

GFFP"Partner Mark" Operational Brief City Well-Field February 2007

<u>Background:</u> GFFP has developed a stand prescription to restore natural ecosystem structure, function, and composition while reducing forest fuel levels, emphasizing the following objective:

"... a clumpy/groupy/openings forest structure with horizontal & vertical heterogeneity/variety ..." (GFFP Sept 06)

This paper documents FFD's effort to implement this prescription on the city-owned 80-acre well-field parcel located approximately one-mile south of the Arboretum. See attached map.

Stand History: The entire area was "thinned from below" approximately 15 years ago, followed by a broadcast burn over the entire site (two entries – 2005 and 2006). Objectives of these previous activities included:

- 1. Reduce ladder fuels to increase crown base height, thereby reducing potential damage or loss during a wildfire.
- 2. Increase tree health, growth, and vigor to encourage natural progression toward a sustainable forest ecosystem.
- 3. Retain downed woody material where appropriate and all large snags.
- 4. Maintain and enhance oaks.
- 5. Reintroduce and maintain a low intensity prescribed fire regime.

<u>Current Status:</u> A stand cruise in the fall of 2006 revealed no insect or disease issues, as well as the following:

Seedlings: General site inspection revealed a very-high seedling count from the spring 2006 cone crop. To determine #'s (higher than seen previously), seedlings were measured using 1/100 acre fixed-radius plots in one-of-two sites:

05 = 45 acre plot burned in Oct 05 06 = 35 acre plot burned Sept 06

Results showed the following break-out:

SITE	RANGE (#'s/A)	AVERAGE (#/A)
05	4,900 – 15,300	9,500
06	0 – 5 600	800

Timber:

SIZE CLASS	#T/A	BA/A	VOLUME/A
Saplings	41	2.0	
5.0 – 8.9 "	19	5.0	.4 cds
9.0 – 11.9 "	22	13.3	514 bd ft
12.0 – 15.9"	28	30.0	2,136 bd ft
16.0 – 19.9"	17	30.0	3,229 bd ft
20.0 – 23.9"	4	10.0	1,506 bd ft
24.0+ "	4	13.3	2,355 bd ft
TOTAL	135	105.1	9,739 bd ft <u>or </u> 20 cds

Planned Operations – 2007:

Objectives:

- 1. Reduce canopy cover by approximately 60%, primarily as tree groups.
- Create a tree group forest structure (approximately 40% of unit/stand/area), some
 with interlocking crowns and multi-story structure, interspersed with openings and
 interspaces that more closely resembles conditions which existed prior to
 interruption of the historic fire regime.

In addition, a longer-term objective is to permit establishment of natural regeneration in openings to facilitate long-term structural heterogeneity.

Guidelines:

- 1. <u>Openings</u> will comprise approximately 50% of the overall site, will vary in size from 5 acres, and vary in shape and configuration.
- 2. <u>Tree groups</u> will occupy approximately 50% of the overall area. Spacing between groups will vary between 50 to 200 feet.
- 3. Multiple <u>tree clumps</u> of 5-40+ trees of varying size will be scattered within each individual tree group, and will range from 1/10 1.5 acres in size. Stocking of each group will vary between 40 to 120 ft_ BA/A, and most will have interlocking crowns. Some light thinning within an identified clump is permitted to achieve overall objectives. Trees outside of an identified clump but within an identified group will largely be removed, but some individual "link" trees may retained in order meet objectives.
- 4. Irregular tree spacing and vertical diversity within-and-between the individual groups and clumps is desired.
- 5. Yellow pines (regardless of size), Gambel oak (regardless of size), and pines greater than 24 inches DBH will be retained.
- 6. Factors to consider for other trees to retain include:
 - Dominant and co-dominant blackjack pines with good tree form and vigor,
 - Any size class (≥ 1" DBH), so as to increase vertical diversity,
 - Those not in the most common size classes (≤ 5 "DBH and ≥ 18" DBH), and
 - Those of poor form (if no other choices exist) or special "character".
- 7. Historical evidence patterns will not receive special consideration for locating groups, clumps, or individual trees for two reasons:
 - a. Some evidences have been lost due to past disturbance, and

b. Current stand structure is fairly homogeneous: the goal is to reduce canopy coverage upwards of 60%, thereby mimicking, not replicating exactly, the historical disbursement pattern in the area.

Methodology & Schedule:

Completed:

- 1. Site visit to discuss and plan operation.
- 2. Tree groups were located and identified first: blue and white solid flagging then mapped with GPS
- 3. Individual trees making up a clump within that group that were to be retained were identified: yellow flagging. Clumps within one group were mapped using GPS for a visual perspective of the group/clump/individual tree components.
- 4. Individual "link" trees between the various clumps to be retained were identified: yellow flagging.

On-going:

5. A copy of this paper has been distributed to members of the GFFP Project Team, to be followed by a site visit to inspect the marking effort.

2007:

- 6. All leave trees will be marked with yellow paint, and all flagging (except exterior property boundary) removed.
- 7. Permanent photo points will be established.
- 8. Selective tree removal will occur, wood removed, and all debris piled for burning.

Winter 07-08:

9. Piled material will be burned.

3-7 Year Cycle thereafter . . .

10. Broadcast burn.

Set-Up Commitment:

Time:	Site visit (FFD)	=	6 hrs
	Clump, group, tree identification (flagging)	= 2	24 hrs
	Site visit (GFFP Project Team)	=	8 hrs
	Tree marking (paint)	=	8 hrs
	Photo Point establishment/recording	=	2 hrs
			48 hrs