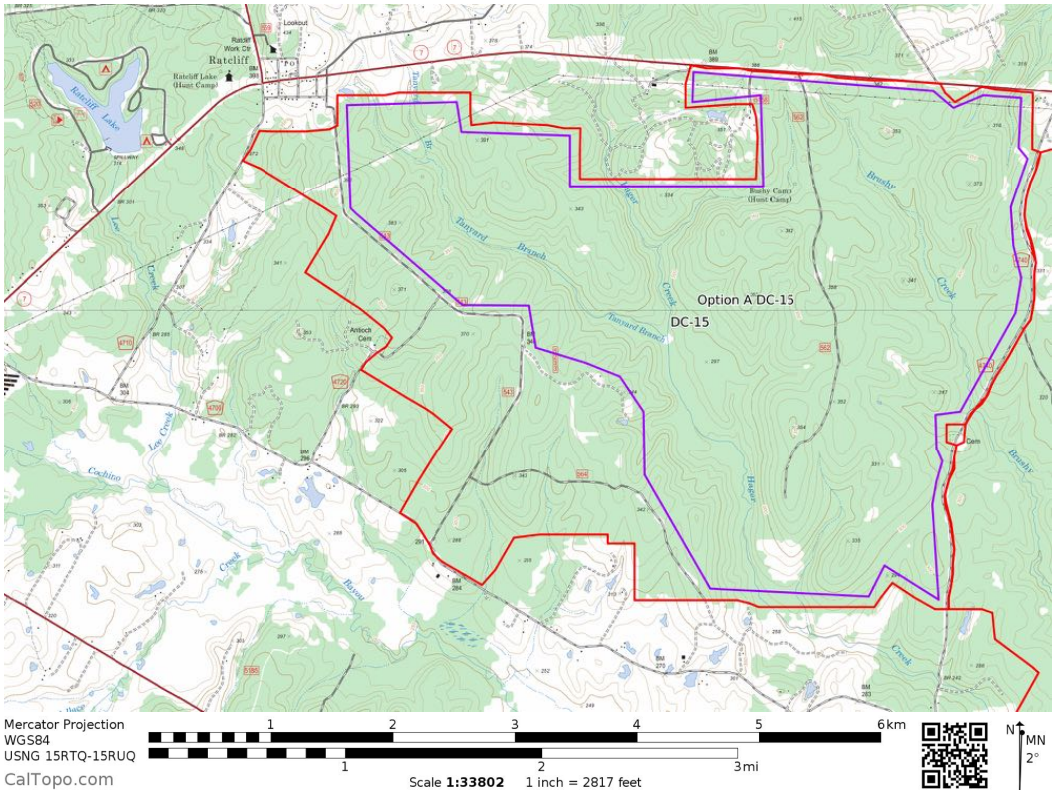

Figure 21: DC-15. **Not Wilderness, Alternative Acreage Proposed**. FR 543 is an often used connector from Ratcliff Lake Recreation Area for gravel grinders and bikepackers to other parts of the Forest. The loss of this road would have significant impact. Also, road 4720 on the eastern boundary is essential for cycling access. An alternative polygon of 3436 acres is proposed as potential wilderness, allowing FR543 and road 4720 to remain open for cyclists.

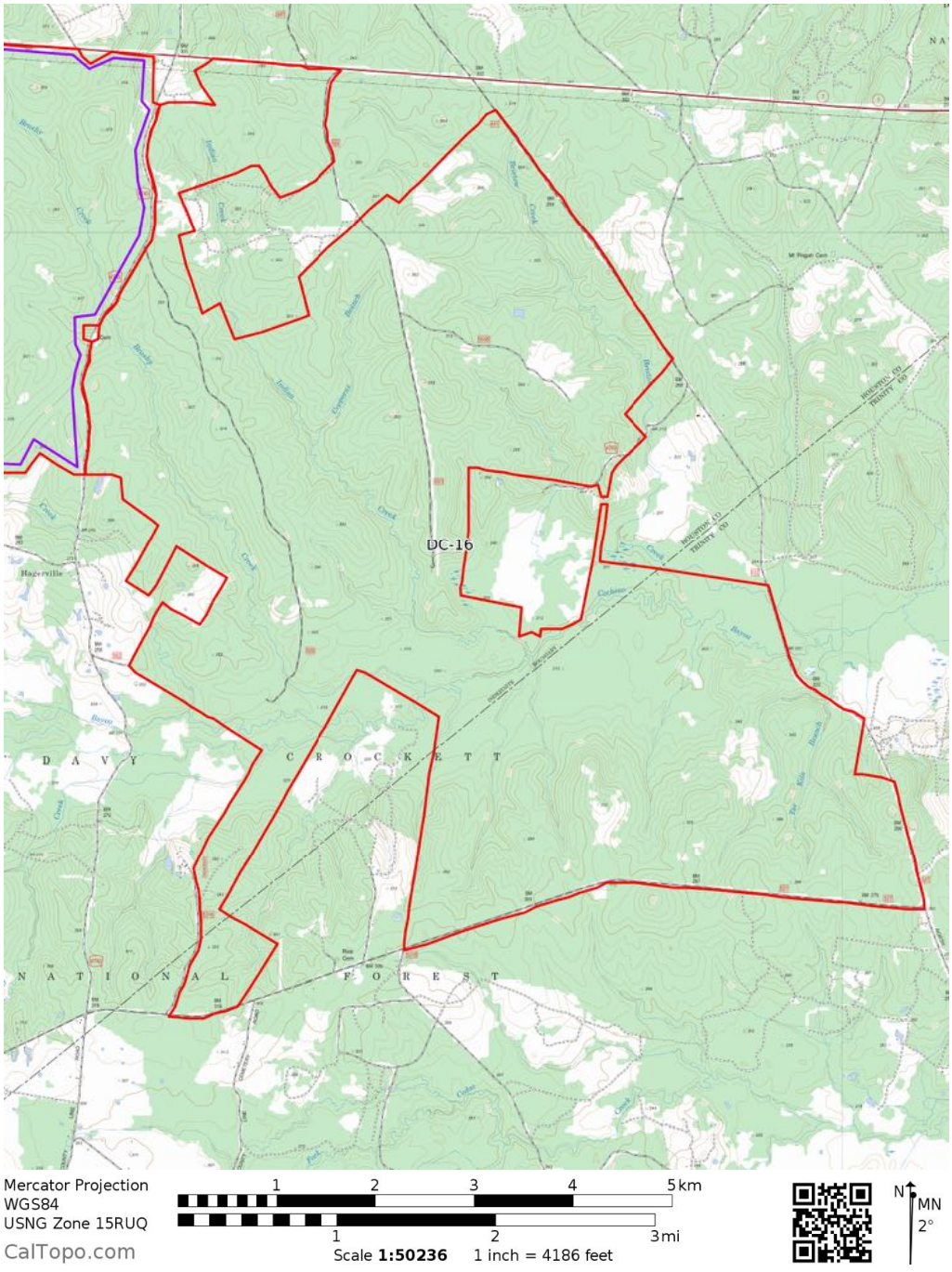

Figure 22: DC-16. **Neutral**. This region does not conflict with cycling opportunities so long as boundary roads 511, 527, and 4740 remain open to cyclists.

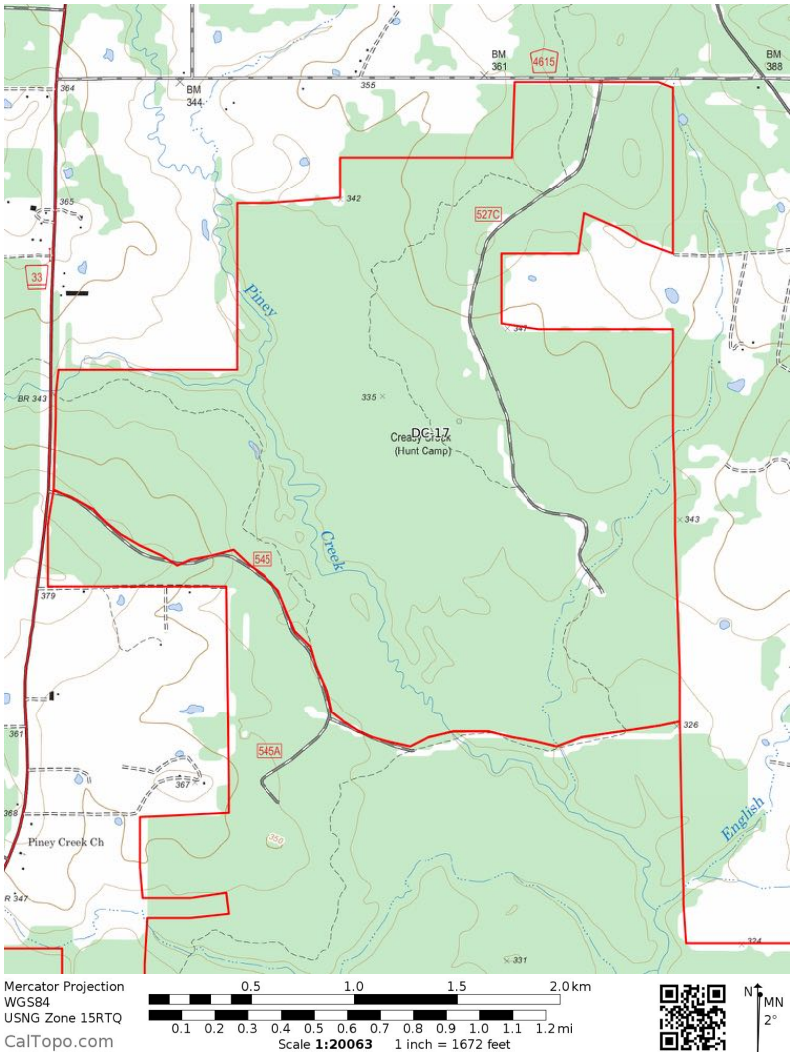

Figure 23: DC-17. **Not Wilderness, Alternative Acreage Proposed** There currently exists no dedicated cycling trail in Davy Crocket National Forest. Bicycles are allowed on the Piney creek horse trail, though fat-bikes are required. No alternative acreage is proposed in this document. It is desired that managed use of the Piney Creek Horse Trail allow for the seldom and rare cyclist.

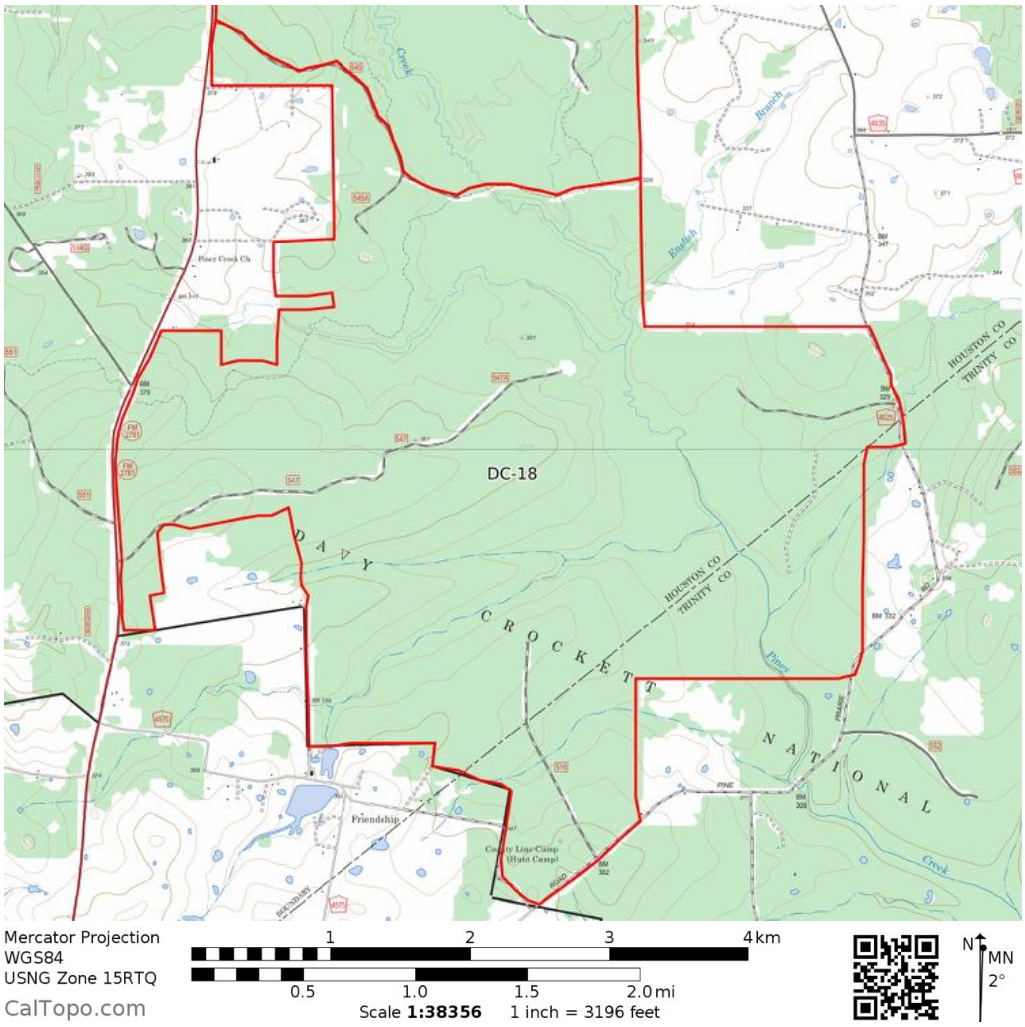

Figure 24: DC-18. **Not Wilderness, Alternative Acreage Posposed**. There currently exists no dedicated cycling trail in Davy Crocket National Forest. Bicycles are allowed on the Piney creek horse trail, though fat-bikes are required. No alternative acreage is proposed in this document. It is desired that managed use of the Piney Creek Horse Trail allow for the seldom and rare cyclist.

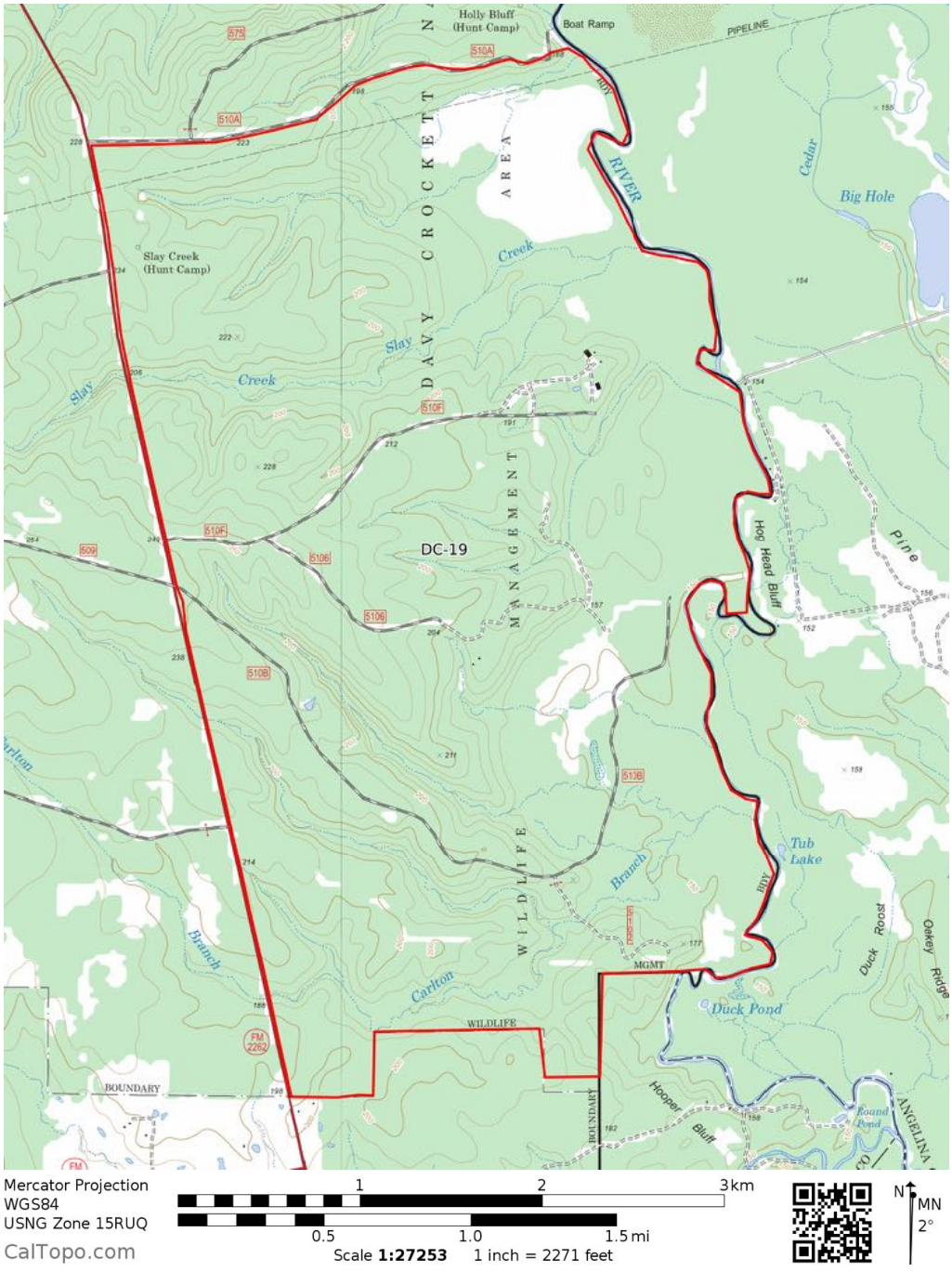

Figure 25: DC-19. **Neutral**. There is no conflict with cycling opportunities in this parcel. However, some good camp sites may exists for bikepackers and packrafters carrying their bikes. Perhaps a Wild and Scenic River designation is possible.

3.3 Angelina National Forest

Angelina National Forest (Figure 26), one of four National Forests in Texas, is located in Angelina, Nacogdoches, San Augustine and Jasper counties. The forest lies in the Neches River Basin and on the north and south shores of Sam Rayburn Reservoir, a 114,500-acre lake on the Angelina River formed by the construction of Sam Rayburn Dam in the early 1960's. The forest contains 153,179 acres.

Below, each area identified as potential wilderness is assessed for cycling impact.

ANG-1 **Neutral**. ANG-1 (Figure 27) contains limited cycling opportunities. FR 350 is intriguing but to connect would likely require TPW/RTP grants and this area is near Hank Creek's Campground, so cyclists are likely to stay routed on other roads.

ANG-2 **Neutral**. ANG-2 (Figure 28) contains limited cycling opportunities and is adjacent to the Turkey HIll Wilderness Area. At first glance, it looks like FR 374 bisects the land parcel. However, upon closer inspection of satellite imagery, the road appears to end or has been unmaintained for a significant period of time.

ANG-3 & 4 **Neutral**. ANG-3 & ANG-4 (Figure 29) are small parcels that contain no cycling opportunities, and would expand the existing Turkey Hill Wilderness Area.

ANG-5 **Neutral**. ANG-5 (Figure 30) has limited cycling opportunity, however, it is unclear from the polygon whether Forest Roads 307 and SAA 303 remain open or are encompassed by the proposed wilderness polygon. It is desired for those roads to remain open to cyclists and for the potential wilderness boundary to exclude the road.

ANG-6 **Neutral**. ANG-6 (Figure 31) has no value for cycling but would expand the existing Upland Island Wilderness.

ANG-7 **Neutral**. ANG-7 (Figure 32 has no value for cycling but would expand the existing Upland Island Wilderness.

ANG-8 **Neutral**. ANG-8 (Figure 33 has no value for cycling but would expand the existing Upland Island Wilderness. Preferred for road JAS 007 to remain open to cyclists to connect into ANG-9.

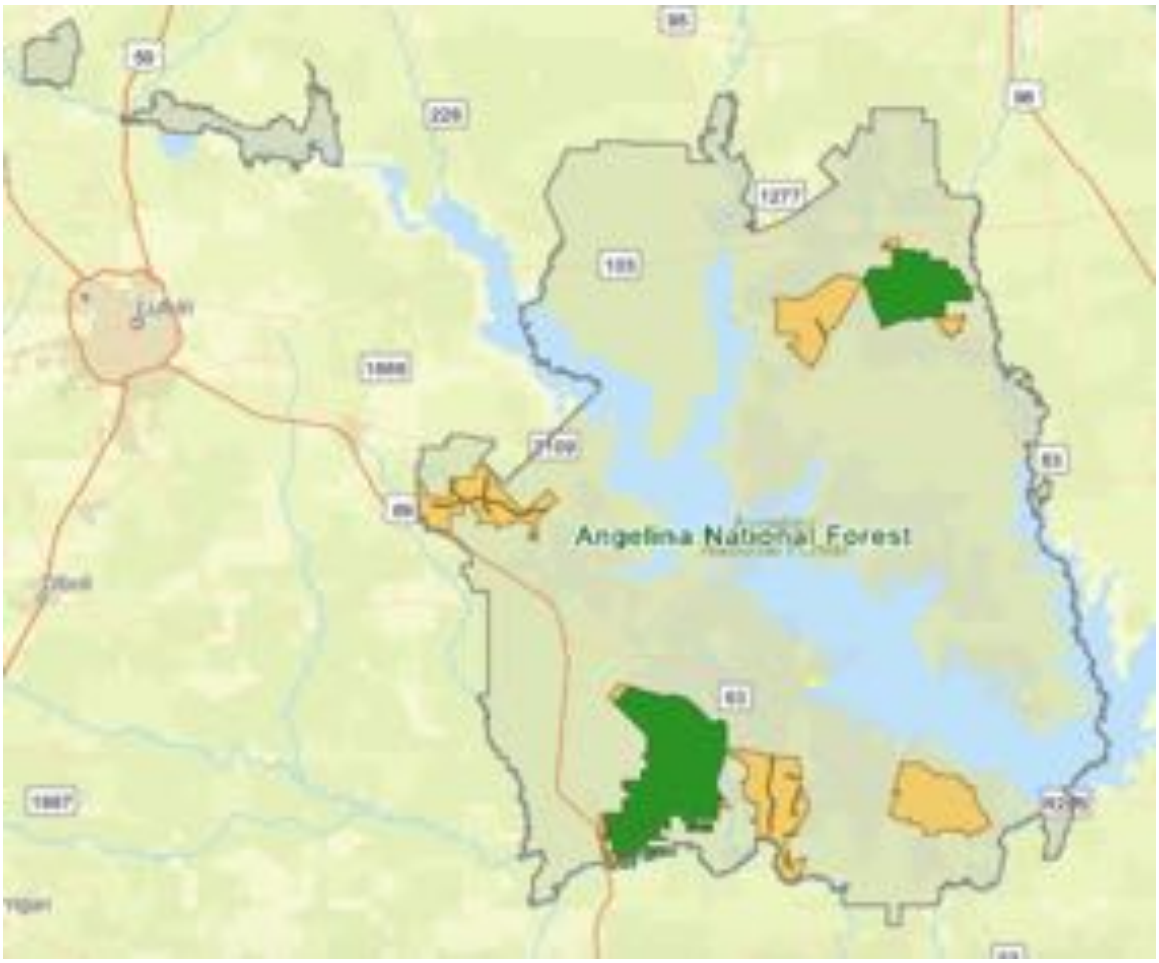

Figure 26: Overview of Angelina National Forest and potential wilderness areas. Dark green is existing wilderness, light brown potential wilderness based on size, yellow established recreation areas, and light purple roadless areas.

ANG-9 **Neutral**. ANG-9 (Figure 34 has some value for riverside access, including camping and packrafting, along road JAS 007. A Wild and Scenic River designation may be more appropriate.

ANG-10 **Neutral**. ANG-10 (Figure 35 has no value for cycling but would expand the existing Upland Island Wilderness.

ANG-11 **Not Wilderness**. ANG-11 (Figure 36) is of immense value to cycling interests, particularly gravel grinding, bikepacking, and bicycle tourism. There are numerous connectable forest roads in ANG-11 with camping and tourism destinations of Bouton Lake, Boykin Springs, and the Aldredge Sawmill.

ANG-12 **Not Wilderness, Alternative Acreage Proposed**. ANG-12 (Figure 37)has cycling value. In particular, FR 333A, FR 343, and FR343C are excellent gravel and bikepacking options. Three alternative options are proposed. Option A has 1164 acres, Option B has 1395 acres, and Option C has 1273 acres.

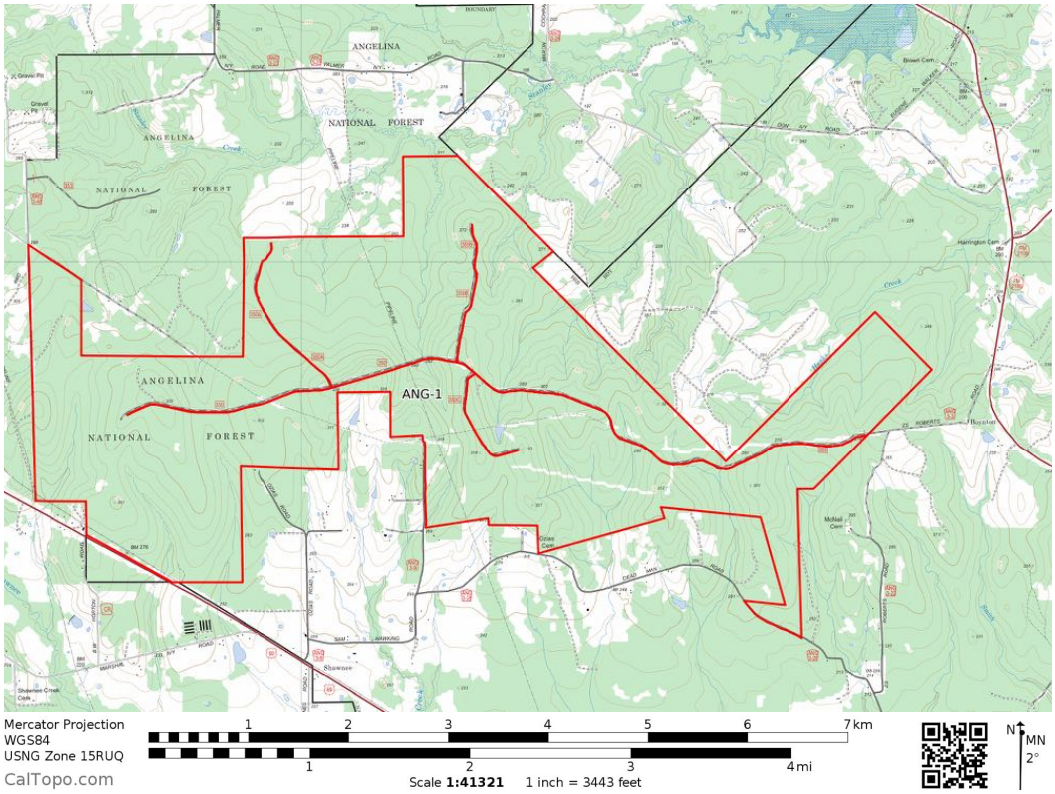

Figure 27: ANG-1. **Neutral**. ANG-1 contains limited cycling opportunities. FR 350 is intriguing but to connect would likely require TPW/RTP grants and this area is near Hank Creek's Campground, so cyclists are likely to stay routed on other roads.

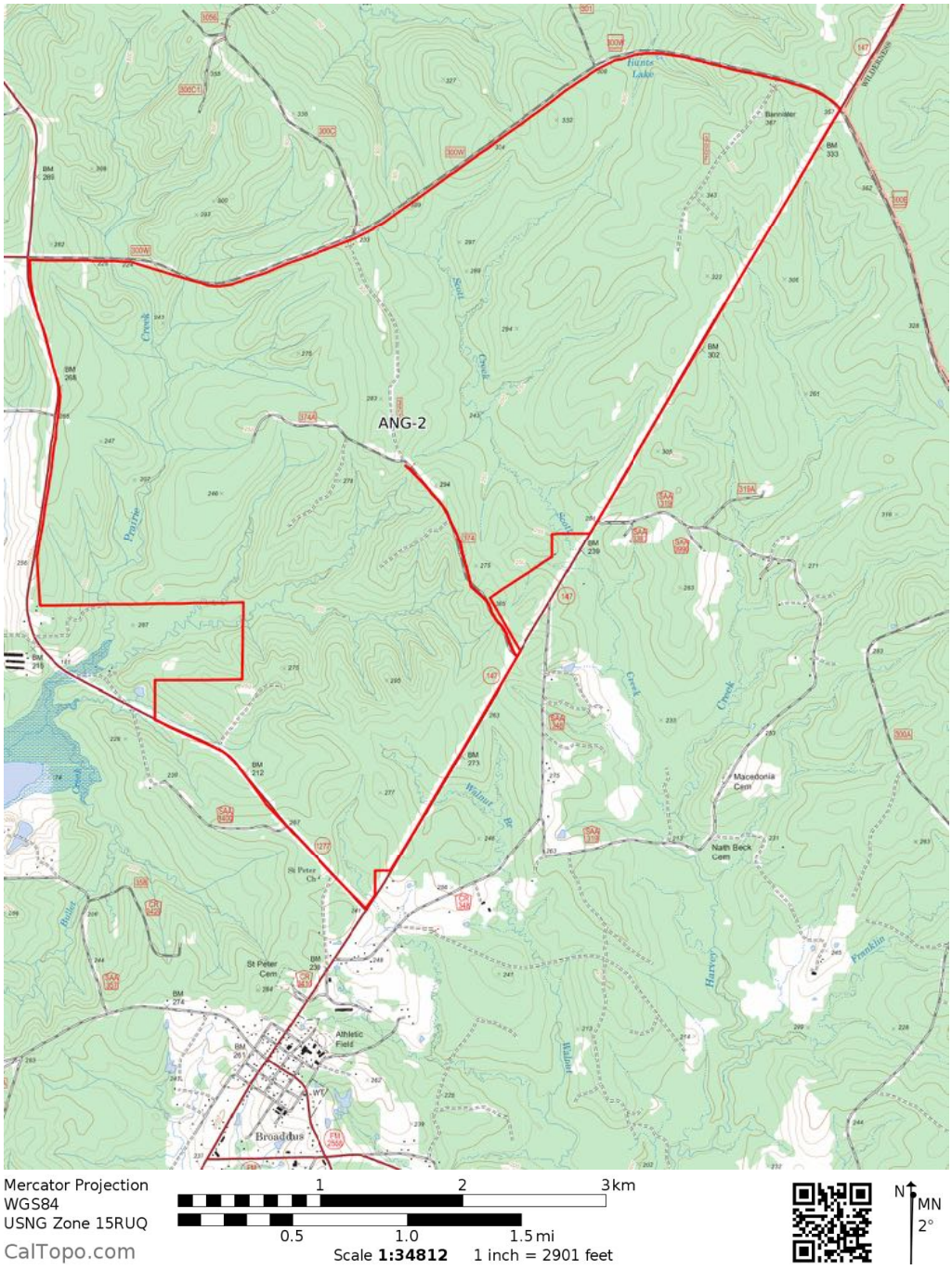

Figure 28: ANG-2. **Neutral**. ANG-2 contains limited cycling opportunities and is adjacent to the Turkey HIll Wilderness Area. At first glance, it looks like FR 374 bisects the land parcel. However, upon closer inspection of satellite imagery, the road appears to end or has been unmaintained for a significant period of time.

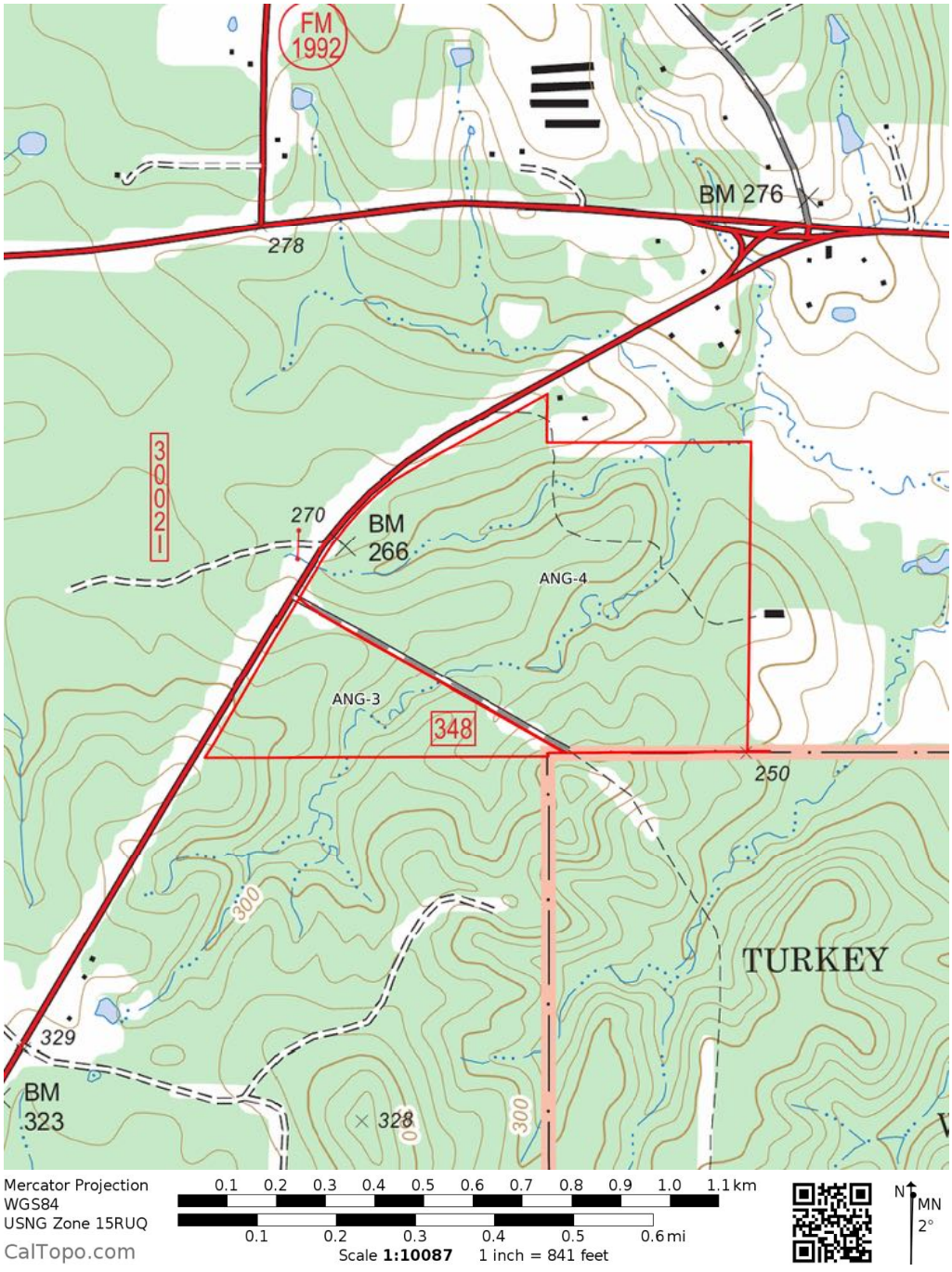

Figure 29: ANG-3 & Ang-4. **Neutral**. ANG-3 & ANG-4 (Figure 29) are small parcels that contain no cycling opportunities, and would expand the existing Turkey Hill Wilderness Area.

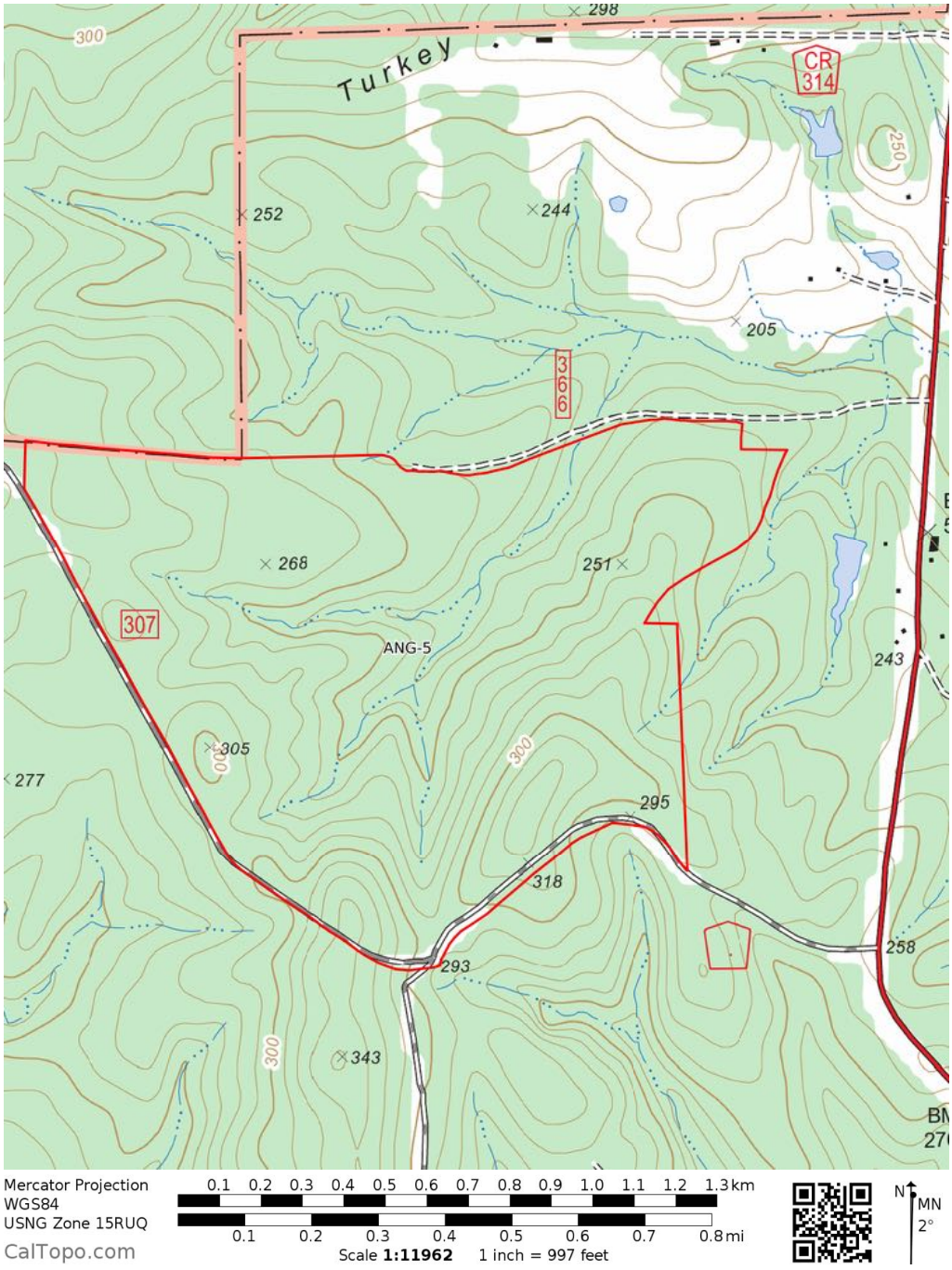

Figure 30: ANG-5. **Neutral**. ANG-5 has limited cycling opportunity, however, it is unclear from the polygon whether Forest Roads 307 and SAA 303 remain open or are encompassed by the proposed wilderness polygon. It is desired for those roads to remain open to cyclists and for the potential wilderness boundary to exclude the road.

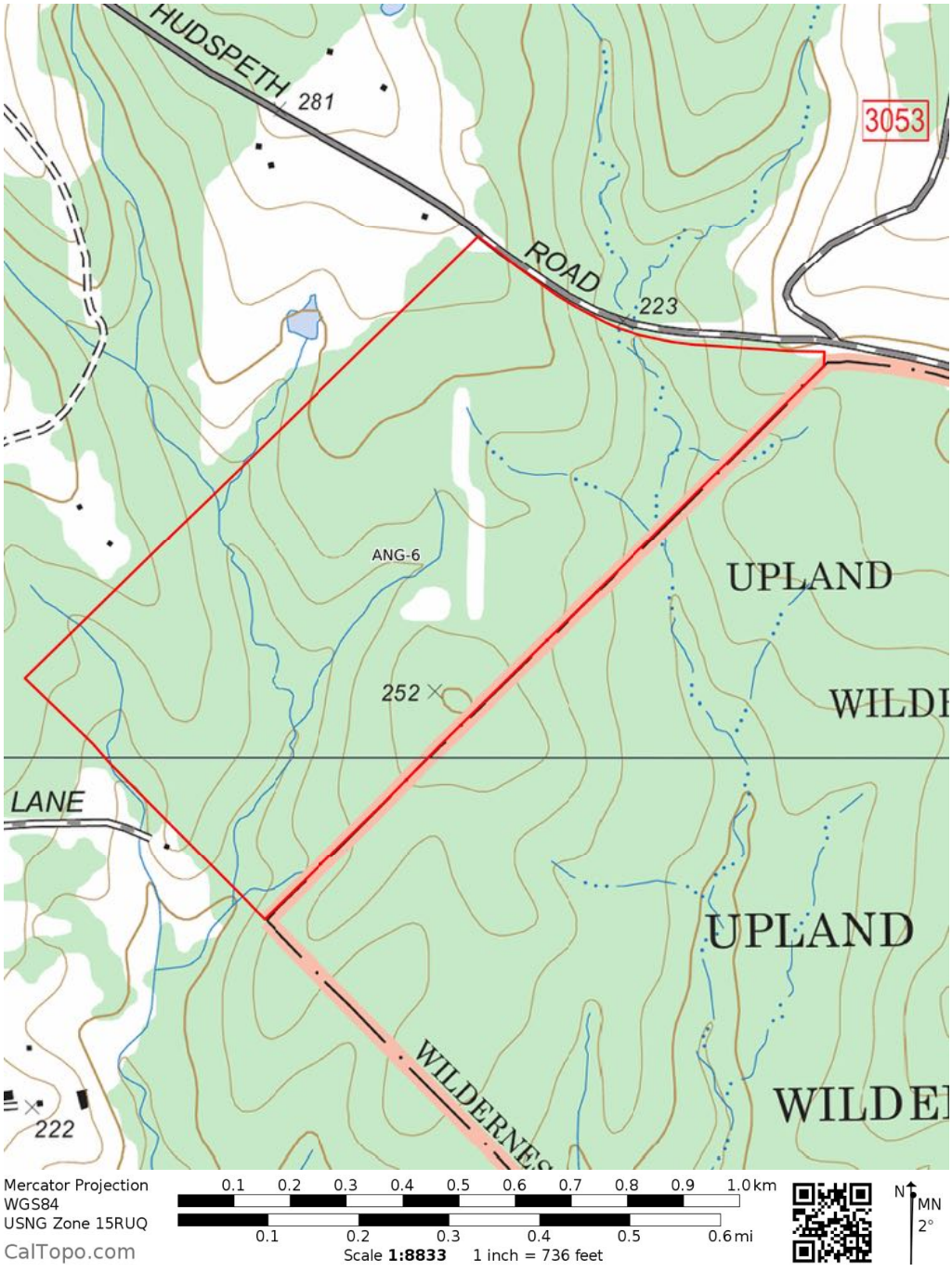

Figure 31: ANG-6. **Neutral**. ANG-6 has no value for cycling but would expand the existing Upland Island Wilderness.

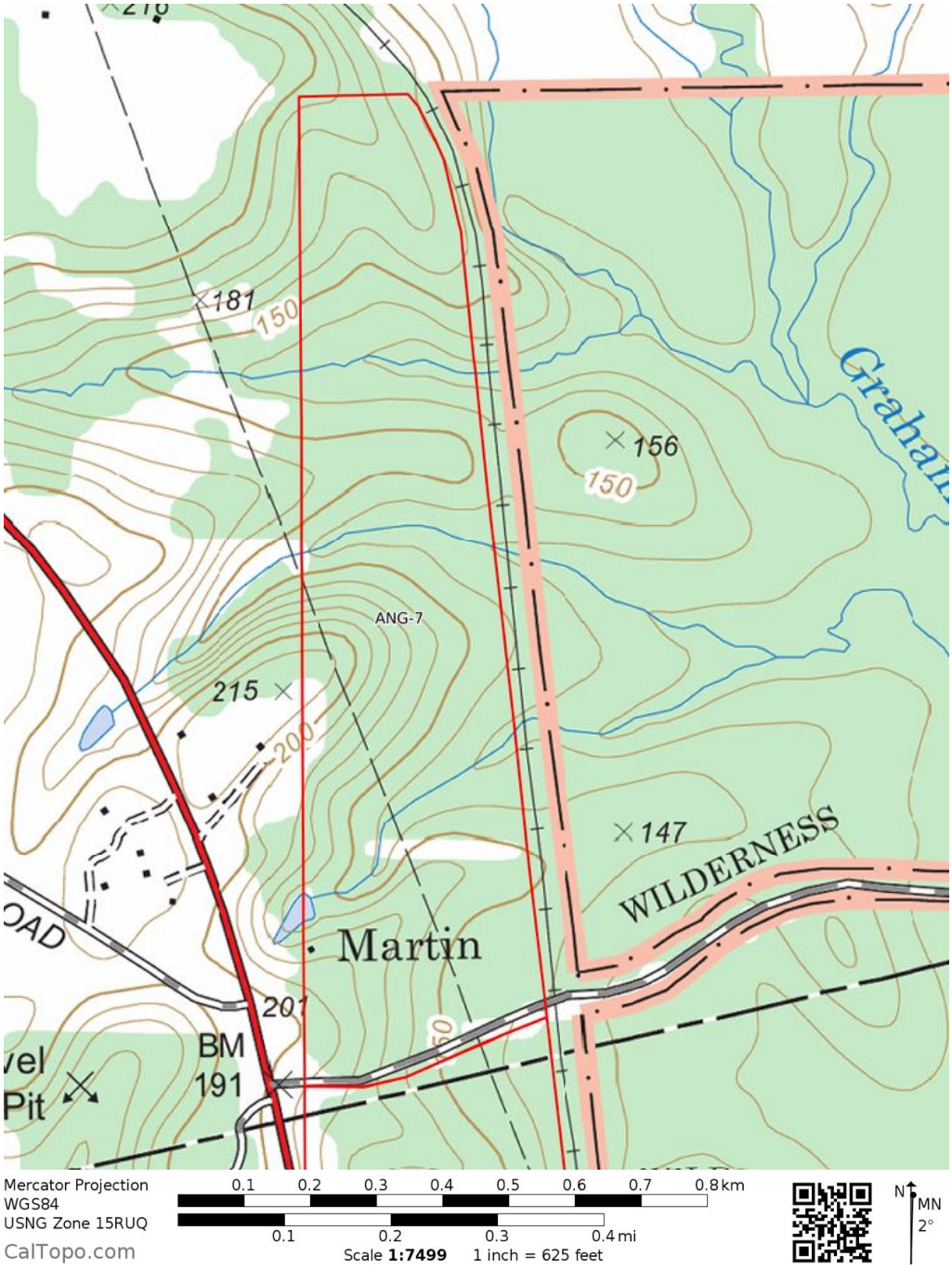

Figure 32: ANG-7. **Neutral**. ANG-7 has no value for cycling but would expand the existing Upland Island Wilderness.

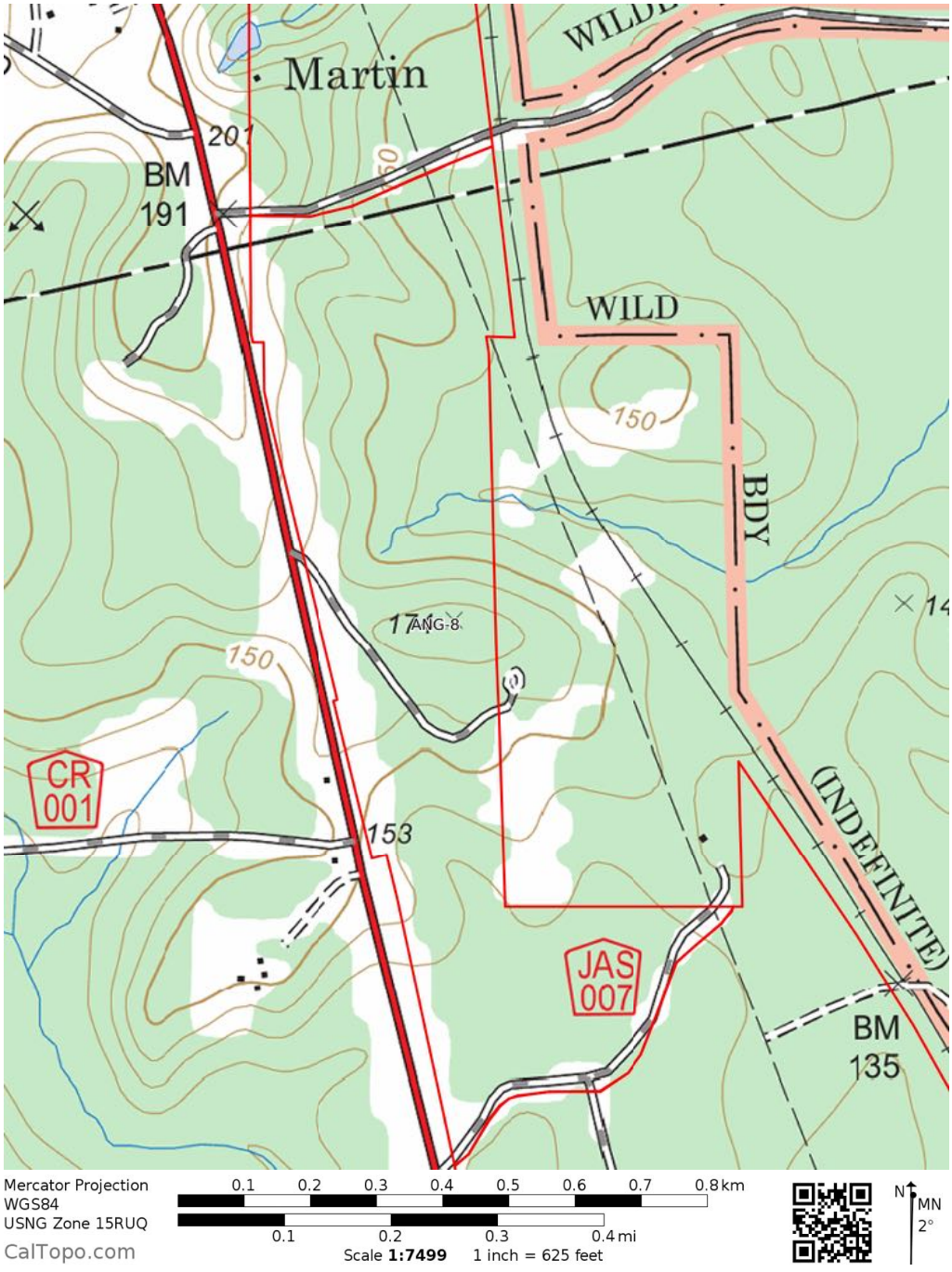

Figure 33: ANG-8. **Neutral**. ANG-8 has no value for cycling but would expand the existing Upland Island Wilderness. Preferred for road JAS 007 to remain open to cyclists to connect into ANG-9.

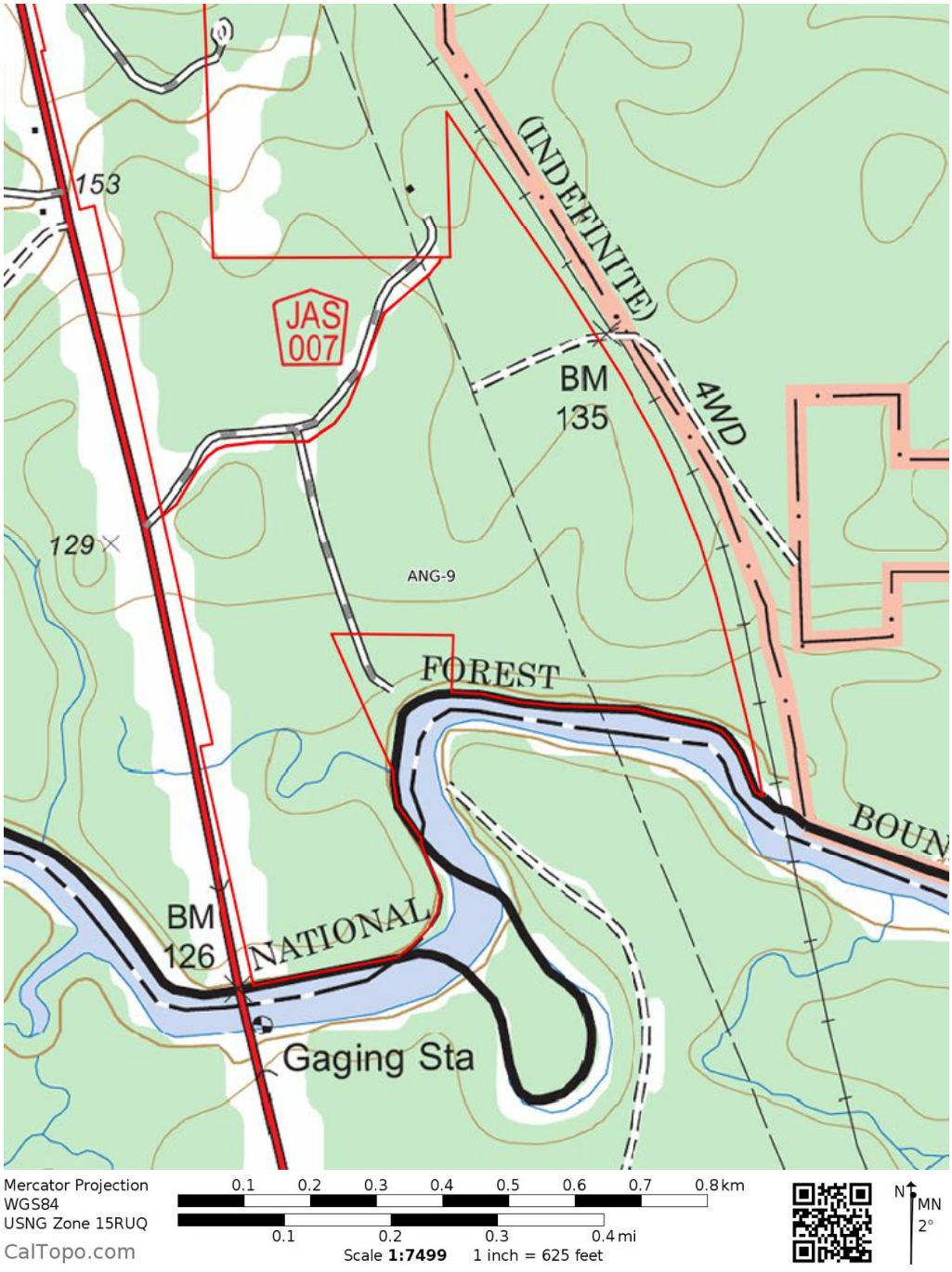

Figure 34: ANG-9. **Neutral**. ANG-9 has some value for riverside access, including camping and packrafting, along road JAS 007. A Wild and Scenic River designation may be more appropriate.

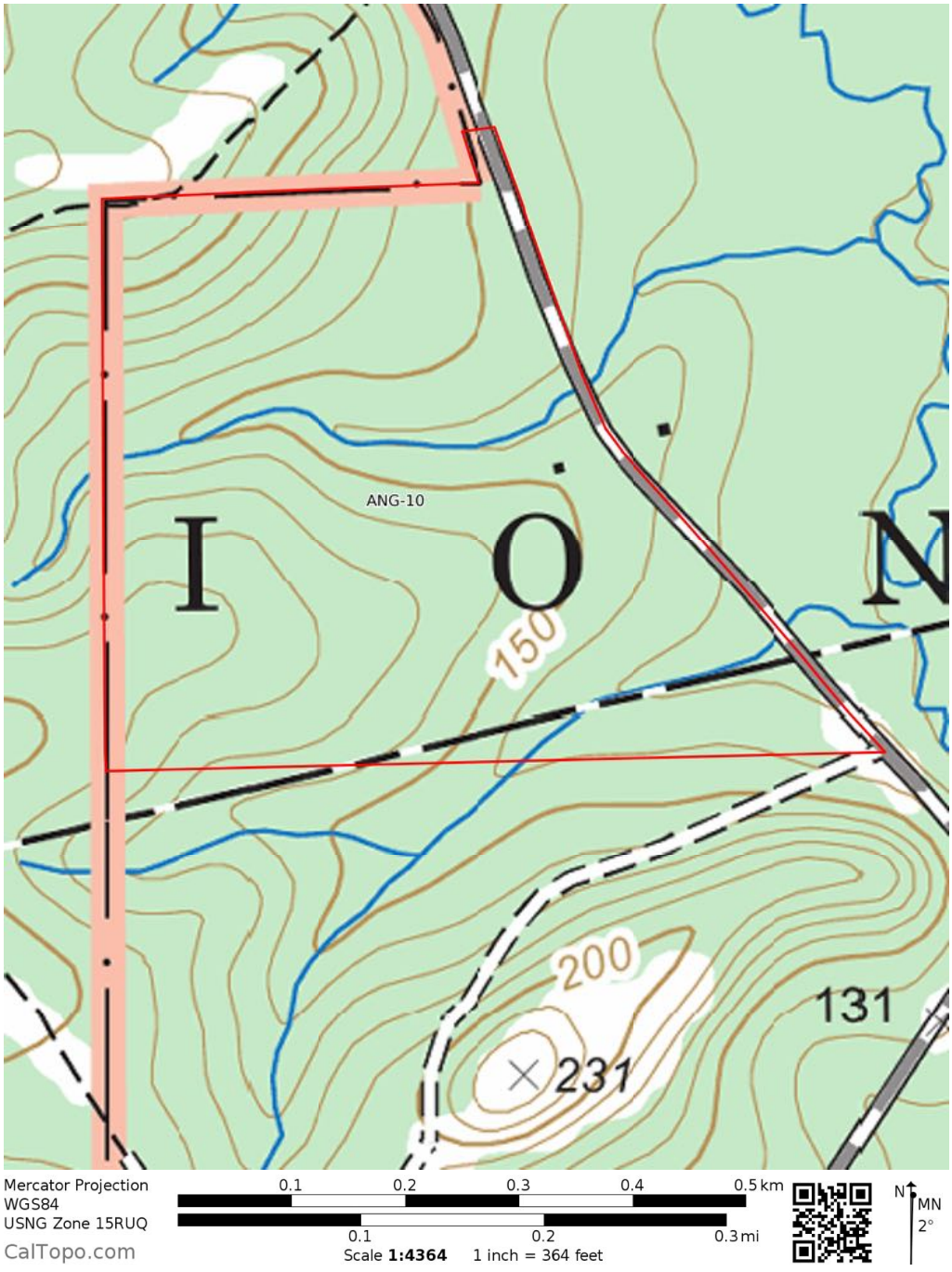

Figure 35: ANG-10. **Neutral**. ANG-10 has no value for cycling but would expand the existing Upland Island Wilderness.

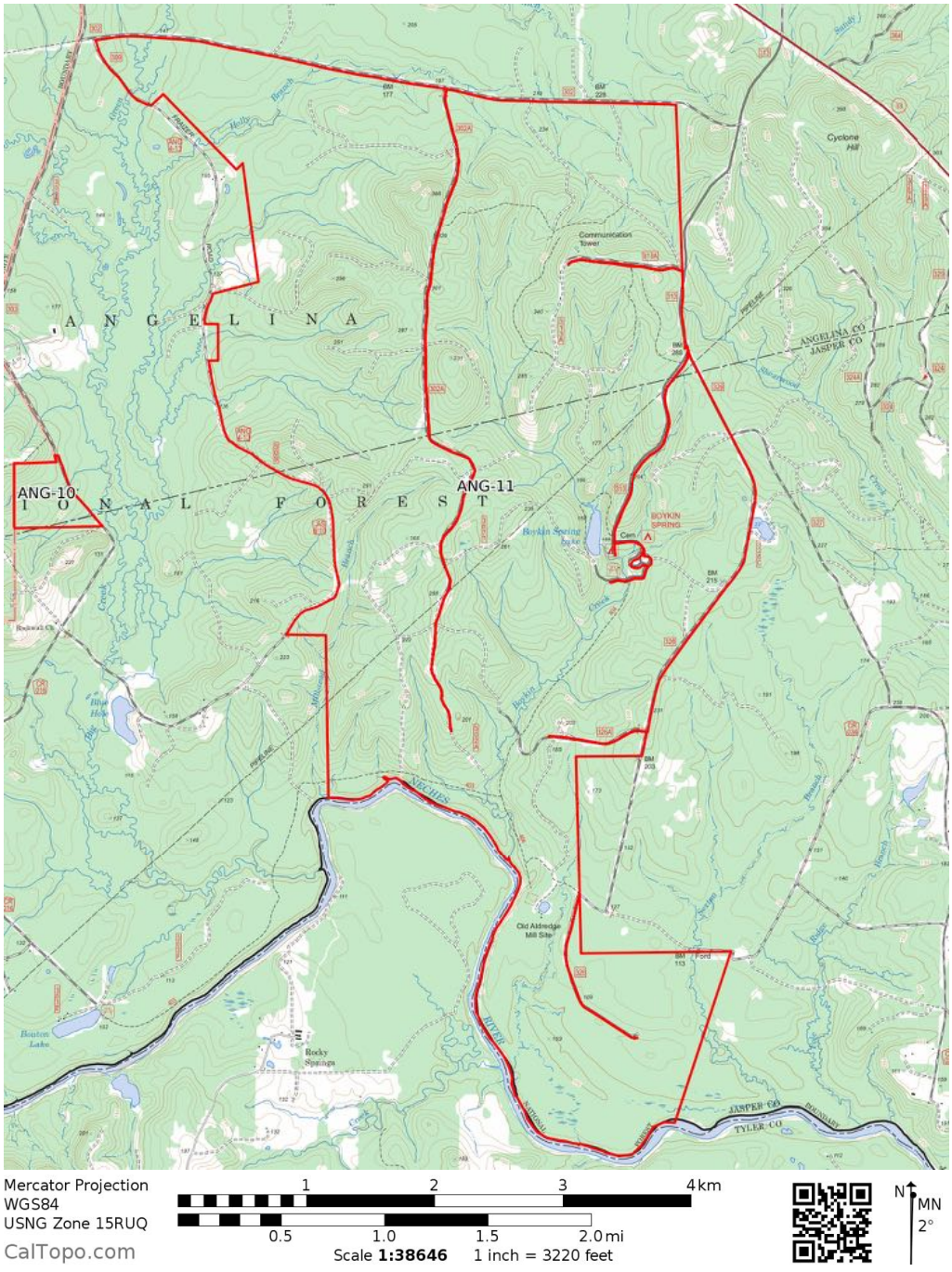

Figure 36: ANG-11. **Not Wilderness**. ANG-11 is of immense value to cycling interests, particularly gravel grinding, bikepacking, and bicycle tourism. There are numerous connectable forest roads in ANG-11 with camping and tourism destinations of Bouton Lake, Boykin Springs, and the Aldredge Sawmill.

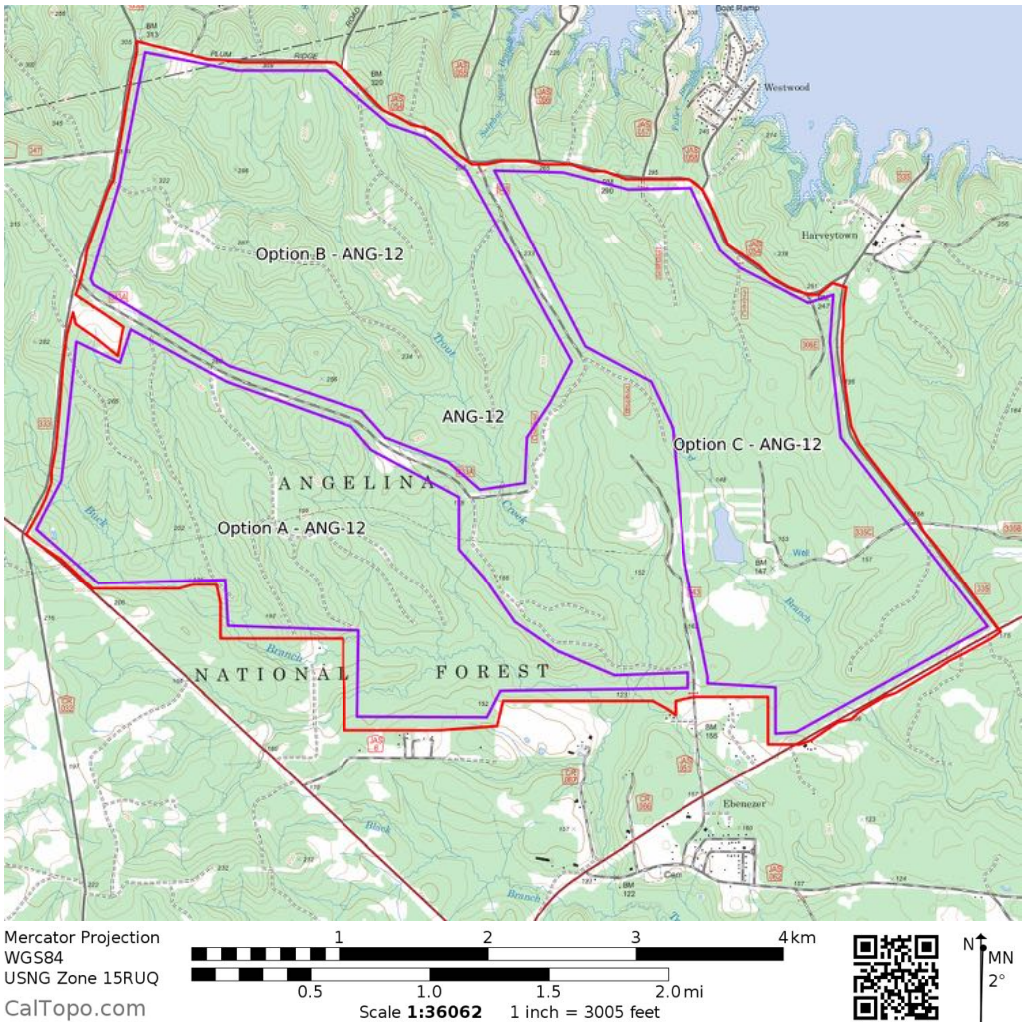

Figure 37: ANG-12. **Not Wilderness, Alternative Acreage Proposed**. ANG-12 has cycling value. In particular, FR 333A, FR 343, and FR343C are excellent gravel and bikepacking options. Three alternative options are proposed. Option A has 1164 acres, Option B has 1395 acres, and Option C has 1273 acres.

3.4 Sabine National Forest

The Sabine National Forest (Figure 38) is the easternmost of the four national forests in Texas. It forms part of the boundary between Texas and Louisiana, within Sabine, San Augustine, Shelby, Jasper, and Newton counties. The forest is situated on the western slopes of the Sabine River and contains 160,656 acres.

Below, each area identified as potential wilderness is assessed for cycling impact.

SAB-20 **Not Wilderness, Alternative Acreage Proposed**. SAB-20 (Figure 39)has cycling value. In particular, Curry Creek Trail, Tin Top Trail. FR 114, McElroy Cemetary Road and other Forest Roads are of interest to gravel grinders and bikepackers, and to complete an East Texas Forest Route for bicycle tourism. An alternative wilderness polygon of 2841 acres is proposed.

SAB-21 **Not Wilderness**. SAB-21 (Figure 40) offers a rich network of connectable routes via Forest Roads 152, 136, and their multiple spurs. These roads are of interest to gravel grinders, bikepacking, and the creation of an East Texas Forest Route for bicycle tourism.

SAB-22 & 23 **Neutral**. SAB-22 & SAB-23 (Figure 41) offer no cycling value and will increase the existing Indian Mounds Wilderness area.

SAB-24 **Neutral**. SAB-24 (Figure 42) offers little value to cycling and will increase the existing Indian Mounds Wilderness.

SAB-25 **Neutral**. SAB-25 (Figure 43) offers little value to cycling as long as FR 115A remains open, and will increase the existing Indian Mounds Wilderness.

SAB-26 **Neutral**. SAB-26 (Figure 44) offers little value to cycling, unless the current road Knox Knoll leads to a tourist site. Notably, Indian Mounds exist within walking distance from the campsite sharing the same name as the Wilderness. If this area is to protect cultural resources, it can become wilderness and increase the existing Indian Mounds Wilderness area as there will be no adverse cycling impacts.

Figure 38: Overview of Sabine National Forest and potential wilderness areas. Dark green is existing wilderness, light brown potential wilderness based on size, yellow established recreation areas, and light purple roadless areas.

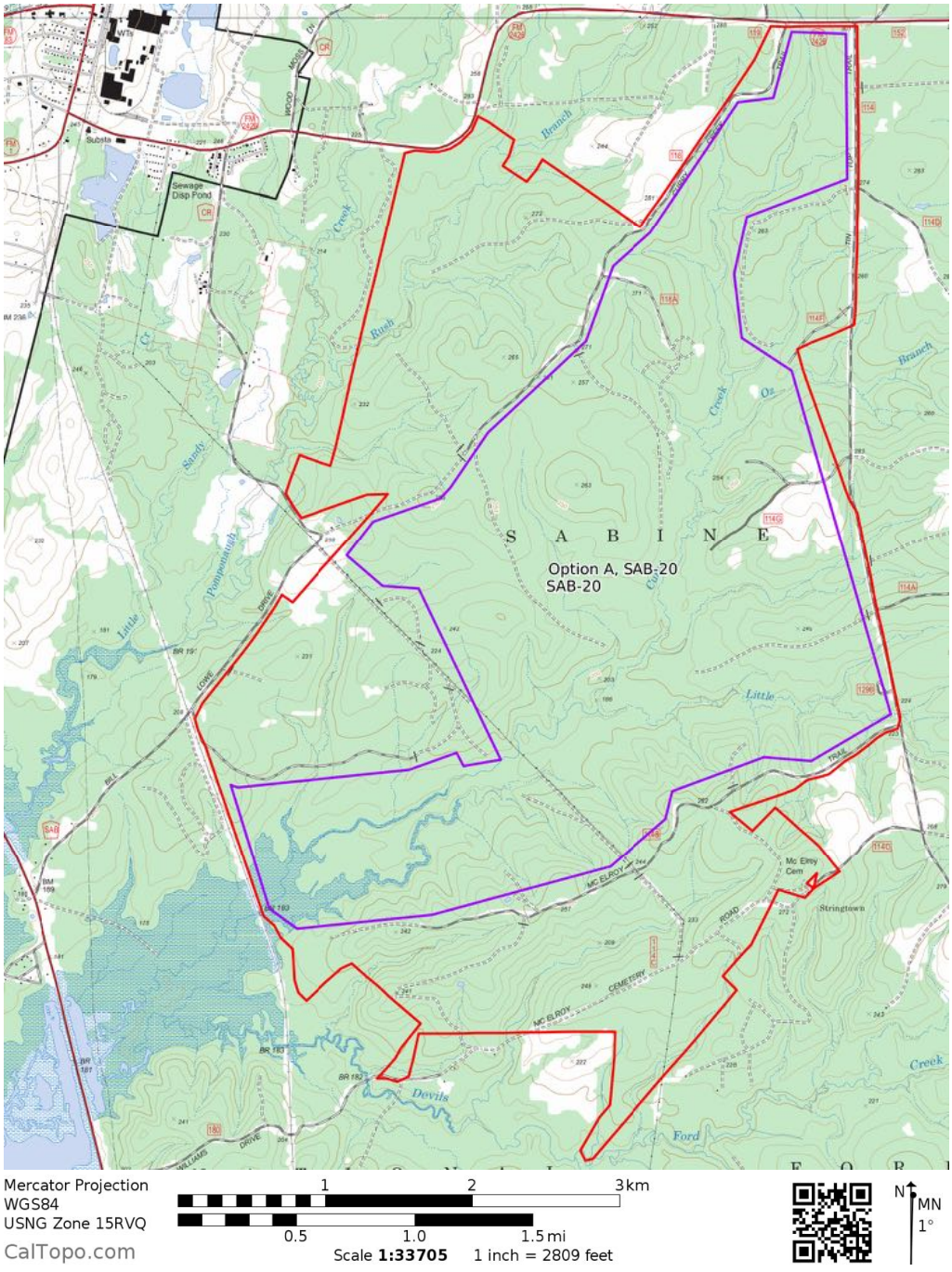

Figure 39: SAB-20. **Not Wilderness, Alternative Acreage Proposed**. SAB-20 has cycling value. In particular, Curry Creek Trail, Tin Top Trail. FR 114, McElroy Cemetary Road and other Forest Roads are of interest to gravel grinders and bikepackers, and to complete an East Texas Forest Route for bicycle tourism. An alternative wilderness polygon of 2841 acres is proposed.

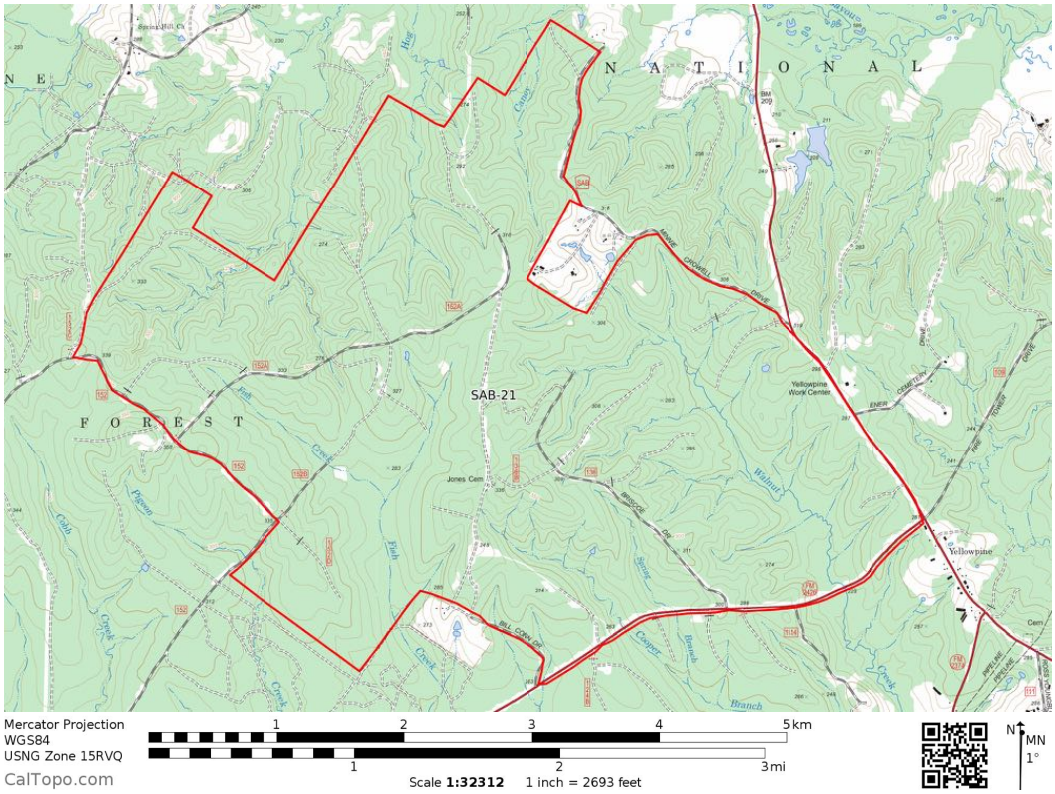

Figure 40: SAB-21. **Not Wilderness**. SAB-21 offers a rich network of connectable routes via Forest Roads 152, 136, and their multiple spurs. These roads are of interest to gravel grinders, bikepacking, and the creation of an East Texas Forest Route for bicycle tourism.

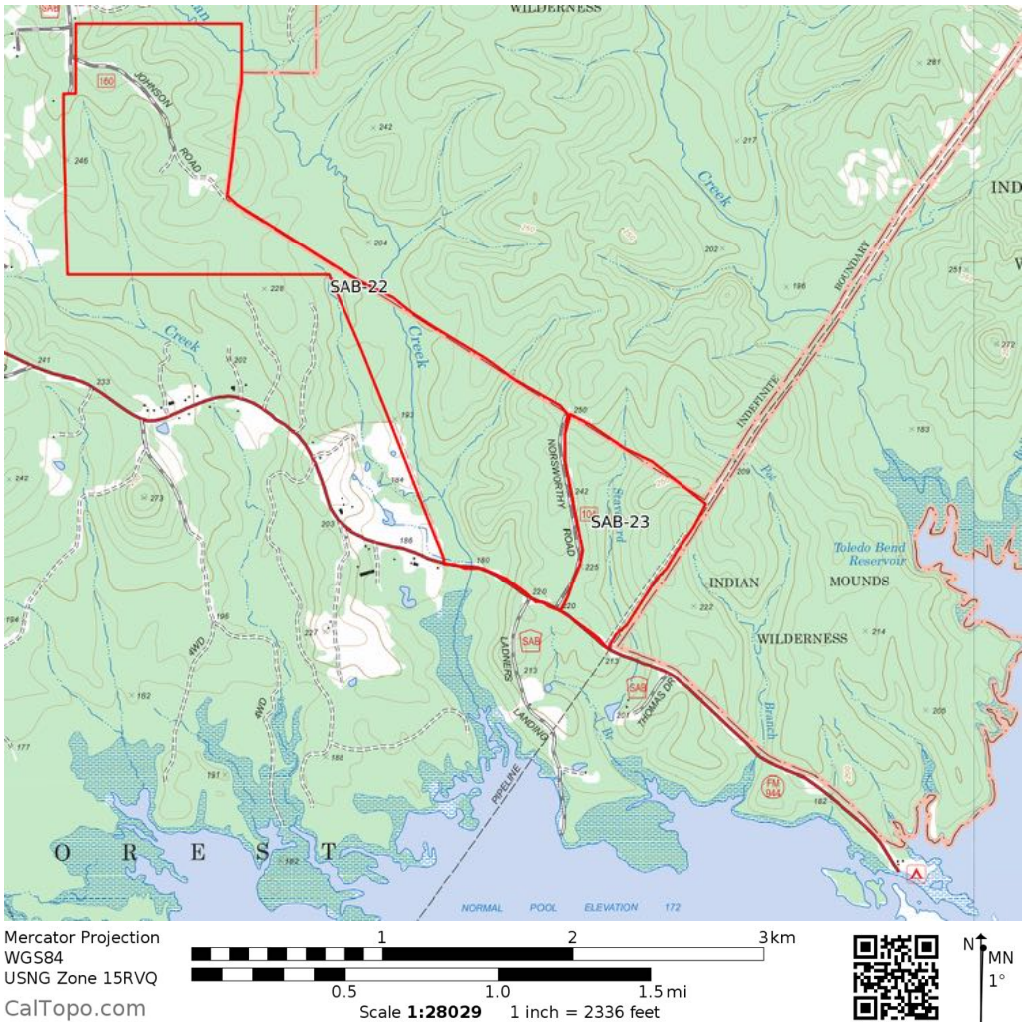

Figure 41: SAB-22 & 23. **Neutral**. SAB-22 & SAB-23 offer no cycling value and will increase the existing Indian Mounds Wilderness area.

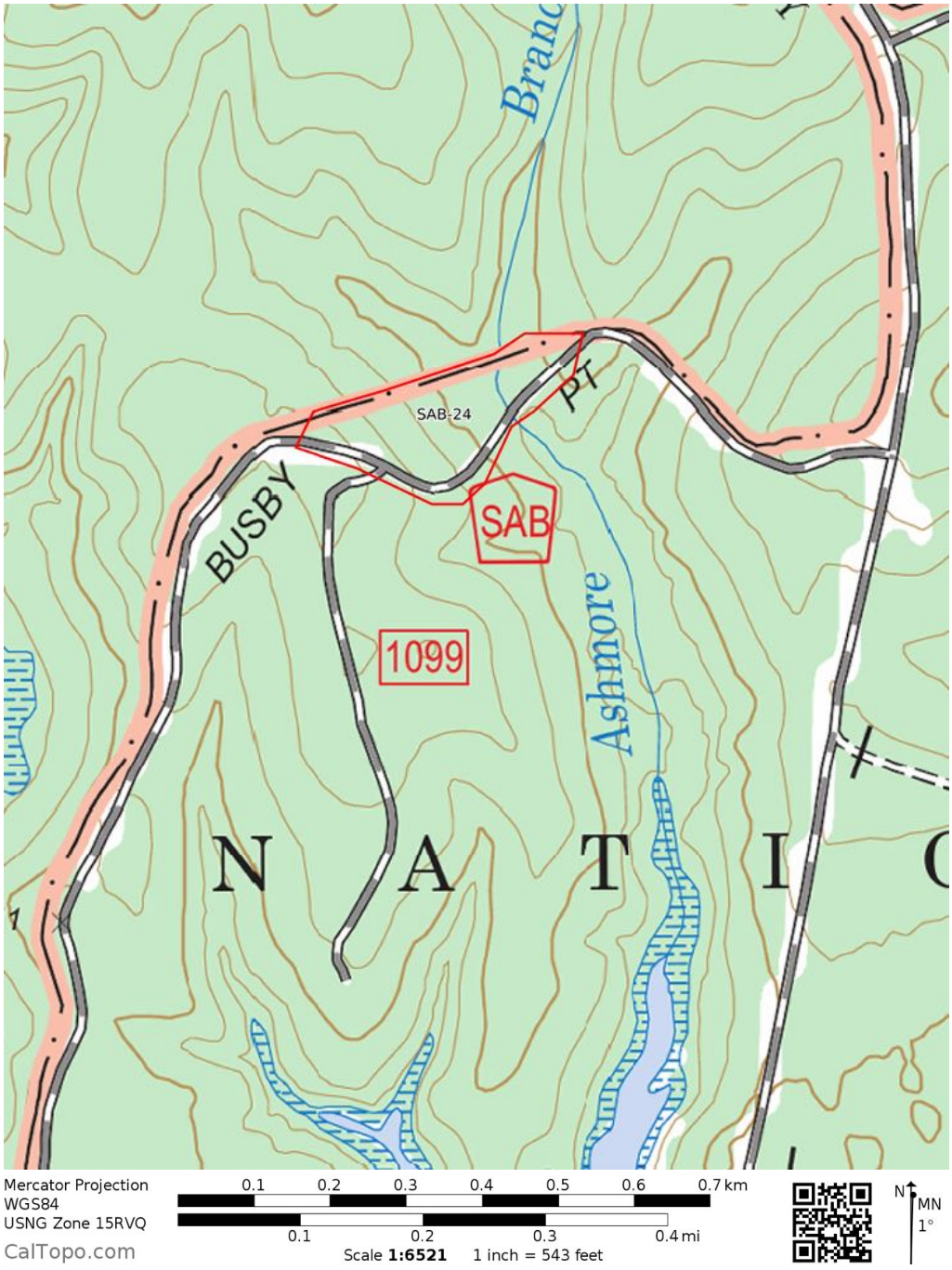

Figure 42: SAB-24. **Neutral**. SAB-24 offers little value to cycling and will increase the existing Indian Mounds Wilderness.

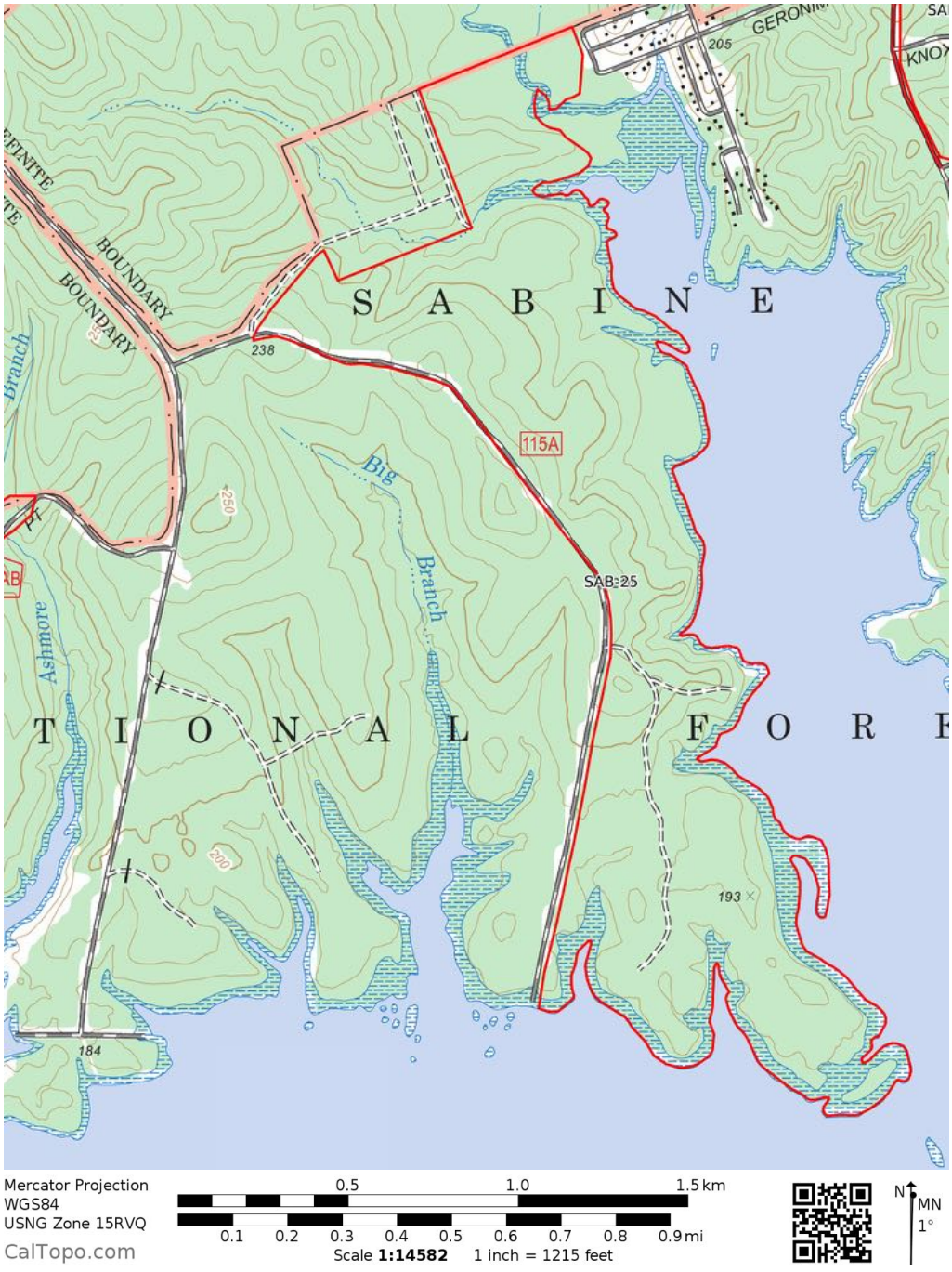

Figure 43: SAB-25. **Neutral**. SAB-25 offers little value to cycling as long as FR 115A remains open, and will increase the existing Indian Mounds Wilderness.

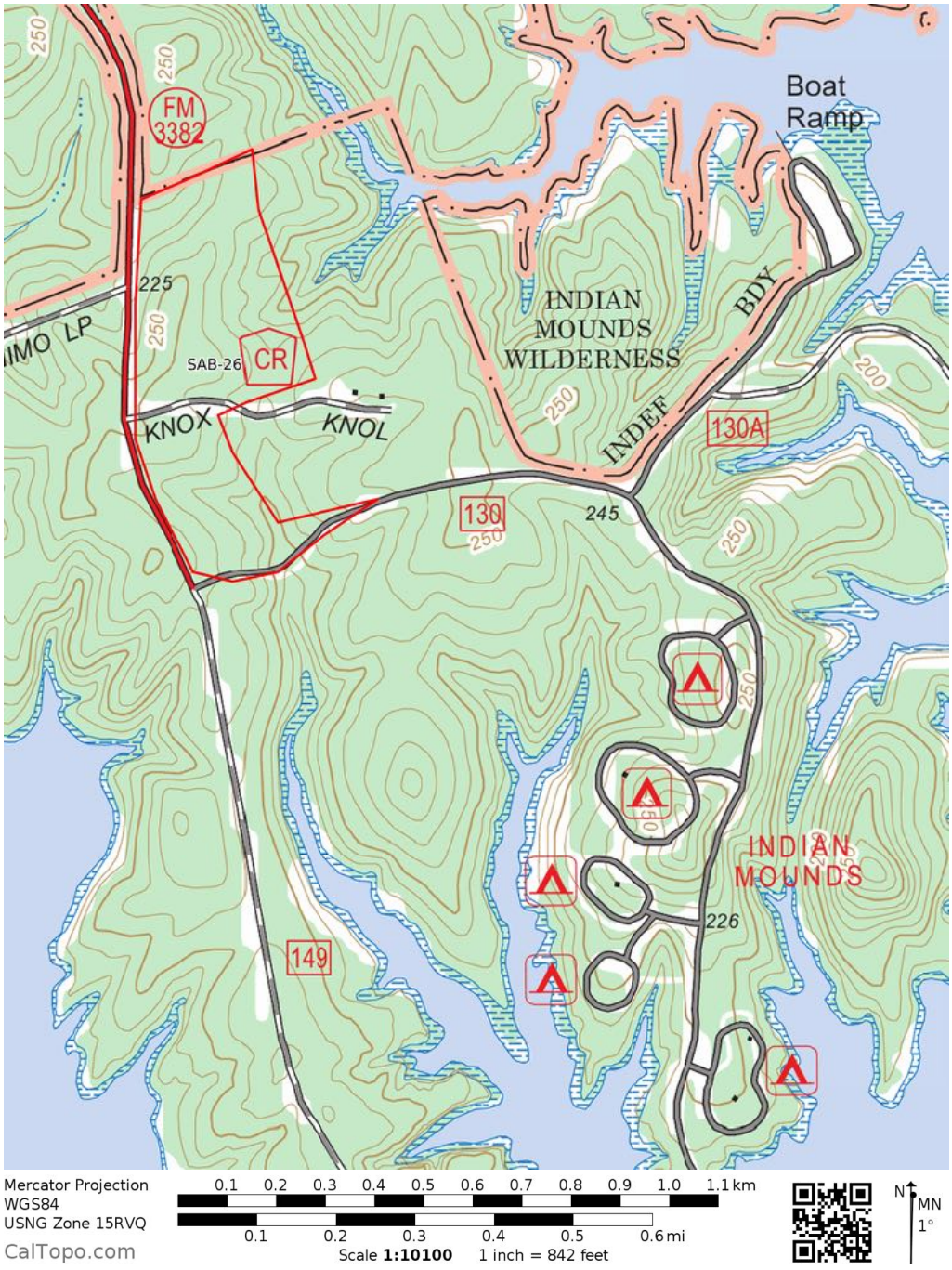

Figure 44: SAB-26. **Neutral**. SAB-26 offers little value to cycling, unless the current road Knox Knoll leads to a tourist site. Notably, Indian Mounds exist within walking distance from the campsite sharing the same name as the Wilderness. If this area is to protect cultural resources, it can become wilderness and increase the existing Indian Mounds Wilderness area as there will be no adverse cycling impacts.

4 References

4.1 Books

Legan, Nick. 2017. Gravel Cycling, The Complete Guide to Gravel Racing and Adventure Bikepacking
https://www.velopress.com/books/gravel-cycling/
Also available on Amazon https://www.amazon.com/gp/product/1937715701?tag=velopress-20

4.2 Mainstream Press

New York Times
http://www.nytimes.com/2013/06/12/sports/wind-cant-stop-cyclings-gravel-grinders-in-the-dirty-kanza.html
https://www.nytimes.com/2015/05/24/sports/extreme-races-allure-is-simple-200-miles-of-gravel.html?_r=0

Sports Illustrated
https://www.si.com/edge/2016/06/07/gravel-grinders-cycling-races-events-advice

Los Angeles Times
http://www.latimes.com/health/la-he-0607-gear-20140607-column.html

4.3 General Websites and Cycling Magazines

Riding Gravel
http://ridinggravel.com

Gravel Cyclist
http://www.gravelcyclist.com
http://www.gravelcyclist.com/training-rides/feature-usa-cycling-has-its-eye-on-gravel/
http://www.gravelcyclist.com/training-rides/exclusive-usa-cycling-and-gravel-a-conversation-with-usacs-ceo-derek-bouchard/

Bikepacker Magazine
http://bikepacker.com

Bikepacking
http://www.bikepacking.com

Bunyan Velo
http://bunyanvelo.com

Dirt Rag Magazine
http://dirtragmag.com
http://dirtragmag.com/gravel-grinding-essentials-an-open-mind-and-good-beer/

4.4 Texas Gravel and Bikepacking Groups

Houston Gravel Grinders
https://www.facebook.com/groups/htxgravelgrinders/

Texas Bikepacking
https://www.facebook.com/groups/TexasBikePacking/

4.5 Texas gravel and bikepacking events

Race Across Texas
Distance: 1000 miles
http://www.gravelcyclist.com/event/rat-1000-race-across-texas-texas-usa/

Camino 205
Location: Palestine, Texas
Distance: 60, 107, 205 miles
http://www.camino205.com

HTFU Roubaix
Location: Sam Houston National Forest
Distances: Up to 110 miles
https://www.cxmagazine.com/htfu-roubaix-kolo-promo-gravel-race-report-and-results

St. Joseph Gran Gravel
Location: Bryan, Texas
Distance: 500 miles
https://www.granfondobcs.com/grangravel

Castell Grind
Location: Castell, Texas
Distances: 50k, 75k, 100k
http://www.castellgrind.com

Spinistry
Location: puts on events nearly every month, mostly north of Dallas/Ft Worth but now across the state
Distances: varies, up to the 1000 mile Race Across Texas
http://www.spinistry.net

4.6 Local Gravel and Bikepacking Manufacturers and Companies

Cantu Wheels
http://www.cantuwheels.com

Schott Cycles
http://www.schottcycles.com

Chumba Cycles
https://www.chumbausa.com

Wanderlust Gear
https://www.wanderlustgearusa.com

5 GPX File of Alternative Wilderness Acreage

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