

ArcGIS Script Tool: Grid Fixed Area Plots

Used with Drone Orthophoto - 5 Year Survival Survey

Input Layers:

- 1) Stand Area

Tool Parameters:

- 1) Acres per plot – Will calculate grid size and plot density
- 2) Plot Size – The inverse of the plot size in acres – $1/30^{\text{th}}$ acre plot = 30

Grid Fixed Area Plots

Stand Area
Stand Area

Acres per Plot
3

Plot Size
30

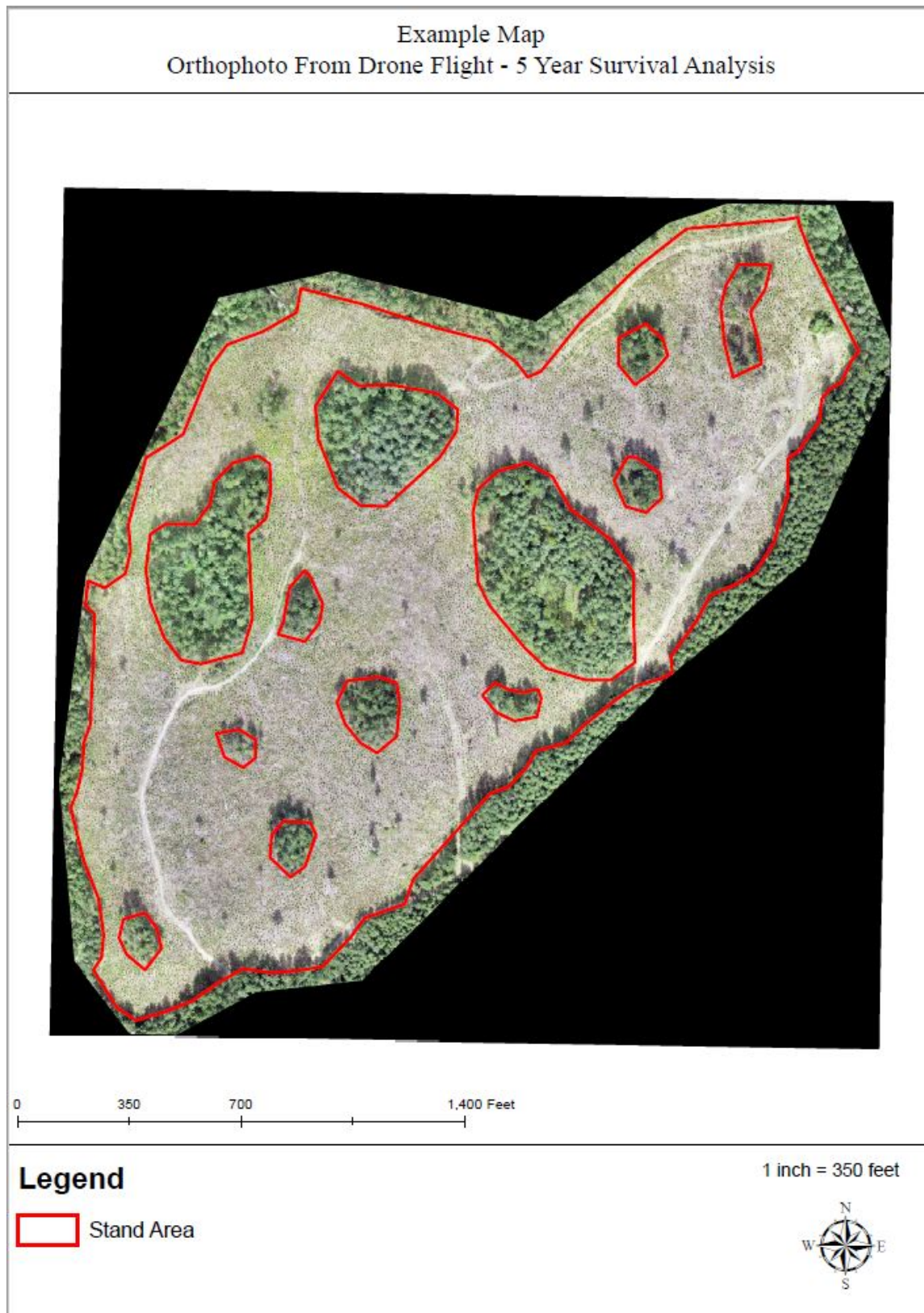
Output
K:\users\zbee490\examples\Plots.shp

Grid Fixed Area Plots

This tool will grid fixed area plots in the form of circular polygons with a radius that corresponds to the user-specified plot size. The plot density and spacing will correspond to the user-specified acres per plot.

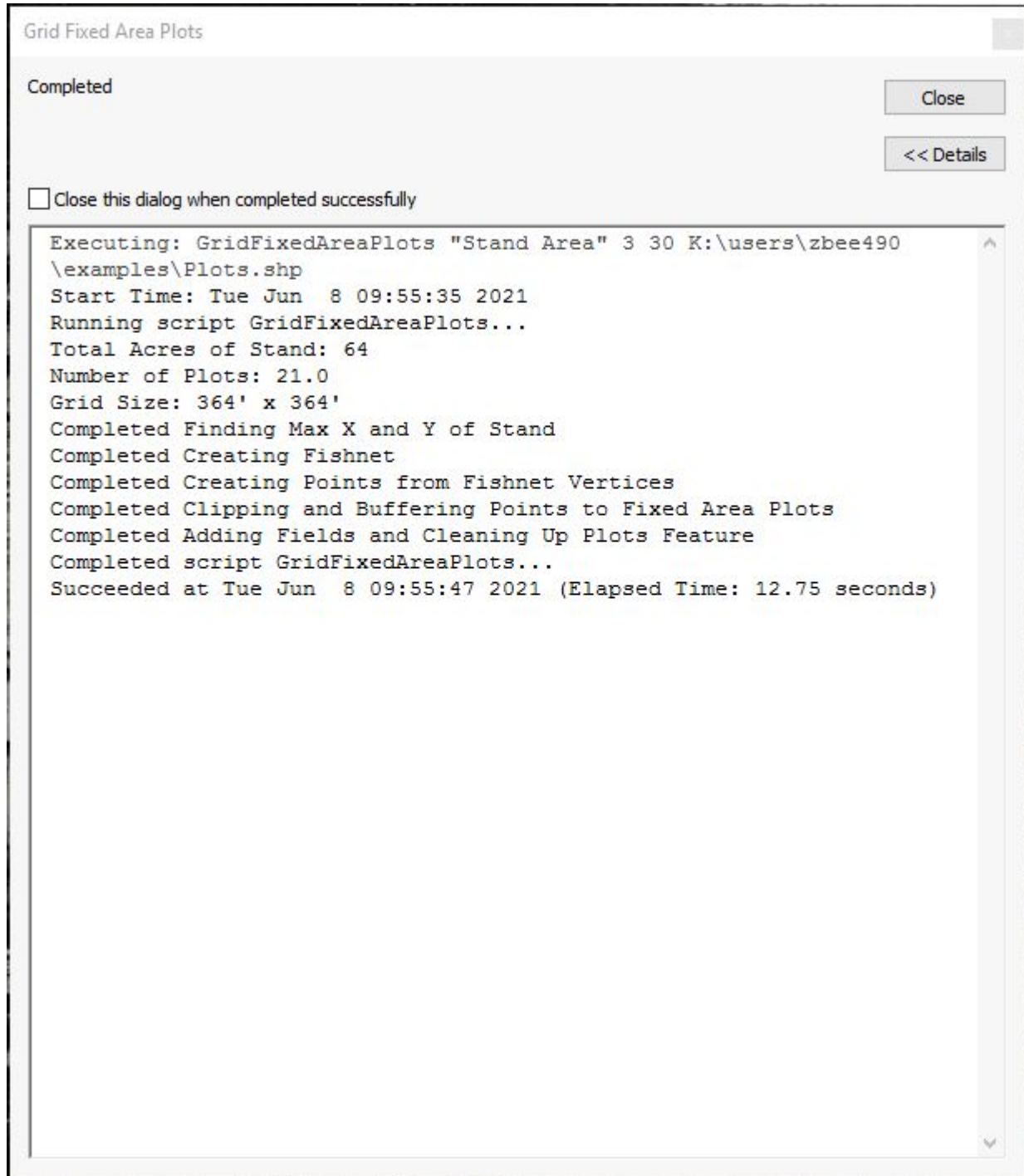
OK Cancel Environments... << Hide Help Tool Help

Input Layers Map Examples:

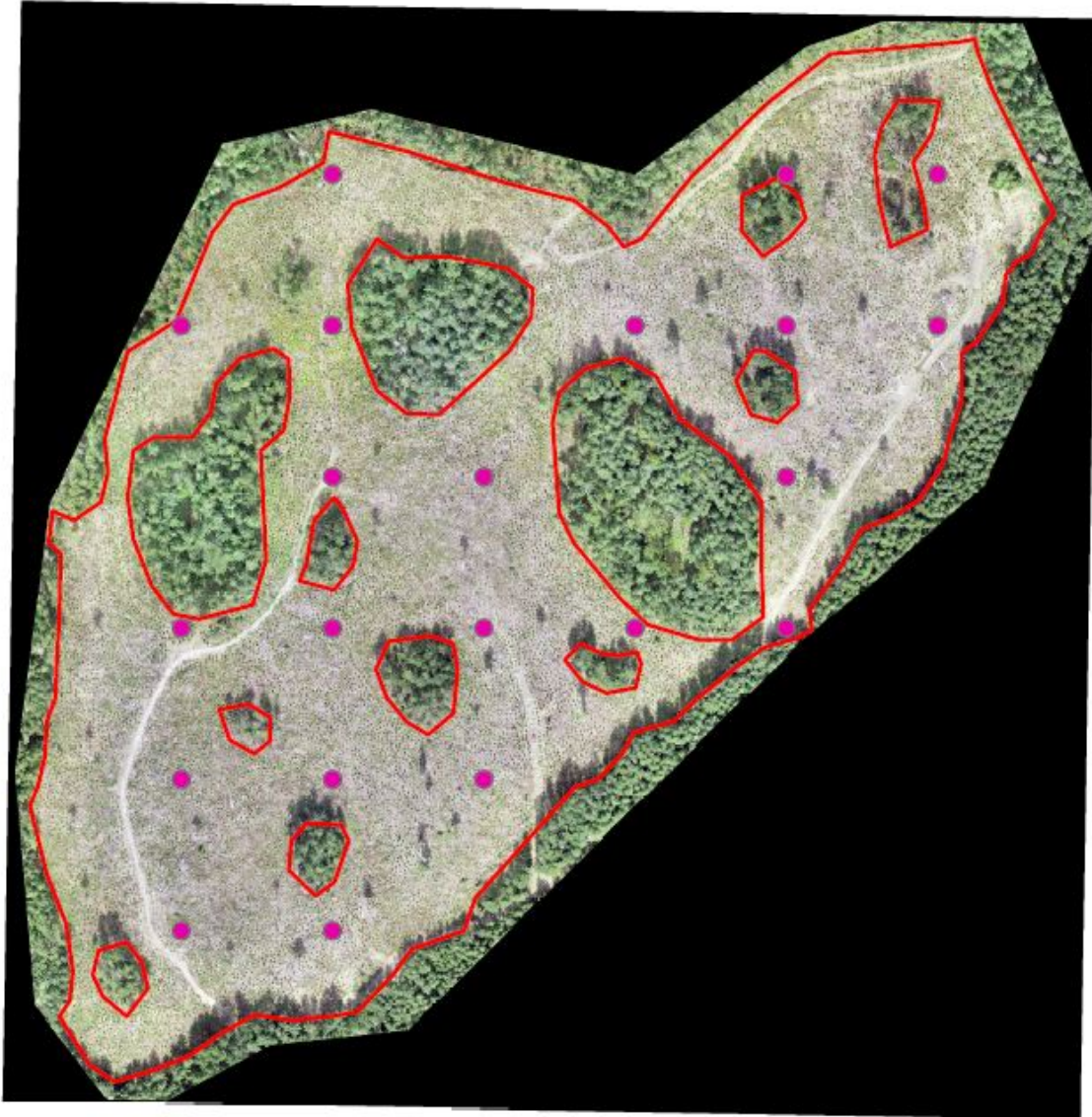


Output of Script Tool:

New polygon containing circular fixed area plots.



Example Map
Orthophoto From Drone Flight - Plots



0 350 700 1,400 Feet

Legend

 Plots  Stand Area

1 inch = 350 feet



Orthophoto Survival Survey:

Zoom to individual Plot and count the trees within the plot.



Add tree count to corresponding attribute table field for the plots.

Table						
Plots						
FID	Shape *	PLOT	TREE_COUNT	PLOT_RAD	PLOT_ACRE	TREE_ACRE
0	Polygon	1	10	21.5	30	0
1	Polygon	2	10	21.5	30	0
2	Polygon	3	11	21.5	30	0
3	Polygon	4	13	21.5	30	0
4	Polygon	5	11	21.5	30	0
5	Polygon	6	11	21.5	30	0
6	Polygon	7	13	21.5	30	0
7	Polygon	8	9	21.5	30	0
8	Polygon	9	13	21.5	30	0
9	Polygon	10	5	21.5	30	0
10	Polygon	11	6	21.5	30	0
11	Polygon	12	15	21.5	30	0
12	Polygon	13	7	21.5	30	0
13	Polygon	14	9	21.5	30	0
14	Polygon	15	14	21.5	30	0
15	Polygon	16	10	21.5	30	0
16	Polygon	17	6	21.5	30	0
17	Polygon	18	13	21.5	30	0
18	Polygon	19	11	21.5	30	0
19	Polygon	20	8	21.5	30	0
20	Polygon	21	13	21.5	30	0

Plots

Use Field Calculator to determine trees per acre per plot by multiplying TREE_COUNT with PLOT_ACRE.

Table

Plots

FID	Shape *	PLOT	TREE_COUNT	PLOT_RAD	PLOT_ACRE	TREE_ACRE
0	Polygon	1	10	21.5	30	0
1	Polygon	2	10	21.5	30	0
2	Polygon	3	11	21.5	30	0
3	Polygon	4	13	21.5	30	0
4	Polygon	5	11	21.5	30	0
5	Polygon	6	11	21.5	30	0
6	Polygon	7	13	21.5	30	0
7	Polygon	8	9	21.5	30	0
8	Polygon	9	13	21.5	30	0
9	Polygon	10	5	21.5	30	0
10	Polygon	11	6	21.5	30	0
11	Polygon	12	15	21.5	30	0
12	Polygon	13	7	21.5	30	0
13	Polygon	14	9	21.5	30	0
14	Polygon	15	14	21.5	30	0
15	Polygon	16	10	21.5	30	0
16	Polygon	17	6	21.5	30	0
17	Polygon	18	13	21.5	30	0
18	Polygon	19	11	21.5	30	0
19	Polygon	20	8	21.5	30	0
20	Polygon	21	13	21.5	30	0

0 (0 out of 21 Selected)

Field Calculator

Parser: ☒ VB Script ☐ Python

Fields: FID, Shape, PLOT, TREE_COUNT, PLOT_RAD, PLOT_ACRE, TREE_ACRE

Type: ☒ Number ☐ String ☐ Date

Functions: Abs(), Atn(), Cos(), Exp(), Fix(), Int(), Log(), Sin(), Sqr(), Tan()

Show Codeblock: ☐

TREE_ACRE = [TREE_COUNT] * [PLOT_ACRE]

Clear Load... Save... OK Cancel

Use Statistics to get the average trees per acre.

Statistics of Plots

Field: TREE_ACRE

Statistics:

Count: 21
Minimum: 150
Maximum: 450
Sum: 6540
Mean: 311.428571
Standard Deviation: 82.536325
Nulls: 0

Frequency Distribution

Table

Plots

FID	Shape *	PLOT	TREE_COUNT	PLOT_RAD	PLOT_ACRE	TREE_ACRE
0	Polygon	1	10	21.5	30	300
1	Polygon	2	10	21.5	30	300
2	Polygon	3	11	21.5	30	330
3	Polygon	4	13	21.5	30	390
4	Polygon	5	11	21.5	30	330
5	Polygon	6	11	21.5	30	330
6	Polygon	7	13	21.5	30	390
7	Polygon	8	9	21.5	30	270
8	Polygon	9	13	21.5	30	390
9	Polygon	10	5	21.5	30	150
10	Polygon	11	6	21.5	30	180
11	Polygon	12	15	21.5	30	450
12	Polygon	13	7	21.5	30	210
13	Polygon	14	9	21.5	30	270
14	Polygon	15	14	21.5	30	420
15	Polygon	16	10	21.5	30	300
16	Polygon	17	6	21.5	30	180
17	Polygon	18	13	21.5	30	390
18	Polygon	19	11	21.5	30	330
19	Polygon	20	8	21.5	30	240
20	Polygon	21	13	21.5	30	390

0 (0 out of 21 Selected)