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A Rural Land Conversation

"…watch out for that chunk in the road…"

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What I Hope To Accomplish Today

Show you my technique for appraising large acreage commercial timberland properties for both industrial and non-industrial timberland buyers.

<u>Discuss</u>

1) estimating standing timber values

2) estimating base land values

Remove some communication "chunks" that you have when dealing with timberland owners during the appeal process.

Make this enjoyable!

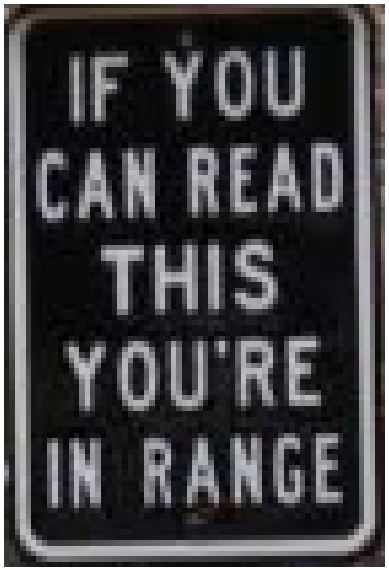
NO TRESPASSING
ARE YOU GOING TO LISTEN TO ME IN ENGLISH?
OR DO I HAVE TO SPEAK
TO YOU IN 12 GAUGE?

I CAN MAKE IT
TO THE FENCE
IN 3 SECONDS
CAN YOU?

ONE
DOG
WILL
BITE
?

We Don't
Dial 911

BEWARE
OF
WELL...
JUST
BEWARE


IF YOU
CAN READ
THIS
YOU'RE
IN RANGE

POSTED
Nothing Here
Is Worth
DYING For!

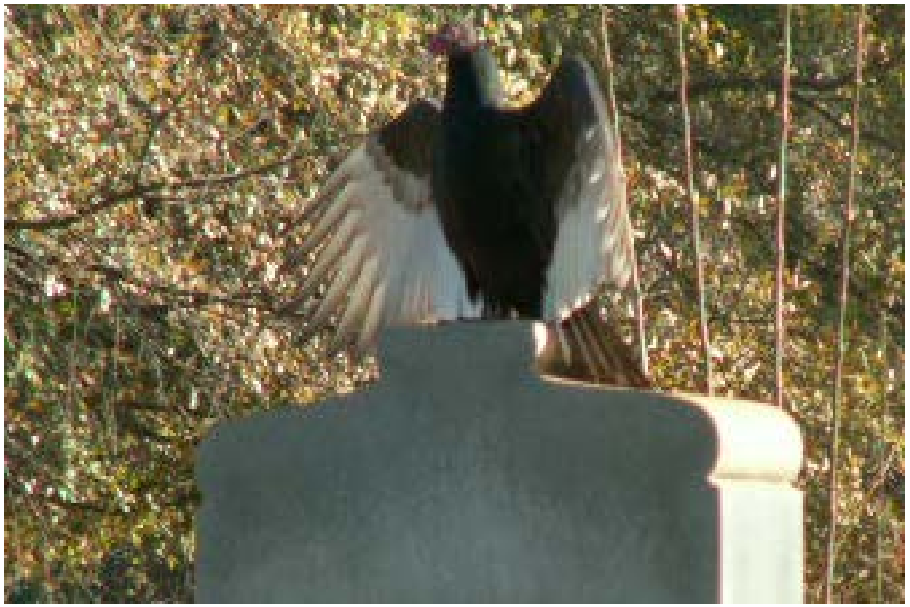
OLD DOG
YOUNG DOG
SEVERAL STUPID DOGS
PLEASE DRIVE SLOWLY

IF YOU AIN'T
BEEN INVITED,
YOU MOST LIKELY
AIN'T WECOME HERE,
SO TURN AROUND
AND GIT !!
PRIVATE ROAD!

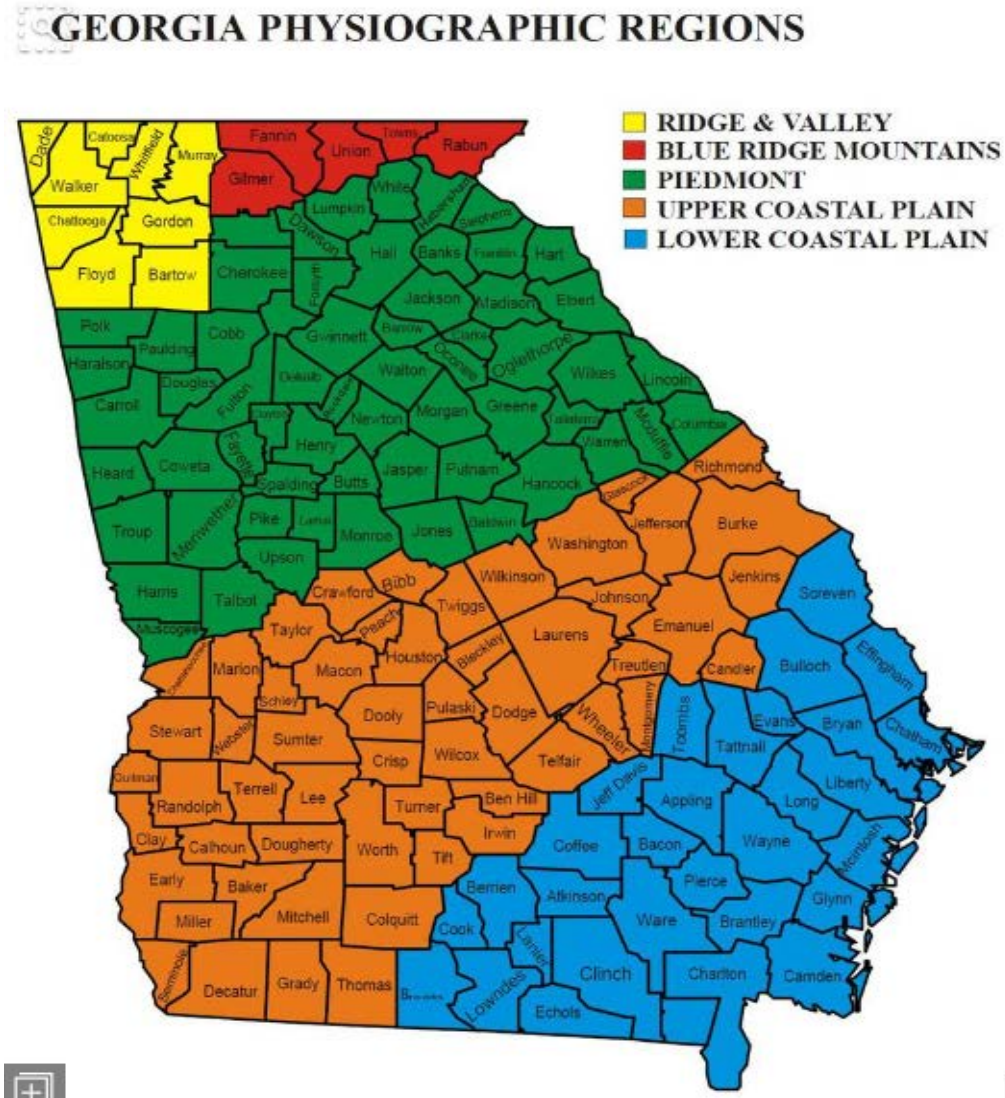
01/19/2016

05/10/2016

11.16.2006



Rural Land Characteristics

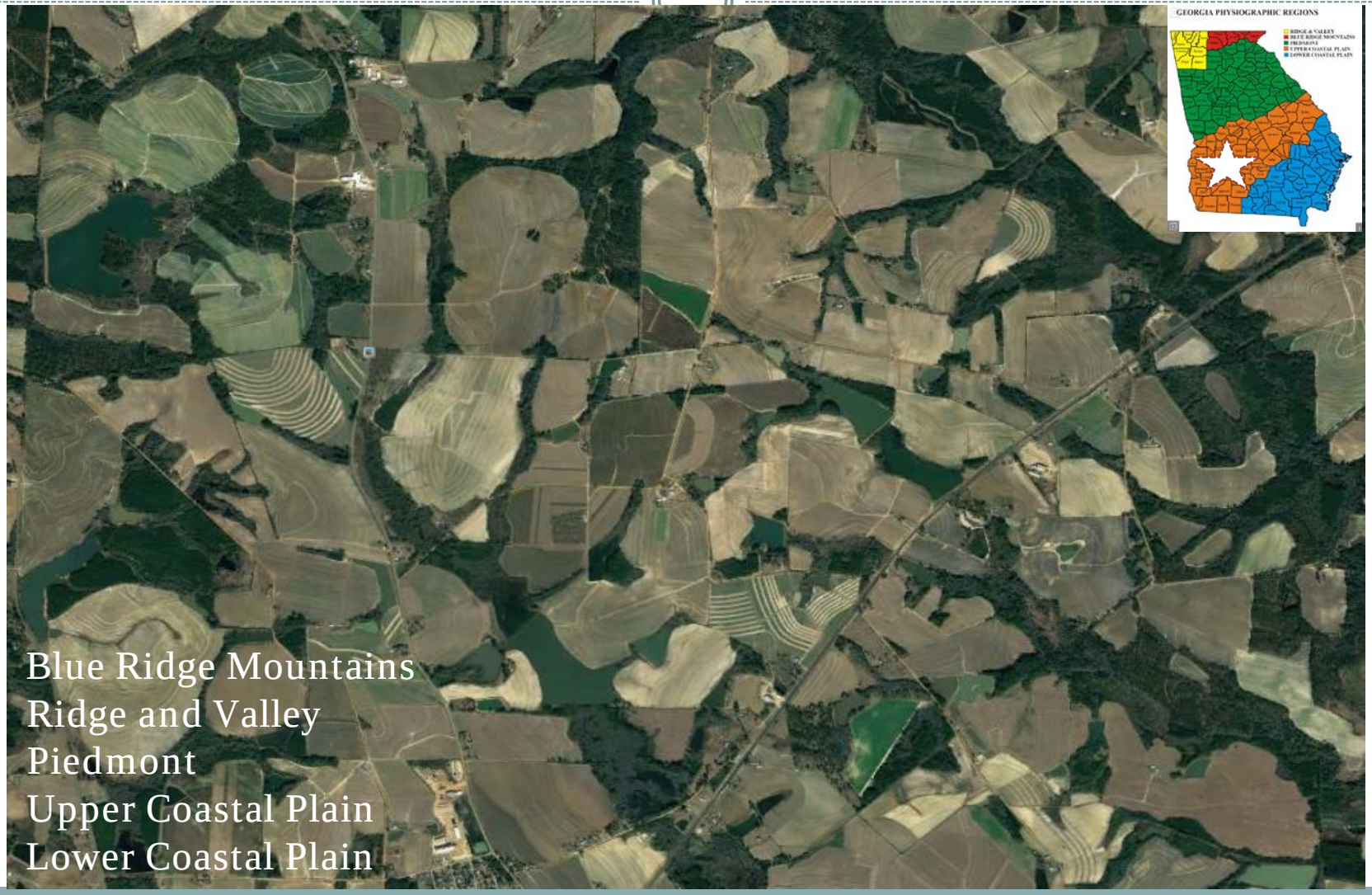


A Lot of Cropland

Sandy Soils – Slash Pines

Quail Hunting Plantations

Upper Coastal Plain



Blue Ridge Mountains
Ridge and Valley
Piedmont
Upper Coastal Plain
Lower Coastal Plain

White Pines – Steep Topography

Rhododendron & Laurel

Virginia Pines
Lots of Hardwoods
02/27/2017

Blue Ridge Mountains

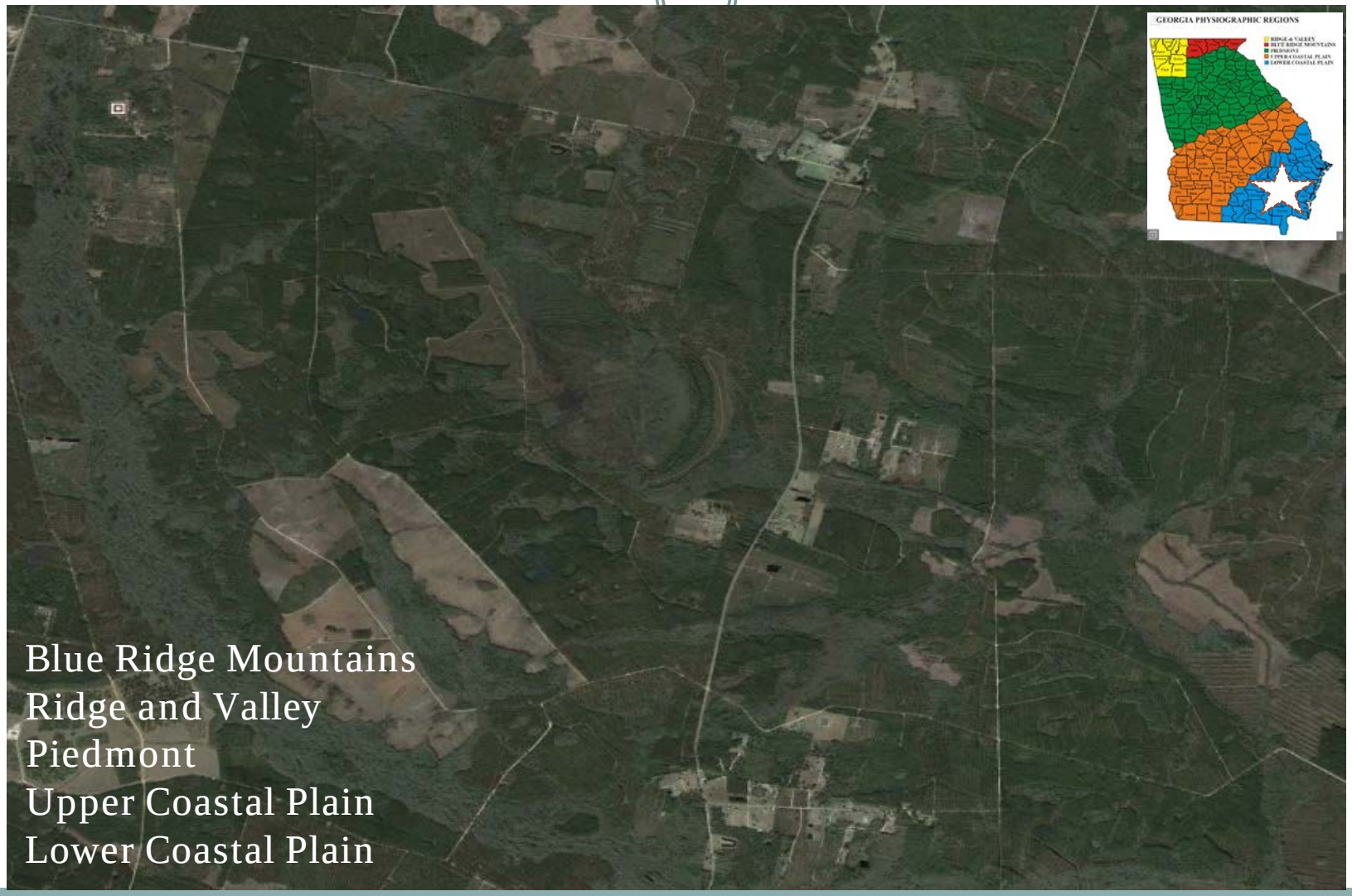
Blue Ridge Mountains
Ridge and Valley
Piedmont
Upper Coastal Plain
Lower Coastal Plain

Slash Pines

More Slash Pines & Palmettos

Sandy Soils & More Slash Pines

Lower Coastal Plain



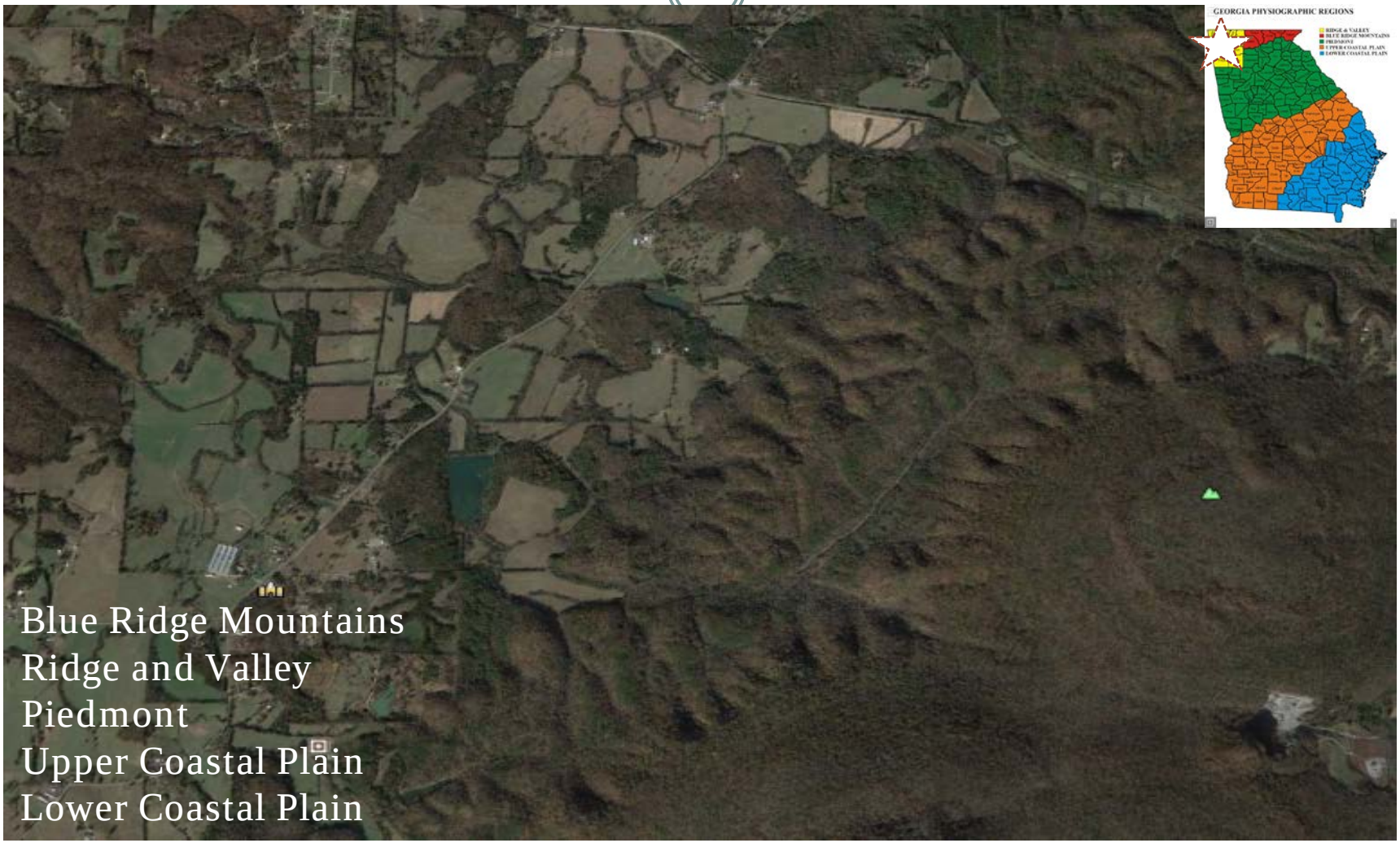
Blue Ridge Mountains
Ridge and Valley
Piedmont
Upper Coastal Plain
Lower Coastal Plain

Pastures & Mountains

More Pastures & Mountains

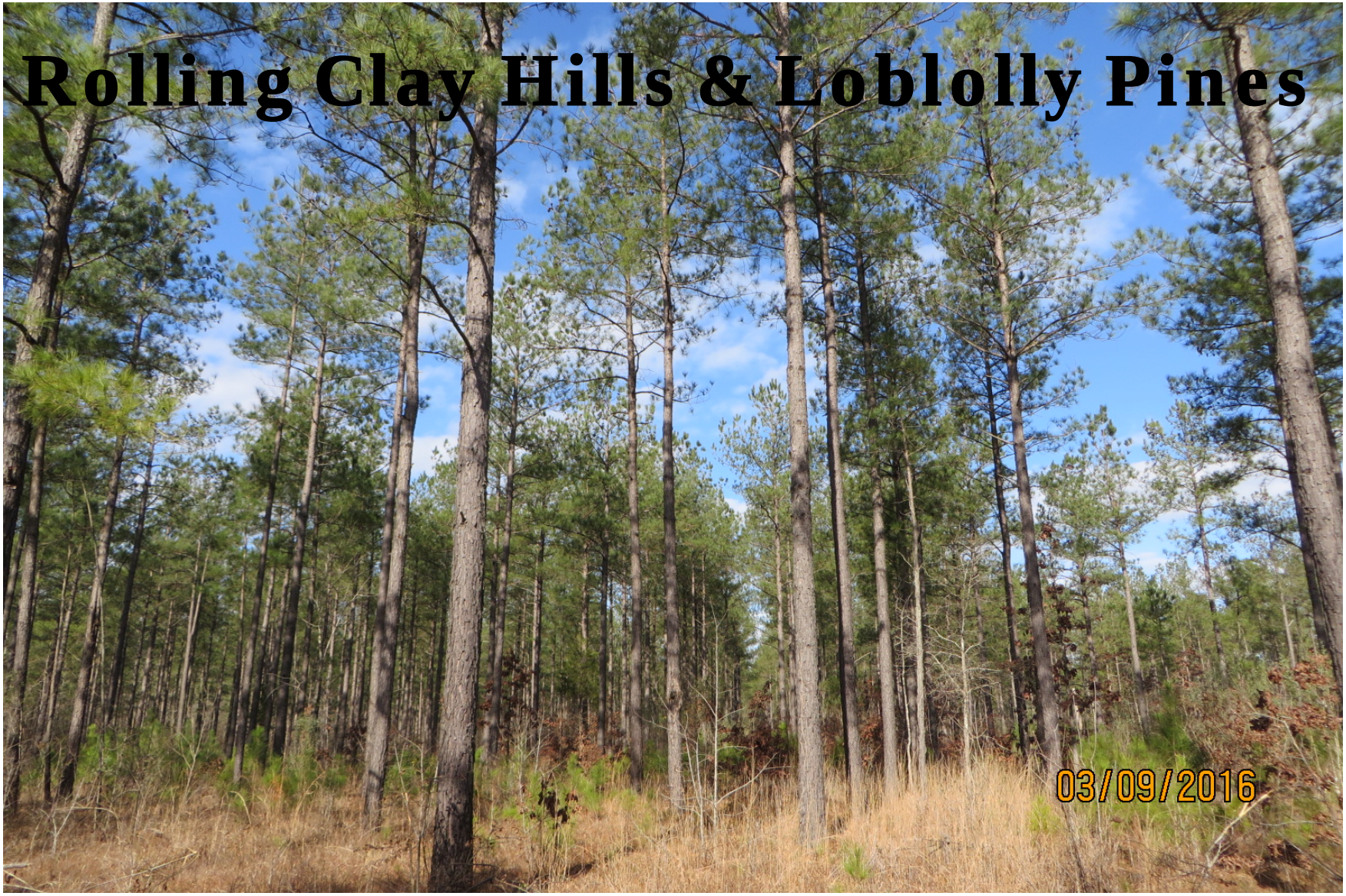
Cropland & Rolling Hills

Ridge and Valley



Blue Ridge Mountains
Ridge and Valley
Piedmont
Upper Coastal Plain
Lower Coastal Plain

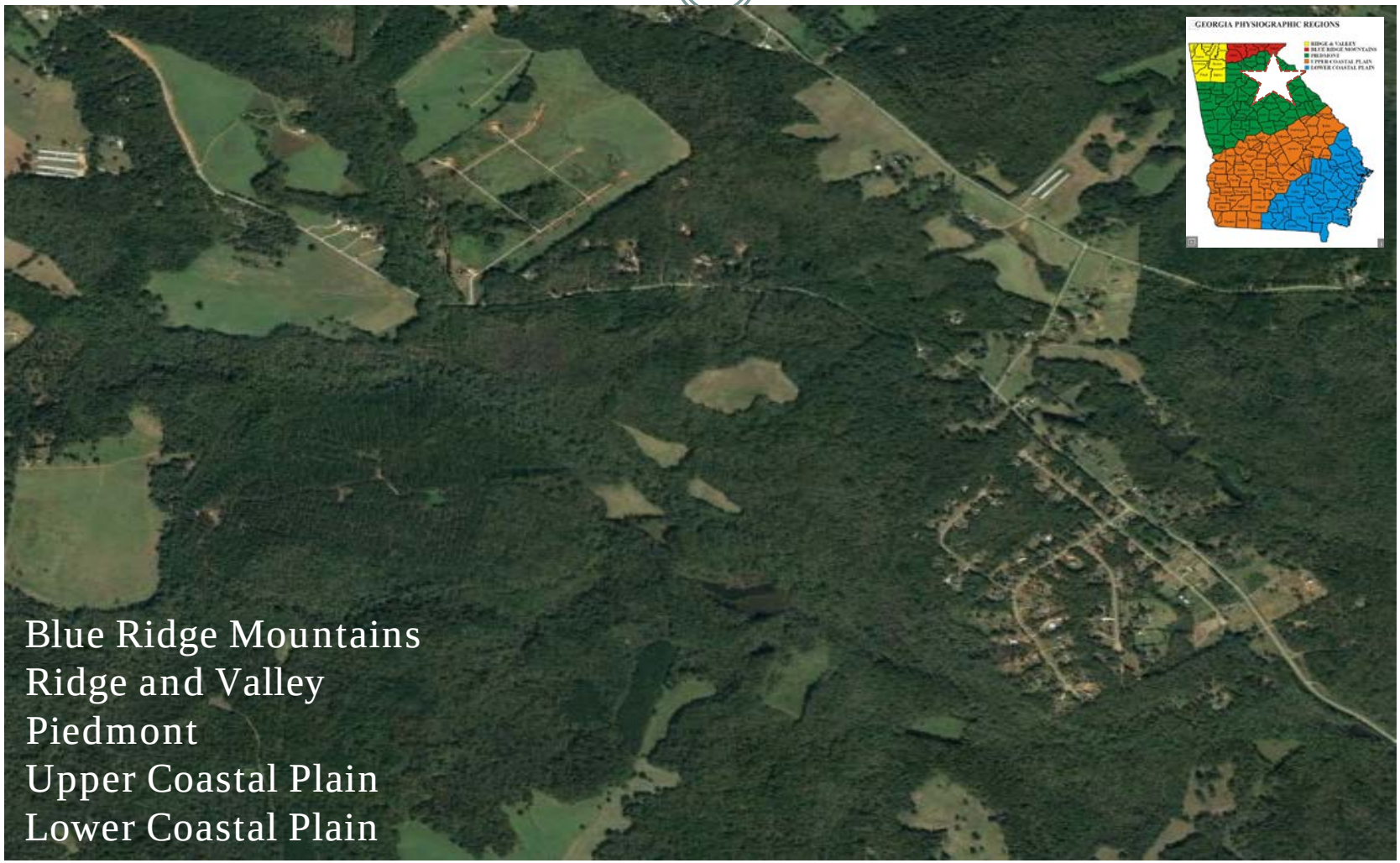
Rolling Clay Hills & Loblolly Pines



Mature Timber Not Uncommon

Pastures Everywhere

Piedmont



Blue Ridge Mountains
Ridge and Valley
Piedmont
Upper Coastal Plain
Lower Coastal Plain

Timber Extraction

When DOR references "*10 to 15 loads of timber*" in their training, what are they talking about?

Estimating Standing Timber Values

(the following examples will be representative of this general area)

On large acreage timberland properties I make a preliminary timber value estimate in order to increase the efficiency of my field work.

Standing Timber Value?

Pre-merchantable

7 year old pine plantation

500 SPA

$225/acre reforestation costs is assumed.

Standing Timber Value?

Unthinned 16 year old pine plantation

480 SPA

Standing Timber Value?

Thinned 16 year old pine plantation

240 SPA

Standing Timber Value?

Twice thinned 30 year old pine plantations; 140 Trees Per Acre

Standing Timber Value?

Mature upland natural pine-hardwood stand

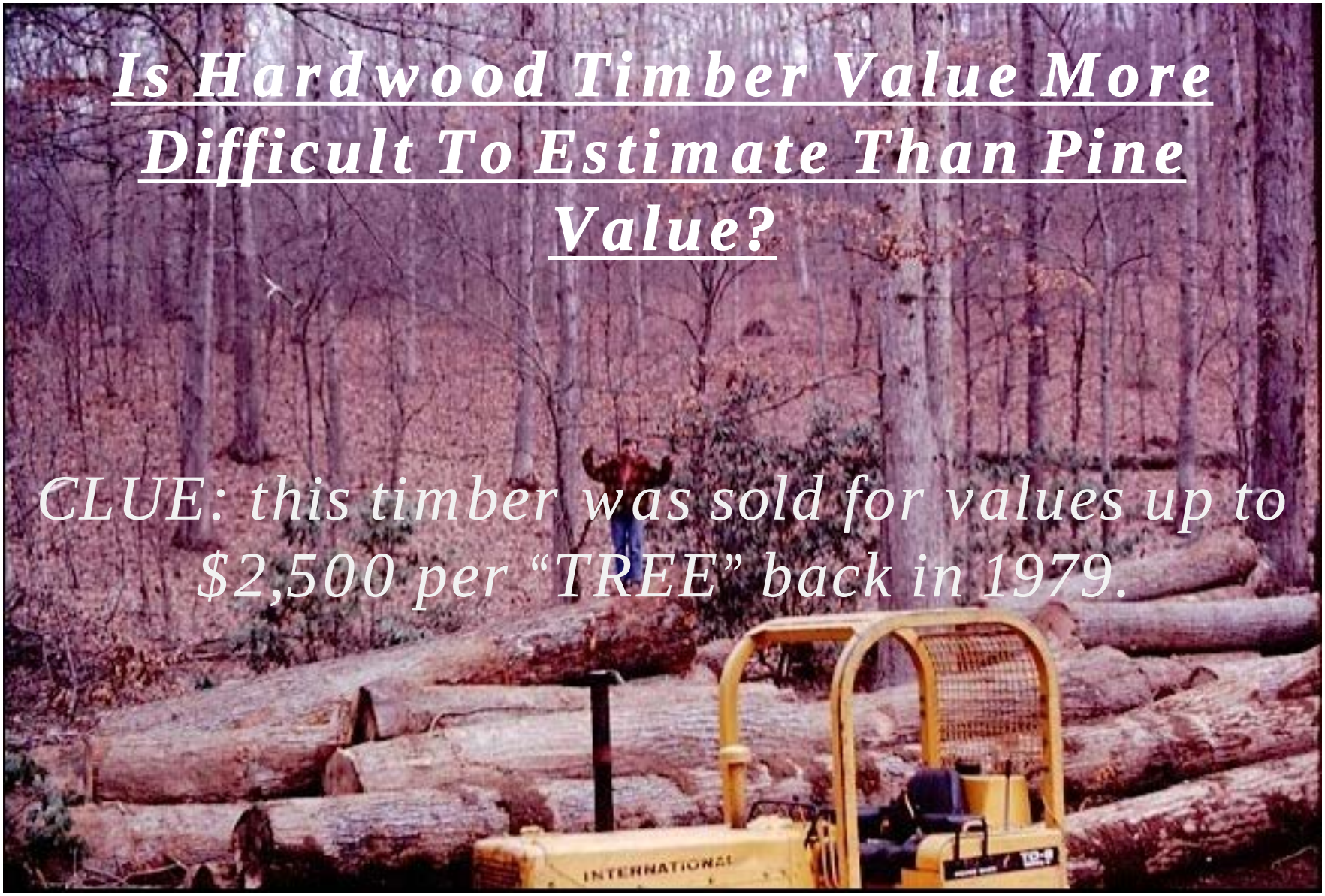
10 pine sawlogs per acre (average DBH 18”)

Variable hardwood pulpwood & sawtimber volumes

Standing Timber Value?

Mature bottomland natural pine-hardwood stand

Large diameter hardwood & pine sawtimber volumes



Is Hardwood Timber Value More Difficult To Estimate Than Pine Value?

CLUE: this timber was sold for values up to $2,500 per "TREE" back in 1979.

Hardwood Valuation Assistance

<u>"General" Description of Hardwood Sawtimber</u>

Lower Grade (and value) hardwood sawlogs will have more defects, smaller diameters, shorter log lengths and be from less desirable species.

Higher Grade (and value) hardwood sawlogs and veneer logs will have fewer defects, larger diameters, longer log lengths and be from more desirable species.

Standing Timber Value?

Young immature mixed hardwood pulpwood with occasional Low Grade oak sawlogs

150 SPA

Average DBH 9”

Standing Timber Value?

Young immature mixed hardwood pulpwood with occasional Low Grade mixed species sawlogs

Occasional pine pulpwood or chip-n-saw tree

160 SPA

Average DBH 10”

Standing Timber Value?

Young immature mixed bottomland hardwood pulpwood with some Low Grade mixed species sawlogs

250 SPA

Average DBH 10”

More mature primarily oak hardwood with a mix of some Low and High Grade sawlogs

Reduced number of hardwood pulpwood trees

Occasional pine sawtimber tree mixed in the stand

30 sawlog SPA

Average DBH 16”

Standing Timber Value?

Mature hardwoods. Significant High Grade lumber and veneer timber.

25 - 30 hardwood sawlogs per acre.

Primarily oak and yellow poplar.

Average hardwood sawlog DBH 28”– 30”.

Two Last Comments About Hardwood Defects

What's going on with this poplar?

Who Should Extract Standing Timber Value?

Any Timber Valuation Questions Before We Move On?

Appraisal Approach For My Clients

Industrial Timberland Company

- *purchase base land at a price justified for timber production ONLY*
- *income approach is preferred; sales comparison support is necessary; multiple regression analysis is helpful*
- *buy ONLY average and above average soil quality; some exceptions*
- *good distribution of age classes of timber and tract locations*
- *large acreage tracts are preferred (economies of scale "cost advantages")*

Non-industrial Timberland Investors

- *same as above EXCEPT that some properties with higher and better uses other than timberland are acceptable in order to diversify the real estate investment portfolio.*

Appraisal Approach For My Clients

Recreational Timberland Investors

- *purchase base land at a price justified for recreational use (commercial)*
- *purchase base land at a price justified for recreational use (non-commercial)*
- *sales comparison approach is most useful; income approach may set a minimum value; cost approach may assist with the improved properties*
- *location, on-site improvements, lakes, etc. are influential*
- *timber value tends to be less important than for the industrial timberland investors*
- *expect sale price to be higher than industrial timberland values*

Transitional Timberland Buyers

- *purchase base land at a price justified for residential, commercial, industrial or non-timberland agricultural uses (conversion to cropland and orchards)*
- *sales comparison approach is most useful; income approach may set a minimum value; cost approach may assist with the improved properties*
- *location, location, location*

Estimating Standing Timber Value

Timber value calculations

Pre-merchantable timber values

(formula driven calculation)

Merchantable timber values

*("**usually**" timber cruised volume x stumpage price calculation)*

What about during these transition periods?

Basic Pine Timber Standards

Pine Pulpwood: 4.6" to 8.9" DBH to a 3" top

Pine Chip-n saw: 9.0" to 12.0" DBH to a 6" top

Pine Sawtimber: greater than 12" DBH to a 10" top

	Sample Pine Stumpage Prices	
	Pine Pulpwood ($/cord):	$29.80
+69.7%	Pine Chip-n-saw ($/cord):	$50.56
+50.5%	Pine Sawtimber ($/cord):	$76.05

Estimating Base Land Value

Base Land Value Determination

Sales comparison approach

Income approach (using discounted cash flow analysis)

Multiple regression analysis (providing support)

Subject: 500 acres; Average soil productivity

75% convertible to pine plantation 16% permanent hardwood 9% non-productive wetland

Sales Comparison Approach

Comp. #1 830.15 acres ($916/ac base land)	(80% convertible to pine plantation) (11% permanent hardwood acreage) (9% non-productive wetland)
Comp. #2 657.92 acres ($813/ac base land)	(75% convertible to pine plantation) (16% permanent hardwood acreage) (9% non-productive wetland)
Comp. #3 346.97 acres ($745/ac base land)	(60% convertible to pine plantation) (33% permanent hardwood acreage) (7% non-productive wetland)

I prefer comp #2: base land value = $813/acre

Income Approach (discounted cash flow)

(Market test each model for the best choice)

Very Conservative: *$446/acre base land value*

Short rotation without any thinnings

Higher than traditional discount rate

Conservative: *$690/acre base land value*

Short rotation without any thinnings

Traditional discount rate

Keep an eye on this value
$690/acre

Moderate: *$810/acre base land value*

Longer rotation with two thinnings

Traditional discount rate

My preference
$810/acre

Aggressive: *$1,145/acre base land value*

Longer rotation with two thinnings

Fertilization & Pine straw income

Traditional discount rate

Multiple Regression "Predictor" Model

It might look something like this:

Base Land Value = "an initial $/acre value"

adjusted for:
- *tract acreage*
- *% suitable for pine plantations*
- *% only suited for hardwood timber production*
- *% non-productive for timber production*
- *% cropland/pasture*
- *soil productivity*
- *sale date*
- *desirability*

For our subject parcel: base land value = $798/acre

Time To Make An Offer

<u>South Georgia Example (average quality - 500 acre tract)</u>

Conservative Income approach :	*$690/ac base land*
Multiple linear regression analysis:	*$798/ac base land*
Moderate Income approach :	*$810/ac base land*
Sales comparison approach:	*$813/ac base land*

Let's prepare a few offers under different conditions.

Purchase Price – High Timber Value

South Georgia Example (average quality - 500 acres):

Conservative Income approach :	*$690/ac base land*
Multiple linear regression analysis:	*$798/ac base land*
Moderate Income approach :	*$810/ac base land*
Sales comparison approach:	*$813/ac base land*

*If this tract has an estimated **$2,500/acre** in standing timber:*

Offer?

Purchase Price – Average Timber Value

South Georgia Example (average quality - 500 acres):

Conservative Income approach :	*$690/ac base land*
Multiple linear regression analysis:	*$798/ac base land*
Moderate Income approach :	*$810/ac base land*
Sales comparison approach:	*$813/ac base land*

*If this tract has an estimated **$1,000/acre** in standing timber:*

Offer?

Purchase Price – No Timber Value

South Georgia Example (average quality - 500 acres):

Conservative Income approach :	*$690/ac base land*
Multiple linear regression analysis:	*$798/ac base land*
Moderate Income approach :	*$810/ac base land*
Sales comparison approach:	*$813/ac base land*

*If this tract has an estimated **$0/acre** in standing timber:*

Offer?

Would the presence of any of these change your recommended offer?

Protected Species

Red-cockaded woodpecker

Eastern Indigo Snake

Gopher tortoise

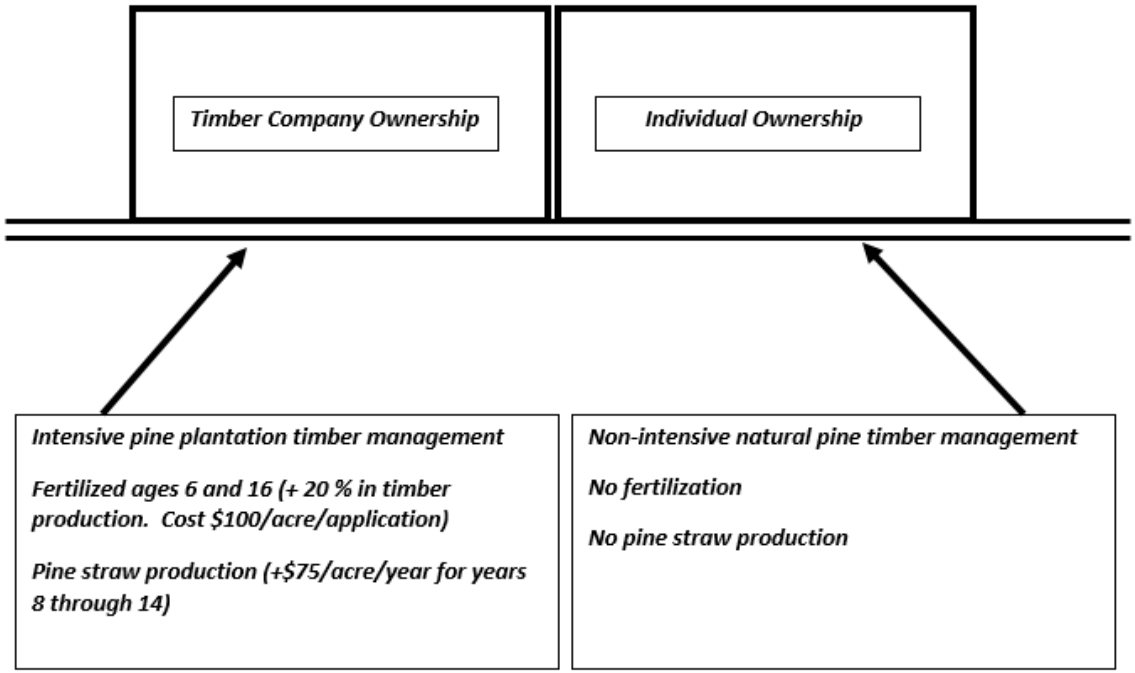
Pine Bark Beetles

Beavers

Invasive Plants

Comparing Base Land Values

Two 500 acre timber tracts. Soils are identical in every way.



Are the base land values the same or are they different?

Cradle of Forestry