

PENNSYLVANIA PRESCRIBED FIRE COMPLEXITY RATING WORKSHEET

Site:	Unit:	Agency:	Date:
Complexity Score (circle)			
<i>Low (44-80 pts)</i>	<i>Moderate (81-150 pts)</i>	<i>High (151-220 pts)</i>	

Weighting Factor x Complexity Value = Total points. Sum of Total points = Complexity Score. Assign each complexity value as a 1, 2, 3, 4, or 5.

Complexity Element	Weighting Factor	Complexity Value (1-5)	Total Points	Rationale and/or Mitigation Procedures (Use for clarification of rationale and/or Complexity Value.)
1. Safety	5			
2. Difficulty of Containment	5			
3. Fuels and Fire Behavior	5			
4. Wildland / Urban Interface	5			
5. Objectives	4			
Sub Total (Page 1)				

Complexity Element	Weighting Factor	Complexity Value (1-5)	Total Points	Rationale and/or Mitigation Procedures
6. Management Organization	4			
7. Contingency Planning and Resources	4			
8. Natural, Cultural, Social Values	3			
9. Air Quality Values	3			
10. Logistics	3			
11. Tactical Operations	2			
12. Cooperator Coordination	1			
Sub Total	Page 2		Additional Comments:	
	Page 1			
Complexity Score				Rated by:

Complexity Element	Complexity Value Evaluation Examples (Not all items necessarily need to be present)		
	1	3	5
1. Safety Weighting Factor - 5	<ul style="list-style-type: none"> All safety issues have been identified and mitigated. 	<ul style="list-style-type: none"> A number of significant issues have been identified and some of them are difficult to address through mitigation. 	<ul style="list-style-type: none"> Complex safety issues exist.
2. Difficulty of Containment Weighting Factor - 5	<ul style="list-style-type: none"> Low threat of escape past unit boundaries. Probability of Ignition < 50%. Boundaries naturally defensible or firebreaks easily installed and defended. Secondary control lines strong and easily accessed by vehicles and/or crew. 	<ul style="list-style-type: none"> Moderate threat of escape from unit boundaries. 50 < Probability of Ignition < 70% Moderate risk of slopover or spot fires. Fuel type produces numerous firebrands. Secondary control lines difficult to access or not secure. 	<ul style="list-style-type: none"> High threat of escape from unit boundaries. Probability of Ignition > 70%. High risk of slopover or spot fires. Secondary control lines non-existent or inadequate without significant resource commitment.
3. Fuels and Fire Behavior Weighting Factor - 5	<ul style="list-style-type: none"> Low variability in slope & aspect. Weather uniform and predictable. Surface fuels (grass and/or needles) only. No drought present or predicted within burn period. Duff or organic soils will not ignite. 	<ul style="list-style-type: none"> Moderate variability in slope & aspect. Weather variable but predictable. Ladder fuels present and torching expected. Fuel types/loads variable. Dense, tall shrub or mid-seral forest communities. Drought index indicates normal to moderate drought conditions; present expected within burn period. Upper level of duff or organic soil will burn. 	<ul style="list-style-type: none"> High variability in slope & aspect. Weather variable and difficult to predict. Extreme fire behavior and/or stand replacement fire. Fuel types/loads highly variable. Altered fire regime, hazardous fuel /stand density conditions. Drought index indicates severe drought conditions; present or expected within burn period. Significant portions duff or organic soils will burn.
4. Wildland / Urban Interface Weighting Factor - 5	<ul style="list-style-type: none"> No risk to people or property within or adjacent to fire, or values to be protected are easily mitigated. Potential damage from escape low. 	<ul style="list-style-type: none"> Several values to be protected. Mitigation through planning and/or preparations is complex. May require some commitment of specialized resources. Potential damage from escape moderate. 	<ul style="list-style-type: none"> Numerous values and/or high values to be protected. Severe damage likely without significant commitment of specialized resources with appropriate skill levels. Potential damage from escape high.

Complexity Element	Complexity Value Evaluation Examples		
	1	3	5
5. Objectives Weighting Factor - 4	<ul style="list-style-type: none"> • Prescriptions broad. • Easily achieved objectives. 	<ul style="list-style-type: none"> • Reduction of both live and dead fuels. • Moderate to substantial changes in two or more strata of vegetation. • Objectives judged to be moderately hard to achieve. • Objectives may require moderately intense fire behavior. 	<ul style="list-style-type: none"> • Precise treatment of fuels and multiple ecological objectives. • Major change in the structure of 2 or more vegetative strata. • Conflicts between objectives and constraints. • Requires a high intensity fire or a combination of fire intensities that are difficult to achieve.
6. Management Organization Weighting Factor - 4	<ul style="list-style-type: none"> • Span of control held to 2 - 3. • 6 - 12 person crew and 1 - 2 engines. 	<ul style="list-style-type: none"> • Span of control held to 4 - 5. • Multiple resources required (engines, dozers, terra torch, etc.). • 8 - 20 person crew and 1 - 3 engines. 	<ul style="list-style-type: none"> • Span of control greater than 5 - 7. • Multiple branch, divisions or groups. • Specialized resources needed to accomplish objectives. • Organized management team required (Fire Use or Incident Management).
7. Contingency Planning and Resources Weighting Factor - 4	<ul style="list-style-type: none"> • Adequate contingency resources on site. 	<ul style="list-style-type: none"> • Contingency resources limited or have more than a 15 - 30 minutes response time. 	<ul style="list-style-type: none"> • Contingency resources limited or have more than a 30+ minutes response time.
8. Natural, Cultural, and Social Values Weighting Factor - 3	<ul style="list-style-type: none"> • No risk to natural, cultural, and/or social resources within or adjacent to fire, or mitigation through planning and preparations is adequate. 	<ul style="list-style-type: none"> • Several values to be protected. • Mitigation through planning and/or preparations is complex. • May require some commitment of specialized resources. 	<ul style="list-style-type: none"> • Numerous values and/or high values to be protected. • Severe damage likely without significant commitment of specialized resources with appropriate skill levels.
9. Air Quality Values Weighting Factor - 3	<ul style="list-style-type: none"> • Few smoke sensitive areas near fire. • Smoke produced for 1 or fewer burning periods. • Air quality agencies generally require only initial notification and/or permitting. • No potential for scheduling conflicts with cooperators. 	<ul style="list-style-type: none"> • Multiple smoke sensitive areas, but smoke impact mitigated in plan. • Smoke produced for 2-3 burning periods. • Infrequent consultation with air quality agencies is needed. • Low potential for scheduling conflicts with cooperators. 	<ul style="list-style-type: none"> • Multiple smoke sensitive areas with complex mitigation actions required. • Health or visibility complaints likely. • Smoke produced for greater than 3 burning periods. • Smoke sensitive Class I air-sheds. • Frequent consultation with air quality agencies is needed. • High potential for scheduling conflicts with cooperators.

Complexity Element	Complexity Value Evaluation Examples		
	1	3	5
10. Logistics Weighting Factor - 3	<ul style="list-style-type: none"> • Easy access. • Duration of fire is 1 day (holding or monitoring). 	<ul style="list-style-type: none"> • Difficult access. • Duration of fire support between 2 and 3 days. • Logistical position assigned. • Anticipated difficulty in obtaining resources. 	<ul style="list-style-type: none"> • No vehicle access. • Duration of support is greater than 3 days. • Multiple logistical positions assigned. • High difficulty in obtaining resources.
11. Tactical Operations Weighting Factor - 2	<ul style="list-style-type: none"> • Simple ignition patterns with only one igniter inside the unit. • Ignition complete within one burning period. • Single ignition method used. • Resources required for 1 day. • Holding requirements minimal. 	<ul style="list-style-type: none"> • Multiple firing methods and/or sequences with two igniters inside the unit at once. • Use of specialized ignition methods (i.e. terra-torch or Premo-Mark III). • Ignition continues for two burning periods. • Resources required for 2 to 3 days. • Holding actions to direct or delay fire spread. 	<ul style="list-style-type: none"> • Complex firing patterns highly dependent upon local conditions. • Simultaneous use of multiple firing methods and/or sequences, greater than 2 igniters inside unit. • Simultaneous ground and aerial ignition. • Use of heli-torch. • Resources required for over 3 days. • Multiple mitigation actions at variable temporal and spatial points identified. • Aerial support for mitigation actions desirable or necessary.
12. Cooperator Coordination Weighting Factor - 1	<ul style="list-style-type: none"> • Cooperators not involved in operations. • No concerns. 	<ul style="list-style-type: none"> • Simple joint-jurisdiction fires. • Some competition for resources. • Some concerns. 	<ul style="list-style-type: none"> • Complex multi-jurisdictional fires. • High competition for resources. • High concerns.