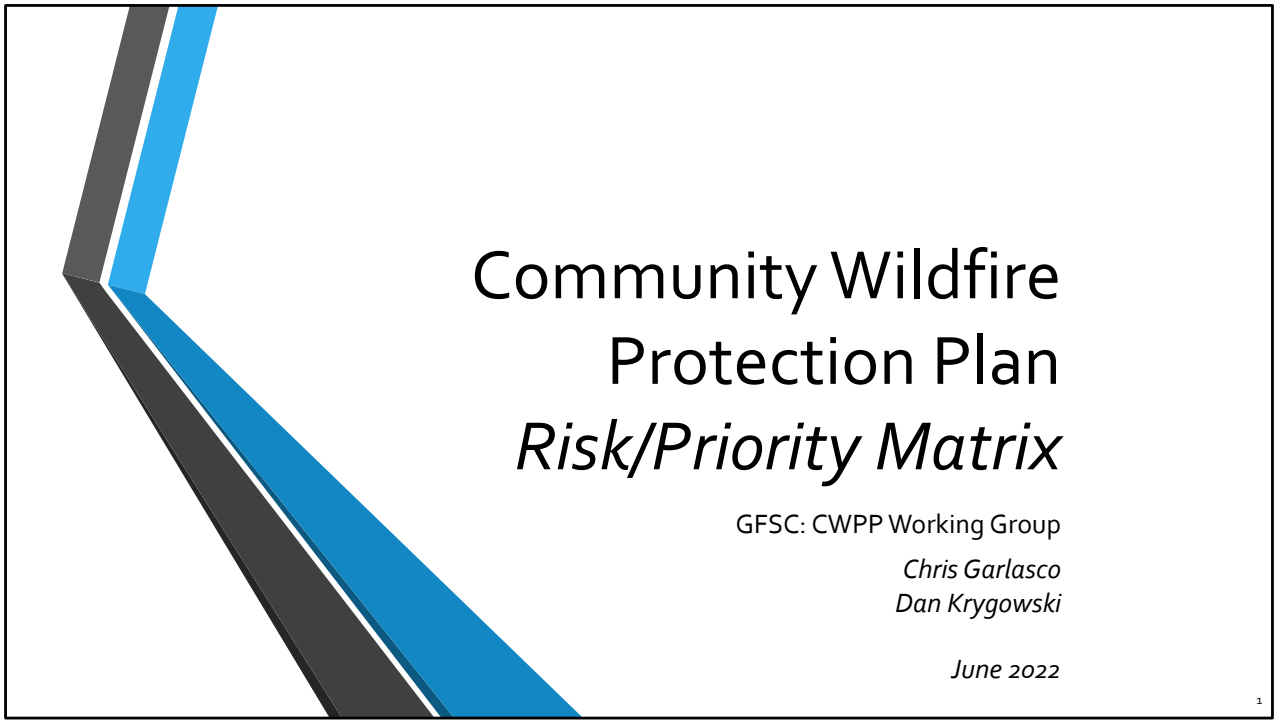
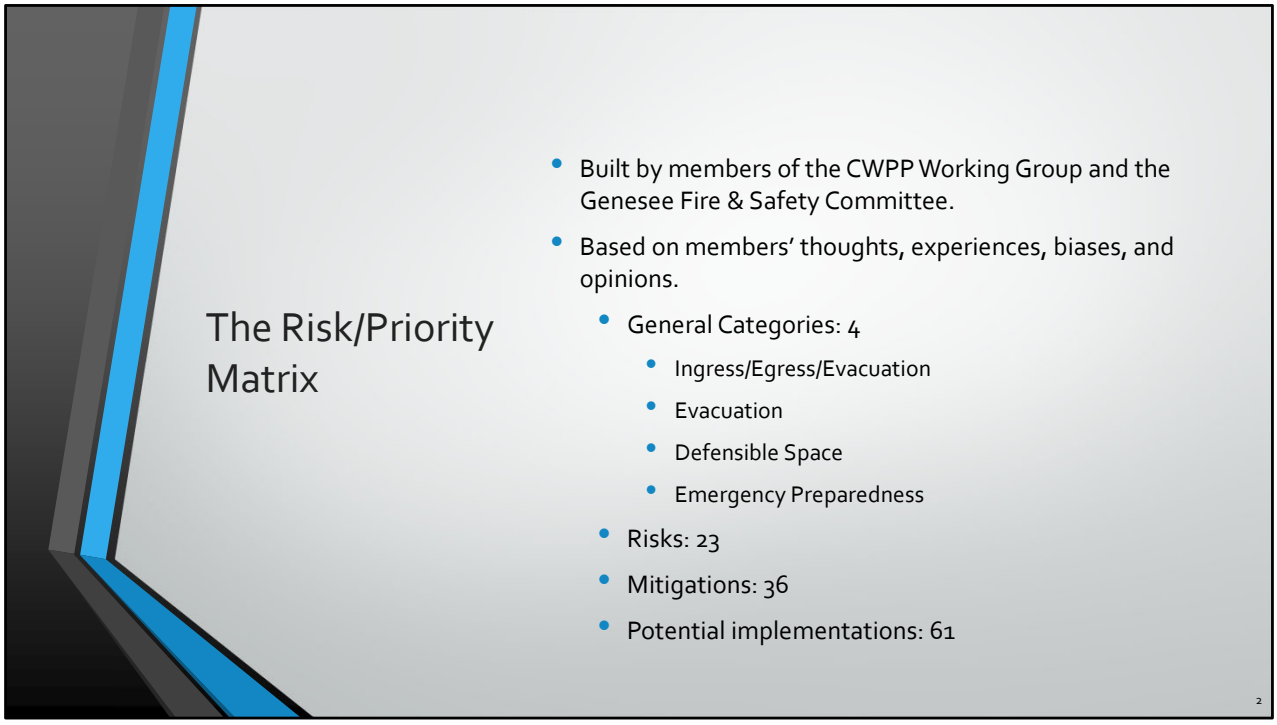


The purpose of this exercise and the resulting matrix is to focus the limited time, talents and financial resources of the Genesee Foundation, the Foundation volunteers, and the residents of Genesee on mitigating the wildfire risks to the Genesee community.
This effort was done by the Community Wildfire Protection Plan (CWPP) Working Group of the Genesee Fire & Safety Committee (GFSC). When most of this work was done the Working Group was chaired by Chris Garlasco. Her efforts were critical in getting the project started and moving it along to its present state.



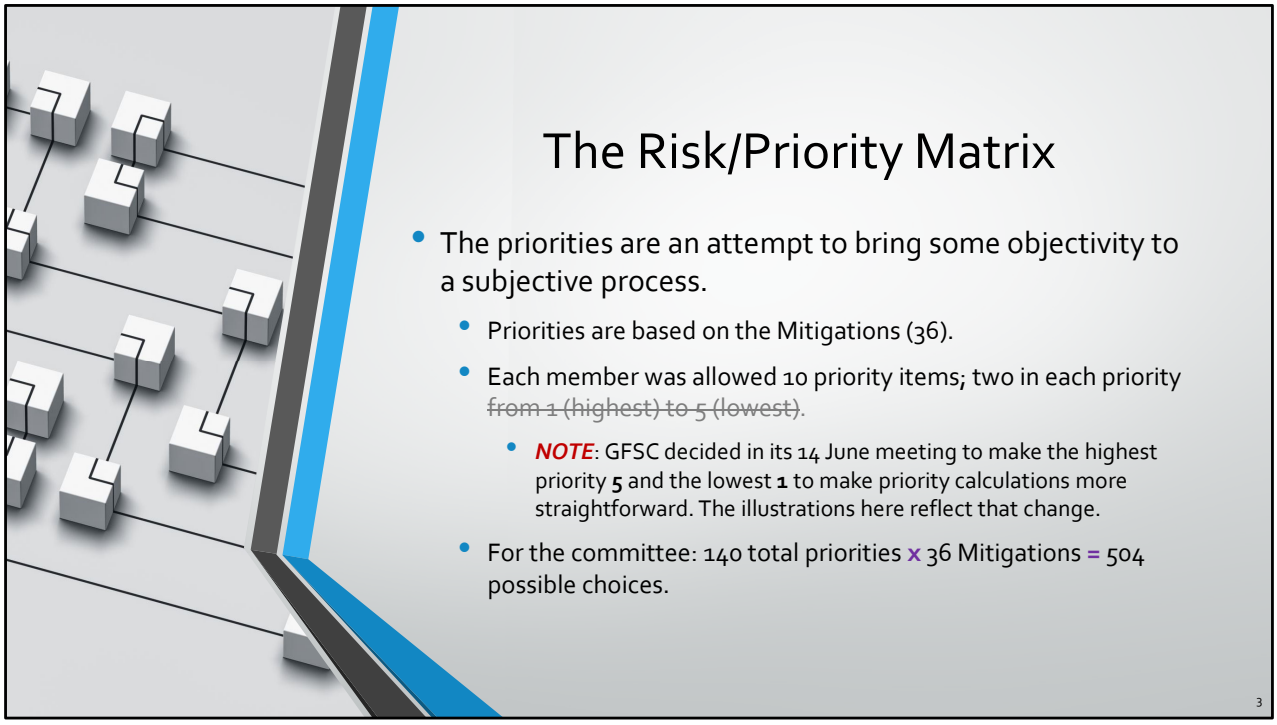
To identify wildfire risks to the Genesee community, the CWPP Working Group led the GFSC to create a list of risks particular to Genesee. Starting with the list of Risks, a matrix was created which contains:

- Mitigations for each Risk,
- Potential Implementations for each Mitigation,
- Implementation Details for each Potential Implementation,
- A Priority for each Implementation Detail (the column is not used in this exercise),
- A Work Task (proposed group to take on the task) for each Potential Implementation,
- Timing for each Implementation Detail.

The Risks were also grouped into four General Categories: Ingress/Egress/Evacuation, Evacuation, Defensible Space, Emergency Preparedness. There is some overlap of the General Categories, and individual Risks may fit into more than one General Category.

> *The Matrix was implemented in Microsoft Excel, with each row containing a Risk, and the topics above each contained in individual columns. The Matrix can be found in* CWPP RiskPriorityMatrix_22.09.20.xlsx*.*

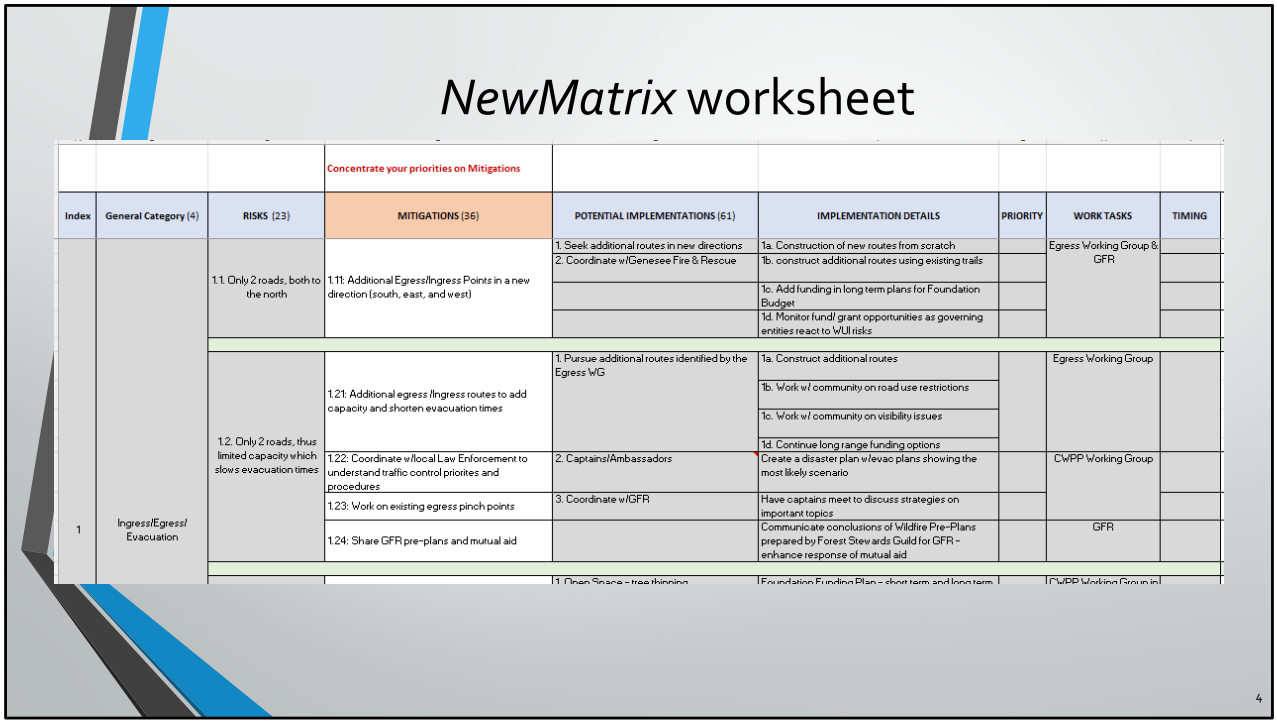
It may be useful to see if the General Categories can be modified to fit existing categories in other, more widely published, wildfire information.



The addition of Priorities to the matrix was an effort to focus the work of the GFSC to a smaller number of Risks so that more effort could be applied to the more critical risks. While the committee understood that the list of Risks was subjective (based on the members' input and experience), the committee realized that there needed to be some effort made to create a more objective (i.e., prioritized) list to focus the Foundation's time and spending. The decision was made to focus on Mitigations rather than Risks, as the Mitigations were somewhat more specific than the Risks.

The committee understands that any effort to create a single prioritized list from 36 entries is an exercise in futility. The final process gave each committee member 10 Mitigation choices, with the Priorities values from 5 (highest) to 1 (lowest), and with only two of each Priority level. Mitigations with no Priority values were to have blanks placed in the proper Excel cells, where the software would not consider blank cells in any calculations.

> *The priorities of the individual committee members are listed in all of the worksheets (tabs) of the spreadsheet* CWPP RiskPriorityMaxtix_22.09.20.xlsx*.*

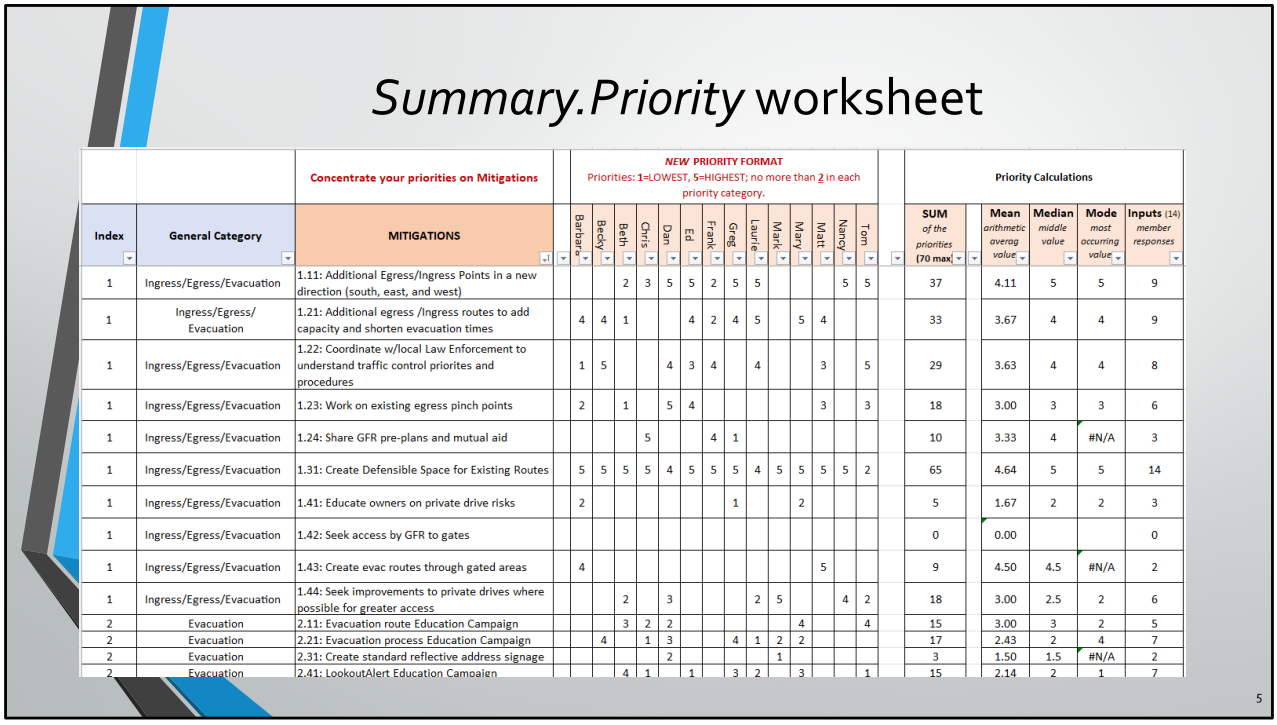


This is a small part of the much larger Risk/Priority spreadsheet. The Mitigations column has been highlighted to focus the committee's attention on assigning priorities to those mitigations.

While this example shows the rows and columns in their original order, the columns can be ordered in a variety of ways with all the columns shifted to maintain their original relationships.

> *The Excel features of Data>Filter and Data>Sort are used to provide, respectively, single-level and multi-level organization.*

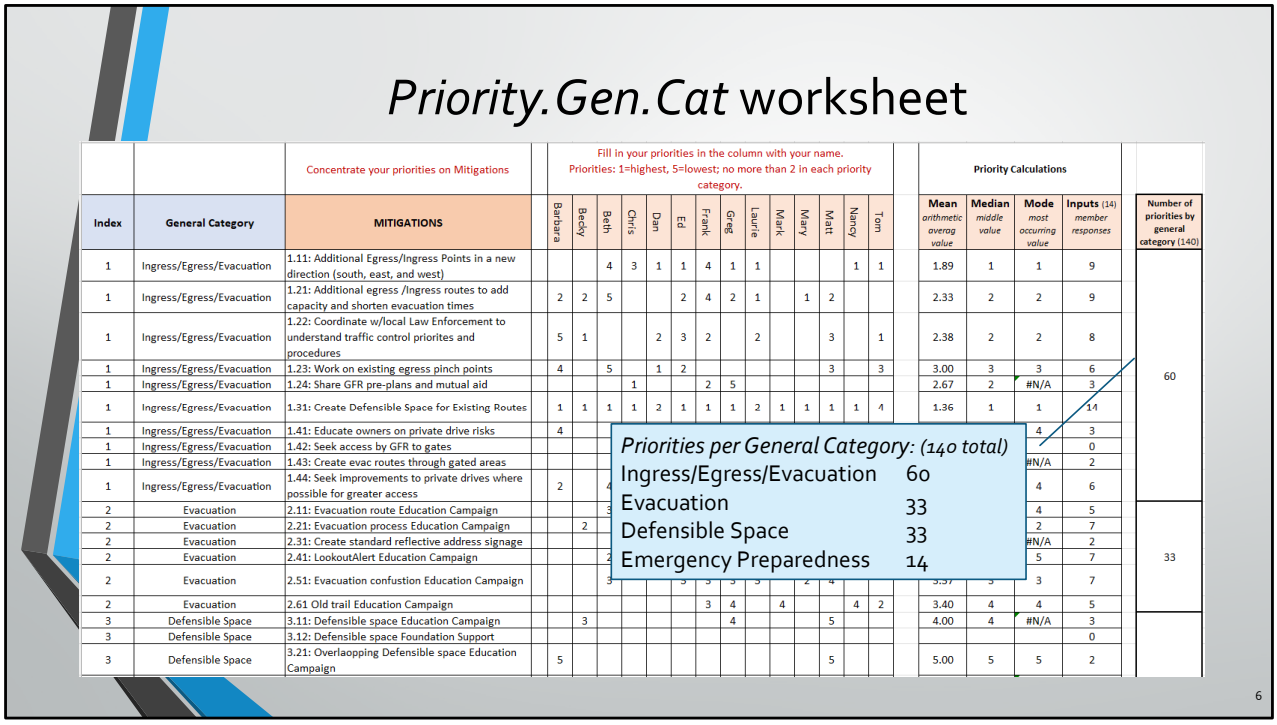
NOTE: The Priority column in the spreadsheet was part of its initial construction, and the column was not used in this priority-setting exercise.



This is a section of the *Summary.Priority* worksheet in spreadsheet *CWPP RiskPriorityMatrix_22.09.28.xlsx.* It shows not only the priorities set by each committee member but also shows the calculations done to try to determine the priorities. In each calculation, blank cells in each row were ignored in calculations.

The Priority Calculations explained:

SUM of the priorities: The sum of the priorities in each row. The maximum value of the SUM is 70 (= **5** (highest) x **14** (possible priorities)).
Mean – The arithmetic average of the priorities in each row.
Median – The middle value of the priorities chosen in each row.
Mode – The value which occurs the most in each row.
Inputs – The number of priorities listed in the row (out of 14 possible).



Priority.Gen.Cat worksheet

		Concentrate your priorities on Mitigations	Fill in your priorities in the column with your name. Priorities: 1=highest, 5=lowest; no more than 2 in each priority category.													Priority Calculations				
Index	General Category	MITIGATIONS	Barbara	Becky	Beth	Chris	Dan	Ed	Frank	Greg	Laurie	Mark	Mary	Matt	Nancy	Tom	Mean *arithmetic averag value*	Median *middle value*	Mode *most occurring value*	Inputs (14) *member responses*	Number of priorities by general category (140)
1	Ingress/Egress/Evacuation	1.11: Additional Egress/Ingress Points in a new direction (south, east, and west)			4	3	1	1	4	1	1				1	1	1.89	1	1	9	
1	Ingress/Egress/Evacuation	1.21: Additional egress /Ingress routes to add capacity and shorten evacuation times	2	2	5			2	4	2	1		1	2			2.33	2	2	9	
1	Ingress/Egress/Evacuation	1.22: Coordinate w/local Law Enforcement to understand traffic control priorites and procedures	5	1			2	3	2		2			3		1	2.38	2	2	8	
1	Ingress/Egress/Evacuation	1.23: Work on existing egress pinch points	4		5		1	2						3		3	3.00	3	3	6	
1	Ingress/Egress/Evacuation	1.24: Share GFR pre-plans and mutual aid				1			2	5							2.67	2	#N/A	3	
1	Ingress/Egress/Evacuation	1.31: Create Defensible Space for Existing Routes	1	1	1	1	2	1	1	1	2	1	1	1	1	1	1.36	1	1	14	
1	Ingress/Egress/Evacuation	1.41: Educate owners on private drive risks	4																4	3	
1	Ingress/Egress/Evacuation	1.42: Seek access by GFR to gates																		0	
1	Ingress/Egress/Evacuation	1.43: Create evac routes through gated areas																	#N/A	2	
1	Ingress/Egress/Evacuation	1.44: Seek Improvements to private drives where possible for greater access	2																4	6	
2	Evacuation	2.11: Evacuation route Education Campaign			3														4	5	
2	Evacuation	2.21: Evacuation process Education Campaign		2															2	7	
2	Evacuation	2.31: Create standard reflective address signage																	#N/A	2	
2	Evacuation	2.41: LookoutAlert Education Campaign			2														5	7	
2	Evacuation	2.51: Evacuation confustion Education Campaign			3			3	3	3	3		2	4			3.57	3	3	7	
2	Evacuation	2.61 Old trail Education Campaign							3	4		4			4	2	3.40	4	4	5	
3	Defensible Space	3.11: Defensible space Education Campaign		3						4				5			4.00	4	#N/A	3	
3	Defensible Space	3.12: Defensible space Foundation Support																		0	
3	Defensible Space	3.21: Overlaopping Defensible space Education Campaign	5											5			5.00	5	5	2	

Priorities per General Category: (140 total)

Ingress/Egress/Evacuation	60
Evacuation	33
Defensible Space	33
Emergency Preparedness	14

6

This is a section of the *Summary.Priority* worksheet in spreadsheet *CWPP RiskPriorityMatrix_22.09.28.xlsx.* It shows the number of Mitigations in each General Category.

This slide illustrates that nearly half of the Mitigations occur in one General Category (Ingress/Egress/Evacuation), implying that leaving Genesee in a wildfire event is foremost on committee members' minds.

Results: *Sum of Priorities* sorting

		Concentrate your priorities on Mitigations	NEW PRIORITY FORMAT Priorities: 1=LOWEST, 5=HIGHEST; no more than 2 in each priority category.													Priority Calculations				
Index	General Category	MITIGATIONS	Barbara	Becky	Beth	Chris	Dan	Ed	Frank	Greg	Laurie	Mark	Mary	Matt	Nancy	Tom	SUM of the priorities [70 max]	Mean arithmetic average value	Median middle value	Mode most occurring value	Inputs (14) member responses
1	Ingress/Egress/Evacuation	1.31: Create Defensible Space for Existing Routes	5	5	5	5	4	5	5	5	4	5	5	5	5	2	65	4.64	5	5	14
1	Ingress/Egress/Evacuation	1.11: Additional Egress/Ingress Points in a new direction (south, east, and west)			2	3	5	5	2	5	5				5	5	37	4.11	5	5	9
1	Ingress/Egress/ Evacuation	1.21: Additional egress /Ingress routes to add capacity and shorten evacuation times	4	4	1			4	2	4	5		5	4			33	3.67	4	4	9
1	Ingress/Egress/Evacuation	1.22: Coordinate w/local Law Enforcement to understand traffic control priorites and procedures	1	5			4	3	4		4			3		5	29	3.63	4	4	8
1	Ingress/Egress/Evacuation	4.31: Revisit assumptions of CWPP to find a potential solution to lack of refuge	5		5				5		3			4			22	4.40	5	5	5
1	Ingress/Egress/Evacuation	1.23: Work on existing egress pinch points	2		1		5	4						3		3	18	3.00	3	3	6
1	Ingress/Egress/Evacuation	1.44: Seek improvements to private drives whe possible for greater access													4	2	18	3.00	2.5	2	6
1	Ingress/Egress/Evacuation	3.43: Defensible space Community Events													4	2	18	3.00	2.5	2	6
2	Evacuation	2.21: Evacuation process Education Campaign															17	2.43	2	4	7
2	Evacuation	2.51: Evacuation confustion Education Campaign			3			1	3	3	1		4	2			17	2.43	3	3	7
1	Ingress/Egress/Evacuation	3.84: Update Home Hardening Info and Efforts		1		3						3	1	2	4	3	17	2.43	3	3	7
2	Evacuation	2.41: LookoutAlert Education Campaign			4	1		1		3	2		3			1	15	2.14	2	1	7
2	Evacuation	2.11: Evacuation route Education Campaign			3	2	2						4			4	15	3.00	3	2	5

Shows the overall importance of, and interest in, each Mitigation.

Summary.Priority

7

This is the first of five slides illustrating different methods of sorting the calculations to identify the highest priority Mitigations.
This is a single-level sort on SUM. The value of the sum (65 out of 70) and votes from all 14 members indicates that keeping existing egress routes clear and navigable is of concern to all on the committee.

The yellow background of the top 4 Mitigations was added after other sortings occurred as a way that the different sorting methods could be compared. Those same cells are colored in the next 4 slides.

Results: *Mean (Priority)* sorting

		Concentrate your priorities on Mitigations	NEW PRIORITY FORMAT Priorities: 1=LOWEST, 5=HIGHEST; no more than 2 in each priority category.													Priority Calculations				
Index	General Category	MITIGATIONS	Barbara	Becky	Beth	Chris	Dan	Ed	Frank	Greg	Laurie	Mark	Mary	Matt	Nancy	Tom	SUM of the priorities (70 max)	Mean arithmetic average value	Median middle value	Mode most occurring value	Inputs (14) member responses
1	Ingress/Egress/Evacuation	1.31: Create Defensible Space for Existing Routes	5	5	5	5	4	5	5	5	4	5	5	5	5	2	65	4.64	5	5	14
1	Ingress/Egress/Evacuation	1.43: Create evac routes through gated areas	4											5			9	4.50	4.5	#N/A	2
2	Evacuation	3.42: Identify barriers to implementation of defensible space	4											5			9	4.50	4.5	#N/A	2
2	Evacuation	4.31: Revisit assumptions of CWPP to find a potential solution to lack of refuge	5		5												22	4.40	5	5	5
1	Ingress/Egress/Evacuation	1.11: Additional Egress/Ingress Points in a new direction (south, east, and west)			2											5	37	4.11	5	5	9
1	Ingress/Egress/ Evacuation	1.21: Additional egress /Ingress routes to add capacity and shorten evacuation times	4	4	1			4	2	4	5		5	4			33	3.67	4	4	9
1	Ingress/Egress/Evacuation	1.22: Coordinate w/local Law Enforcement to understand traffic control priorites and procedures	1	5			4	3	4		4			3		5	29	3.63	4	4	8
2	Evacuation	3.61: Develop contacts with representatives of these neighborhoods			4			3									7	3.50	3.5	#N/A	2
1	Ingress/Egress/Evacuation	1.24: Share GFR pre-plans and mutual aid				5			4	1							10	3.33	4	#N/A	3
1	Ingress/Egress/Evacuation	1.23: Work on existing egress pinch points	2		1		5	4						3		3	18	3.00	3	3	6
1	Ingress/Egress/Evacuation	1.44: Seek improvements to private drives where			2		3				2	5			4	2	18	3.00	2.5	2	6
2	Evacuation	3.43: Defensible space Community Events			2		3				2	5			4	2	18	3.00	2.5	2	6
2	Evacuation	2.11: Evacuation route Education Campaign			3	2	2						4			4	15	3.00	3	2	5

High priority but not much interest...

Summary.Priority

8

This slide shows the Mean sorted from high to low values. The Mean has a maximum value of 5, occurring when the selected cells in the row all have a value of 5. (The number of selected cells could range from 0 to 14.)

In the row identified here, the Mean has a high value (4.5 out of 5), but only two people considered this Mitigation to have any priority. So this Mitigation has a high priority, but not much interest.

And the 4 top Mitigations (yellow backbround) with the SUM sorting are still in the top 10 Mitigations with the Mean sorting

Results: *Inputs* sorting

		Concentrate your priorities on Mitigations	NEW PRIORITY FORMAT Priorities: 1=LOWEST, 5=HIGHEST; no more than 2 in each priority category.														Priority Calculations				
Index	General Category	MITIGATIONS	Barbara	Becky	Beth	Chris	Dan	Ed	Frank	Greg	Laurie	Mark	Mary	Matt	Nancy	Tom	SUM of the priorities (70 max)	Mean arithmetic average value	Median middle value	Mode most occurring value	Inputs (14) member responses
1	Ingress/Egress/Evacuation	1.31: Create Defensible Space for Existing Routes	5	5	5	5	4	5	5	5	4	5	5	5	5	2	65	4.64	5	5	14
1	Ingress/Egress/Evacuation	1.11: Additional Egress/Ingress Points in a new direction (south, east, and west)			2	3	5	5	2	5	5				5	5	37	4.11	5	5	9
1	Ingress/Egress/ Evacuation	1.21: Additional egress /Ingress routes to add capacity and shorten evacuation times	4	4	1			4	2	4	5		5	4			33	3.67	4	4	9
1	Ingress/Egress/Evacuation	1.22: Coordinate w/local Law Enforcement to understand traffic control priorites and procedures	1	5			4	3	4		4			3		5	29	3.63	4	4	8
2	Evacuation	2.21: Evacuation process Education Campaign		4		1	3			4	1	2	2				17	2.43	2	4	7
2	Evacuation	2.51: Evacuation confustion Education Campaign			3			1	3	3	1		4	2			17	2.43	3	3	7
1	Ingress/Egress/Evacuation	3.84: Update Home Hardening Info and Efforts		1											4	3	17	2.43	3	3	7
2	Evacuation	2.41: LookoutAlert Education Campaign														1	15	2.14	2	1	7
1	Ingress/Egress/Evacuation	1.23: Work on existing egress pinch points	2		1		5	4						3		3	18	3.00	3	3	6
1	Ingress/Egress/Evacuation	1.44: Seek improvements to private drives where possible for greater access			2		3				2	5			4	2	18	3.00	2.5	2	6
1	Ingress/Egress/Evacuation	3.43: Defensible space Community Events			2		3				2	5			4	2	18	3.00	2.5	2	6
1	Ingress/Egress/Evacuation	4.31: Revisit assumptions of CWPP to find a	5		5				5		3			4			22	4.40	5	5	5
2	Evacuation	2.11: Evacuation route Education Campaign			3	2	2						4			4	15	3.00	3	2	5

High interest but not as much priority...

Summary.Priority

9

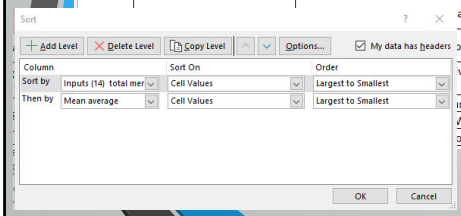
This sorting, using the Inputs, shows the interest (the number of people voting) at any of the 5 levels of Priority.
In the row identified here, the interest is fairly high (Inputs are 7 of 14), but the Priority of 2.43 is less than half the maximum value of 5.

The top 4 Mitigations from the SUM sorting are here not only in the top four, but are also in the same order.

Results: Multi-level sort *(Inputs*, then *Mean)*

		Concentrate your priorities on Mitigations	NEW PRIORITY FORMAT Priorities: 1=LOWEST, 5=HIGHEST; no more than 2 in each priority category.													Priority Calculations				
Index	General Category	MITIGATIONS	Barbara	Becky	Beth	Chris	Dan	Ed	Frank	Greg	Laurie	Mark	Mary	Matt	Nancy	Tom	SUM of the priorities (70 max)	Mean arithmetic average value	Median middle value	Mode most occurring value	Inputs (14) member responses
1	Ingress/Egress/Evacuation	1.31: Create Defensible Space for Existing Routes	5	5	5	5	4	5	5	5	4	5	5	5	5	2	65	4.64	5	5	14
1	Ingress/Egress/Evacuation	1.11: Additional Egress/Ingress Points in a new direction (south, east, and west)			2	3	5	5	2	5	5				5	5	37	4.11	5	5	9
1	Ingress/Egress/ Evacuation	1.21: Additional egress /Ingress routes to add capacity and shorten evacuation times	4	4	1			4	2	4	5		5	4			33	3.67	4	4	9
1	Ingress/Egress/Evacuation	1.22: Coordinate w/local Law Enforcement to understand traffic control priorites and procedures	1	5			4	3	4		4			3		5	29	3.63	4	4	8
2	Evacuation	2.21: Evacuation process Education Campaign		4		1	3			4	1	2	2				17	2.43	2	4	7
2	Evacuation	2.51: Evacuation confustion Education Campaign			3			1	3	3	1		4	2			17	2.43	3	3	7
1	Ingress/Egress/Evacuation	3.84: Update Home Hardening Info and Efforts		1		3											17	2.43	3	3	7
		ampaign			4	1											15	2.14	2	1	7
		pinch points	2		1		5	4						3		3	18	3.00	3	3	6
		vate drives where			2		3				2	5			4	2	18	3.00	2.5	2	6
		nity Events			2		3				2	5			4	2	18	3.00	2.5	2	6
		WPP to find a	5		5				5		3			4			22	4.40	5	5	5
		on Campaign			3	2	2						4			4	15	3.00	3	2	5

High priority and high interest...

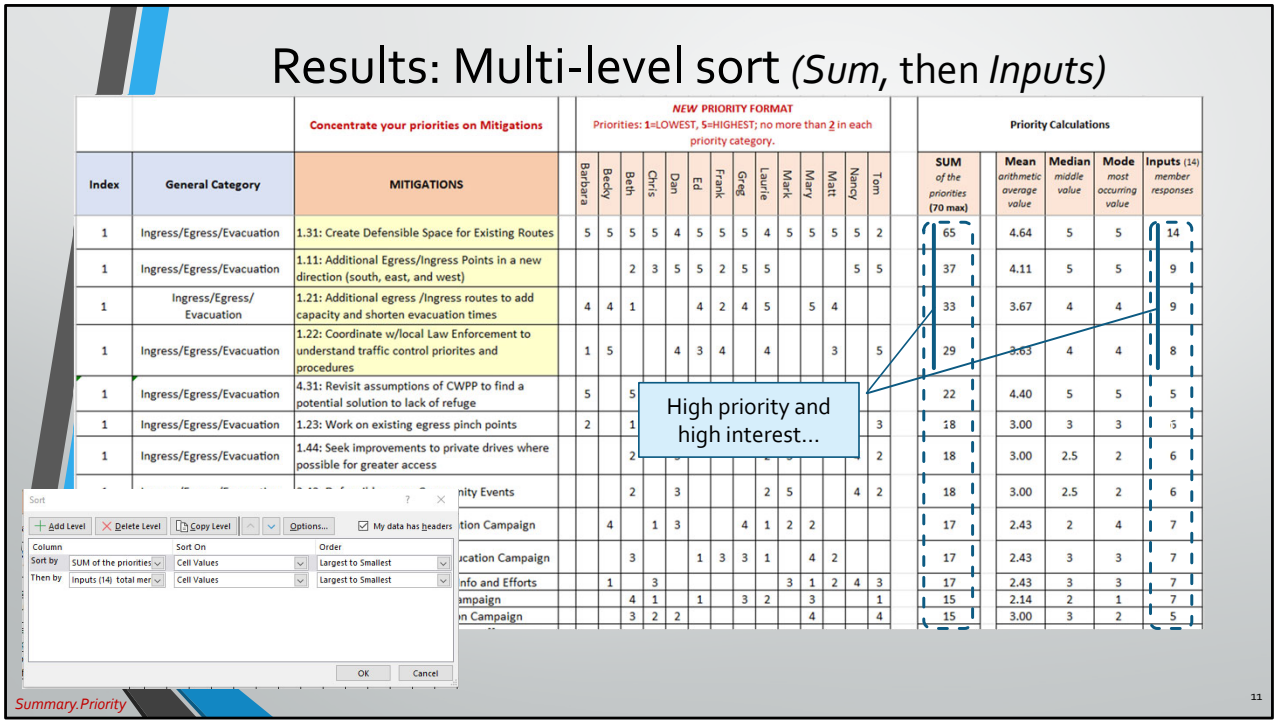


Summary.Priority

10

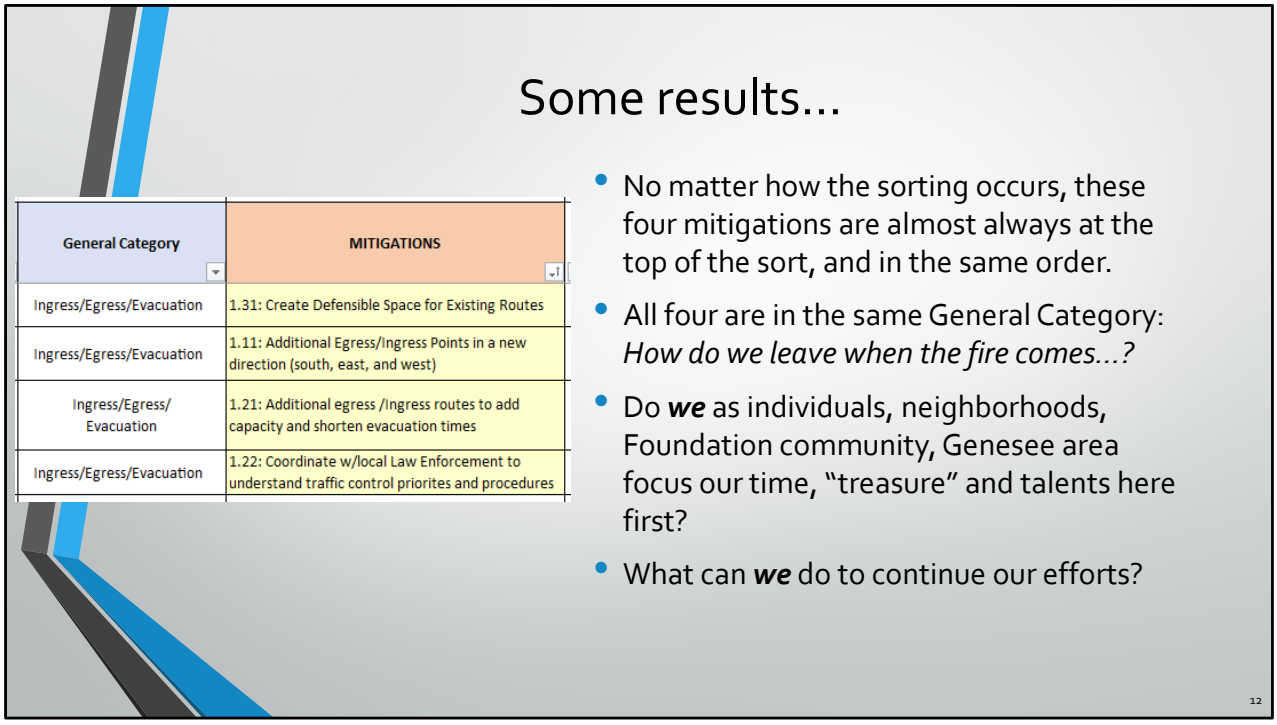
In this two-level sorting, the number of Inputs is sorted from high to low, then within each level of Inputs (e.g., 9), the Mean values are sorted, again from high to low.
This sort tends to indicate Mitigations that have both high priority and high interest.

And again, the top 4 Mitigations from the SUM sorting are the top 4 in this sorting, and in the same order.



In this last sorting, again a two-level sort, the sort is first by SUM, then by Inputs. The result is the same as sorting by SUM alone. If the order of the sort was reversed (first by Inputs, then by SUM) the results would be the same.

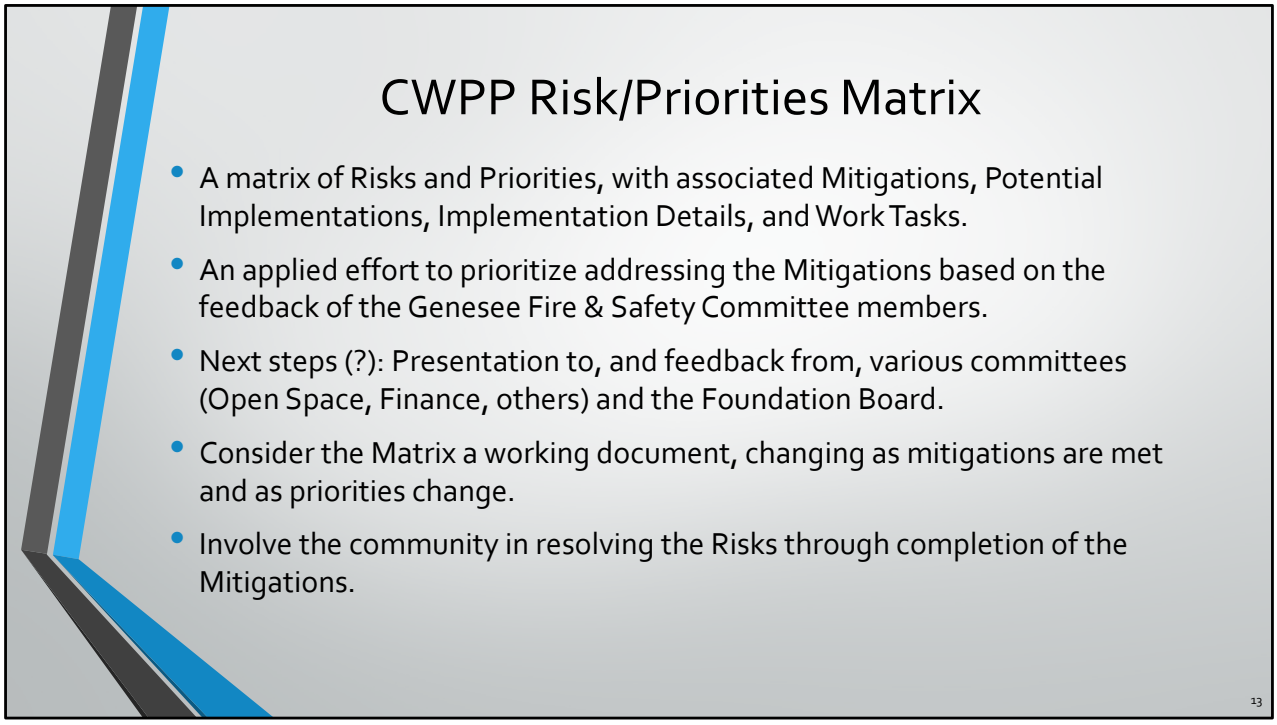
And once again, the top 4 (as expected because of the way the sorting works) are the top 4 here.



Not all possible single-level and multi-level sorts were done, but from the results of those done, the same four Mitigations are at, or near, the top of the list.
All four ask the same question: "How do we leave when the fire comes?"
Or perhaps: "Can we leave when the fire comes?"

If each of us considers our community environment, from Genesee Mountain and Lookout Mountain, to Genesee Foundation and the adjacent communities, to our neighborhoods and our personal properties, it is incumbent on us to consider, and work toward, a safer environment for all.

"We" have a limited amount of time, local talents, and financial resources, and it is imperative to use those limited resources wisely so that all will benefit.



So, in summary:
The CWPP Working Group of the GFSC has developed, with input from the entire GFSC, a list of wildfire risks and mitigations, and has endeavored to prioritize the mitigations which will benefit our entire community.
This information will be presented to various organizations and their committees in the area, and the information will be posted online for all in the community to review and comment upon. GFSC is considering the best ways to gather community input on the matrix, for prioritization and expansion of the matrix.

The more input that the committee can gather, the more accurate will our estimate be of the wildfire risks that we have in living at the wildland-urban interface (WUI), and how we can best mitigate those risks.

This slide indicates that the work is not over for this effort.