MATRIX DEFINITIONS

Matrix 1: Firefighters by Fuel Models B, O, F, T, Normal Fire Year Fires, and Burn Index (BI)

Business Rule: Firefighter numbers for Fuel Models B, O, F, and T only.

Inputs: (X Axis) 90th Percentile Burn Index Num from Weather Station table. It must be loaded in that table from Weather Station data or interface, and accessed by the Weather Station ID for each Station.

(Y Axis) Ranges of NFY Number of Wildfires from Fire Occurrence data for a Station.

✱ Formula for Calculation: found in **Matrix 33**.

Values: Number of Firefighters (Increases are in multiples of 3, since a fire crew is composed of minimum of 3 people)

Output: Firefighter Count value is used as Y axis for **Matrix 10**.

Calculation: Normal Fire Year (NFY) = third worst fire occurrence year for total number of wildfire starts on the last 10 years of available data.

NFY NUMBER WILDFIRES	BURN INDEX			
	0-40	41-80	81-110	111+
1-2	0	0	0	0
3-5	0	0	3	6
6-10	3	3	6	6
11-15	6	6	6	6
16-20	6	6	9	9
21-25	6	9	9	9
26-30	9	9	9	9
31-40	9	12	12	12
41-50	12	12	12	12
51-60	12	12	15	15
61+	12	15	15	15

Matrix 2: Firefighters by Fuel Models A, C, Normal Fire Year Fires, and Burn Index (BI)

Business Rule: Firefighter numbers for Fuel Models A and C only.

Inputs: (X Axis) 90th Percentile Burn Index Num from Weather Station table. It must be loaded in that table from Weather Station data or interface, and accessed by the Weather Station ID for each Station.

(Y Axis) Ranges of NFY Number of Wildfires from Fire Occurrence data for a Station.

✱ Formula for Calculation: found in **Matrix 33**.

Values: Number of Firefighters (Increases are in multiples of 3, since a fire crew is composed of minimum of 3 people)

Output: Firefighter Count value is used as Y axis for **Matrix 10**.

Calculation: Normal Fire Year (NFY) = third worst fire occurrence year for total number of wildfire starts on the last 10 years of available data.

NFY Number Wildfires	Burn Index			
	0-40	41-80	81-110	111+
1-5	0	0	0	0
6-10	0	6	6	6
11-20	6	6	6	6
21-30	6	6	6	9
31-40	6	6	6	9
41-50	6	9	9	9
51-60	9	9	9	12
61+	9	9	12	12

Matrix 3: Firefighters by Fuel Model G, Normal Fire Year Fires, and Burn Index (BI)

Business Rule: Firefighter numbers for Fuel Model G only.

Inputs: (X Axis) 90th Percentile Burn Index Num from Weather Station table. It must be loaded in that table from Weather Station data or interface, and accessed by the Weather Station ID for each Station.

(Y Axis) Ranges of NFY Number of Wildfires from Fire Occurrence data for a Station.

✱ Formula for Calculation: found in **Matrix 33**.

Values: Number of Firefighters (Increases are in multiples of 3, since a fire crew is composed of minimum of 3 people)

Output: Firefighter Count value is used as Y axis for **Matrix 10**.

Calculation: Normal Fire Year (NFY) = third worst fire occurrence year for total number of wildfire starts on the last 10 years of available data.

NFY Number Wildfires	Burn Index			
	0-40	41-80	81-110	111+
1-2	0	0	0	0
3-5	3	3	6	6
6-10	6	6	6	6
11-20	6	6	6	6
21-30	6	9	9	9
31-40	9	9	9	12
41-50	12	12	12	12
51-60	12	15	15	15
61+	15	15	18	18

Matrix 4: Firefighters by Fuel Model H, P, U, Normal Fire Year Fires, and Burn Index (BI)

Business Rule: Firefighter numbers for Fuel Models H, P, and U only.

Inputs: (X Axis) 90th Percentile Burn Index Num from Weather Station table. It must be loaded in that table from Weather Station data or interface, and accessed by the Weather Station ID for each Station.

(Y Axis) Ranges of NFY Number of Wildfires from Fire Occurrence data for a Station.

✱ Formula for Calculation: found in **Matrix 33**.

Values: Number of Firefighters (Increases are in multiples of 3, since a fire crew is composed of minimum of 3 people)

Output: Firefighter Count value is used as Y axis for **Matrix 10**.

Calculation: Normal Fire Year (NFY) = third worst fire occurrence year for total number of wildfire starts on the last 10 years of available data.

NFY Number Wildfires	Burn Index			
	0-40	41-80	81-110	111+
1-2	0	0	0	0
3-5	0	0	0	3
6-10	0	3	3	6
11-20	6	6	6	6
21-30	6	6	9	9
31-40	6	9	9	9
41-50	12	12	12	12
51-60	12	12	15	15
61+	15	15	15	18

Matrix 5: Firefighters by Fuel Models K, J, I, Normal Fire Year Fires, and Burn Index (BI)

Business Rule: Firefighter numbers for Fuel Models K, J, and I only.

Inputs: (X Axis) 90th Percentile Burn Index Num from Weather Station table. It must be loaded in that table from Weather Station data or interface, and accessed by the Weather Station ID for each Station.

(Y Axis) Ranges of NFY Number of Wildfires from Fire Occurrence data for a Station.

✱ Formula for Calculation: found in **Matrix 33**.

Values: Number of Firefighters (Increases are in multiples of 3, since a fire crew is composed of minimum of 3 people)

Output: Firefighter Count value is used as Y axis for **Matrix 10**.

Calculation: Normal Fire Year (NFY) = third worst fire occurrence year for total number of wildfire starts on the last 10 years of available data.

NFY Number Wildfires	Burn Index			
	0-40	41-80	81-110	111+
1-2	0	0	0	0
3-5	0	0	3	3
6-10	3	6	6	6
11-15	6	6	6	9
16-20	6	6	9	9
21-25	6	9	9	9
26-30	9	9	9	12
31-40	9	9	12	12
41-50	9	12	12	12
51-60	12	12	12	15
61+	15	15	15	15

Matrix 6 Firefighters by Fuel Models L, S, N, Normal Fire Year Fires, and Burn Index (BI)

Business Rule: Firefighter numbers for Fuel Models L,S, and N only.

Inputs: (X Axis) 90th Percentile Burn Index Num from Weather Station table. It must be loaded in that table from Weather Station data or interface, and accessed by the Weather Station ID for each Station.
(Y Axis) Ranges of NFY Number of Wildfires from Fire Occurrence data for a Station.
Formula for Calculation: found in **Matrix 33**.

Values: Number of Firefighters (Increases are in multiples of 3, since a fire crew is composed of minimum of 3 people)

Output: Firefighter Count value is used as Y axis for **Matrix 10**.

Calculation: Normal Fire Year (NFY) = third worst fire occurrence year for total number of wildfire starts on the last 10 years of available data.

NFY Number Wildfires	Burn Index			
	0-40	41-80	81-110	111+
1-5	0	0	0	0
6-10	0	6	6	6
11-20	6	6	6	6
21-30	6	6	6	6
31-40	6	6	6	9
41-50	6	9	9	9
51-60	9	9	12	12
61+	12	12	12	12

Matrix 7: Firefighters by Fuel Model Q, Normal Fire Year Fires, and Burn Index (BI)

Business Rule: Firefighter numbers for Fuel Model Q only.

Inputs: (X Axis) 90th Percentile Burn Index Num from Weather Station table. It must be loaded in that table from Weather Station data or interface, and accessed by the Weather Station ID for each Station.
(Y Axis) Ranges of NFY Number of Wildfires from Fire Occurrence data for a Station.
Formula for Calculation: found in **Matrix 33**.

Values: Number of Firefighters (Increases are in multiples of 3, since a fire crew is composed of minimum of 3 people)

Output: Firefighter Count value is used as Y axis for **Matrix 10**.

Calculation: Normal Fire Year (NFY) = third worst fire occurrence year for total number of wildfire starts on the last 10 years of available data.

NFY Number Wildfires	Burn Index			
	0-40	41-80	81-110	111+
1-2	0	0	0	0
3-5	0	0	3	3
6-10	3	3	6	6
11-15	3	6	6	9
16-20	6	6	9	9
21-25	6	6	9	9
26-30	6	9	9	12
31-40	9	9	12	12
41-50	9	12	12	12
51-60	12	12	12	15
61+	12	12	15	15

Matrix 8: Firefighters by Fuel Model D, Normal Fire Year Fires, and Burn Index (BI)

Business Rule: Firefighter numbers for Fuel Model D only.

Inputs: (X Axis) 90th Percentile Burn Index Num from Weather Station table. It must be loaded in that table from Weather Station data or interface, and accessed by the Weather Station ID for each Station.
(Y Axis) Ranges of NFY Number of Wildfires from Fire Occurrence data for a Station.
Formula for Calculation: found in **Matrix 33**.

Values: Number of Firefighters (Increases are in multiples of 3, since a fire crew is composed of minimum of 3 people)

Output: Firefighter Count value is used as Y axis for **Matrix 10**.

Calculation: Normal Fire Year (NFY) = third worst fire occurrence year for total number of wildfire starts on the last 10 years of available data.

NFY Number Wildfires	Burn Index			
	0-40	41-80	81-110	111+
1-2	0	0	0	0
3-5	0	0	3	3
6-10	3	3	6	6
11-15	3	6	6	6
16-20	6	6	6	6
21-25	6	6	9	9
26-30	6	6	9	9
31-40	6	9	9	9
41-50	9	9	9	12
51-60	9	9	12	12
61+	9	12	12	12

Matrix 9: Firefighters by Fuel Models E, R, Normal Fire Year Fires, and Burn Index (BI)

Business Rule: Firefighter numbers for Fuel Models E and R only.

Inputs: (X Axis) 90th Percentile Burn Index Num from Weather Station table. It must be loaded in that table from Weather Station data or interface, and accessed by the Weather Station ID for each Station.
(Y Axis) Ranges of NFY Number of Wildfires from Fire Occurrence data for a Station.
Formula for Calculation: found in **Matrix 33**.

Values: Number of Firefighters (Increases are in multiples of 3, since a fire crew is composed of minimum of 3 people)

Output: Firefighter Count value is used as Y axis for **Matrix 10**.

Calculation: Normal Fire Year (NFY) = third worst fire occurrence year for total number of wildfire starts on the last 10 years of available data.

NFY Number Wildfires	Burn Index			
	0-40	41-80	81-110	111+
1-2	0	0	0	0
3-5	0	0	0	3
6-10	0	3	3	6
11-20	6	6	6	6
21-30	6	6	9	9
31-40	6	9	9	9
41-50	6	9	9	9
51-60	9	9	9	12
61+	9	12	12	12

Matrix 10: Firefighters by Number and GS Level

Business Rule: Firefighters are budgeted in groups of three and placed in three-person initial attack modules (crews) in a hierarchial management structure.
Base GS Level for FFTR is GS-4.

Inputs: (X Axis) GS Levels 4, 5, 6, 7 only.
(Y Axis) Firefighter Count from **Matrix 1, 2, 3, 4, 5, 6, 7, 8,** or **9**.

Values: Number of Firefighters at each GS Level

Output: Value used with **Matrix 32** to determine base pay.
Value used in **Matrix 31** (Maximum Cumulative Positions) and for total staff for a Station (BUDGET_STAFF).

Firefighter Count	GS Level				
	GS 03	GS 04	GS 05	GS 06	GS 07
1	0	1	0	0	0
2	0	2	0	0	0
3	0	2	0	1	0
4	0	3	0	1	0
5	0	4	0	1	0
6	0	4	0	1	1
7	0	5	0	1	1
8	0	6	0	1	1
9	0	5	2	1	1
10	1	5	2	1	1
11	2	5	2	1	1
12	2	6	2	1	1

Matrix 11 Prescribed Fire Staffing By Total RX Points

Business Rule: Measures of RX workload drive the career seasonal RX staffing levels.

Inputs: (X Axis) Position Code
(Y Axis) Total RX Points from **Matrices 13, 14, 15,** and **16**.

Values: Position count based on total RX points

Output: Value used in **Matrix17** for contributing to Regional Staffing Points.
Value used in **Matrices 31** (Maximum Cumulative Positions) and for total staff for a Station (BUDGET_STAFF).
Position count for PFS also used in **Matrix 12** to determine final GS Level.

Calculation: Sum RX points from **Matrices 13, 14, 15,** and **16**.

RX Points	Position				
	FMO	PFS	FPT	EEOP	FFTR
0-7	0	0	0	0	0
8-14	0	1	1	0	3
15-20	0	1	1	1	6
21+	0	1	1	1	9

Base GS Levels determined by **Analysis 35**.

Matrix 12 Permanent Staffing by Total Suppression and RX Points

Inputs: (X Axis) Positions
(Y Axis) Total of RX Points from **Matrices 13, 14, 15** and **16,** and Suppression (WF) Points from **Matrices 26, 29** and **30.**
Values: Position count based on total RX and suppression points.
Output: Value used in **Matrices 17** for contributing to Regional Staffing Points. Maximum positions subject to **Matrix 30**.
GS Level for PFS position from **Matrix 12** and WFS from **Matrix 27** affected by position count for FMO in ths Matrix.
Calculation: Sum RX Points from **13, 14, 15** and **16,** and Suppression (WF) Points from **Matrices 26, 29** and **30.**

WF + RX Points	Position			
	FMO	FPT	FEOP	FFTR
0-9	0	0	0	0
10-19	0	0	0	0
20-24	1	1	0	0
25+	1	1	0	0

Base GS Levels determined by **Matrix 35**.

Matrix 13: Prescribed Fire Staffing Points by Acres Proposed and Weighted Average Complexity

Business Rule: Proposed project acres and numbers have less weight than actual historical projects.
Inputs: (X Axis) Weighted Average Complexity of all projects in a Station.
(Y Axis) Total proposed prescribed fire acres from all projects in a Station.
Values: RX Staffing Points
Output: Value used in **Matrices 11** and **12**.
Calculation: Sum(Proj.Complexity x Proj. Acres) / Sum(Proj. Acres) = Weighted Average Complexity

Proposed RX Acres	Weighted Average Complexity Level		
	1-115	116-280	281-459
1-2500	0	0	1
2501-4000	0	1	2
4001-6000	1	1	2
6001-8000	1	1	2
8001-10000	1	2	2
10001-12000	1	2	2
12001-14000	2	2	2
14001+	2	2	3

Matrix 14: Prescribed Fire Staffing Points by Burns Proposed and Weighted Average Complexity

Inputs: (X Axis) Weighted Average Complexity of all projects in a Station.
(Y Axis) Total proposed prescribed fires from all projects in a Station.
Values: RX Staffing Points
Output: Value used in **Matrices 11** and **12**.
Calculation: Sum(Proj.Complexity x Proj. Acres) / Sum(Proj. Acres) = Weighted Average Complexity

Proposed RX Burns	Weighted Average Complexity Level		
	1-115	116-280	281-495
1-5	0	0	0
6-10	0	1	1
11-15	1	1	2
16-20	1	2	2
21-25	1	2	3
26-30	2	2	3
31-35	2	3	3
35+	3	3	3

Matrix 15: Prescribed Fire Staffing Points by Actual RX Acres and Weighted Average Complexity

Business Rule: Actual historical project acres and numbers have more weight than proposed projects.
Inputs: (X Axis) Historical Weighted Average Complexity for last three years of all projects in a Station.
(Y Axis) Total historical average of prescribed fire acres for last three years from all projects in a Station. (See **Matrix 33**).
Values: RX Staffing Points
Output: Used in **Matrices 11** and **12**.
Calculation: Sum(Proj.Complexity x Proj. Acres) / Sum(Proj. Acres) = Weighted Average Complexity

Actual RX Acres Burned	Weighted Average Complexity Level		
	1-115	116-280	281-459
1-500	2	2	3
501-1500	3	3	4
1501-3500	3	4	4
3501-5500	4	4	5
5501-10000	4	5	5
10001+	5	6	7

Matrix 16: Prescribed Fire Staffing Points by Actual Burns and Weighted Average Complexity

Inputs: (X Axis) Historical Weighted Average Complexity for last 3 years of all projects in a Station. (Y Axis) Total historical average of prescribed fires for last 3 years from all projects in a station. (See **Matrix 33**).

Values: RX Staffing Points

Output: Value used in **Matrices 11** and **12**.

Calculation: Sum(Proj.Complexity x Proj. Acres) / Sum(Proj. Acres) = Weighted Average Complexity

Actual RX Burns	Weighted Average Complexity Level		
	1-115	116-280	281-459
1-5	1	1	2
6-10	2	3	3
11-15	3	3	4
16-20	4	5	5
21-25	5	6	6
26-30	6	6	7
31+	6	7	8

Matrix 17: Regional Staffing Points by Number of FMO, PFS, or WFS in Stations

Inputs: (X Axis) Total number of FMO, PFS, and WFS staff from all the stations in a Region. From **Matrix 11** and **12** for each Station.

Values: Regional Staffing Points

Output: Value used in **Matrix 19**.

Calculation: Sum of the count for FMO, PFS, and WFS positions in all Stations in a Region.

Regional Staffing Points	Total Staff in Stations					
	1-2	3-6	7-10	11-16	17-22	23+
	1	2	3	4	5	6

Matrix 18 Regional RX Staffing by Number of Moderate or High Complexity Stations

Business Rule: If number of moderate and high complexity Stations is 4 or more, then Region gets 1 Regional PFS.

Inputs: Total number of Stations that qualify as a Complex Stations (with average Project Complexity that is moderate and high) in a Region. From **Matrix 34**.

Output Value used in **Matrix 31** (Maximum Cumulative Positions) and for total staff for a Region (BUDGET_STAFF).

Calculation: Sum of the count of all Complex Stations in a Region.

NOTE: Do not confuse the terminology of Complex Station (having moderate or high degree of average complexity in RX Projects) with Stations that are part of an Administrative Complex.

IF	THEN
If Number of Moderate or High Complexity Stations ≥ 4	**Region gets 1 Regional PFS**

Matrix 19: Regional Staffing by Regional Staffing Points

Business Rule: Minimal Regional staffing must be 1 RFMC and 1 FPT.

Inputs: (X Axis) Position Code
(Y Axis) Total Regional Staffing Points from **Matrices 17, 20** and **21**.

Values: Position count based on total Regional Staffing Points.

Output: Value used in **Matrix 31** (Maximum Cumulative Positions) and for total staff for a Region (BUDGET_STAFF).

Calculation: Sum of the Regional Staffing Points from **Matrices 17, 20** and **21**.

Regional Staffing Points	Region Position			
	RFMC	FPT	WFS	CLERK
0-9	1	1	0	0
10+	1	1	1	1

Matrix 20: Regional Staffing Points by Length of Wildfire Season and Number of Wildfires

Business Rule: The longer and more active the fire season in a Region, the more Regional Staffing Points are generated.

Inputs: (X Axis) Ranges of Fire Season Length from Fire Occurrence data for a Station.
(Y Axis) Ranges of NFY Number of Wildfires from Fire Occurrence data for a Station.
✱ Formula for Calculation: found in **Matrix 33**.

Values: Regional Staffing Points

Output: Value used in **Matrix 19**.

Calculations: Normal Fire Year (NFY) = third worst year for wildfire starts in the last 10 years.
Fire Season Length = days of fire season in NFY as determined by having three starts in a period (10 days) and having at least two consecutive periods of two or more starts to begin. Once begun, a fire season may not have a gap of more than three periods with at least two starts to continue.

NFY Number Wildfires	Fire Season Length		
	1-90	91-180	181+
1-10	1	1	2
11-20	2	3	3
21-30	3	3	4
31+	4	4	5

Matrix 21: Regional Staffing Points by Number of Moderate or High Complexity Stations

Business Rule: The more complex the RX programs in the Region, the more support is required in the Region.

Inputs: (X Axis) Count of Complex Stations (moderate or high complexity) from **Matrix 34**.

Values: Regional Staffing Points

Output: Value used in **Matrix 19**.

Calculation: Sum of Complex Stations in the Region.

NOTE: Do not confuse the terminology of Complex Station (having moderate or high degree of average complexity in RX Projects) with Stations that are part of an Administrative Complex.

Regional Staffing Points	Number Complex Stations				
	1-2	3-4	5-7	8-10	11+
	2	3	4	5	6

Matrix 22: Special Resource Points by Critical Habitat Acres at Risk

Inputs: (X Axis) Total acres of critical habitat acres at risk for a Station. Taken from the total acres of Special Resources at Risk for Endangered Species and Biological Communities.

Values: Special Resource Points

Output: Values: used in **Matrix 29**.

Calculation: Sum Special Resources at Risk acres number for a Station.

Special Resource Points	Critical Habitat Acres at Risk				
	1-2000	2001-5000	5001-20000	20001-50000	50001+
	2	3	4	5	6

Matrix 23: Special Resource Points by Number of Historic Structures or Archeological Sites at Risk

Inputs: (X Axis) Total number of structures or sites at risk for a station. Taken from the count of Special Resources at Risk for Historic Structures and Archeological Sites.

Values: Special Resource Points

Output: Values: used in **Matrix 29**.

Calculation: Sum Special Resources at Risk count of structures and sites for a Station.

Special Resource Points	Number Structures or Sites				
	1-50	51-100	101-300	301-500	501+
	1	2	3	4	5

Matrix 24: Special Resource Points by Percent in Hazard Fuels Units

Inputs: (X Axis) Percent of total acres of critical habitat acres at risk that are in hazard fuels areas for a station. Taken from the total acres of Special Resources at Risk for Endangered Species and Biological Communities.

Values: Special Resource Points

Output: Values: used in **Matrix 29**.

Calculation: Total Special Resource Acres in Hazard Fuels Units **/** Total Special Resource Acres **=** Percent in Hazard Fuels Units.

Special Resource Points	Percent in Hazard Fuels				
	1-10	11-25	26-50	51-75	76-100
	1	2	3	4	5

Matrix 25: Special Resource Points by Total Loss Potential

Inputs: (X Axis) Percent of total acres of critical habitat acres at risk that have the potential of total loss for a station. Taken from the total acres of Special Resources at Risk for Endangered Species and Biological Communities.

Values: Special Resource Points

Output: Values: used in **Matrix 29**.

Calculation: Total Special Resource Acres with Total Loss Potential **/** Total Special Resource Acres **=** Percent with Total Loss Potential.

Special Resource Points	Percent Total Loss				
	1-10	11-25	26-50	51-75	76-100
	1	2	3	4	5

Matrix 26: Suppression Permanent Staffing Points by NFY Number of Fires and Property Values: at Risk

Inputs: (X Axis) Total value of property at risk in a Station. Taken from the value of Real Property at Risk for a Station.

(Y Axis) Number of wildfires in a Normal Fire Year in the Station. Formula for Calculation: found in **Matrix 33**.

Values: Suppression Permanent Staffing Points

Output: Values: used in **Matrix 12** and **27**.

Calculations: Normal Fire Year (NFY) = third worst year for wildfire starts in the last 10 years.
Sum value of all Real Property at Risk in a Station / 10000.

NFY Number Wildfires	Property Value (10000)			
	10-50	51-500	501-5001	5001+
1-6	0	1	2	3
7-13	1	2	3	4
14-20	2	3	5	6
21+	3	4	6	8

Matrix 27: Suppression Permanent Staffing by Suppression Points

Business Rule: Suppression overhead staffing is affected by work load.

Inputs: (X Axis) Position Code
(Y Axis) Total of Suppression Permanent Staffing Points from **Matrices 26, 29** and **30**.

Values: Position count based on total Suppression Points for a Station.

Output: Value used in **Matrix 31** (Maximum Cumulative Positions) and for total staff for a region (BUDGET_STAFF).
Position count for WFS also used in **Matrix 12** to determine final GS Level.

Calculation: Sum all Suppression Permanent Staffing Points from **Matrices 26, 29** and **30**.

Suppression Points	Position				
	FMO	WFS	FPT	EEOP	PREV
0-11	0	0	0	0	0
12-15	0	1	1	0	0
16-20	0	1*	1	1	0
21+	1**	1**	1	1	1

IF	THEN
Suppression Points 15-19	* WFS is GS-11
Suppression Points ≥ 20	** WFS is GS-9 and FMO is at GS-11

Base GS Levels determined by **Matrix 35**.

Matrix 28: Suppression Dispatch Staffing by Season Length

Inputs: Fire Season Length from Fire Occurrence data. (See **Matrix 33**.)

Output: Value used in **Matrix 31** (Maximum Cumulative Positions) and for total staff for a Station (BUDGET_STAFF).

Calculation: Fire Season Length = days of fire season in NFY as determined by having three starts in a period (10 days) and having at least two consecutive periods of two or more starts to begin. Once begun, a fire season may not have a gap of more than three periods with at least two starts to continue.

NFY + Average Annual Rx #	Season Length	
	0-179	180+
0-20	0	0
21-50	0	1
51-999	1	1

Matrix 29: Suppression Permanent Staffing Points by Special Resources at Risk

Business Rule: Suppression overhead staffing is affected by risk to Special Resources.

Inputs: (X Axis) Total Special Resource Points from **Matrices 22, 23, 24** and **25**.
(Y Axis) Number of wildfires in a Normal Fire Year in the Station. Formula for Calculation: found in **Matrix 33**.

Values: Suppression Permanent Staffing Points

Output: Values: used in **Matrix 27**.

Calculations: Normal Fire Year (NFY) = third **worst** year for wildfire starts in the last 10 years.
Sum Special Resource Points from **Matrices 22, 23, 24** and **25** for a Station

NFY Number Wildfires	Special Resource Points		
	Low 0-7	Moderate 8-14	High 15-50
1-6	1	4	6
7-13	2	5	7
14-20	4	6	8
21+	5	7	9

Matrix 30: Suppression Permanent Staffing Points by NFY Number of Fires and Season Length

Business Rule: Suppression overhead staffing is affected by NFY and fire season length.

Inputs: (X Axis) Fire Season Length from Fire Occurrence data.
(Y Axis) Number of wildfires in a Normal Fire Year in the Station. Formula for Calculation: found in **Matrix 33**.

Values: Suppression Permanent Staffing Points

Output: Values: used in **Matrix 27**.

Calculations: Normal Fire Year (NFY) = third worst year for wildfire starts in the last 10 years.
Fire Season Length = days of fire season in NFY as determined by having three starts in a period (10 days) and having at least two consecutive periods of two or more starts to begin. Once begun, a fire season may not have a gap of more than three periods with at least two starts to continue.

NFY Number Wildfires	Fire Season Days		
	1-90	91-180	181-366
1-6	1	2	3
7-13	3	4	5
14-20	4	5	6
21-25	5	6	15
26-30	10	15	20
31-60	15	20	20
61+	20	20	20

Matrix 31: Maximum Cumulative Positions

Business Rule: The maximum number of overhead positions in a given Station or Region is 1. The maximum number of firefighter positions in a given Station is 18.

Inputs: (X Axis) Position Code
(Y Axis) Organization Type.

Values: Maximum allowable positions for a Station or a Region.

Output: Compared with Output: from **Matrices 10, 11, 12, 18, 19, 27** and **28**. If the sum of the Output: from these Matrices is greater than the Values: in this Matrix the count defaults to this Matrix. Used in BUDGET_STAFF.

Calculation: Sum the count for each position from **Matrices 10, 11, 12, 18, 19, 27** and **28**. If count is greater than position count in Matrix 31, then default to Matrix 31 count.

Unit Type	Position									
	RFMC	FMO	WFS	PFS	FPT	EEOP	PREV	CLER	DISP	FFTR
Station	0	1	1	1	1	1	1	0	1	9
Comple	0	1	1	1	1	1	1	0	1	9
District	0	1	1	1	1	1	1	0	1	9
Mixed*	0	1	1	1	1	1	1	0	1	9
Region	1	0	1	1	1	0	0	1	0	0

*Mixed is a Complex and District.

Matrix 32: Pay Periods per Number of Fire Season Days for Less Than Full-Time Employment

Business Rule: The minimum number of pay periods for which a person may be hired is 7.

Inputs: Fire Season Length from Fire Occurrence data.

Values: Budgeted Pay Periods for employment that is less than full time (seasonal).

Output: Used with **Matrix 10** to determine base pay for Firefighters.

Calculation: Fire Season Length = days of fire season in NFY as determined by having three starts in a period (10 days) and having at least two consecutive periods of two or more starts to begin. Once begun, a fire season may not have a gap of more than three periods with at least two starts to continue.

Fire Season Days	Pay Periods
0-14	7
15-28	7
29-42	7
43-56	7
57-70	7
71-84	7
85-98	8
99-112	9
113-126	10
127-140	11
141-154	12
155-168	13
169-182	14
183-196	15
197-210	16
211-224	17
225-238	18
239-252	19
253-266	20
267-280	21
281-294	22
295-308	23
309-322	24
323-336	25
337-366	26

Matrix 33: Normal Fire Year Calculation: Setup

Inputs: This is a representation of the Inputs: used in calculating Normal Fire Year numbers for use in other Matrix.

Output: Values from these Calculations are used in **Matrices 1-9, 15, 16, 20, 26, 28, 29, 30** and **32**.

Calculations: Normal Fire Year (NFY) = third worst year for total number of fire starts in the last 10 years.

Fire Season Length = days of fire season in NFY as determined by having three starts in a period (10 days) and having at least two consecutive periods of two or more starts to begin. Once begun, a fire season may not have a gap of more than three periods with at least two starts to continue.

RX average fire acres and average number of fires = average for 3 most recent calendar years where data exists in the system.

Activities	Types of Fires				
	WF Season	RX Season	WF Worst Year	RX Fires Number	RX Acres
Period Days	10	10			
Ignitions Needed	3	3			
Consecutive Periods	2	2			
Maximum Period Gaps	3	3			
Fire to Continue	2	2			
Years Tracked	10	10	10		
Worst Fire Year			3		
Average Prior Years				3	3

Matrix 34: Definition of a Complex Station

Inputs: Average Project Complexity number from all projects in a station. Taken from Project Definition screen.

Output: If a station qualifies as a Complex Station, it is counted in **Matrices 18** and **21**.

Calculation: Sum Project Complexity for all Projects / Total Number of Projects.

NOTE: Do not confuse the terminology of Complex Station (having moderate or high degree of average complexity in RX Projects) with Stations that are part of an Administrative Complex.

IF	THEN
Complexity < 116	Station Complexity is Low
Complexity = 116 to 280	Station Complexity is Moderate
Complexity = 281 to 441	Station Complexity is High
Complexity is Moderate or High	Station is a "Complex Station"

Matrix 35: Base GS or WG Levels

Business Rule: The base General Schedule or Wage Grade Level for a Station or Region position is set in this Matrix.

Inputs: Position
Position Code
Values: GS or WG Levels.
Output: Used in BUDGET_STAFF.

Position	Base GS Level	
	Station	Region
RFMC	n/a	GS-13
FMO	GS-11	n/a
WFS	GS-9	GS-12
PFS	GS-9	GS-12
FPT	GS-7	GS-7
EEOP	WG-8	n/a
PREV	GS-7	n/a
CLERK	n/a	GS-4
DISP	GS-6	n/a
FFTR	GS-4	n/a
AFMO	GS-9	n/a

Matrix 36: RX / WF Decision Matrix

Inputs:
Values:
Output:

RX/RX+WF Points	Matrix
0 - .1	27
.2 - .8	12
.8 - 1	11

Additional Definintions
RX District

Business Rule for RX Districts - Based on RX portion of Matrix ONLY.

Definition: A grouping of stations, combined to address the combined RX workload of the stations. Will use the same RX matrices as an individual station or complex uses to derive RX staff. A station may not be part of a complex and a district (to prevent double dipping, overstaffing, empire building, etc.). An RX district does not look at WF needs, the assumption being that each station does not have significant WF workload. (A station with higher WF needs should be addressed singly or as part of a complex.)

Administrative Complex

Definition: A group of stations, under the same administrative supervision, which will share suppression and RX resources based on a common workload. Size will not exceed administrative grouping; however, individual stations within an administrative complex may stand alone if suppression workload warrants. (An administrative complex may be subdivided in any manner to address suppression needs, but may NOT be expanded beyond the official boundaries.) Once stations are FireBase complexed, the analysis treats them as a single unit.

A complex may not contain any stations contained in an RX district.