“The Secrets To Accurate Acreage Calculations”

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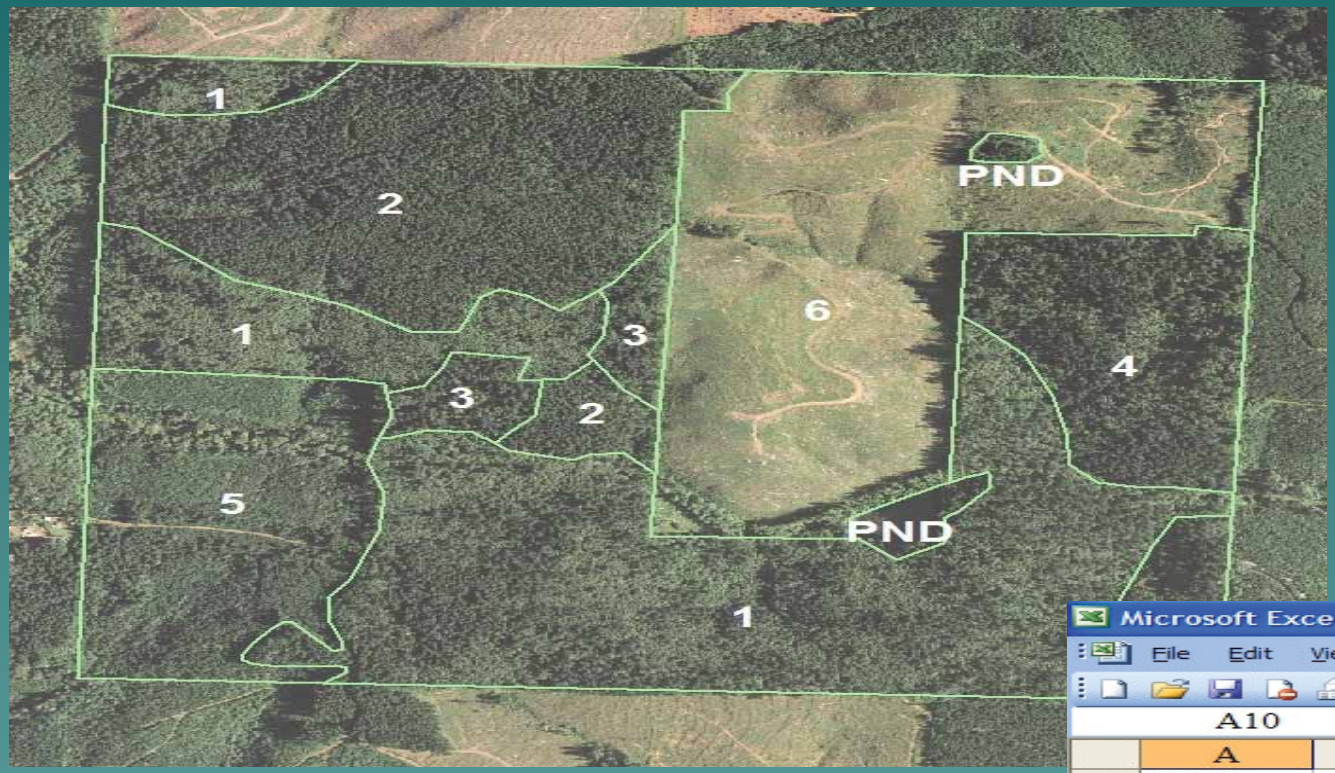
It Starts With Priorities

- The cost of the inventory must be relative to its uses, the resource values, and the money budgeted
- Estimate the values of the resource
- Prioritize the areas to be cruised and the cruise intensities

How Not To Do It

(Plot Placement Without Regard to Value)

Getting the Most Bang for the Buck



Microsoft Excel - PlotsByType.xls

File Edit View Insert Format Tools Data Wir

A10

	A	B	C	D
1	TYPE	ACRES	PLOTS	
2	1	203.32	80	
3	2	115.79	60	
4	3	16.41	30	
5	4	67.65	35	
6	5	73.78	20	
7	6	156.38	25	
8	PND	5.15	0	
9		----------	----------	
10		638.48	250	
11				
12				

Stratify Timber Stands (Prioritize)

1. Highest Value/Oldest
2. Near harvest age
3. Thinnings
4. Reprod

Mapping

The accuracy of most forest inventories and timber cruises is determined largely by the accuracy of map acreage.

Cruise volume is normally calculated on a volume per acre basis. The best cruise volume multiplied by the wrong acres gives an incorrect total volume.

Good Cruise X Wrong Acres = Wrong total Volume

Never count on compensating errors!!!

What's an Acre Worth?

- One acre of 50 year old DF = ≈$8750.00
- One acre of 50 year old RC = ≈$17,600.00

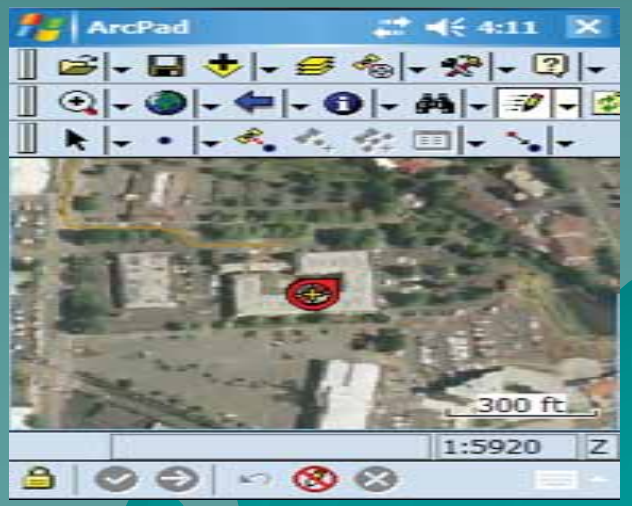
Errors on 40 acre units often exceed 3 acres

Acreage Calculation

- Methods
  - Planimeters
  - Dot Counters
  - GIS (ArcPad with GPS)
  - Transects
  - Closed Traverses

ArcPad Live Demonstration

1. Create a new map
2. Add shape files and images to view
3. Create a new shape file for a timber stand
4. Calculate acreage



Red Lion Motel

Consumer Model Traverse Accuracy Test

	Date: June 8
Garmin Mobile10	50.169 Acres
Holux 271	50.490 Acres
Garmin GPS 76	50.800 Acres
SXBlue II	50.190 Acres

- Maximum Spread was .631 Acres
- Average DF stand = 25MBF/Ac x $350/MBF = $8,750/Acre. A .631 acre error = $5,521.00 (1.26 % of total value)
- Acreage error $ with GPS = $5,521
- Sampling Error $ = $43,916 at 10% S.E.