WHAT'S NEW IN FOREST INVENTORY

BY

TERRY PORTER

ABOUT FORESTECH RESOURCE SOLUTIONS

- LLC Partnership
- 1.5 years old
- Headquarters-Nashville, TN
  Worked with LandMark Systems for 3 years
- Authorized LandMark Systems Business Partner for 26 Northeastern States

OUR GOALS

Our simple goal is to provide technology-based solutions, training, and support that will help our clients

- be more **ACCURATE** in their acreage, tree measurement, and timber volume estimations
- be more **EFFICIENT** in their field and office procedures
- achieve **more PROFESSIONAL** results for their businesses

Our Clients

- Consulting Foresters
- Procurement Foresters
- Government Agencies/Universities
  - Forestry
  - Wildlife
  - Environmental
- Industrial Timber Companies
- TIMOS and REITS
- Land Managers
- Environmental Consultants
- Wildlife and Fisheries

What's New?

- Industry Trends in Forest Inventory
- NEW Tools that provide
  - Enhanced GIS Inventory Design
  - Tighter Integrations between Office and Field Procedures
  - GIS-based Inventory Analysis and Reporting
- Future Enhancements in TCruise Desktop

Forest Inventory Workflows

1. Minimal Technology
   - Compass and Pace
   - Acres from # plots or grid
   - Estimate volumes in Excel
   - Report volumes in Excel or Word
   - Maps from Google Earth

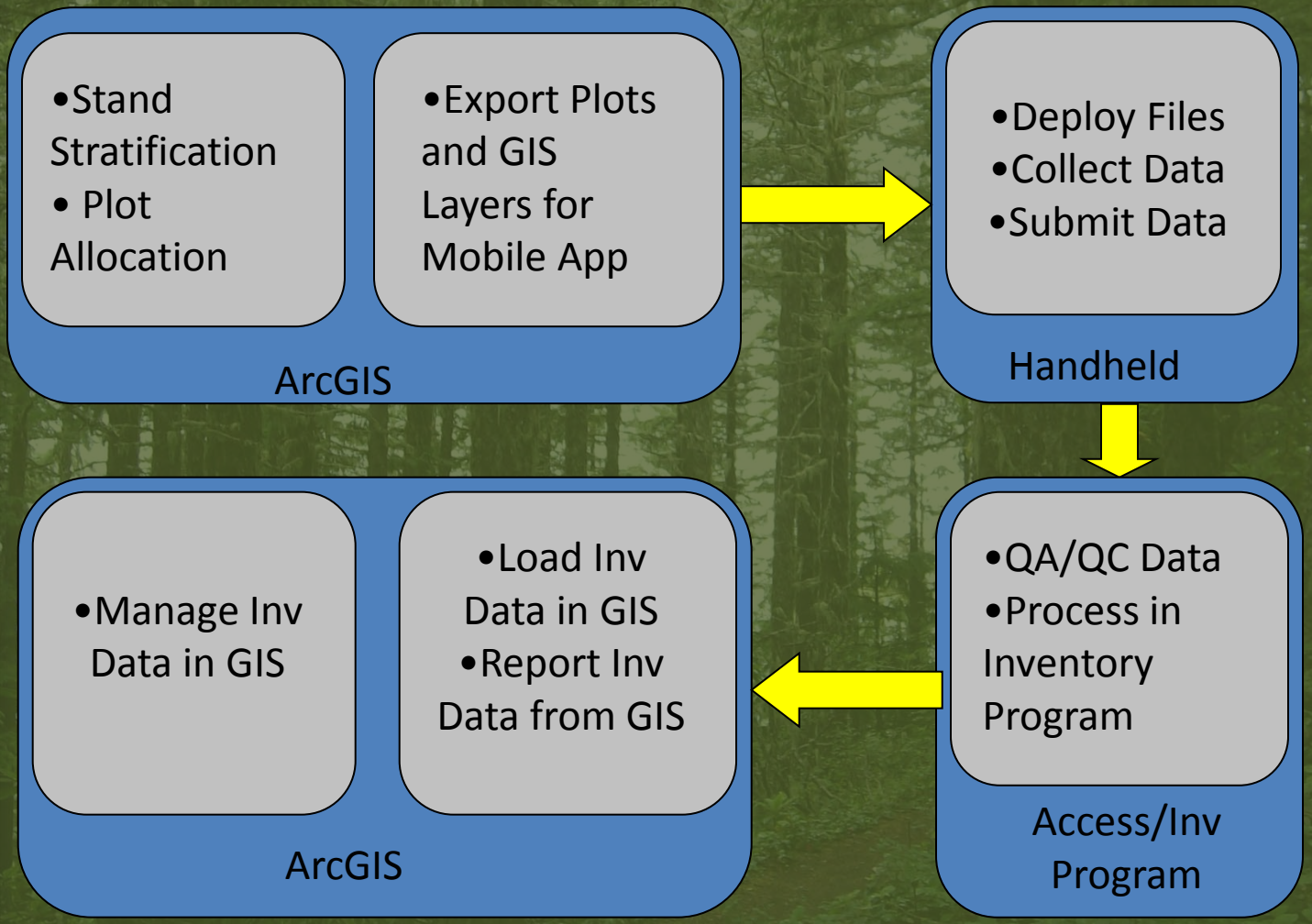
2. GPS + Inv Program
   - GPS Stand and Pace or GPS Nav
   - Acres from GPS
   - Calculate Volumes in Inv. Program
   - Report Volumes from Inv. Program
   - Maps from Terrain Navigator or fGIS

Forest Inventory Workflows

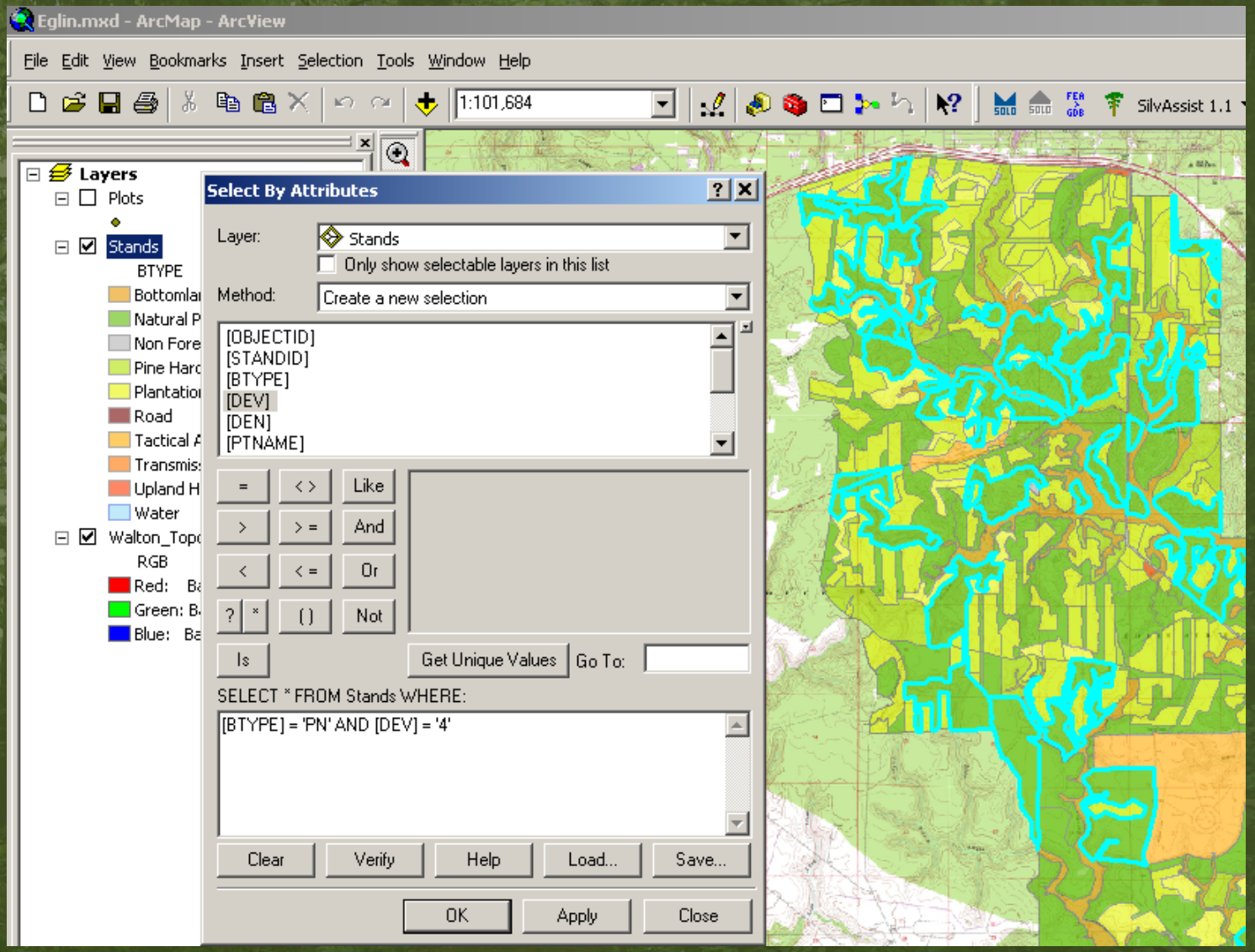
3. GIS + GPS + Inv Program
   - GIS Stands and GPS Nav
   - Acres from Stand Stratification
   - Calculate Volumes in Inv. Program
   - Report Volumes in Access or Sequel
   - Maps from ArcGIS

4. GIS Integration = SilvAssist
   - GIS Stands, Allocate Plots, GPS Nav
   - Acres from Stand Stratification
   - Calculate Volumes in Inv. Program
   - Report Volumes in ArcGIS
   - Maps from ArcGIS

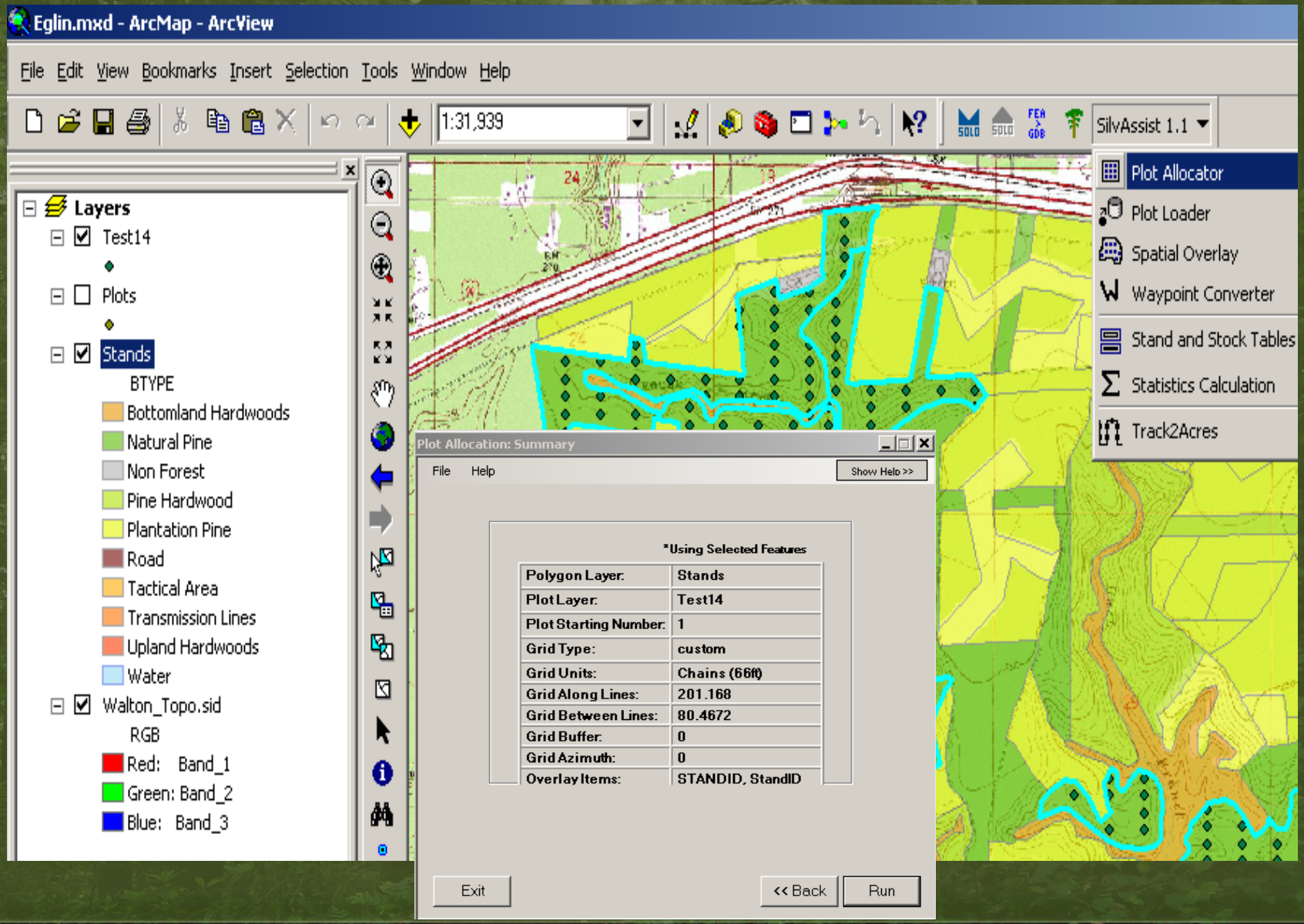
SilvAssist Forest Inventory Workflow



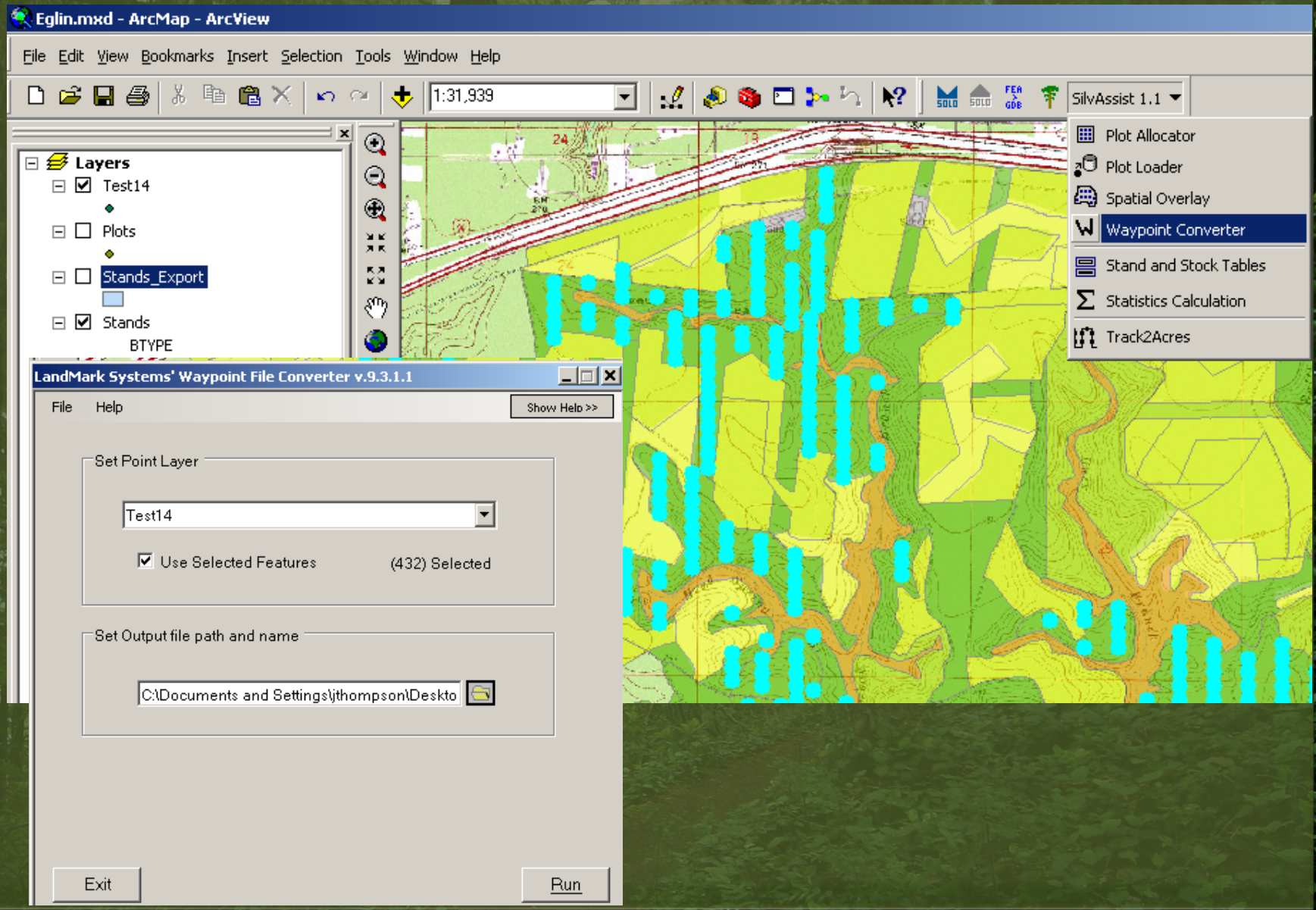
Step #1 – Stand Selection



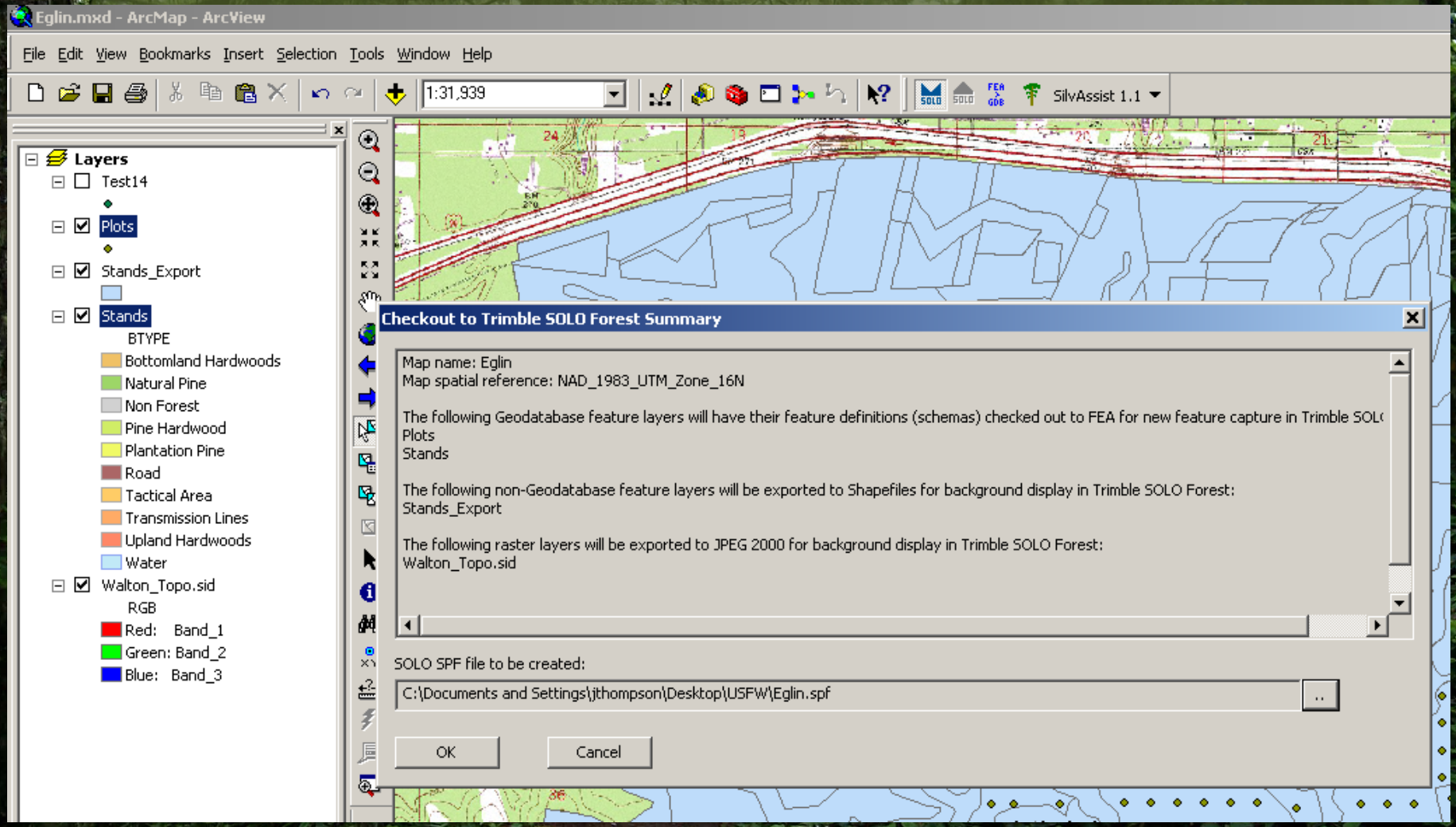
Step #2 – Plot Allocation



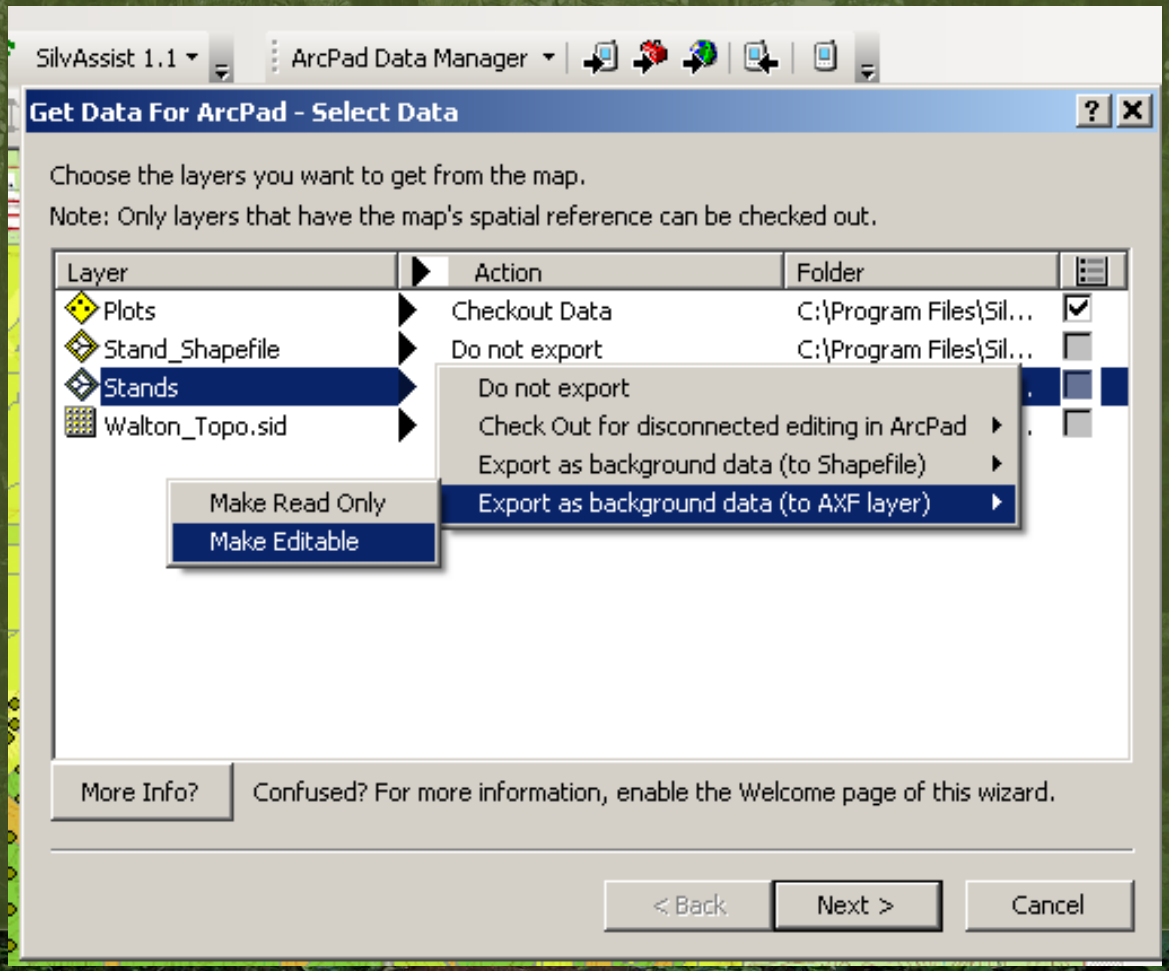
Solo: Waypoint Creation



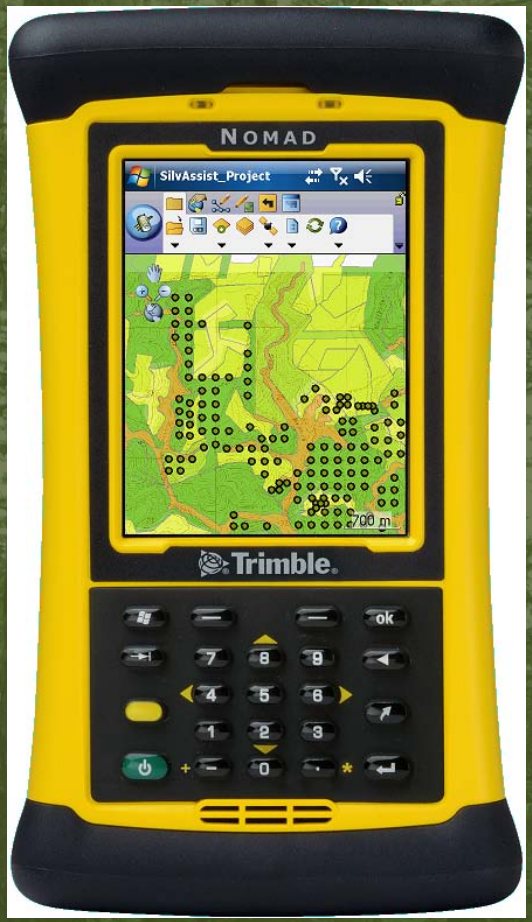
Solo: Check Data out Using Trimble Solo 360



ArcPad: Check Plots and Basemap Layers Using ArcPad Data Manager



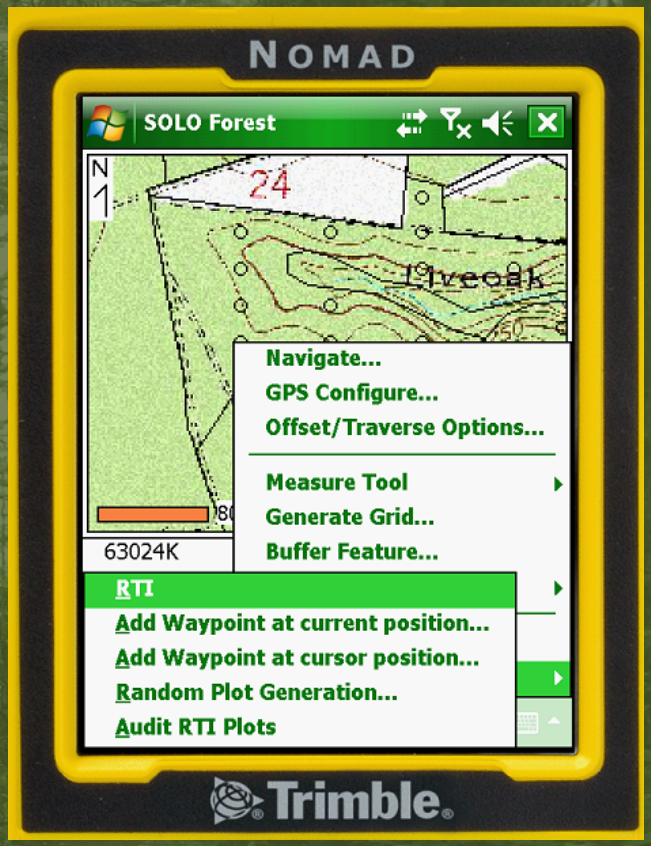
Step #4 – Transfer the Files to the Handheld



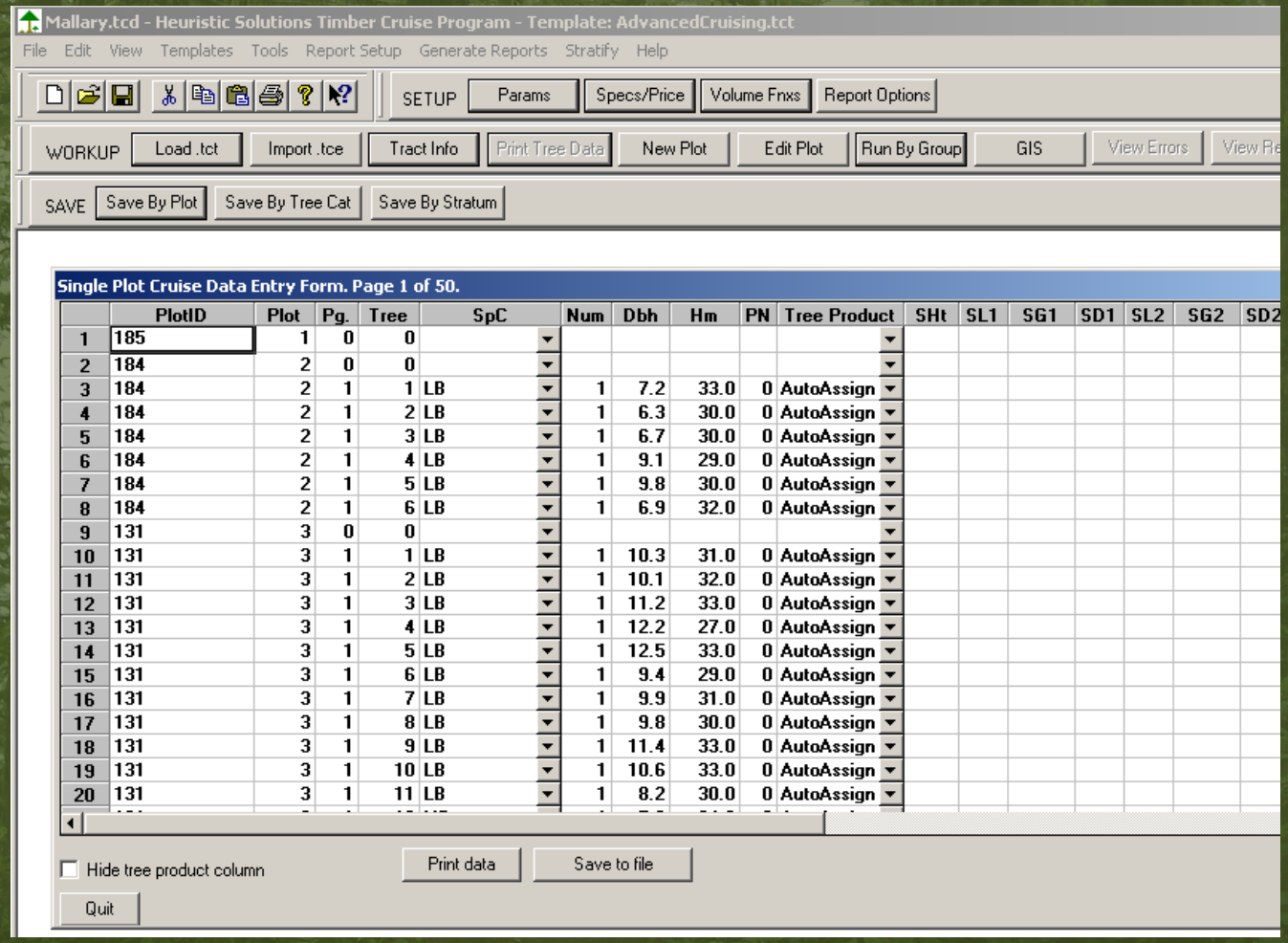
Step #5 – Do RTI Field

TCruise

Solo or ArcPad

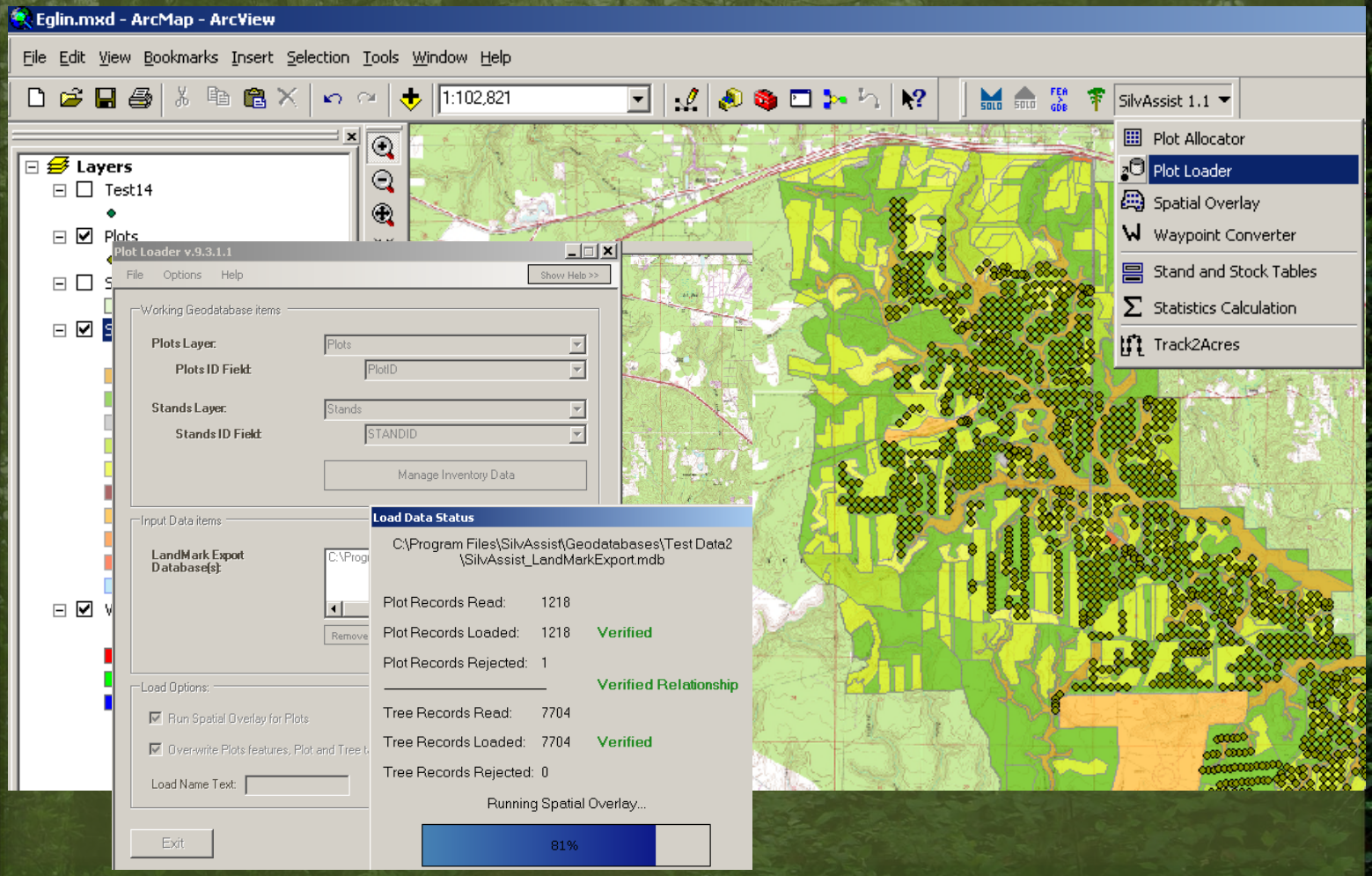


Step #6 – Process Data in TCruise Office

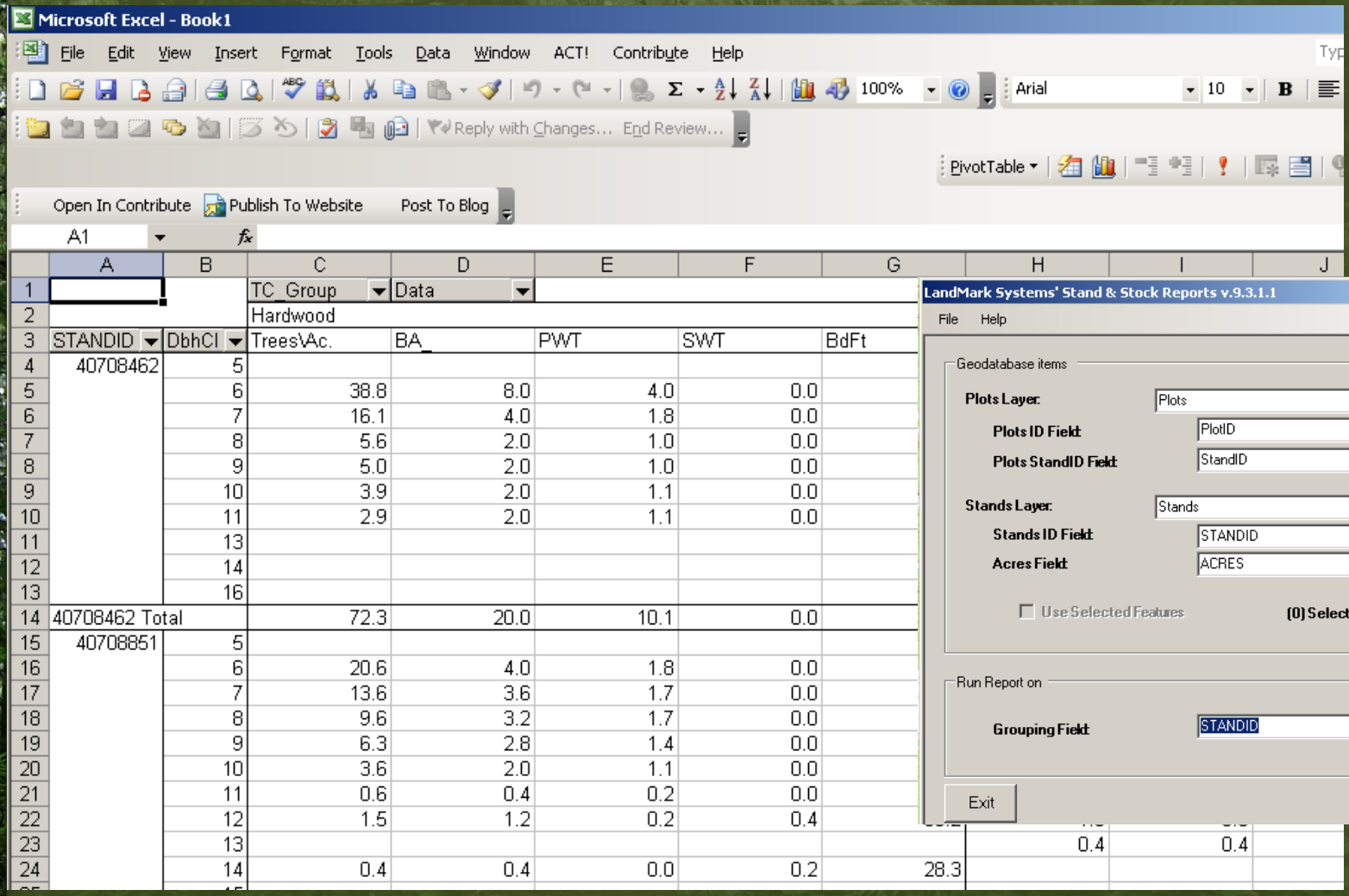


	PlotID	Plot	Pg.	Tree	SpC	Num	Dbh	Hm	PN	Tree Product	SHt	SL1	SG1	SD1	SL2	SG2	SD2
1	185	1	0	0													
2	184	2	0	0													
3	184	2	1	1	LB	1	7.2	33.0	0	AutoAssign							
4	184	2	1	2	LB	1	6.3	30.0	0	AutoAssign							
5	184	2	1	3	LB	1	6.7	30.0	0	AutoAssign							
6	184	2	1	4	LB	1	9.1	29.0	0	AutoAssign							
7	184	2	1	5	LB	1	9.8	30.0	0	AutoAssign							
8	184	2	1	6	LB	1	6.9	32.0	0	AutoAssign							
9	131	3	0	0													
10	131	3	1	1	LB	1	10.3	31.0	0	AutoAssign							
11	131	3	1	2	LB	1	10.1	32.0	0	AutoAssign							
12	131	3	1	3	LB	1	11.2	33.0	0	AutoAssign							
13	131	3	1	4	LB	1	12.2	27.0	0	AutoAssign							
14	131	3	1	5	LB	1	12.5	33.0	0	AutoAssign							
15	131	3	1	6	LB	1	9.4	29.0	0	AutoAssign							
16	131	3	1	7	LB	1	9.9	31.0	0	AutoAssign							
17	131	3	1	8	LB	1	9.8	30.0	0	AutoAssign							
18	131	3	1	9	LB	1	11.4	33.0	0	AutoAssign							
19	131	3	1	10	LB	1	10.6	33.0	0	AutoAssign							
20	131	3	1	11	LB	1	8.2	30.0	0	AutoAssign							

Step #7 – Load TCruise Data in Geodatabase



Step #8 – Run Tables and Stats from ArcGIS



Step #9 – Run Reports from ArcGIS

LandMark Spatial Solutions, LLC
4635 County Lake Road,
Starkville, MS 39759
USA

Phone: 866-395-5440
Fax: 886-209-1387
Email: jthompson@lmssmail.com
Website: www.landmarkspatialsolutions.com

Summary Report By Class/Group/Product

Tract: Mallary
Cruiser:
Location: Perry County
Owner:
Cruise Date: 2-5-08

Total Acres: 795.20
Number of Plots: 328
Cruise Method: Plot
Plot Size/BAF: 0.10

COMING SOON

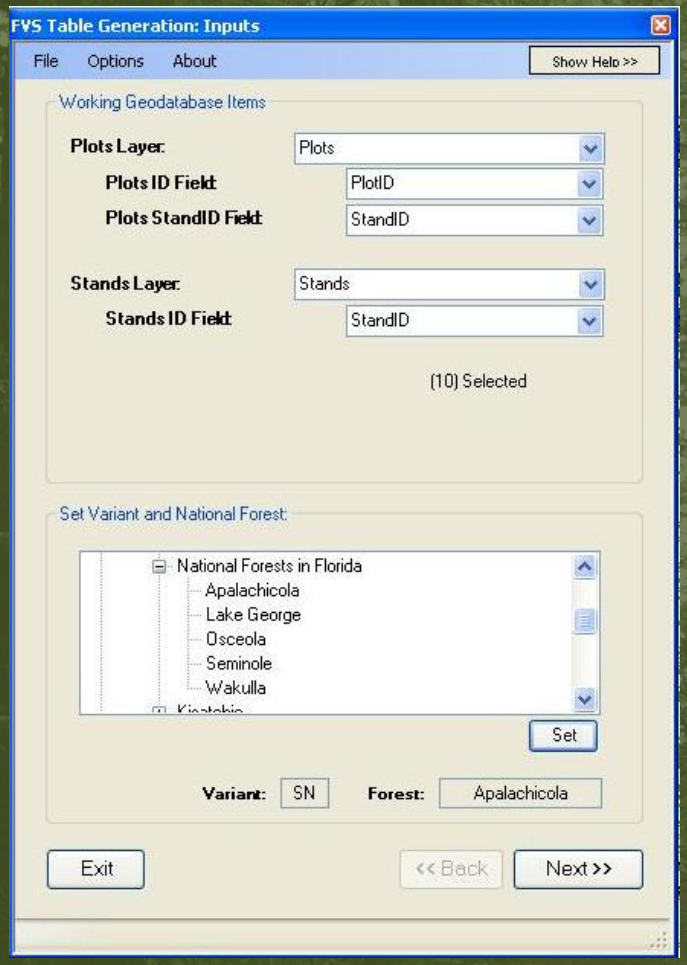
Pine

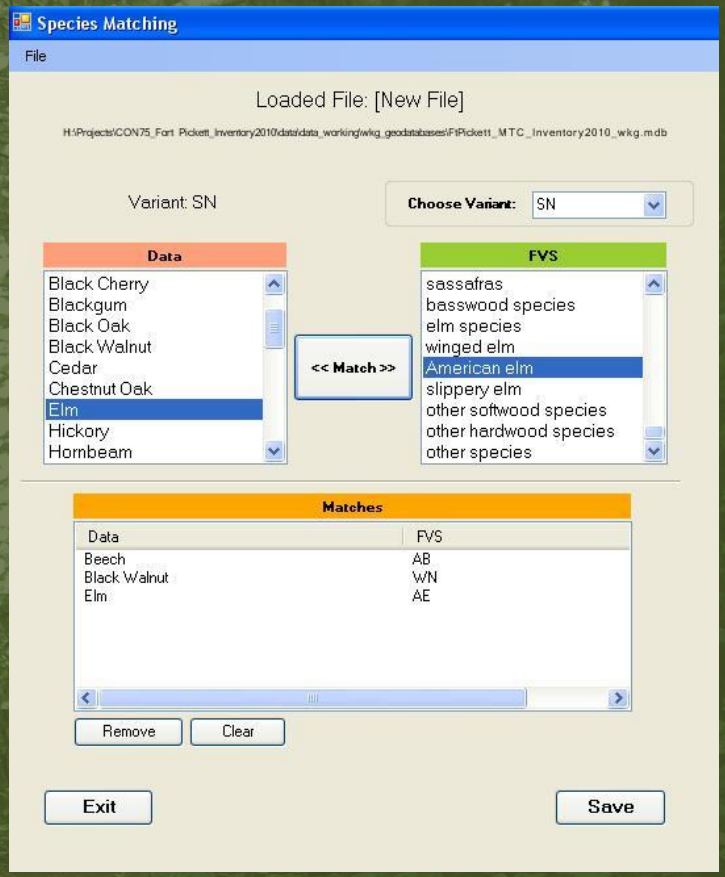
Product	Total Tract Trees	Total Tract DBF	Per Acre BA	Per Acre Trees	Per Acre DBF	Average Tree DBH	Average Tree MerchHt
Loblolly							
Sawtimber	6,109	537,946	7.4	8	676.5	13.2	38.4
Chipnsaw	36,439	754,740	23.9	46	949.1	9.7	36.1
Pulpwood	22,353	0	9.1	28	0.0	7.6	33.8
SM	145	0	0.0	0	0.0	1.4	36.7
Topwood	0	0	0.0	0	0.0	0.0	0.0
Group Total	65,046	1,292,686	40.5	82	1,625.6	9.3	35.2
Class Total	65,046	1,292,686	40.5	82	1,625.6	9.3	35.2

Hardwood

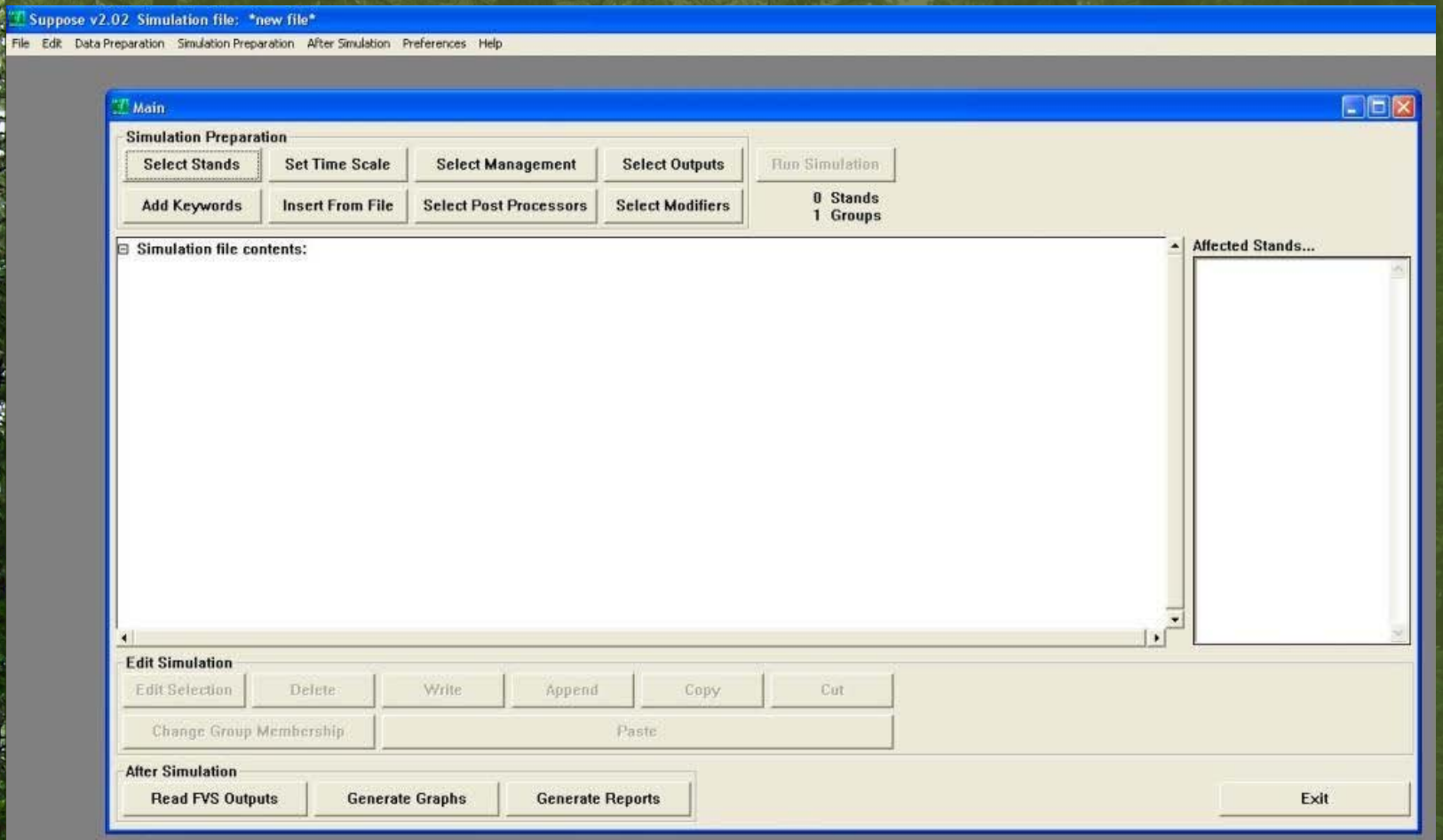
Product	Total Tract Trees	Total Tract DBF	Per Acre BA	Per Acre Trees	Per Acre DBF	Average Tree DBH	Average Tree MerchHt
Ash							
Sawtimber	315	50,967	0.7	0	64.1	17.7	34.3
Group Total	315	50,967	0.7	0	64.1	17.7	34.3

Step #10 – Prepare Data for Growth and Yield





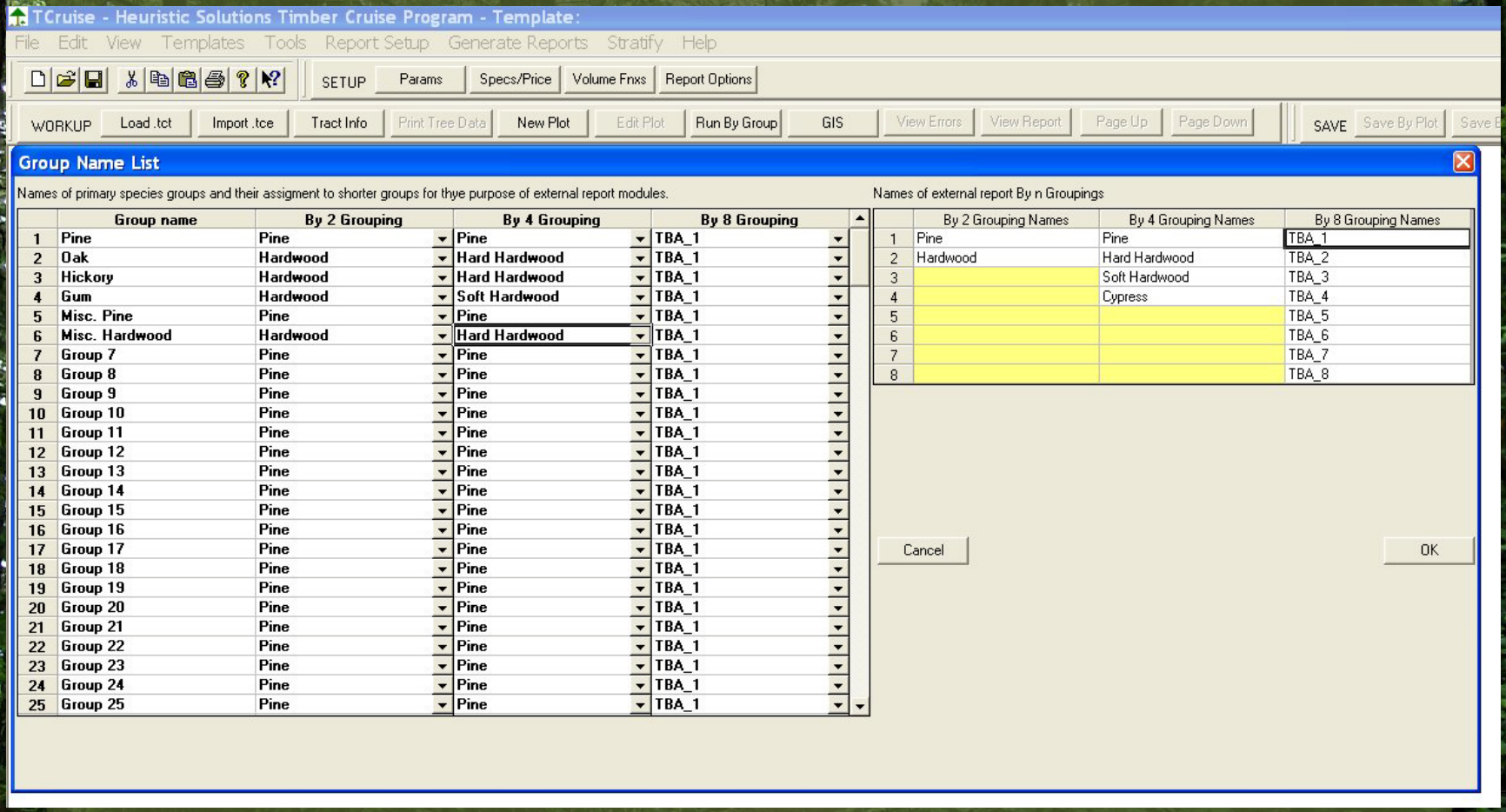
Prepare Data for Growth and Yield



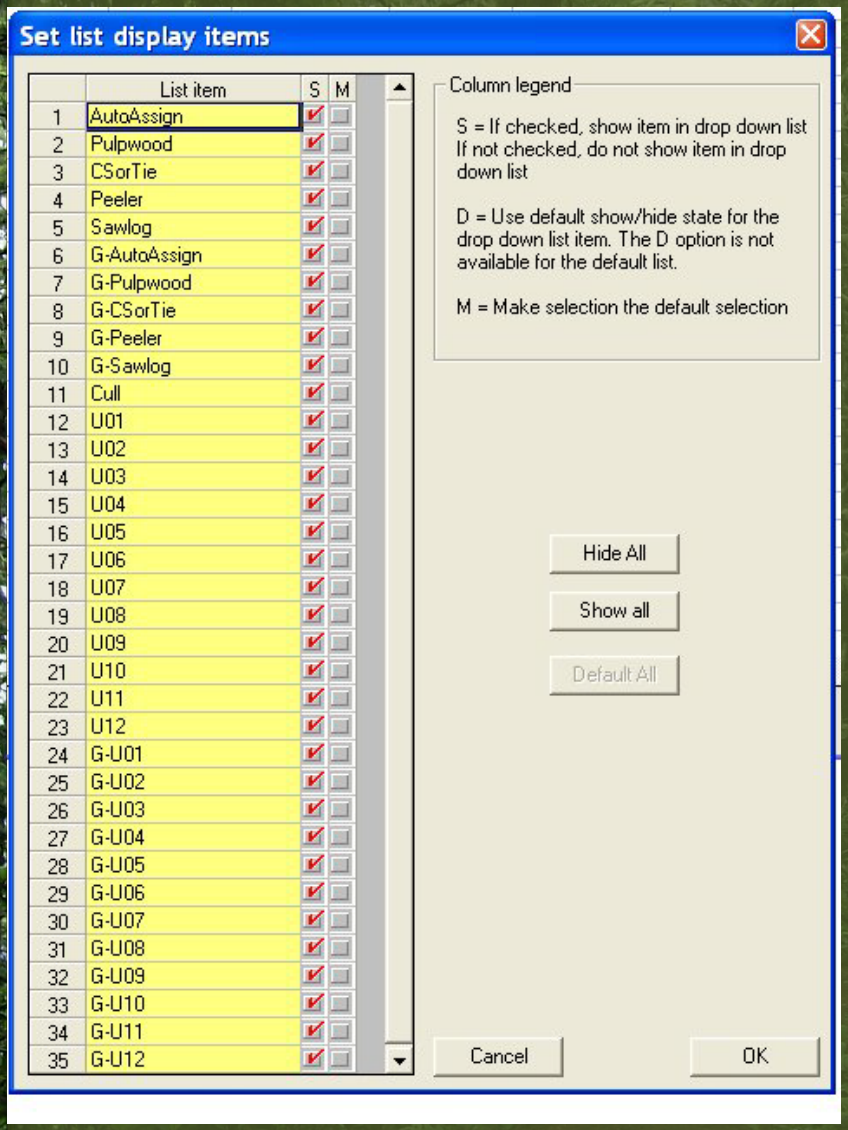
Future TCruise Program Enhancements

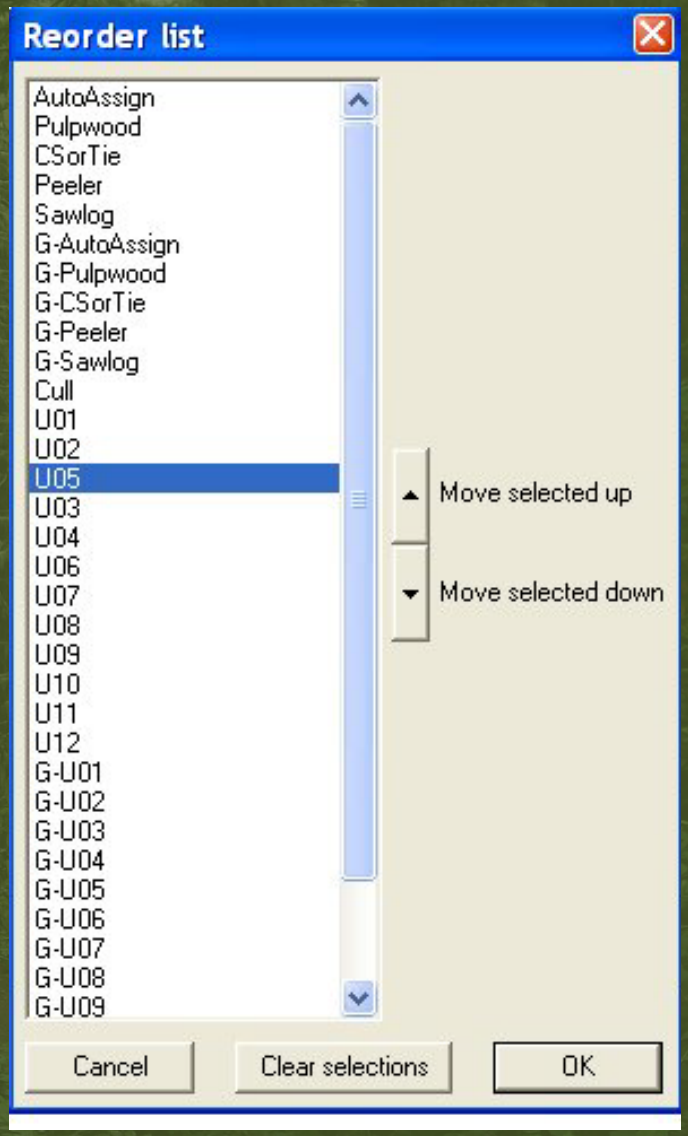
- Create Super Groups
- More Products - 4 Primary + 12 Extended Products
- Turn Products On/Off and rearrange order for handheld
- More Grades – 22/Species Group
- More Custom Info Choices – LLA and Custom Dialogue Boxes

Super Groups

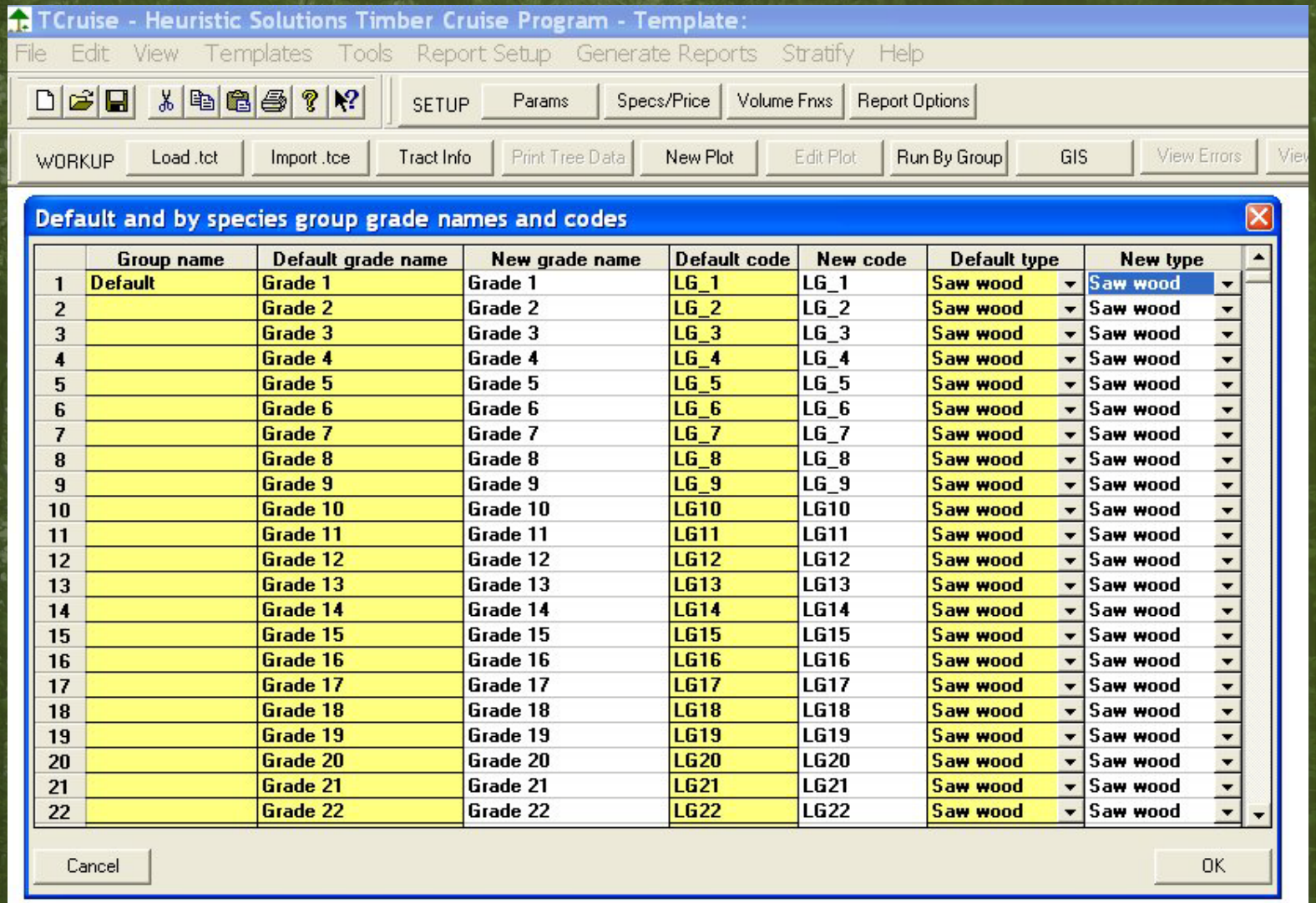


Handheld Product Choices



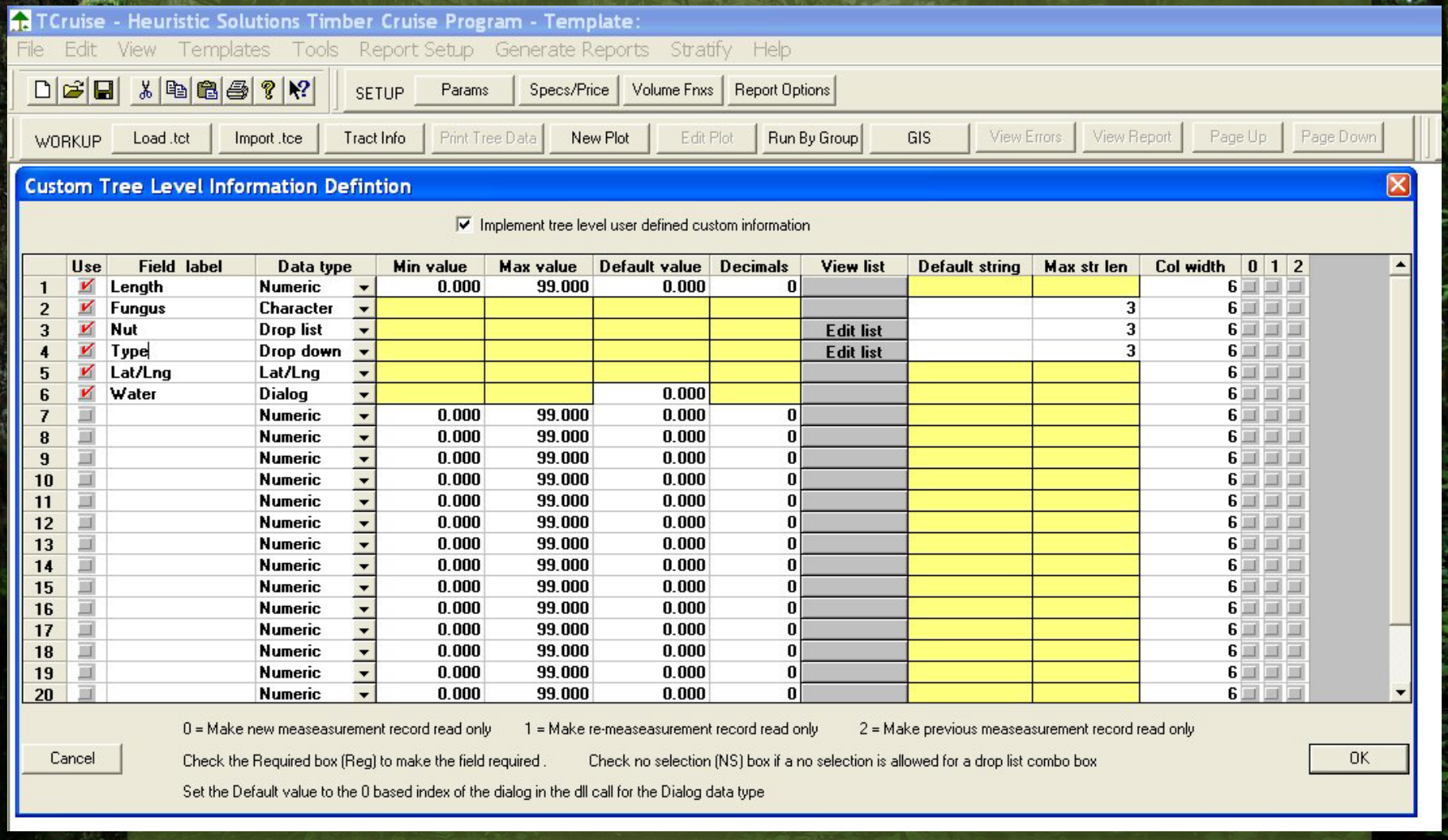


More Grades



	Group name	Default grade name	New grade name	Default code	New code	Default type	New type
1	Default	Grade 1	Grade 1	LG_1	LG_1	Saw wood	Saw wood
2		Grade 2	Grade 2	LG_2	LG_2	Saw wood	Saw wood
3		Grade 3	Grade 3	LG_3	LG_3	Saw wood	Saw wood
4		Grade 4	Grade 4	LG_4	LG_4	Saw wood	Saw wood
5		Grade 5	Grade 5	LG_5	LG_5	Saw wood	Saw wood
6		Grade 6	Grade 6	LG_6	LG_6	Saw wood	Saw wood
7		Grade 7	Grade 7	LG_7	LG_7	Saw wood	Saw wood
8		Grade 8	Grade 8	LG_8	LG_8	Saw wood	Saw wood
9		Grade 9	Grade 9	LG_9	LG_9	Saw wood	Saw wood
10		Grade 10	Grade 10	LG10	LG10	Saw wood	Saw wood
11		Grade 11	Grade 11	LG11	LG11	Saw wood	Saw wood
12		Grade 12	Grade 12	LG12	LG12	Saw wood	Saw wood
13		Grade 13	Grade 13	LG13	LG13	Saw wood	Saw wood
14		Grade 14	Grade 14	LG14	LG14	Saw wood	Saw wood
15		Grade 15	Grade 15	LG15	LG15	Saw wood	Saw wood
16		Grade 16	Grade 16	LG16	LG16	Saw wood	Saw wood
17		Grade 17	Grade 17	LG17	LG17	Saw wood	Saw wood
18		Grade 18	Grade 18	LG18	LG18	Saw wood	Saw wood
19		Grade 19	Grade 19	LG19	LG19	Saw wood	Saw wood
20		Grade 20	Grade 20	LG20	LG20	Saw wood	Saw wood
21		Grade 21	Grade 21	LG21	LG21	Saw wood	Saw wood
22		Grade 22	Grade 22	LG22	LG22	Saw wood	Saw wood

Custom Info Choices



	Use	Field label	Data type	Min value	Max value	Default value	Decimals	View list	Default string	Max str len	Col width	0	1	2
1	☑	Length	Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
2	☑	Fungus	Character							3	6	☐	☐	☐
3	☑	Nut	Drop list					Edit list		3	6	☐	☐	☐
4	☑	Type	Drop down					Edit list		3	6	☐	☐	☐
5	☑	Lat/Lng	Lat/Lng								6	☐	☐	☐
6	☑	Water	Dialog			0.000					6	☐	☐	☐
7	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
8	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
9	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
10	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
11	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
12	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
13	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
14	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
15	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
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17	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
18	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐
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20	☐		Numeric	0.000	99.000	0.000	0				6	☐	☐	☐

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Silver

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Trimble
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Questions?
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615-972-6115