



Adaptive Management

Fire Effects Monitoring across the Appalachians

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Barriers to getting fire on the ground

weak relationships between agencies

weather

resources

training

lack of information about fire effects



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SBR Workshop 3 2008





3-Tiered Approach

Protocol	Tier 1 - Attributes and Details	Tier 2 - Attributes and Details <i>all of Tier 1 plus . . .</i>	Timing			Notes
Photos	x number of repeatable photos	* add a visit: end of 1st growing season post-burn	Pre	Immed Post	Subsequent Visits*	consider including photo board for identification
Fuels	litter and duff depths count of 1000-hr fuels (woody $\geq 3''$ diameter at intersection) by diameter	count of 1-, 10- and 100-hr fuels	Pre	Immed Post	Subsequent Visits	we must all use same formulas for determining fuel loading
Trees	<i>tree</i> species only $\geq 2''$ DBH overstory vs. midstory defined by DBH density per acre DBH basal area (can calculate from density and DBH) live/dead	dead: snag condition live: damage	Pre		Subsequent Visits*	* DBH does not need to be remeasured for a year or two, post-burn
Seedlings <i>a.k.a.</i> Advanced Regeneration	<i>tree</i> species only <2'' DBH; or height below 4.5', any DBH density per acre count highest sprout per clump record # sprouts/clump	resprout vs. seedling record each sprout/height separately track clumps	Pre		Subsequent Visits	

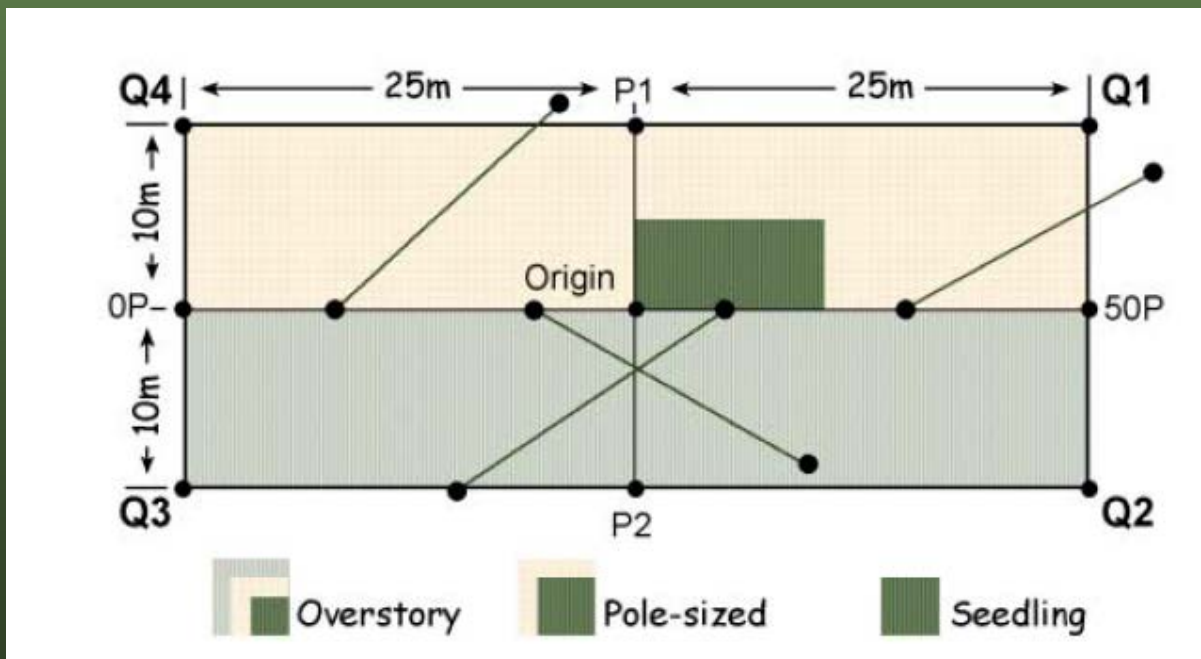


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NPS – 0.1 hectare





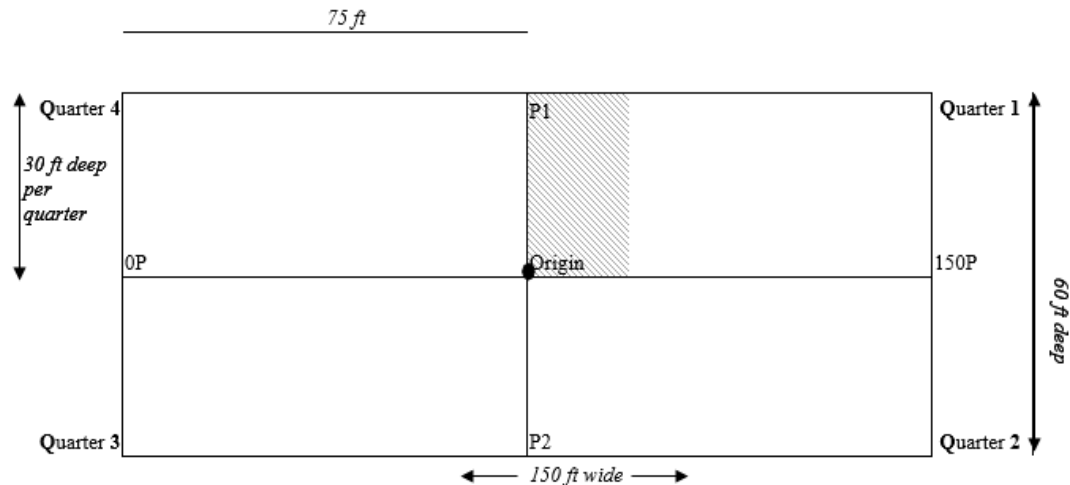
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USFS – 0.21 acre

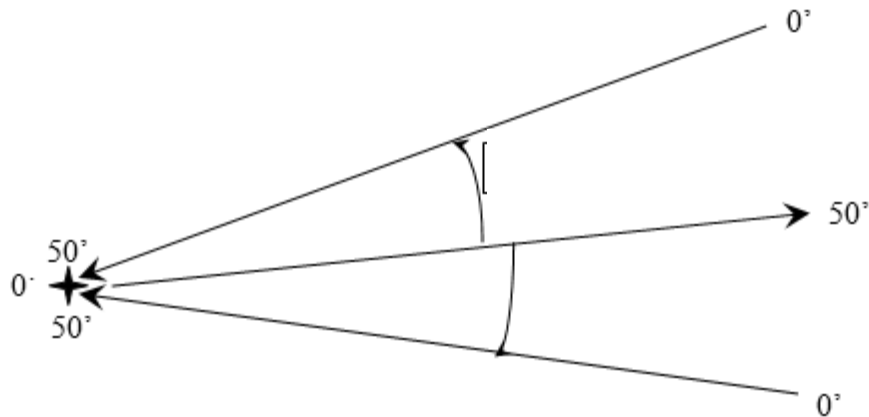
USFS Region 8 Fire Effects Monitoring Plot

- Photos • from Origin, toward OP, P1, 150P, and P2
- Fuels and Severity • 3 transects beginning at Q4, P1 and Q1, randomly determined azimuths
- Overstory Trees • ($\geq 6''$ DBH) all 4 Quarters
- Midstory Trees • (2 to $< 6''$ DBH) Quarter 1
- Understory • 5 Frames each along Q4-Q1 and Q3-Q2 (at 1, 30, 60, 90 and 120' along the lines)
- Optional Seedlings • ($< 2''$ DBH) in Quarter 1, 15 x 30' area (shaded)
- Optional Shrub Cover • each of the 4 Quarters





Forest Stewards – 0.1 ac

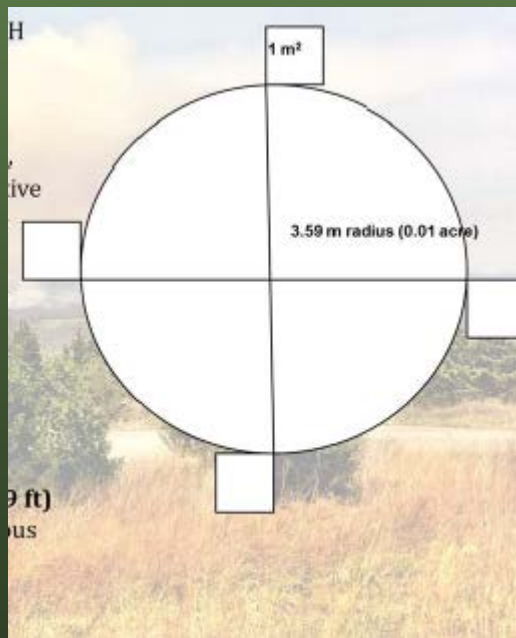




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GWJeff NF/TNC VA – 0.01 ac





2007 SBR FLN Landscape Assessment & Desired Change – **How far have we moved the needle?**

Vegetation type	% of Landscape	% in Undesired Condition	% in Desired condition	10 year Restoration Goal	20 year Goal
Pine-oak-heath	15	99	1	10	60-70
Shortleaf pine-oak	8	99	1	5-10	60-70
Dry-mesic oak hickory	8	>80	<20	30-50	85
High Elevation red oak	12	>70	<20-30	50-70	95



Table of Vegetation/Fuels Indicators 2009

Target Community	Key Attribute	Indicator	Criteria for Rating		
			Poor	Fair	Good
Dry-Mesic Oak-Hickory	Density of Dominant/Codom. Trees	Total BA (sq ft/ac) of All Trees ($\geq 10"$ dbh)	< 40 or ≥ 120	40-59 or 90-119	60-89
	Desirable Overstory Species	BA of Oak-Hickory ($\geq 10"$ dbh) as % of Total BA ($\geq 10"$ dbh)	$< 50\%$	50-69%	$\geq 70\%$
	Amount of Non-Oak Midstory	Total BA of Midstory (<u>2-9"</u> dbh)	Blanton to check Bent Creek conclusions		
	Amount of Evergreen Shrubs	Percent Cover	50-100%	20-49%	$< 20\%$
	Non-Oak/Hickory Sprouts/Saplings	Percent Change in #Stems $< 2"$ dbh and > 3 ft in Ht	Increase in # after Full Growing Season	After > 1 Year, 50-100% of Pretreatment	After > 1 Year, $< 50\%$ of Pretreatment
	Oak/Hickory Sprouts/Seedlings	# Stems ($< 2"$ dbh and 3' in Height)			
	Oak/Hickory Sprouts/Saplings	average # Stems $< 2"$ dbh and > 3 ft in Height	< 200 /ac?	200-399/ac?	≥ 400 /ac? (0-1000 per plot)



Some current goals & objectives

Restore oak forests and woodlands

Increase regeneration of yellow pine and oak species

Improve habitat – increase open canopy and early successional habitat

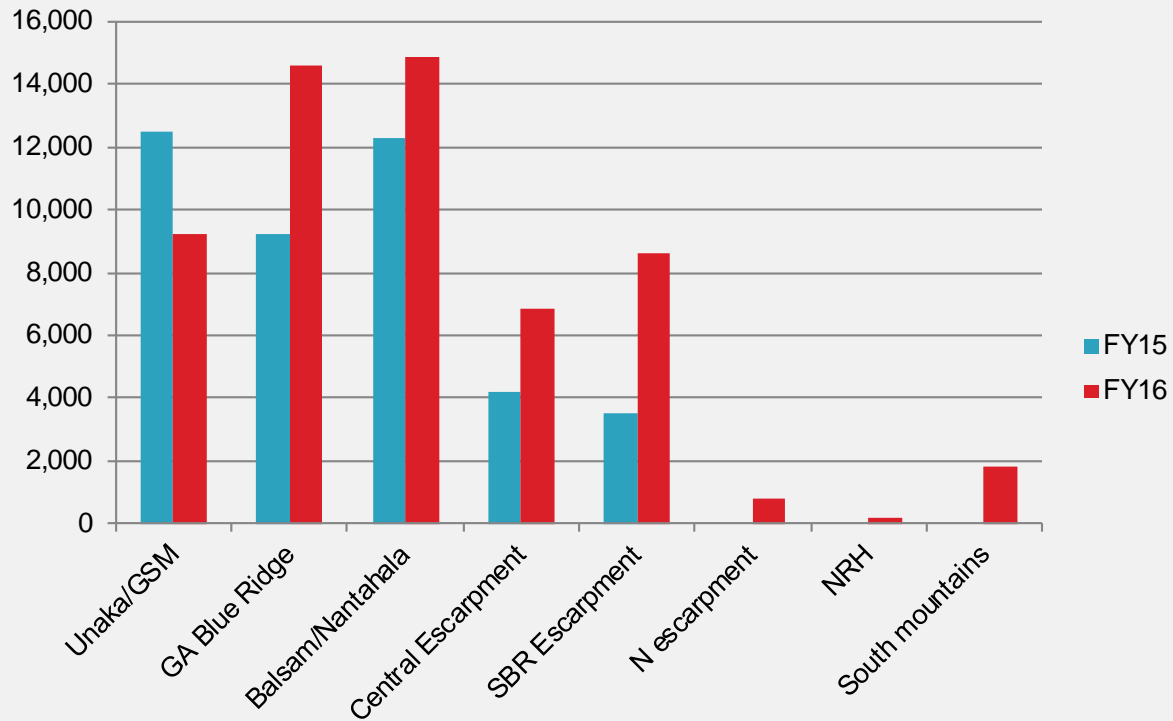
Reduce fuels



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SBR FLN Burn Acres By Landscape

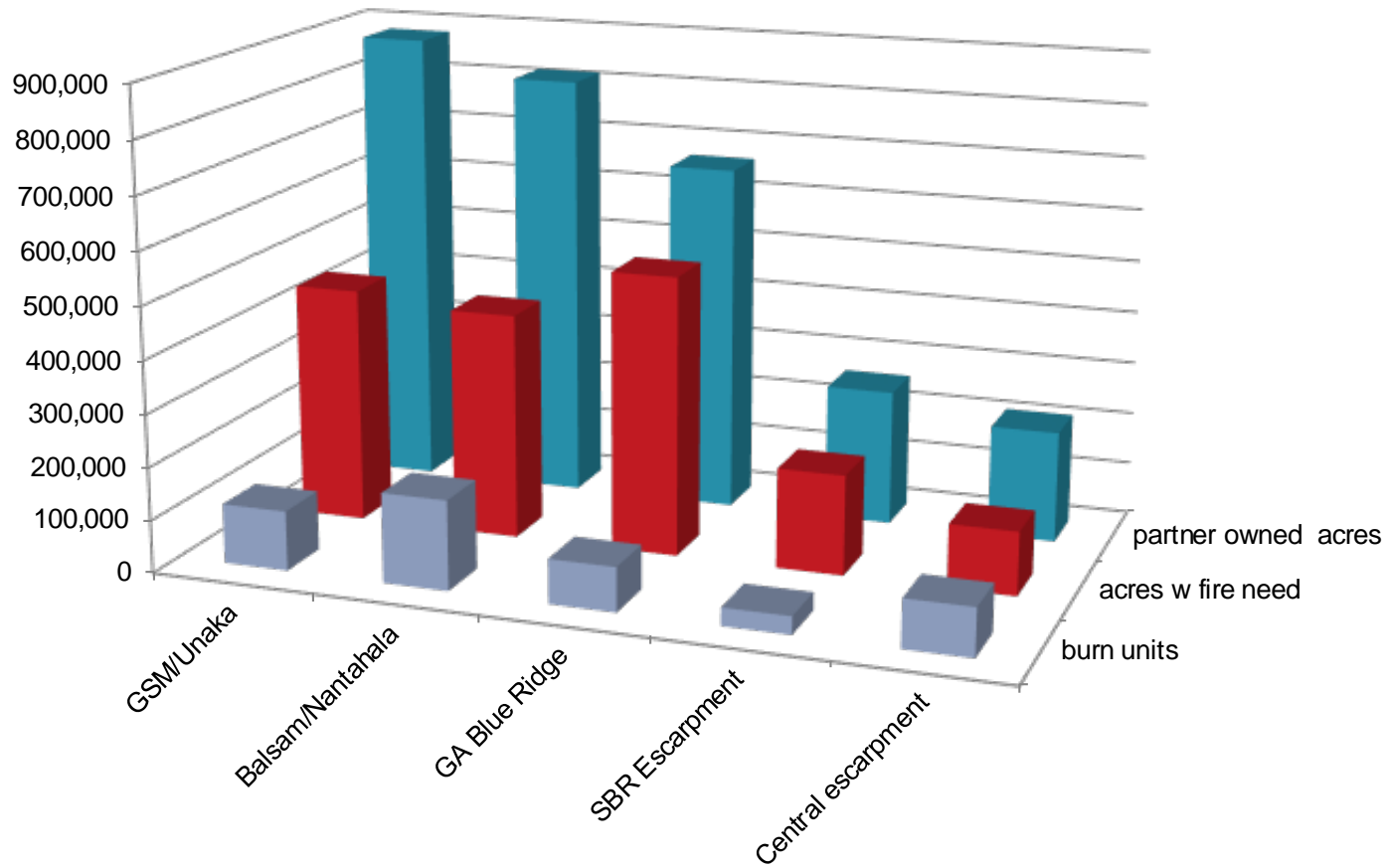




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SBR FLN Landscape Ownership, Fire Potential & Current Plans





Today's Panel

- What are some of our results?
- What has worked or not worked with our process?
- Are our monitoring plots representative of the landscape as a whole?
- Does our monitoring indicate that we are moving in the right direction?
- What are our next steps?