

# The Potential of Conservation Tree and Shrub Groups

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# CTSG's can

- be generated from NASIS data
- be used for creating local recommended planting/managing guides/lists
- be uploaded to the Web Soil Survey (without local planting recommendations)
- somewhat be manipulated.
- be manipulated by a locally created NASIS report, and hand populated in NASIS for upload to the web.
- be used for planning/targeting potential program strategies.
- be grouped together locally for recommended planting lists, etc.

# CTSG's can't

- directly create local recommended lists without local/state involvement.
- use any other symbols than the choices available.
- replace onsite visits to the areas involved.
- have local recommended lists on the Web Soil Survey (at this time)

## Exhibit 537-15 -- Conservation Tree/Shrub Suitability Groups (CTSG)

- A Conservation Tree/Shrub Group (CTSG) is a physiographic unit or area having similar climatic and edaphic characteristics that control the selection and height growth of trees and shrubs. **It consists mainly of two elements: 1) Major Land Resource Area, and 2) Soil Group.**
- 1) The first part of a CTSG is the designated Major Land Resource Area or MLRA. This refines the list of woody plant species selection and adaptation to a specified geographic area with similarities in climate. MLRAs are defined in USDA Agricultural Handbook 296 (2006) re. <http://soils.usda.gov/survey/geography/mlra/index.html>. ***As needed, States will subdivide an MLRA*** where there are varying elevations (e.g., hardiness zones) and diverse ranges of average annual precipitation that influence species selection and performance.

# Exhibit 537-15 -- Conservation Tree/Shrub Suitability Groups (CTSG)

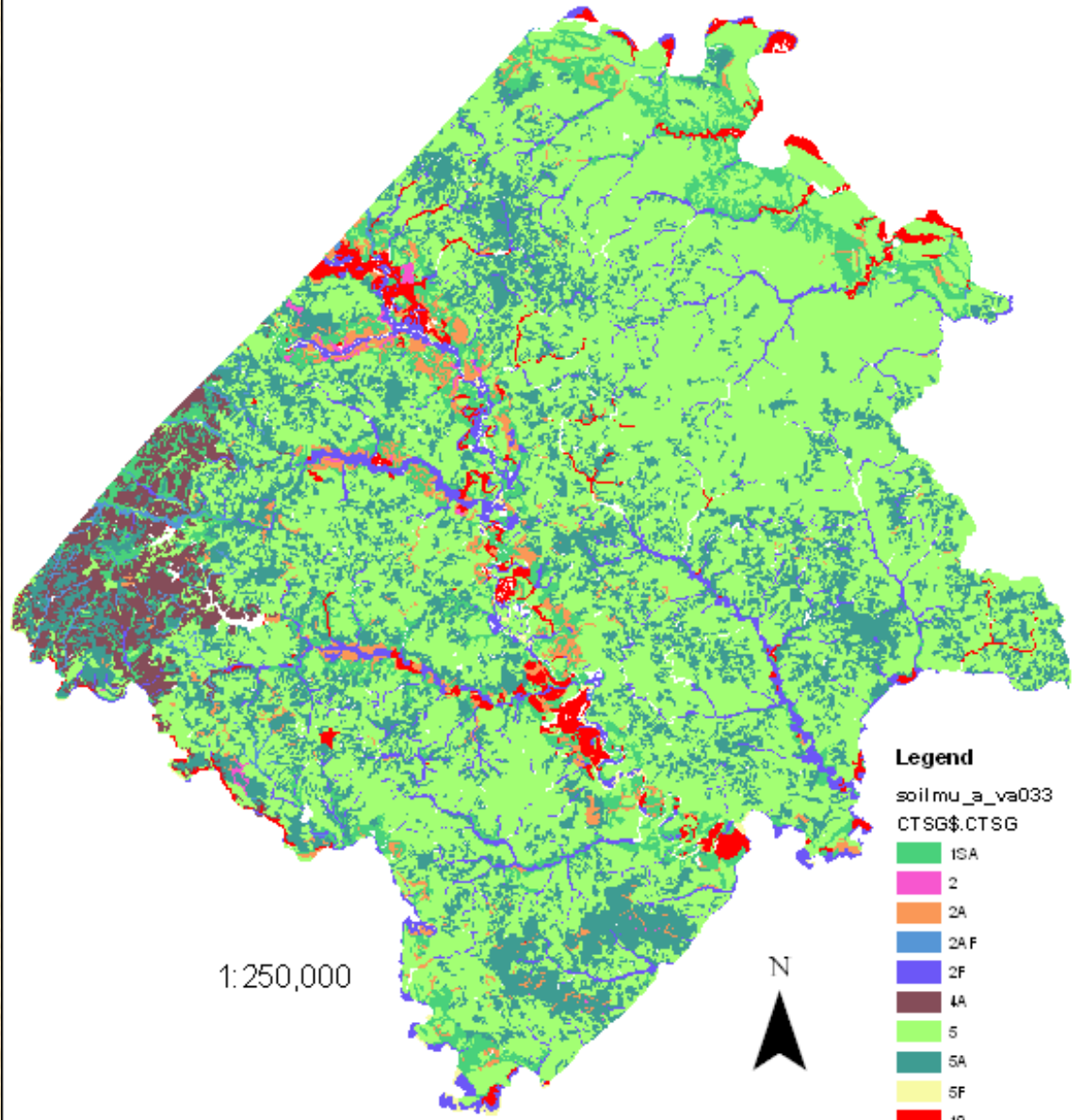
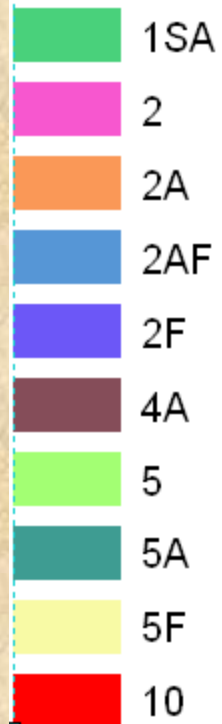
- 2) The second part is the Soil Group. This part of the CTSG further refines the list of woody plants based on groupings of edaphic conditions. Rather than try to correlate plant data for each and every soil component, a component is evaluated against criteria and placed in a soil group. **Woody plants are then correlated to a specific soil group within the identified MLRA (or subdivision thereof).** The calculation of soil group uses criteria displayed in Exhibit 537-15. **Local, custom criteria can be used to override the calculated soil group as well as recognize additional local soil groups if needed.**

# Caroline County, Virginia CTSG map

## Legend

soilmu\_a\_va033

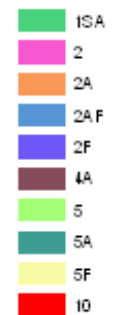
CTSG\$.CTSG



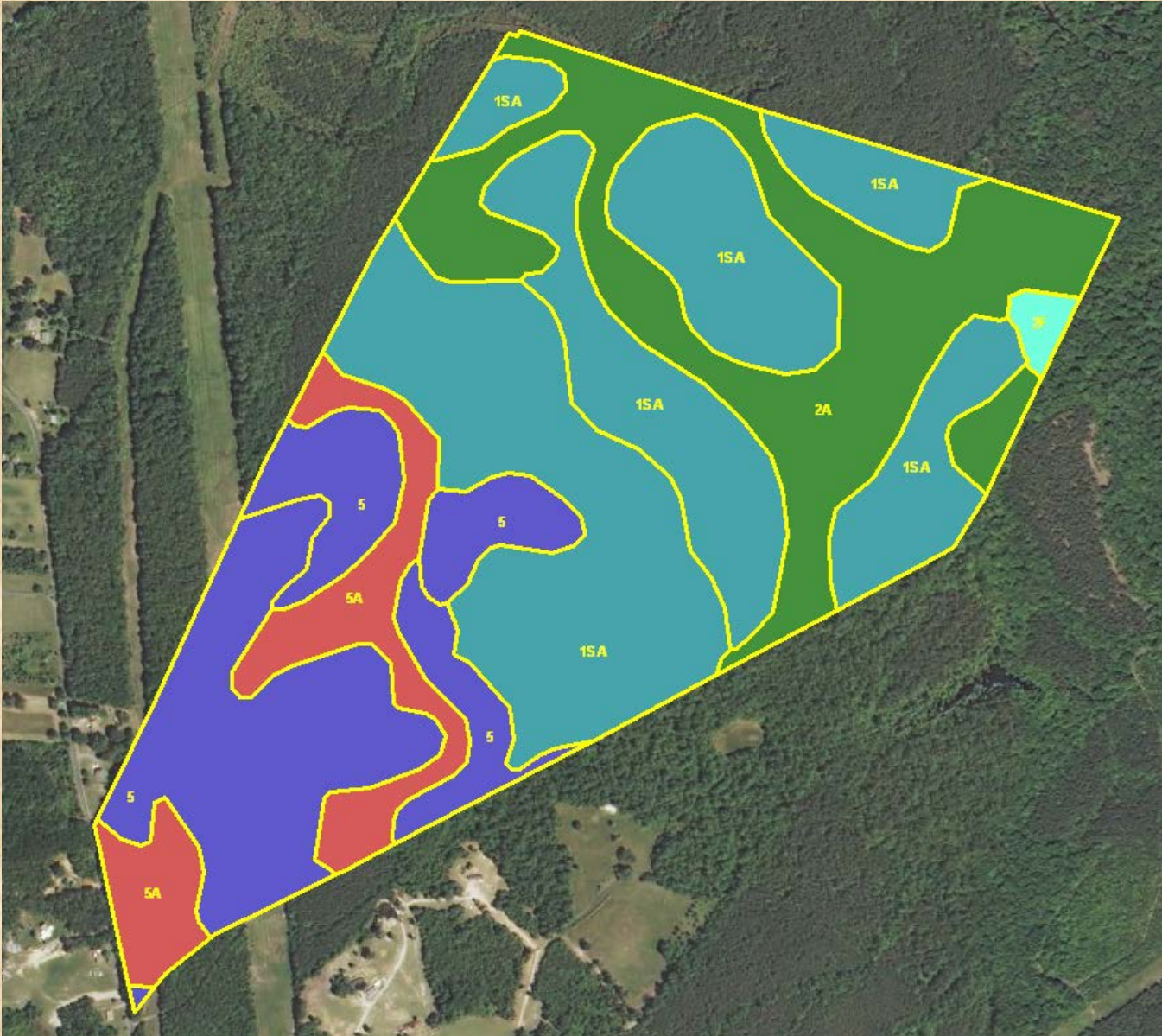
## Legend

soilmu\_a\_va033

CTSG\$.CTSG



Once the CTSG is known, then a cross reference to the state/mlra/local recommended plant list can be made for any program one is looking for.



Grouping of the CTSG's with a layman description for VA groups to be created.

Flooding. a flooding status during the growing season of *very frequent* or *frequent* and *very brief* or *brief*.

NOTE: Soil components with a growing season flooding duration of *long* or *very long* are classified into a group 10 and require an on-site evaluation; exceptions are groups 2, 2a, 2k, and 2h which can have a *long* flooding duration during the growing season.

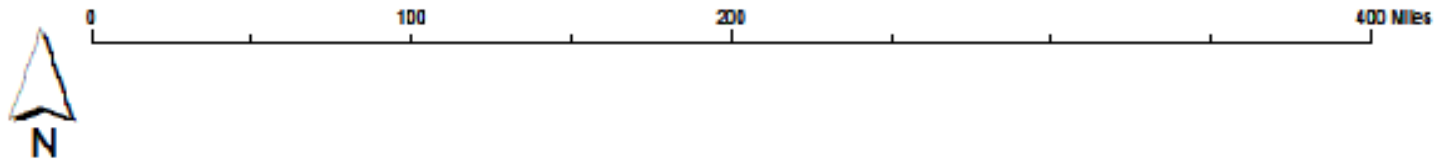
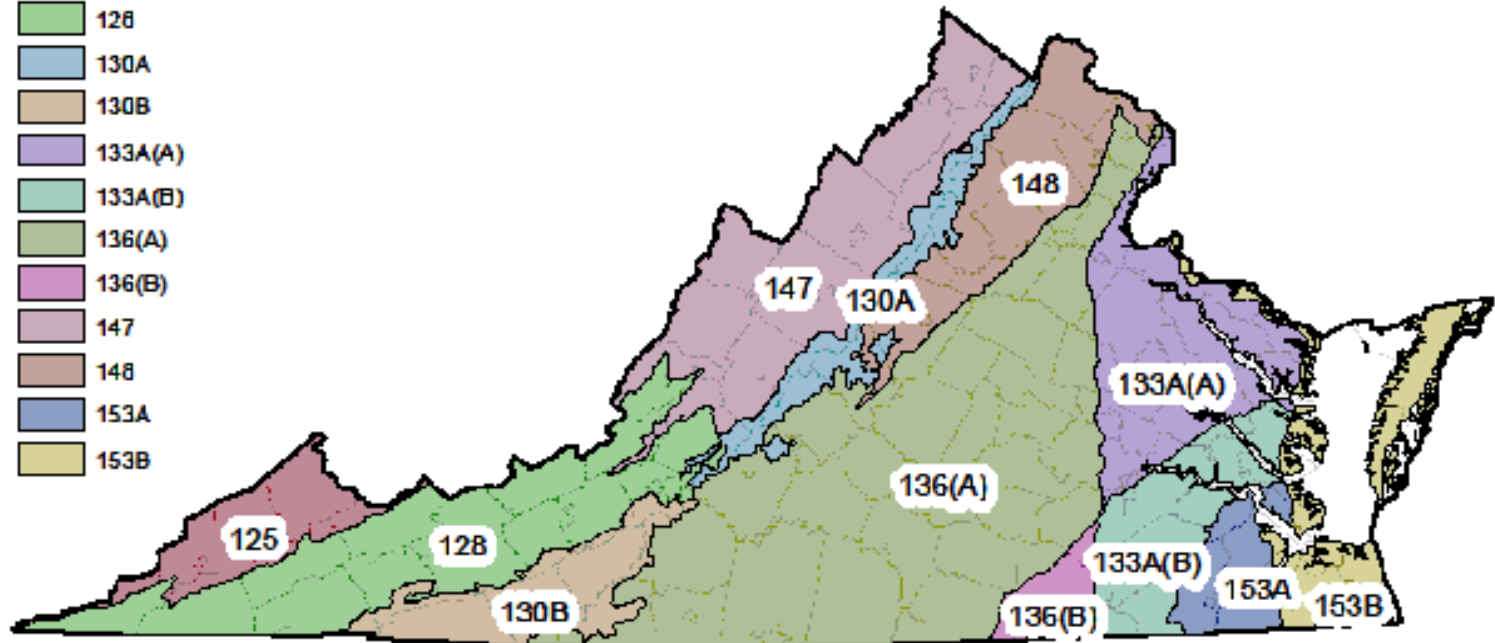
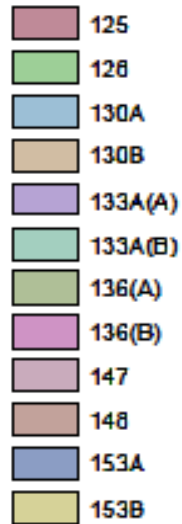
(Carbonate choices were removed for VA's grouping.)

Virginia CTSG GROUPS of National CTSG GROUPS	Broad Definitions	
1,1A	Beneficial water table	water table - 18"-50"
1F, 1SAF, 1SF, 1AF	Beneficial water table that floods	water table - 18"-50"
2, 2A	Wet, but not too wet	water table - 6"-18"
2F, 2AF	Wet, but not too wet and floods	water table - 6"-18"
3, 3A, 1S, 1SA	Good available water holding capacity	
3F, 3AF, 4AF, 5F, 5AF, 8F*	Well drained, yet floods	
4, 4A, 4C, 4CA, 4SA, 5, 5A	Clayey, and or Moderate available water holding capacity	
6, 6A, 6D, 6DA, 7, 7A, 7S, 7SA**	Very Droughty; Depth to bedrock greater than 20", or a great deal of rock fragments, or sandy	
6F, 1SSF, 1SSAF, 7F, 7SAF, 7SF	Very droughty bottomland soils because of rock fragment content, sand content, or depth to bedrock, and floods	
9, 9W , 9WF	Saline, tidal marshes, tidal swamps-	only 10 of them in VA
10***	On site investigation needed.	

# Conservation Tree and Shrub Suitability Group

## Plant Adaptation Zones by MLRA

### MLRA



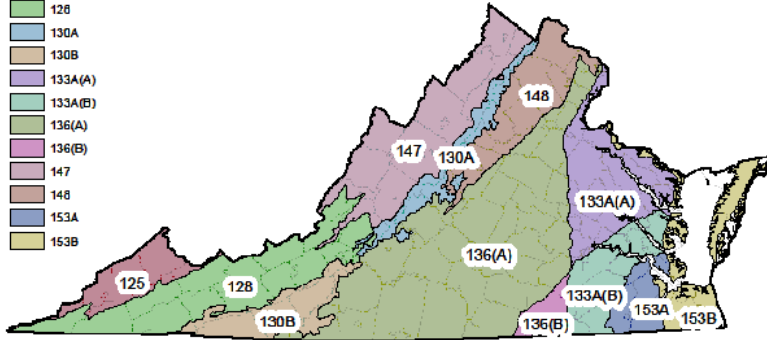
This map was partly developed in Virginia based on the foresters' knowledge and MLRA lines, and is not on the web.

## Conservation Tree and Shrub Suitability Group

Plant Adaptation Zones by MLRA

### MLRA

- 125
- 128
- 130A
- 130B
- 133A(A)
- 133A(B)
- 136(A)
- 136(B)
- 147
- 148
- 153A
- 153B



### Enter Parameter Value

MLRA

OK

Cancel

### Enter Parameter Value

CTSG

OK

Cancel

## CTSG Common Name, Scientific Name, and Notes

MLRA: 128 CTSG: 3A

com_name	sci_name	note
Apple, Common	Malus	
Apple, Crab	Malus baccata	
Aspen, Quaking	Populus tremuloides	non-native
Beech, American	Fagus grandifolia	
Blackgum	Nyssa sylvatica	
Blueberry, Highbush	Vaccinium corymbosum	
Butternut	Juglans cinerea	
Cherry, Black	Prunus serotina	
Chestnut, Chinese	Castanea mollissima	
Chinquapin, Allegheny	Castanea pumila	
Chokeberry, black	Photinia melanocarpa	
Chokeberry, Red	Photinia pyrifolia	
Cottonwood, Eastern	Populus deltoides	
Dogwood, Flowering-	Cornus florida	
Dogwood, Graystream	Cornus racemosa	
Dogwood, redosier	Cornus sericea	
Dogwood, Silky	Cornus amomum	
Elderberry	Sambucus nigra	
Elm, American	Ulmus americana	
Elm, Slippery	Ulmus rubra	
Fringetree	Chionanthus virginicus	
Hackberry	Celtis occidentalis	
Hazelnut, American	Corylus americana	

# Exhibit 537-15 -- Conservation Tree/Shrub Suitability Groups (CTSG)

- **States are responsible for developing CTSG interpretations for MLRAs that occur wholly within their state.** For MLRAs that cross state boundaries, the individual state with the greatest extent of the MLRA is responsible for developing CTSG interpretations but must coordinate with adjacent states having the MLRA. **States will use the national CTSG soil group criteria (NASIS calculation) or, if needed, a modified version done by individual MLRA (requires coordination of all states with the MLRA).** All states must develop subdivisions of an MLRA, as needed, to accommodate cold hardiness zones, precipitation zones, or other plant-influencing landscape-level conditions. In so far as possible, these subdivisions should align with established Land Resource Units. States make periodic reviews and updates to such displays so that information and data are current in section II of the eFOTG, Web Soil Survey, Soil Data Mart, and other documents as applicable. Although the CTSG designation is very helpful in conservation planning, it does not override the need for on-site evaluation for properly selecting trees and shrubs and estimating design heights and other planning requirements.

GROUP	Soil Depth (cm)	Available Water Capacity (cm)	CaCO <sub>3</sub> Equiv. (% 0-30cm) and [Sodium Adsorption Ratio, SAR]	pH (0-30cm)	Electrical Cond. (mmhos, 0-30cm)	Depth to Growing Season Water Table (cm)	Texture and Other Notes (AWC is a primary criterion with texture being an important supplemental criterion for some groups. Histosols are applicable only to groups 1h and 2h)	Typical Associated Family Taxonomic Particle Size Class	Associated General Group Concept
10	<50 20"	<7.6	>15 [ $\geq 25$ ]	typically <4.0, >8.4	>16	<15 6"	Any single criterion can classify a soil component into a group 10	Various	<i>On-site evaluation</i>

Group 10 does not say that the area is not suited for planting. It means that there are limitations that may need additional planning.

# What needs to be done for CTSG use.

- Populated CTSG in NASIS and uploaded to the web for use with Web Soil Survey.
- Local plant list per group created for either a specific program, or just the group itself

**QUESTIONS?**