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# Native Pine Range Maps For Georgia

Dr. Kim D. Coder, Professor of Tree Biology & Health Care / University Hill Fellow  
University of Georgia Warnell School of Forestry & Natural Resources

Georgia pines are more than filters for romantic moonlight. These pines have been and continue to be the most important trees for our quality of life. Georgia pines are the cardboard boxes, paper products, wood of our houses, and renewable resources which drove the industrial revolution in the old South and which drives the future of the new South.

Pines are considered by some to be the lowest of the trees because they are so common. Yet they are the lead actors in an ecological play across rural lands, as well as all the diverse communities of Georgia. Pines are trees which smell, sound, and look like home to many people. Pines are also the most important industrial tree group in the Northern Hemisphere.

Georgia has eleven native and naturalized pines. Each is akin to the others, but unique in where and how it grows. This paper helps define where our pines grow in Georgia. Several pine species can grow fast, straight, and tall enough to be commercial products.

## The PINES!

Pines are in one of six families within the conifers (*Pinales*). The conifers are divided into roughly 50 genera and more than 500 species. The conifer families include pine (*Pinaceae*) and cypress (*Cupressaceae*) of the Northern Hemisphere, and podocarp (*Podocarpaceae*) and araucaria (*Araucariaceae*) of the Southern Hemisphere. Plum-yew (*Cephalotaxaceae*) and umbrella-pine (*Sciadopityaceae*) families are less common. The pine family (*Pinaceae*) has many genera (~9) and many species (~211). The most common of the genera are fir (*Abies*), cedar (*Cedrus*), larch (*Larix*), spruce (*Picea*), pine (*Pinus*), Douglas-fir (*Pseudotsuga*), and hemlock (*Tsuga*).

## Genus

Trees generically considered pines were first placed in the *Pinus* genus in 1753. The name of the genus is the Latin word for pine. The pine genus (*Pinus*) contains ~95 species (range from 66-120 species) from around the Northern Hemisphere. One pine species does range across the equator into the Southern Hemisphere in Sumatra. Worldwide, pines are divided into 15 sub-sections of the genera.

Of the worldwide total of ~95 pines, ~60 are in the Western Hemisphere. Mexico has ~35 different species, the United States has ~36 species, and Canada has 9 species. Pines can be found as far South in Central America as Nicaragua. Pines can also be found across the Caribbean islands (4 species). The Eastern United States has 13 native pines, of which 11 are native or naturalized in Georgia.

Georgia's eleven native and naturalized pines include:

<i>Pinus clausa</i>	-- sand pine ( <i>naturalized</i> )	MAP #1
<i>Pinus echinata</i>	-- shortleaf pine	MAP #2
<i>Pinus elliotii</i>	-- slash pine	MAP #3
<i>Pinus glabra</i>	-- spruce pine	MAP #4
<i>Pinus palustris</i> -	-- longleaf pine	MAP #5
<i>Pinus pungens</i>	-- table mountain pine	MAP #6
<i>Pinus rigida</i>	-- pitch pine	MAP #7
<i>Pinus serotina</i>	-- pond pine	MAP #8
<i>Pinus strobus</i>	-- Eastern white pine	MAP #9
<i>Pinus taeda</i>	-- loblolly pine	MAP #10
<i>Pinus virginiana</i>	-- Virginia pine	MAP #11

Figure 1 shows the sub-genera genetic relationships among these pines in Georgia.

#### Local Genetics

The ecological distribution of pines can be immense or minute. Within each pine's native growth patterns are genetic differences which allow for more efficient survival and growth under a variety of conditions. Many pines have regional races which do not perform well outside their native area. Several pines may appear to be the same, but regional races within one species may have widely variable attributes based upon climate, soil, and pest susceptibility differences. Pines also form hybrids, where one species will interbreed with another species. Hybrid off-spring may pose identification problems and regeneration opportunities with their mix of growth attributes.

#### Native Range

Knowing the native range of Georgia pines can assist in identification. Knowing a species' native range is also helpful in judging potential tree stress from being out-of-range. Maps in this publication (i.e. map number #1 through #11) provide a native range for each Georgia pine. These native or naturalized range maps were developed over time through referencing federal species maps, state species maps, herbarium specimens, and personal observations by the author. Outlying and disjunct small populations are not shown. Without other supporting information for within-county distributions, mapping lines follow county political boundaries. For example, if a species is found in the Southern end of a county, the whole county could be included in the native species range.

#### Species Distributions

Figure 2 demonstrates the North / South distribution of our native and naturalized pine species. Generally, Georgia has mountain pines, statewide pines and Coastal plain pines. Figure 3 provides an estimated number of native or naturalized pines for each Georgia county by species number class. Note the relatively low numbers of native pine species in the Piedmont of Georgia.

### Summary

Georgia's native pines have been, and continue to be, a great asset for the State. Our pines are "green gold" for Georgia's future. Urban, rural, or interface sites can all make use of pines, whether for recreation, plywood, pine straw, lumber, resin products, habitat, watershed protection, carbon-dioxide capture, or aesthetics. Pines represent both Georgia's glorious past and its productive future.

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Figure 1: Sub-genera groups of Georgia pines.

## **Pinus Sub-Genera Groups**

**1) white pine group =**

***Pinus strobus* --**

**Eastern white pine**

**2) Southern yellow pine group =**

***Pinus echinata* -- shortleaf pine**

***Pinus elliottii* -- slash pine**

***Pinus glabra* -- spruce pine**

***Pinus palustris* -- longleaf pine**

***Pinus pungens* --**

**table mountain pine**

***Pinus rigida* -- pitch pine**

***Pinus serotina* -- pond pine**

***Pinus taeda* -- loblolly pine**

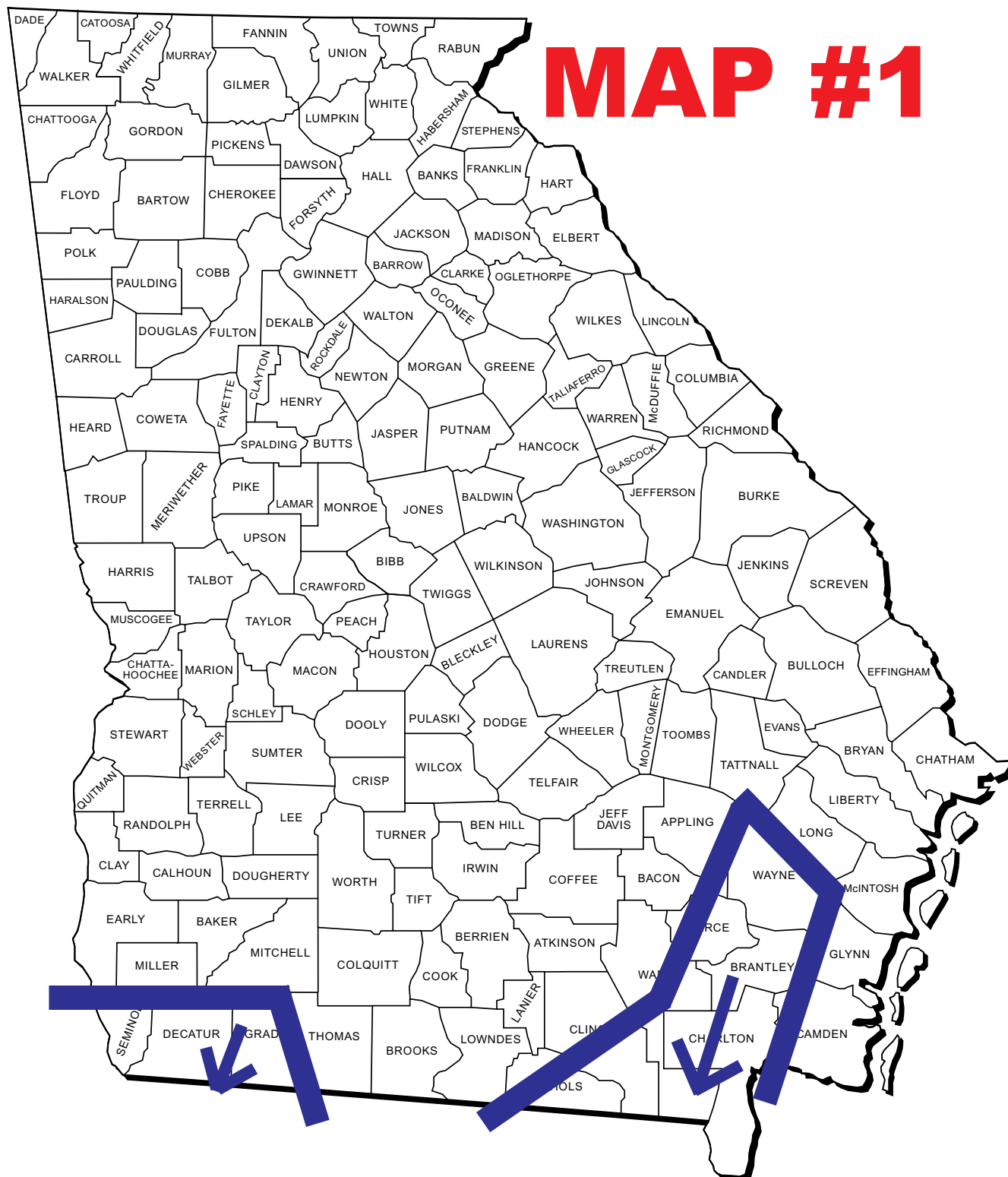
**3) jack pine group =**

***Pinus clausa* -- sand pine**

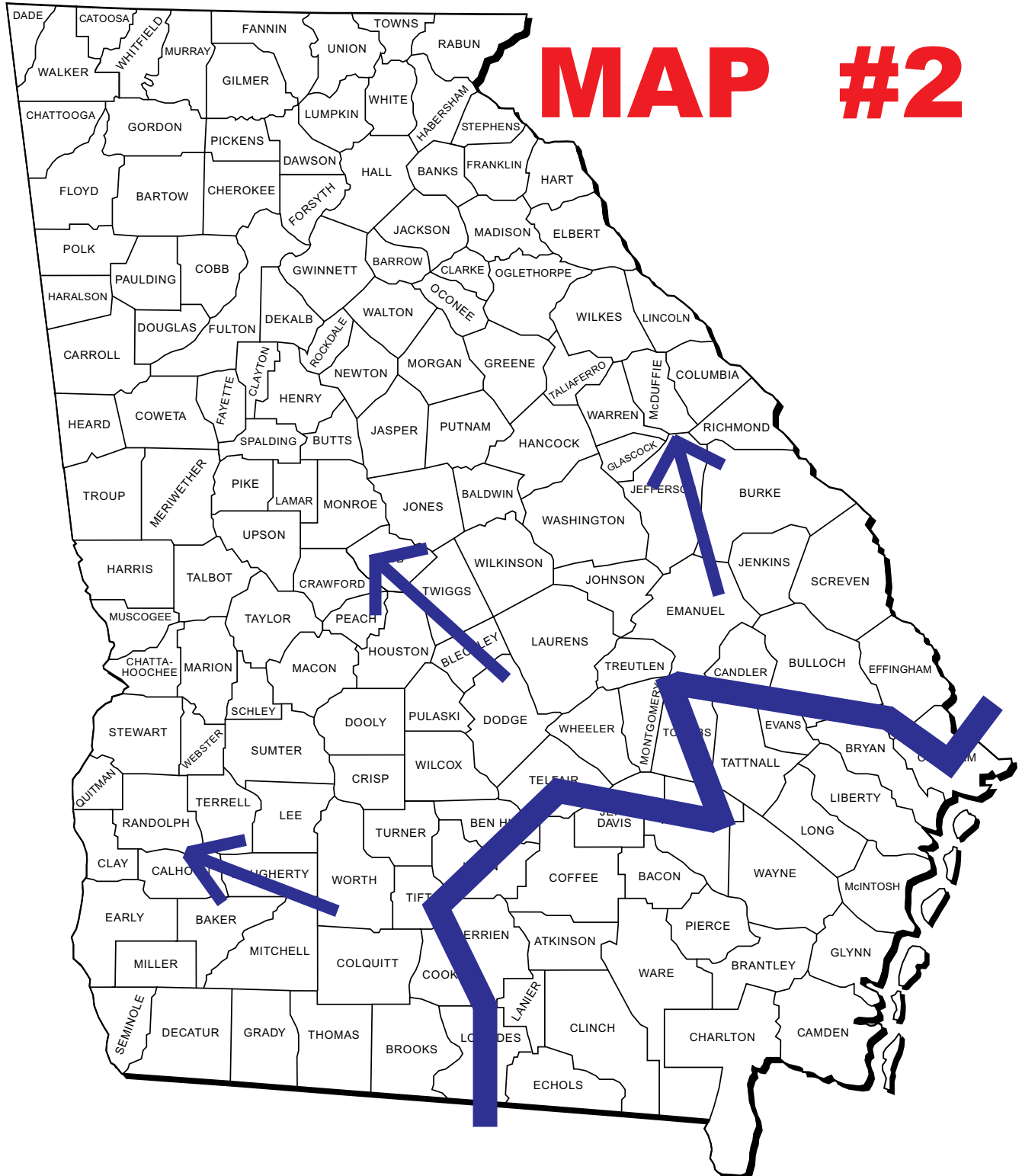
***Pinus virginiana* -- Virginia pine**



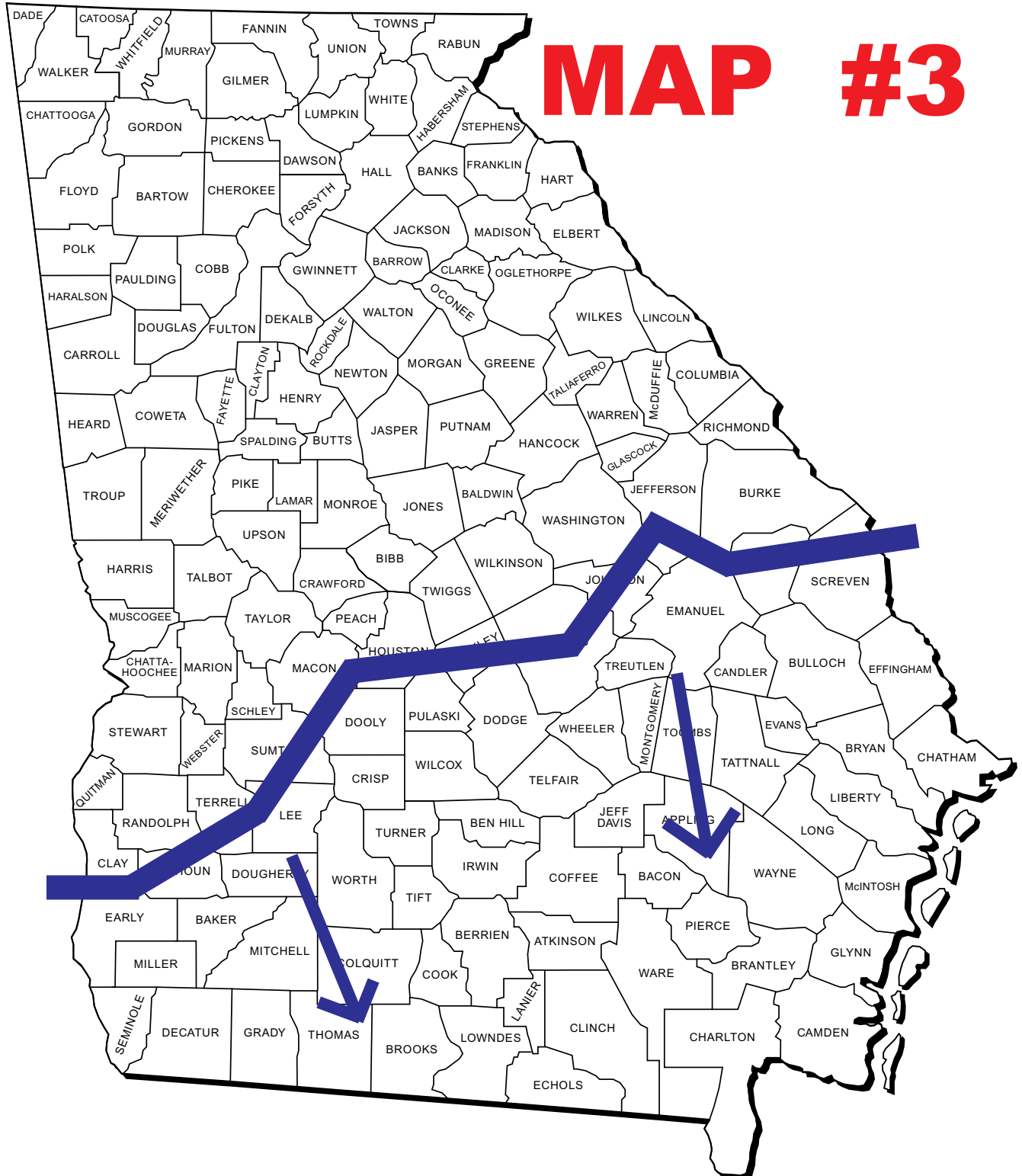
**Naturalized Growth Range For *Pinus clausa* -- sand pine**  
**Naturalized range derived from federal and state maps, herbarium**  
**samples and personal observations.**



**Native Growth Range For *Pinus echinata* – shortleaf pine**  
**Native contiguous range derived from federal and state maps, herbarium**  
**samples and personal observations. Native range includes all areas**  
**North and West of the line.**

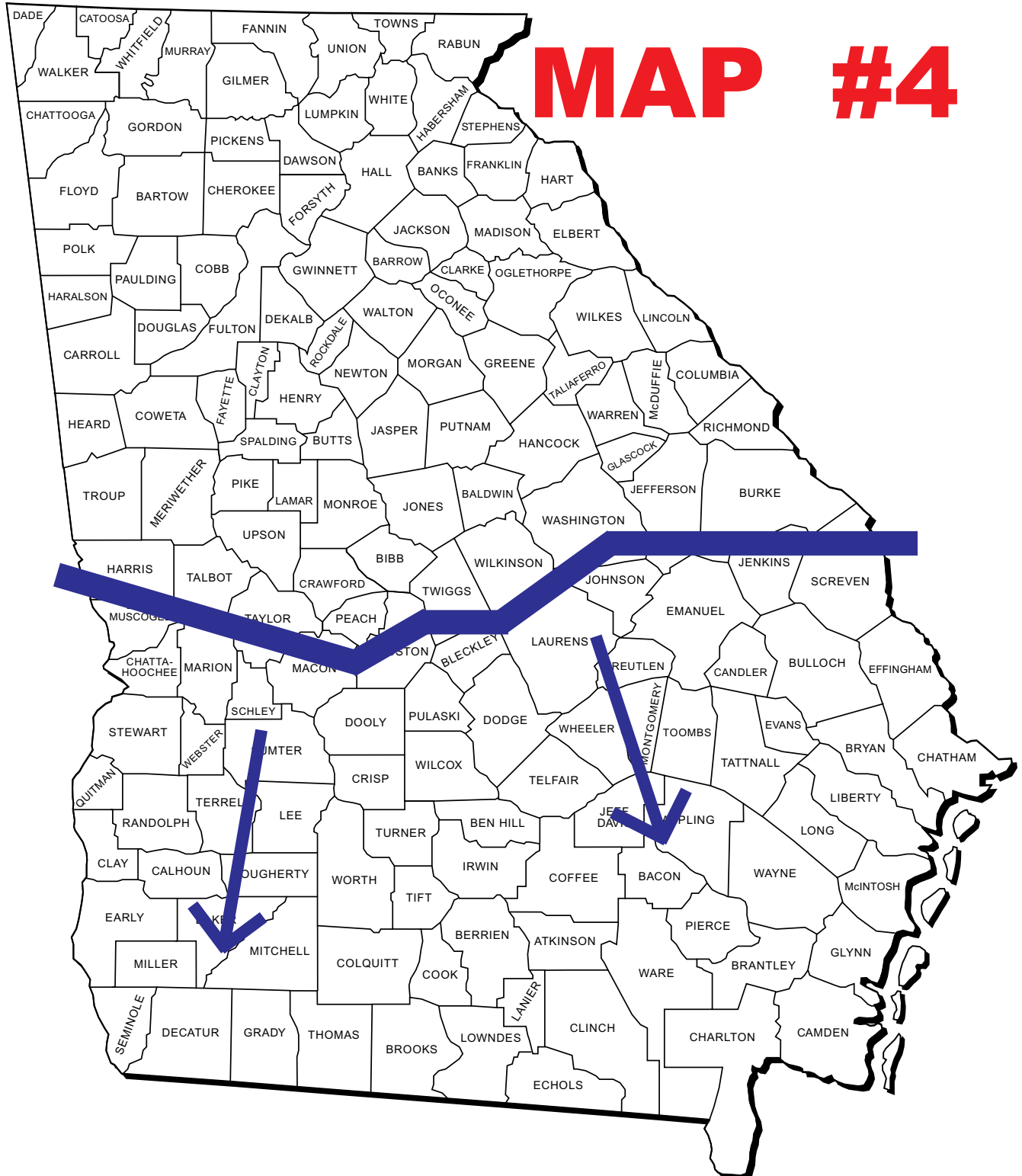


**Native Growth Range For *Pinus elliotii* – slash pine**  
**Native contiguous range derived from federal and state maps, herbarium**  
**samples and personal observations. Native range includes all**  
**areas South of the line.**



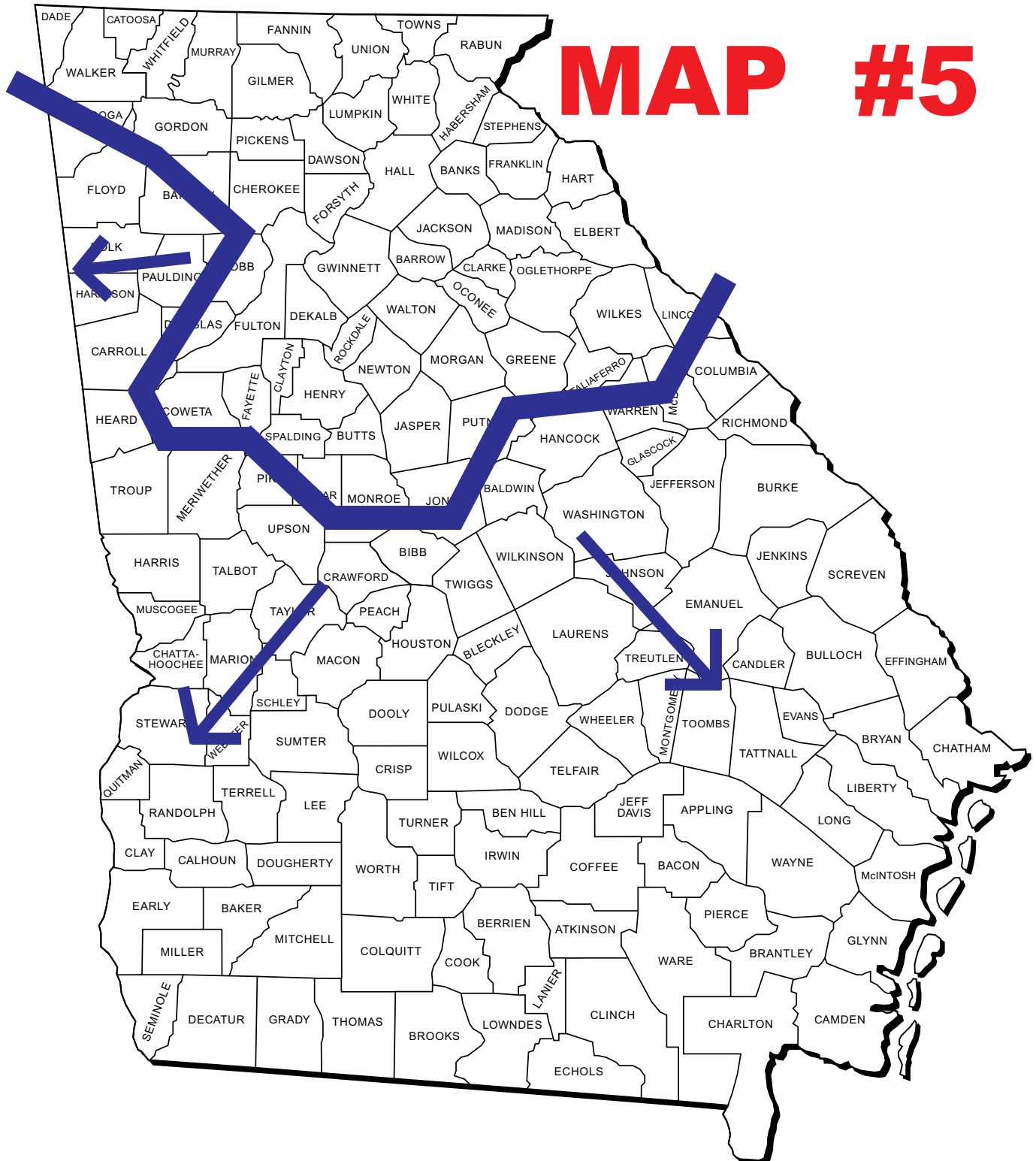


**Native Growth Range For *Pinus glabra* – spruce pine**  
**Native contiguous range derived from federal and state maps, herbarium**  
**samples and personal observations. Native range includes all**  
**areas South of the line.**

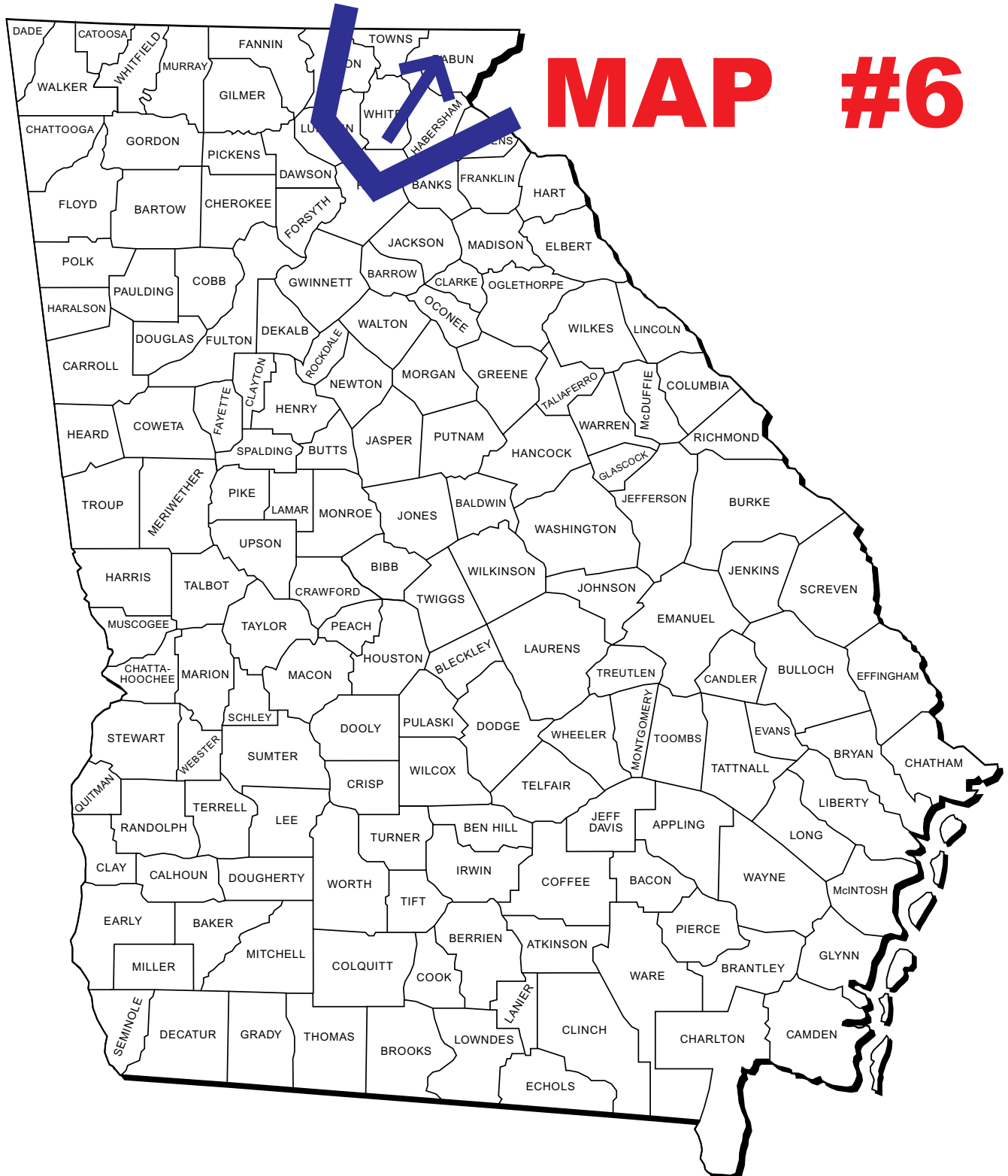




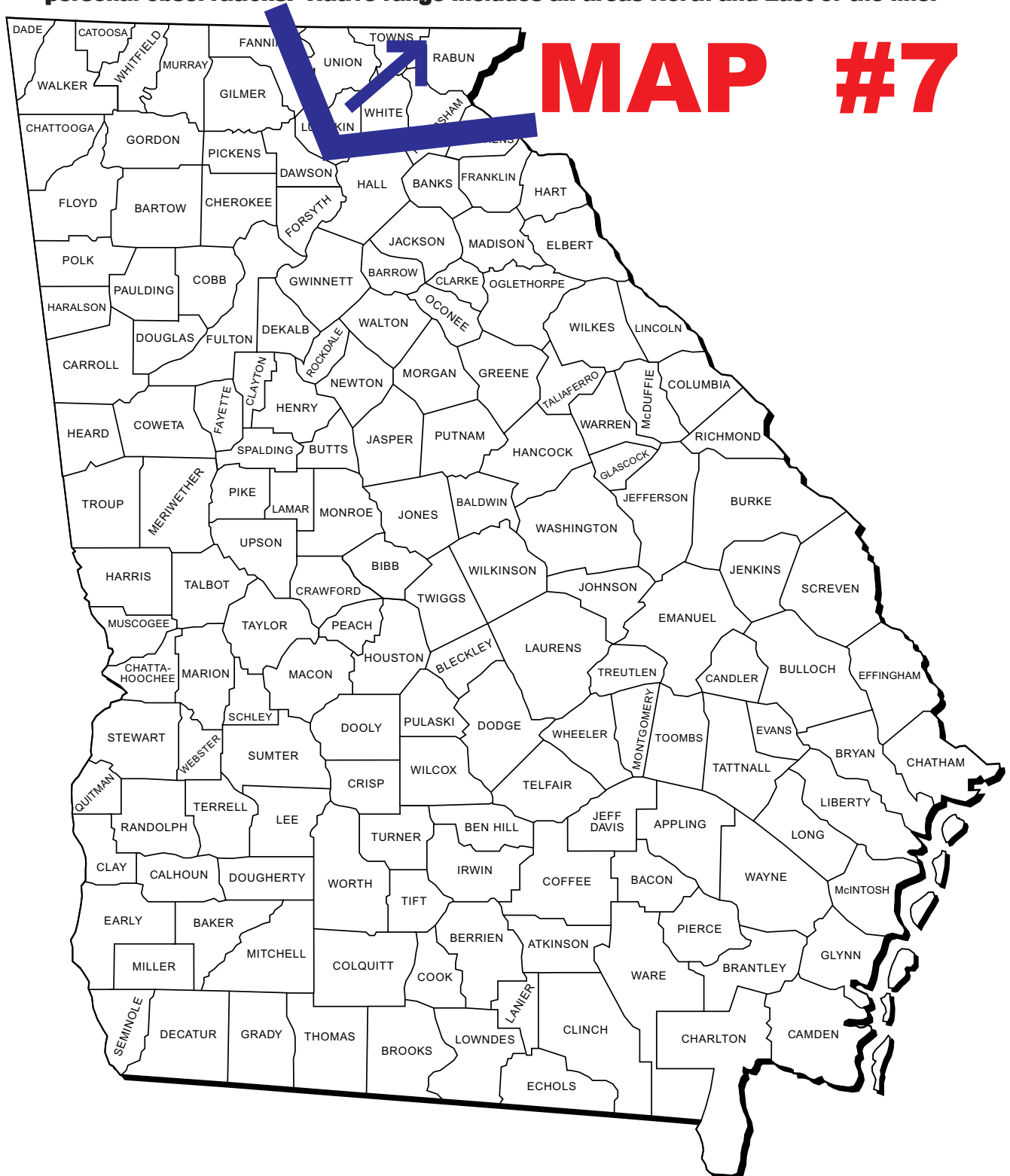
**Native Growth Range For *Pinus palustris* – longleaf pine**  
**Native contiguous range derived from federal and state maps, herbarium**  
**samples and personal observations. Native range includes all**  
**areas South and West of the line.**



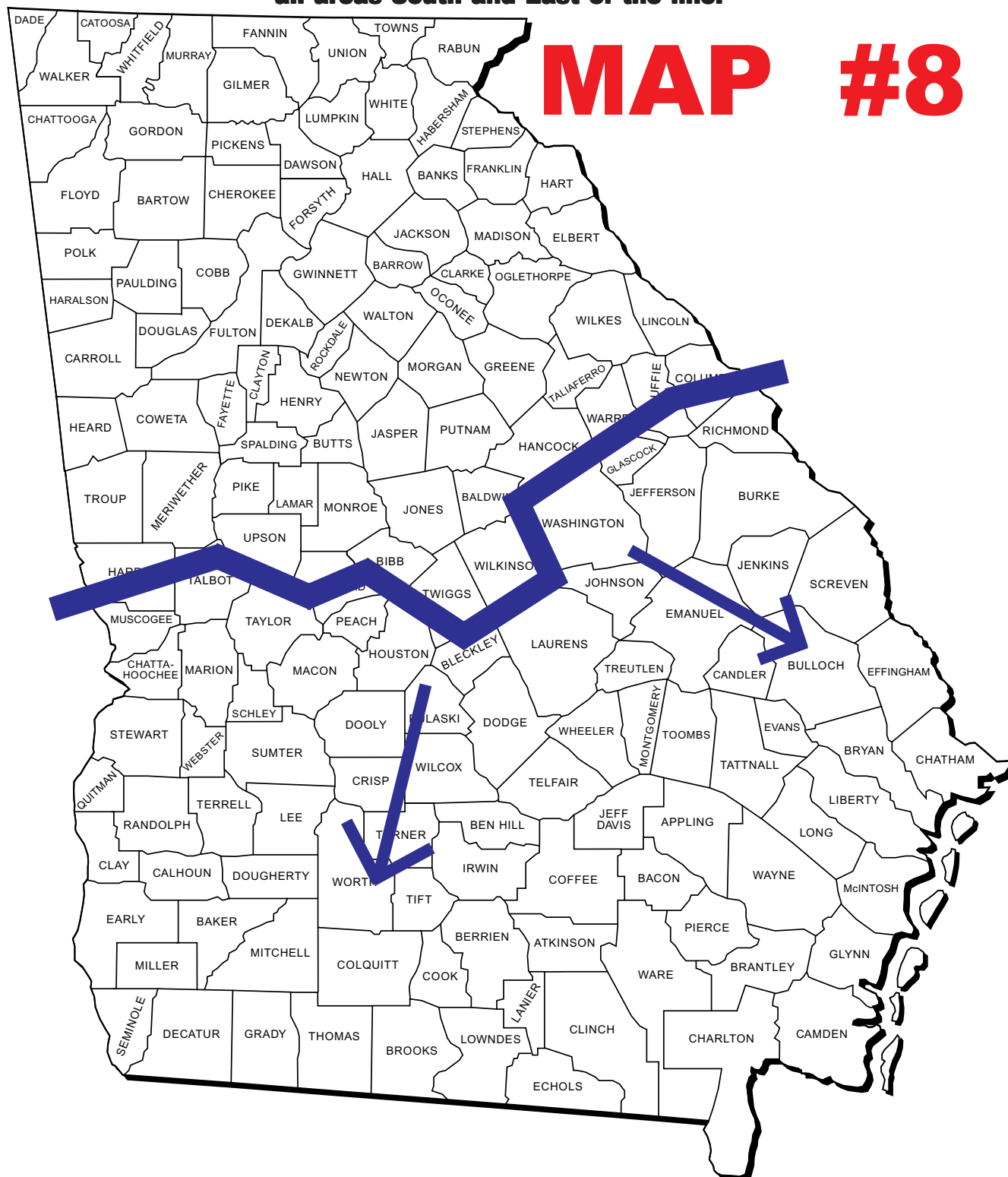
**Native Growth Range For *Pinus pungens* – table mountain pine**  
**Native contiguous range derived from federal and state maps, herbarium**  
**samples and personal observations. The native range includes**  
**all areas North and East of the line.**



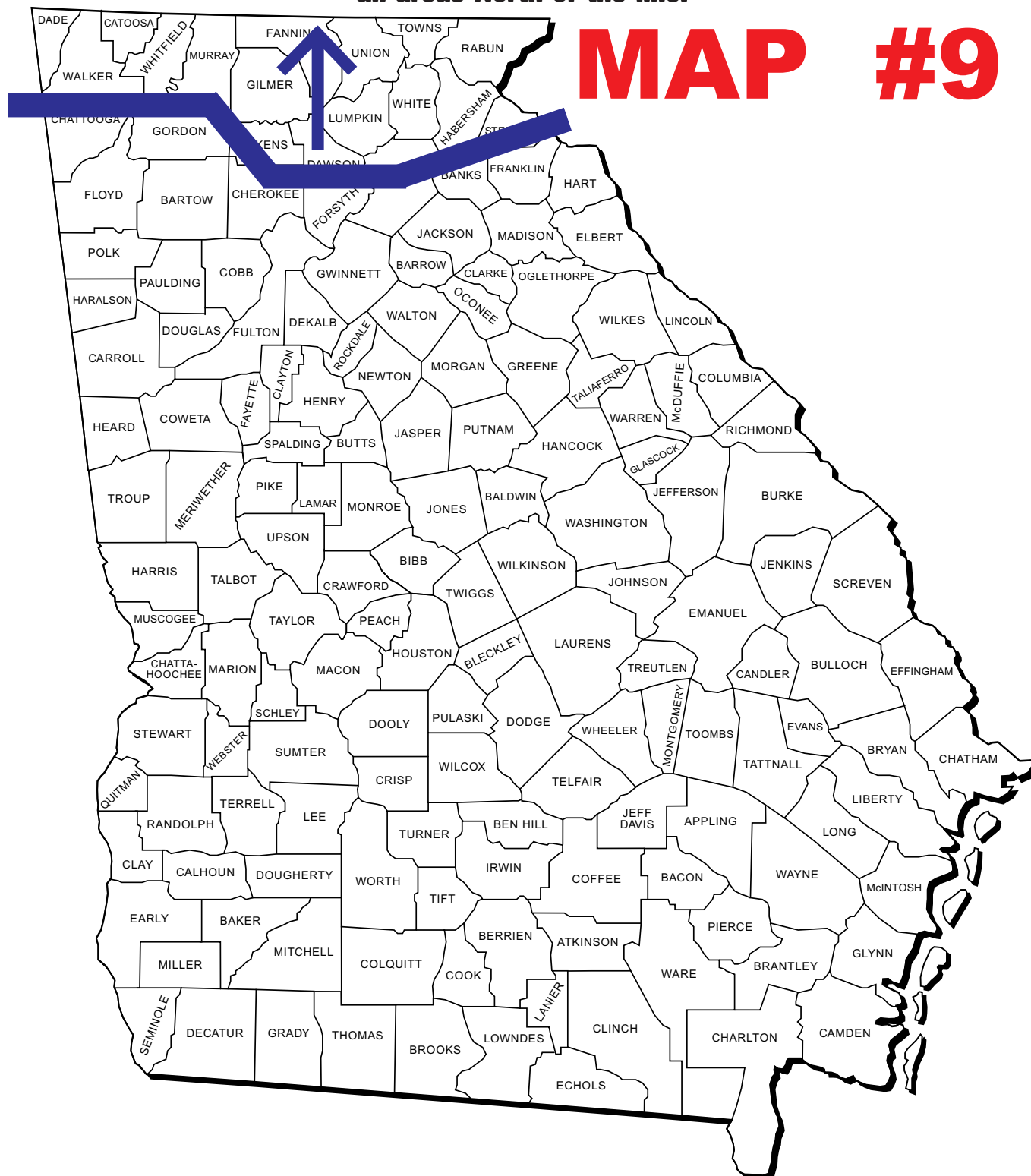
**Native Growth Range For *Pinus rigida* – pitch pine**  
Native contiguous range derived from federal and state maps, herbarium samples and personal observations. Native range includes all areas North and East of the line.



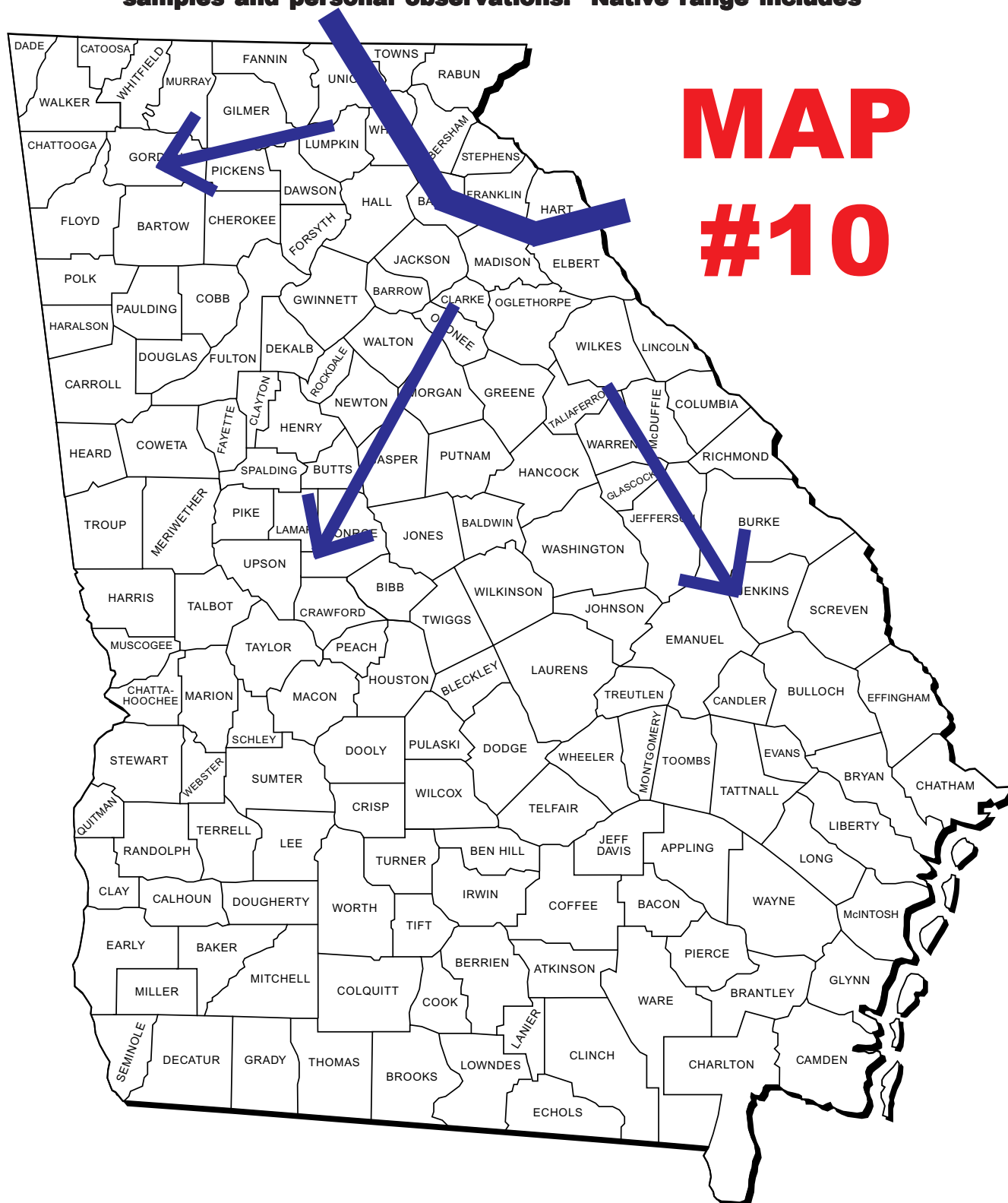
**Native Growth Range For *Pinus serotina* – pond pine**  
Native contiguous range derived from federal and state maps, herbarium  
samples and personal observations. Native range includes  
all areas South and East of the line.



**Native Growth Range For *Pinus strobus* – Eastern white pine**  
**Native contiguous range derived from federal and state maps, herbarium**  
**samples and personal observations. Native range includes**  
**all areas North of the line.**



# MAP #10







**Native Growth Range For *Pinus virginiana* – Virginia pine**  
**Native contiguous range derived from federal and state maps, herbarium**  
**samples and personal observations. Native range includes**  
**all areas North and West of the line.**

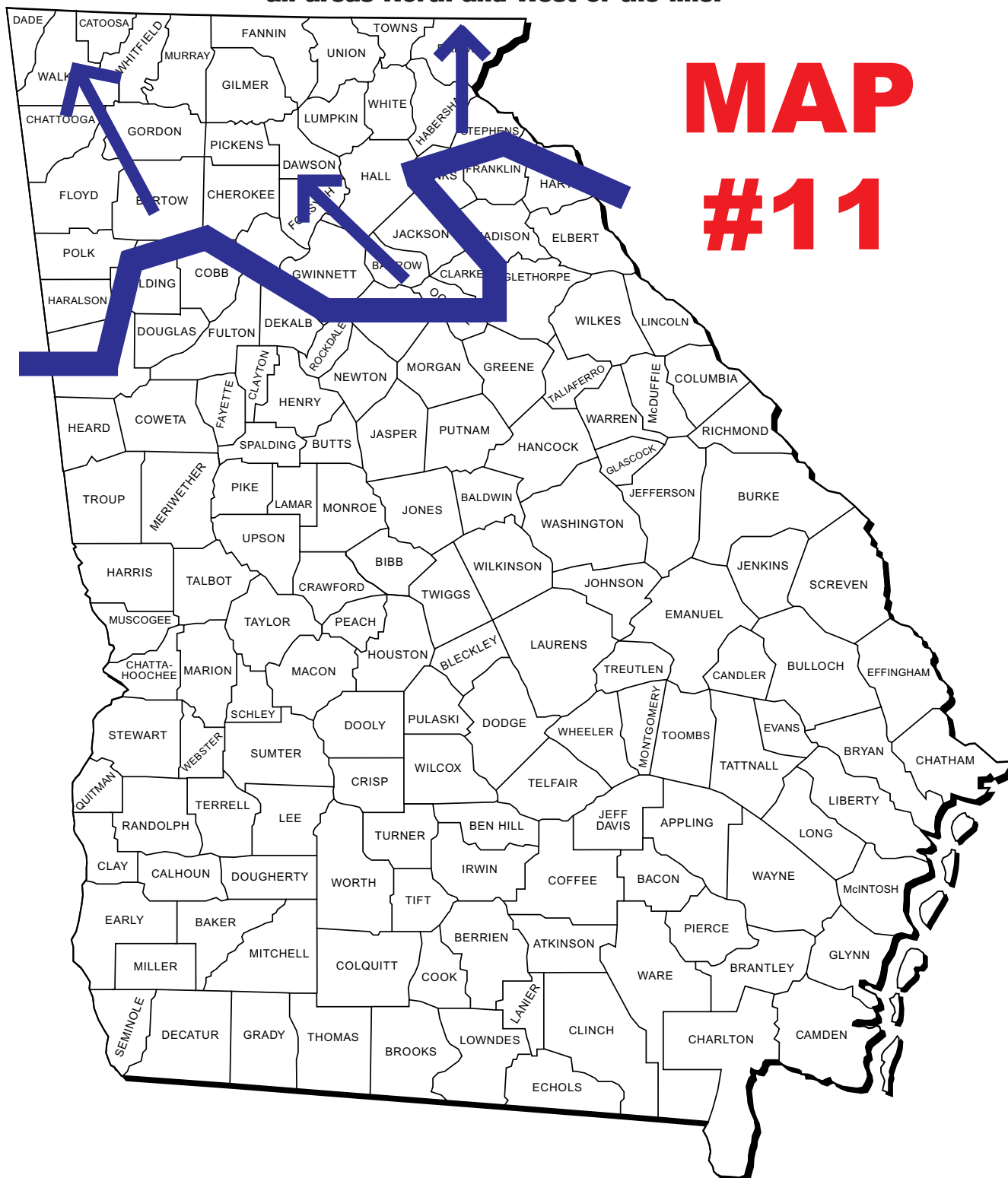
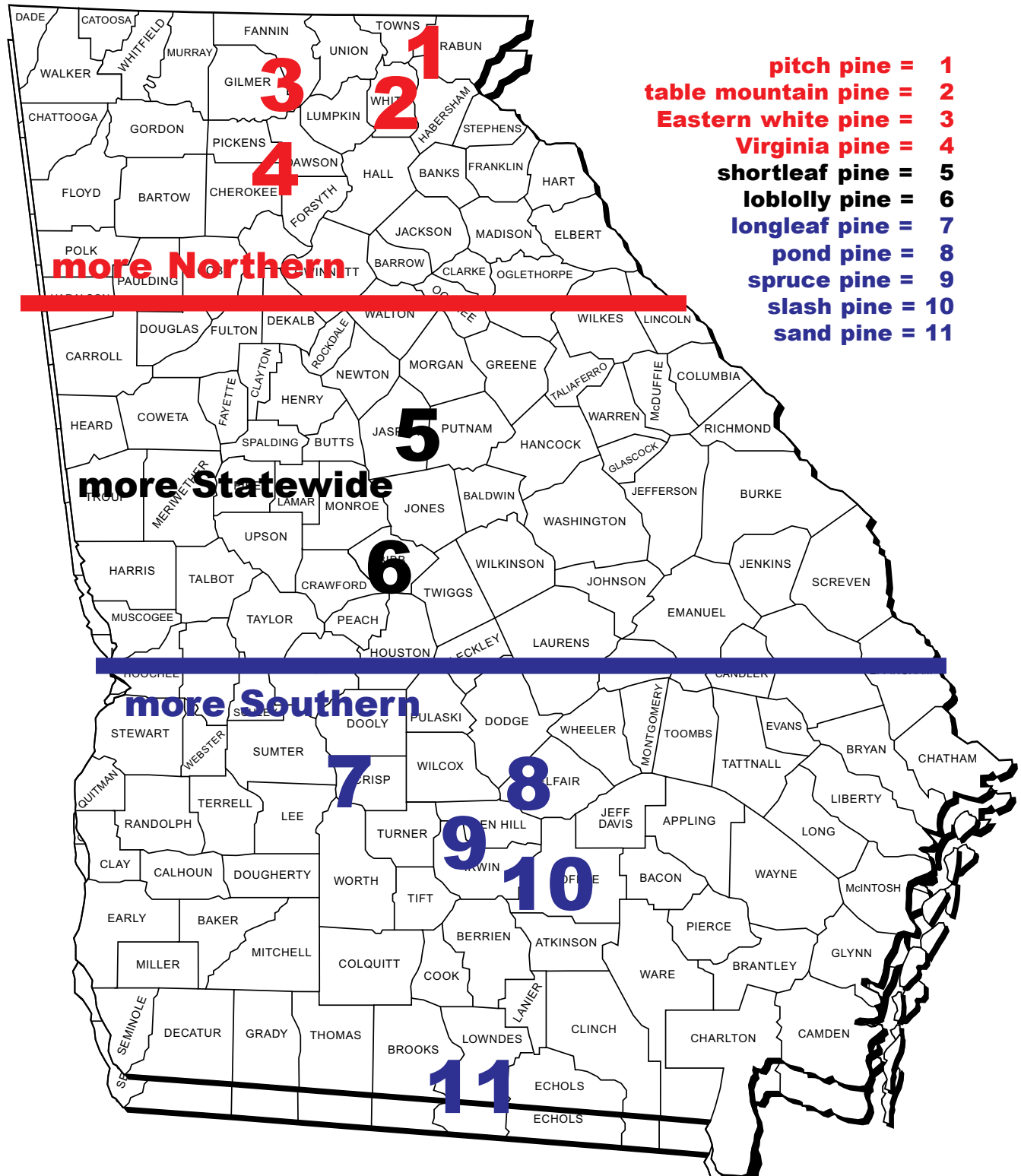




Figure 2: Native range centroids for Georgia's pines.  
Numbers represent common names of pines and are placed at the idealized center of their native or naturalized range within Georgia.



Native range counts derived from federal and state maps, herbarium samples and personal observations.

