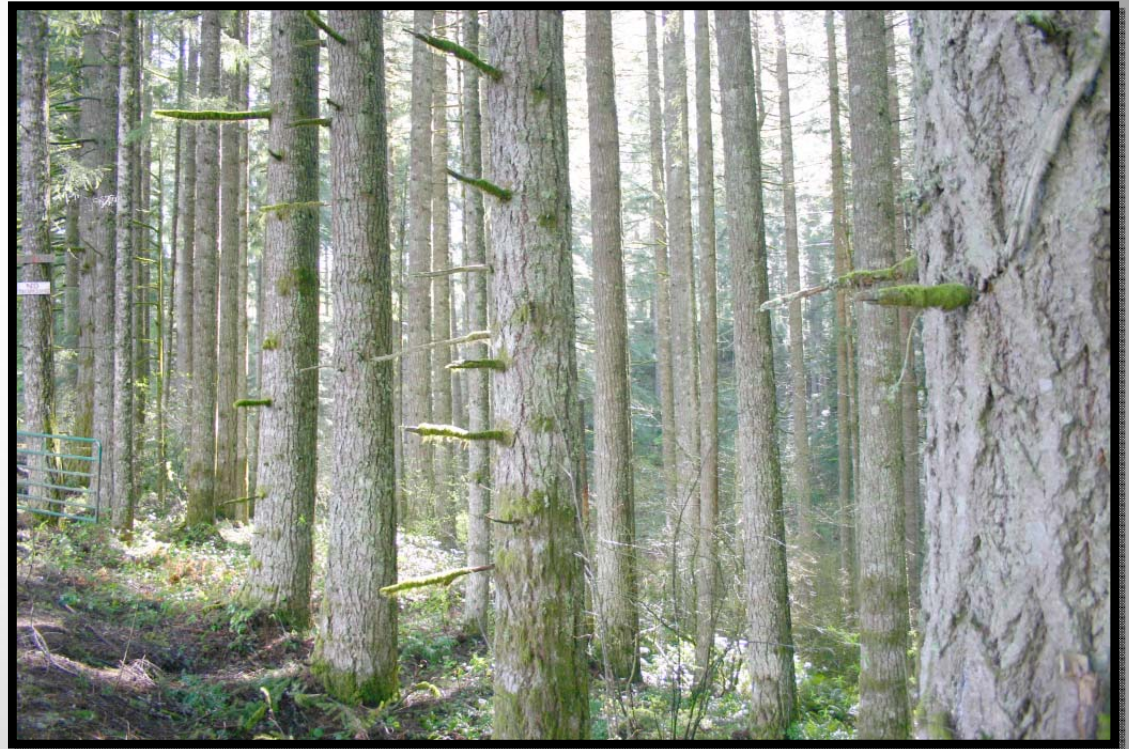


"The Ultimate Timber Cruise Prescription"

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Premise

This presentation assumes that a purchaser is looking at a high volume, high value timber sale in Western Oregon or Western Washington. The timber sale is being sold lump sum, with an estimated value of \$1,000,000.

High Value West Side Timber

- Volumes run 40 to 70 MBF per acre
- Values range from \$15K to \$40K per acre
- Most timber cruises report Volume/Acre
- Sellers acres are frequently overstated

What the Buyer Starts With:

- Paper Copy or PDF file of Timber Sale Map
- Seller Lists Volumes by Species
 - Sometimes includes grade info
- Vicinity Map of how to get to timber sale
- Bid due date
- Special instructions on logging restrictions
 - Cruiser needs to know this!

How to Reduce Risk:

- Two separate cruises by two cruisers
- GPS sale area to determine acreage
 - Sub-meter accurate GPS units
 - Laser Rangefinders to set offset points
- Plot grids go across variation in stand
- Cruisers get lots of tree measurements
 - Accurate heights
 - 30 Plus Measured Plots per type

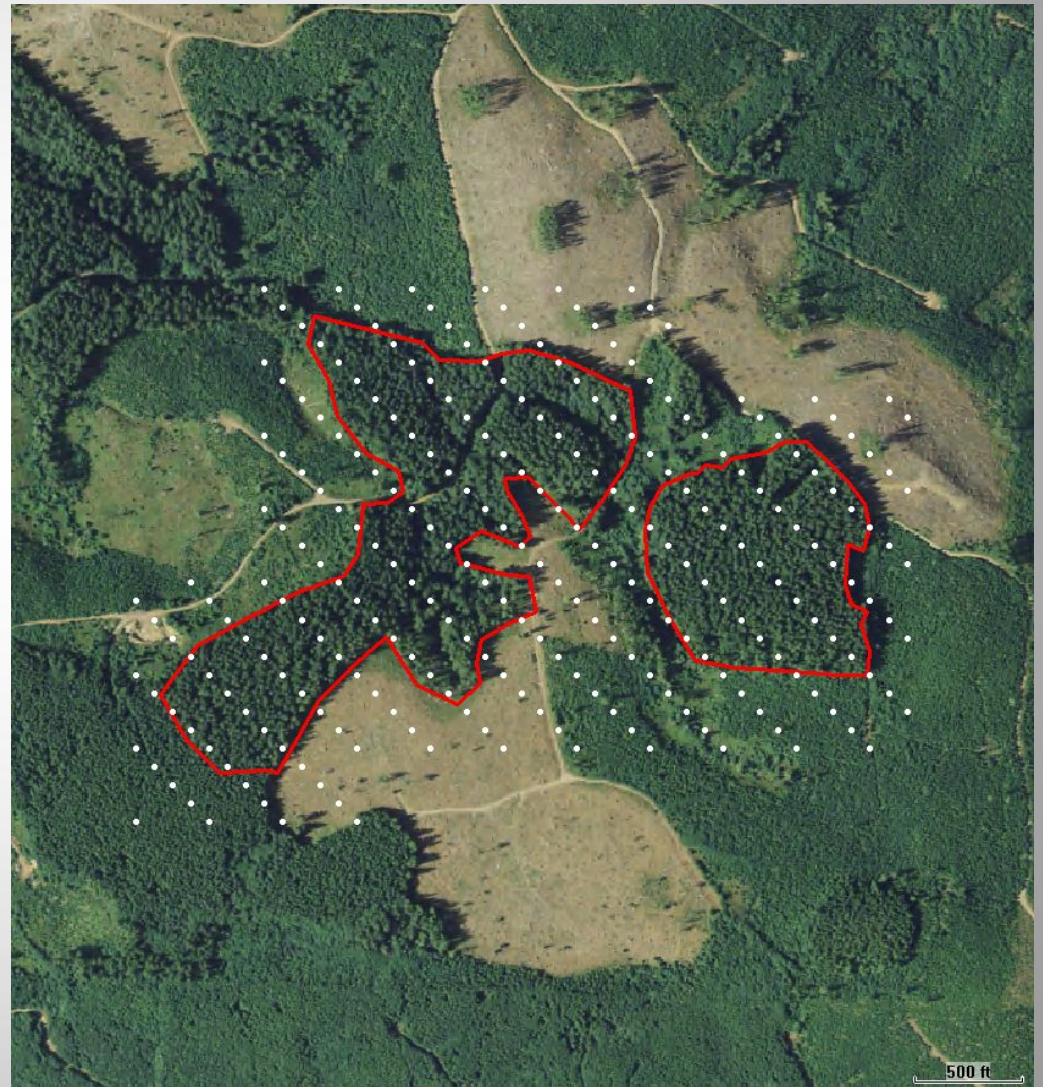
Sellers Polygon:

1. Seller rarely provides GPS data digitally
2. Option: Scan and Reference paper Map
3. Option: Print map on transparency film and overlay on computer screen. Create Shape File.
4. Because of high values, sellers acreage is always suspect.



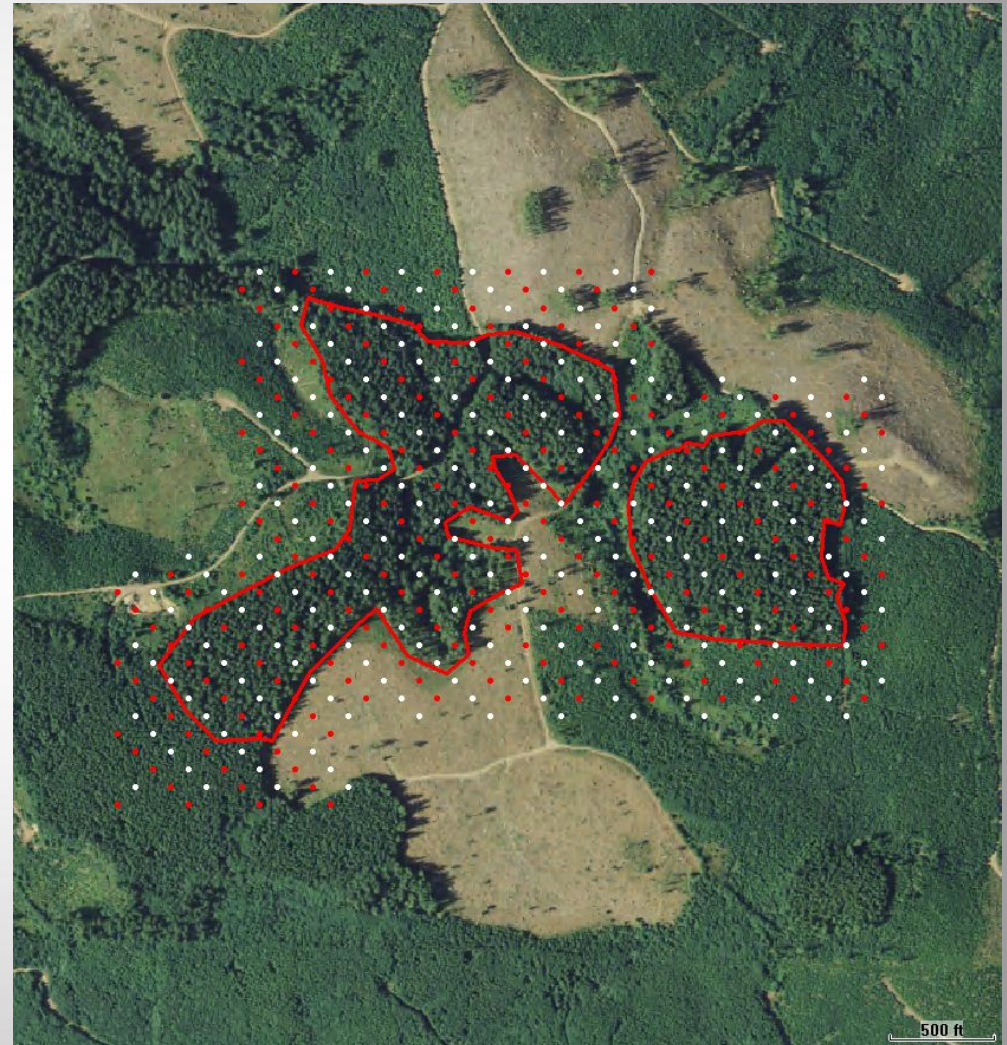
Add First Plot Grid:

- Plot grids added via ArcGIS
- Grids must evenly cover the sale area
- Grids must go across variation



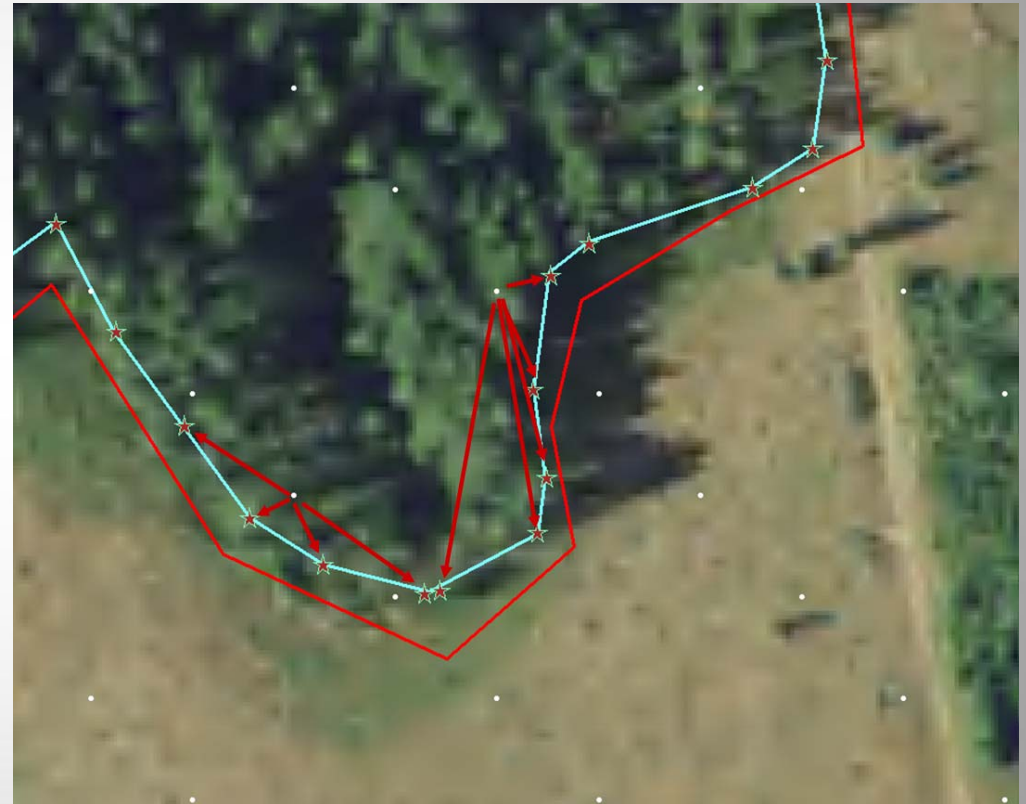
Add Second Plot Grid:

1. Both Grids run same direction
2. Same Spacing between plots and plot lines
3. Grids alternate by cruiser

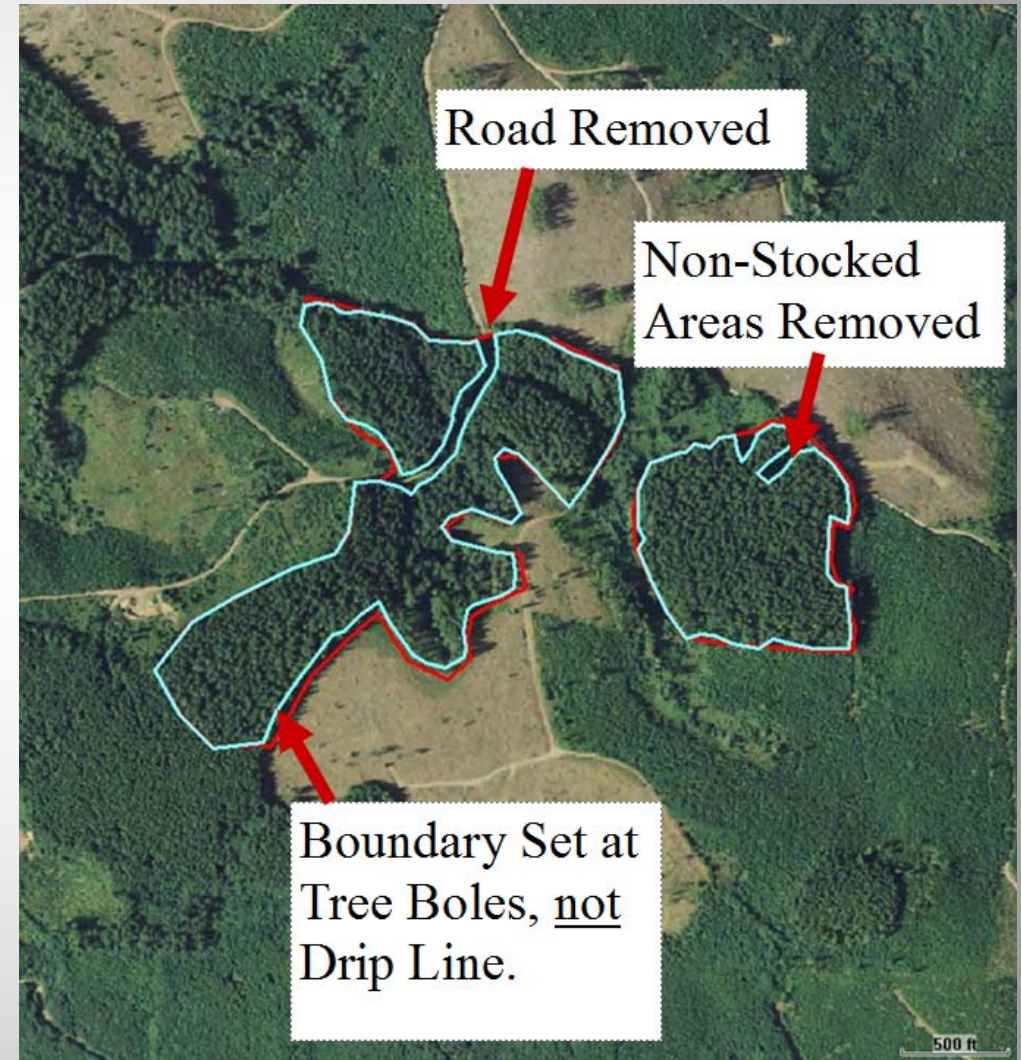


Cruiser Sets Boundary in Field

- Cruiser sets points on boundary with Offset GPS points.
- Cruiser navigates from plot to plot with GPS unit
- GPS is On all day
- Boundary points made into polygon



Sellers Polygon - Buyers Polygon



Acreage Difference Seller/Buyer

TMS Timber Sale			
Unit 1	Seller Acreage	Buyer Acreage	Dif.
	42.7	32.2	
		8.9	
	-----	-----	
	42.7	41.1	1.6
Unit 2	19.7	18.8	0.9
Total:	62.4 Acres	59.9 Acres	2.5 Acres
2.5 acres X 50 MBF/Ac. X \$405/MBF = \$50,625.00			

State of the Art Cruising Gear

- Sub-Meter GPS unit
 - MobileMapper 100 (GPS + GLONASS)
 - SXBlue II GPS
- TruPulse 360B Laser Rangefinder
 - Includes compass and tilt sensor
 - One shot gives Slope Distance, Azimuth, and inclination
- RD 1000 BAF Scope
- ArcPad Mobile GIS Software



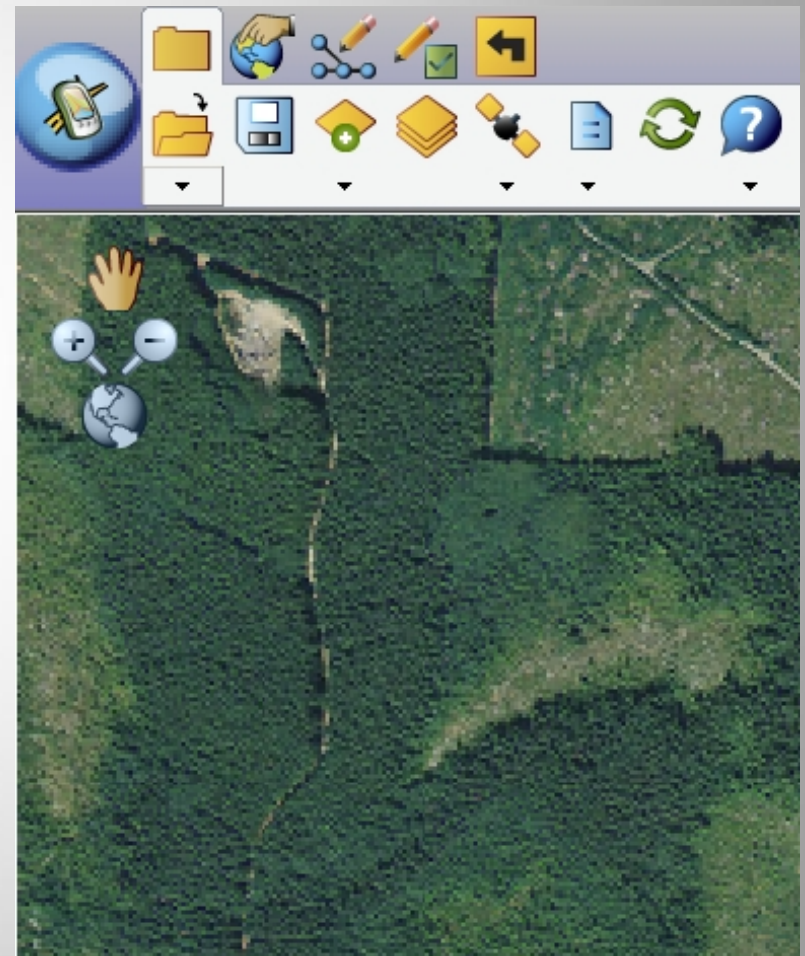
Conclusion

- Acreage errors can be very costly
- Acreage is easy to determine with GPS
- Plot Grid Placement is Critical
- Two cruises is not excessive

Thanks!

For all your Cruises, may your:

- PDOPS be low
- Satellites be High in the Sky
- Sale Areas flat
- No Brush
- Tree Boles Clean & Straight



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