HEADWATERS ECONOMICS

Community Wildfire Defense Grants

Insights from Round 1 of Funding

May 2023

Community Wildfire Defense Grants:
Insights from Round 1 of Funding

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Acknowledgments
Headwaters Economics conducted this independent analysis at the request of the U.S. Forest Service. Brad Simpkins, Tim Melchert, and Jim Menakis with the U.S. Forest Service contributed technical expertise to this research. For more information about the CWDG program, please visit the Community Wildfire Defense Grant webpage (https://www.fs.usda.gov/managing-land/fire/grants) or email SM.FS.usfs_cwdg@usda.gov.

Published Online:
https://headwaterseconomics.org/natural-hazards/cwdg-first-round

About Headwaters Economics
Headwaters Economics is an independent, nonprofit research group whose mission is to improve community development and land management decisions. https://headwaterseconomics.org/

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***Correction on November 27, 2024**: This report has been updated to correct a data error and related misstatement. Low-capacity communities were more successful than high-capacity communities at securing CWDG funds, not less successful.*

Executive Summary

Headwaters Economics conducted an independent analysis of the first cycle of Community Wildfire Defense Grant (CWDG) proposals, at the request of the U.S. Forest Service. The analysis sought to compare proposal information with other data to illuminate five primary sets of questions:

1. **Selected proposals:** What were the number, dollar amount, and types of proposals?
2. **Low-income and disadvantaged counties**: Were low-income and disadvantaged communities prioritized in the grant funding? Were proposals from low-income and disadvantaged communities more successful in securing funding?
3. **Wildfire risk**: Were high and very high wildfire risk locations prioritized in the grant funding? Were proposals from communities with high or very high wildfire risk more successful in securing funding?
4. **Review process:** Are there parts of the application or review process that need clarification, based on reviewer scores?

One additional analysis is forthcoming:

5. **Communities that did not apply**: What communities did not submit applications but would meet the prioritization criteria?

The following analysis included data from the proposals and from the review process. For the purposes of this analysis, proposals were assigned to a county and compared to additional datasets about underserved communities, capacity, and wildfire risk. Appendix A provides details about the methods and data sources included in this analysis.

Key findings

Among the key findings in this analysis:

- **There is a very high demand for CWDG funding**. CWDG proposals were received from across the United States and demand outstripped available funding at a rate of 3:1. This indicates a strong need for more wildfire resilience funding.

- **The CWDG program prioritized grants to low-income and disadvantaged communities.** Nearly all of the selected applications were from low-income and disadvantaged communities, no matter how it is measured. Low-income and disadvantaged communities also had higher success rates in securing CWDG grants.

- **Low-capacity communities were more successful in securing grants.** Applications from low-capacity communities had higher rates of success but received fewer grants. Customized outreach, grant writing assistance, and project identification support could continue to help low-capacity communities access CWDG funding in future cycles.

- **The CWDG program prioritized grants to communities that have high national wildfire risk.** The majority of grants and funding were awarded to communities with high or very high wildfire risk when compared nationally. Proposals with very high risk also had higher success rates in securing funding. However, 24% of grants and 11% of funding were awarded to communities with low or moderate wildfire risk. The CWDG program allowed applicants to use state and local data to demonstrate risk, which may be more fine-scaled and accurate than national risk maps. However, local data may not suffice if the program intends to prioritize places with the highest wildfire risk nationwide.

- **Reviewer scores had relatively low variability, indicating general consistency in scoring.** This may indicate that the scoring rubric is generally clear. Three questions (about budgets, landscape impacts, and project sustainability) showed slightly higher variability and may require clearer instructions for both applicants and reviewers.

Opportunities for additional analysis

A few limitations to this analysis highlight the need for additional research.

First, the scale of available data is a potentially limiting factor in this analysis. Some data were generalized up to the county level. For example, a project may affect only a portion of a county, but projects were compared using countywide data. In addition, census-tract level data about low-income and underserved communities were generalized to the county level, which may overestimate the number of low-income and underserved communities that received funding. Finer-scaled data about project boundaries could create a more refined analysis. This could be solved by providing applicants with an interactive tool that would allow users to select specific census tracts relevant for their proposal. Related national wildfire risk and income data could also be provided in such a tool.

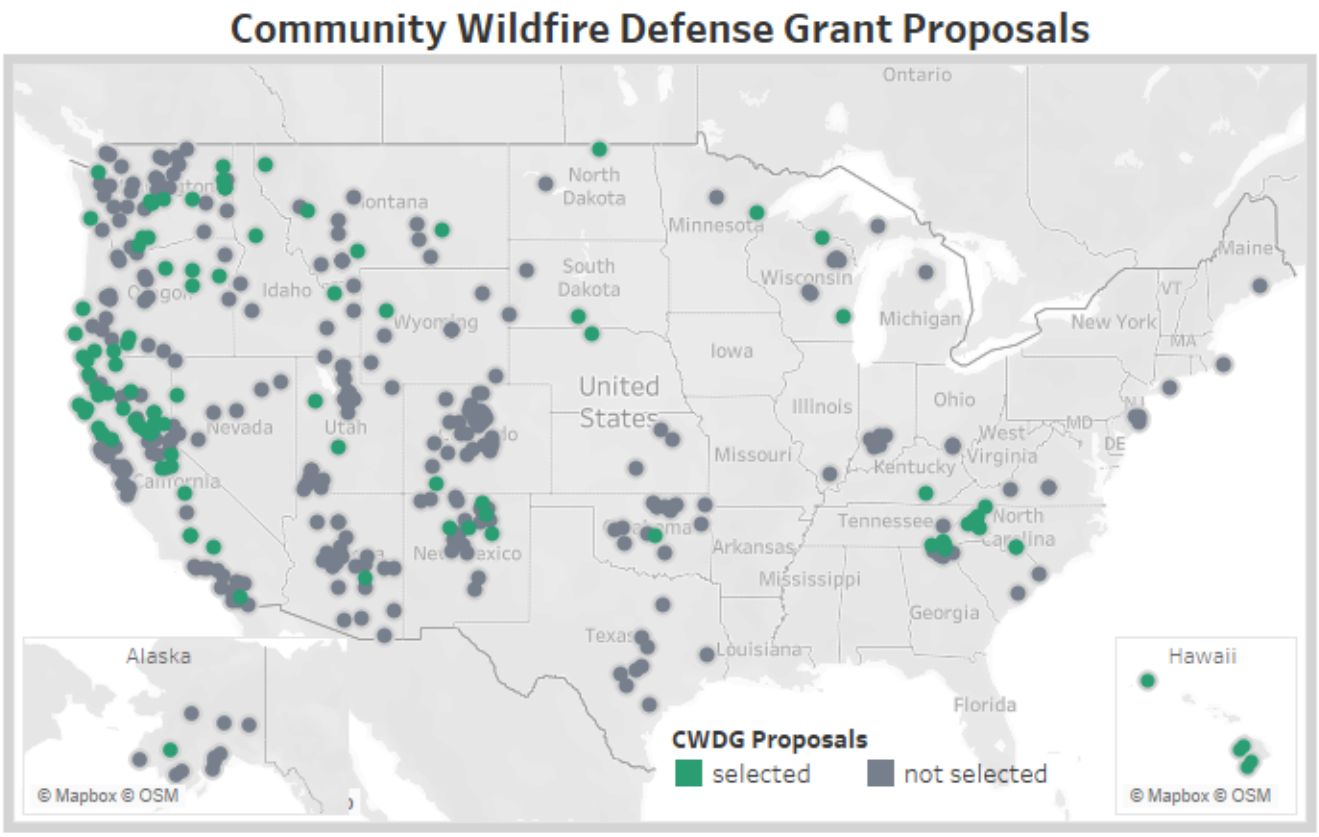
Second, proposal data alone cannot illuminate all opportunities to improve the CWDG program. While this analysis highlights important outcomes from the first round of CWDG funding, it was based entirely on proposal data. Beyond looking at the proposals, the U.S. Forest Service has also conducted several listening sessions to gather direct input from applicants and reviewers. Responding to this feedback will be fundamental to continuing to improve the CWDG program.

Finally, targeted outreach and technical assistance in future grant cycles could help meet the goals of prioritizing disadvantaged communities with high wildfire risk. It could also help address the limitations faced by low-capacity communities. In the coming weeks, Headwaters Economics will conduct an additional analysis about communities that would meet prioritization criteria but did not apply in Round 1. This could help the CWPP program and partners recruit and support applications for subsequent rounds of funding.

1. Selected proposals

What were the number, dollar amount, and types of proposals?

Communities from across the United States applied and were selected. In the first round of CWDG funding, 416 proposals were received from 35 states and Puerto Rico. (The application from Puerto Rico was not selected and is not represented in the remainder of this analysis.) A total of 99 applications were funded from 22 states.[1] Detailed tables with the number, types, and dollar amount of all proposals by state and U.S. Forest Service Region can be found in Appendix B (states) and Appendix C (Forest Service Regions).



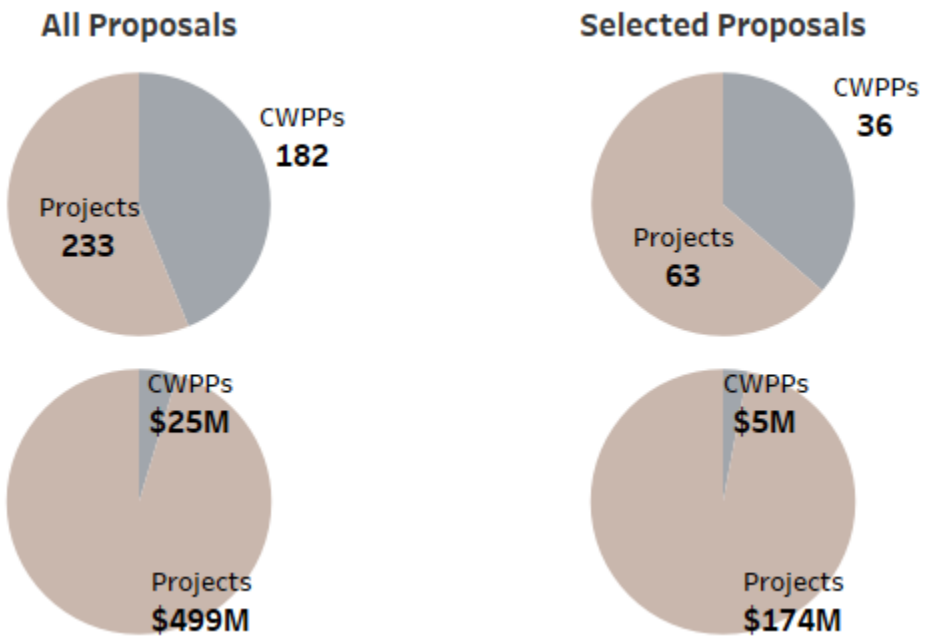
[1] The Forest Service announced in March of 2023 that 100 CWDG applications were selected for funding. It was later discovered that one project from Washington state was double counted. That project has been removed from this analysis.

The states with the most funding awarded are primarily in the West, except North Carolina. As shown in the table below, nine states were awarded more than $1 million in grants.

States with selected proposals totaling more than $1 million		
State	**Dollar Amount of Selected Proposals**	**Number of Selected Proposals**
California	$96,828,964	33
Oregon	$23,521,348	10
Washington	$23,433,999	13
New Mexico	$11,482,174	5
Montana	$9,284,013	4
Utah	$5,086,617	2
Nevada	$2,340,061	1
North Carolina	$1,392,285	11
Colorado	$1,110,024	1

There were nearly three times as many proposals as funding available. In the first round there were more than $523 million in funding requests, with approximately $179 million selected for funding.[2] This demonstrates the high demand for and strong interest in the CWDG program.

Requests for projects (rather than CWPPs) dominated the application pool. As shown in the figure below, there were 233 project proposals, making up more than 56% of all proposals. Of the 99 selected proposals, 63 were for projects and 36 were for Community Wildfire Protection Plans (CWPPs). Funding requests for CWPPs were substantially less than requests for projects, but CWPP requests were capped at $250,000 while project proposals could request up to $10 million.



[2] The Forest Service announced in March of 2023 that the initial CWDG allocation was $197 million, which accounts for approximately $18 million granted to states for indirect costs to support program administration. This analysis does not include any indirect costs.

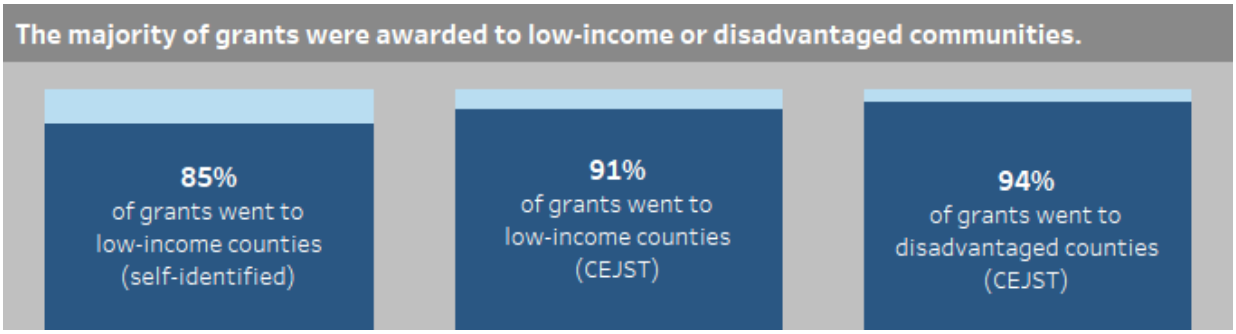
2. Low-income and disadvantaged communities

We analyzed the characteristics of counties that received grants and success rate (the share of proposals that were selected) among different types of counties. We analyzed the share of grants that were awarded to four types of counties as shown in the table below.

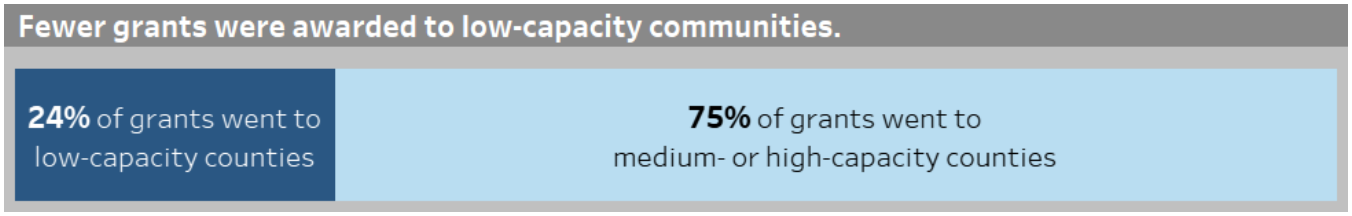
Types of counties included in the analysis		
County type	**Source**	**Definition**
Self-identified low-income county	Community Wildfire Defense Grants (*USFS*)	County that has a median household income of less than 80% of the median household income of its state.
Low-income county (CEJST)	Climate & Economic Justice Screening Tool (*Council on Environmental Quality*)	County that contains at least one census tract at or above the 65th percentile for low income in the nation (defined as household income at or below 200% of the Federal poverty level).
Disadvantaged county (CEJST)	Climate & Economic Justice Screening Tool (*Council on Environmental Quality*)	County that contains at least one census tract that is either: • considered low-income in the definition above, plus scoring positively in one of seven "categories of burden": climate change, energy, health, housing, legacy pollution, transportation, and water & wastewater; and/or • considered burdened in workforce development; and/or • part of a federally recognized Tribal Area.
Low-capacity county	Rural Capacity Index (*Headwaters Economics*)	County scoring in the lower third of an index based on 10 variables: metropolitan, planning department staff, presence of college or university, adults with higher education, families above poverty level, households with broadband, people with health insurance, voter turnout, income stability, and population change.

The majority of grants were awarded to low-income and disadvantaged communities across the United States. The figure below shows that, whether defined by the CWDG criteria or the CEJST "low-income" or "disadvantaged" metrics, nearly all communities that were awarded funding could be considered low income or disadvantaged. A total of 14 grants totaling $13 million (7% of the funding) were awarded to communities that did not meet the CWDG "low-income" criteria.

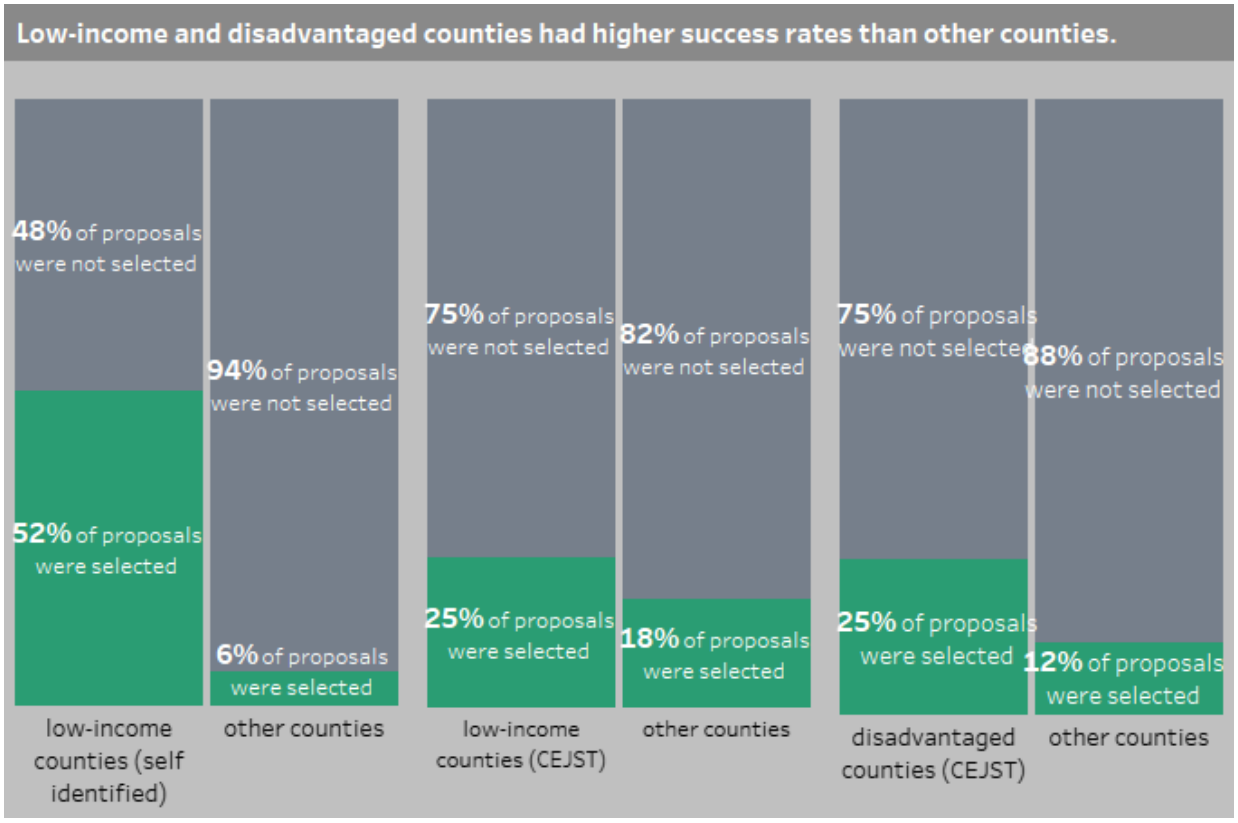
Due to differences in the scale of application data (i.e., county-level) and CEJST data (i.e., census tract level), this analysis may overestimate the impact on CEJST-identified "low-income" and "disadvantaged" communities. (See more in Appendix A: Methods & Data Sources.)



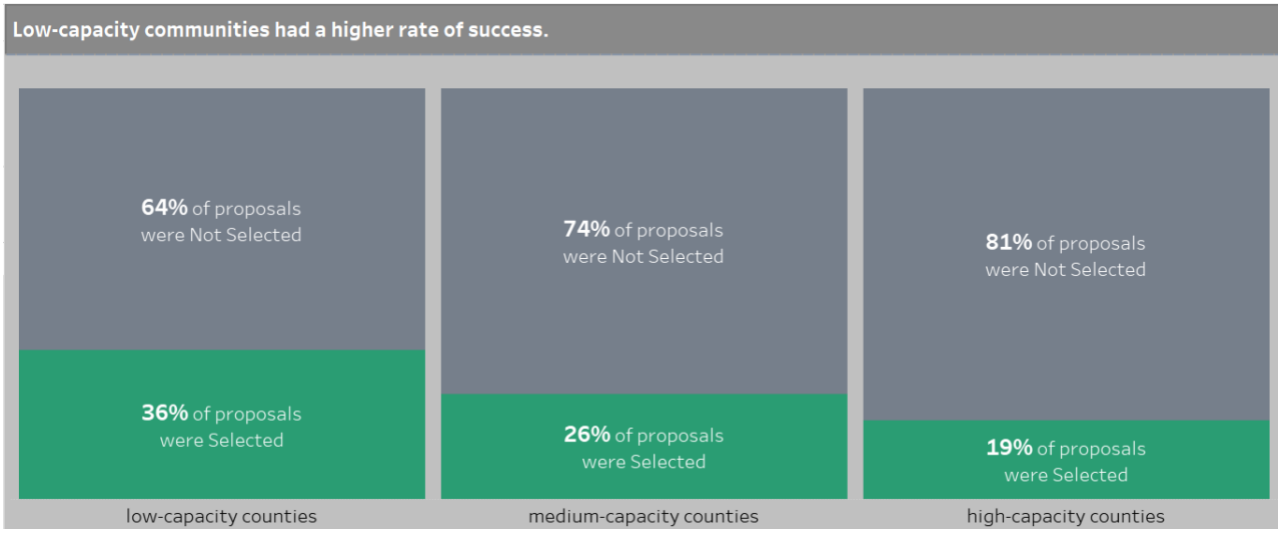
Fewer than a quarter of grants were awarded to communities with low capacity, as shown in the figure below. This indicates that grants were awarded to bigger communities – probably those with more staff and organizational capacity – that have higher poverty levels. It is logical to award grants to communities that have: 1) many people in need, 2) proven ability to manage successful projects, and 3) fiscal capacity to responsibly account for the money. But this also points to a problem: lower-capacity communities *particularly* need assistance. These communities are generally smaller and often rural. They may lack administrative and technical staff to submit competitive grant proposals and manage complex projects. Assistance may be necessary to help low-capacity communities successfully compete for grant funding, including support with project identification, grant writing, and grant administration.



Success rates for low-income and disadvantaged communities were higher than other proposals. We analyzed the success rate of proposals (the share that was selected) submitted by different types of counties. As shown below, more than half of the proposals that self-identified their communities as "low income" were selected. One-quarter of proposals from communities that would be considered "low income" or "disadvantaged" according to CEJST criteria were selected.



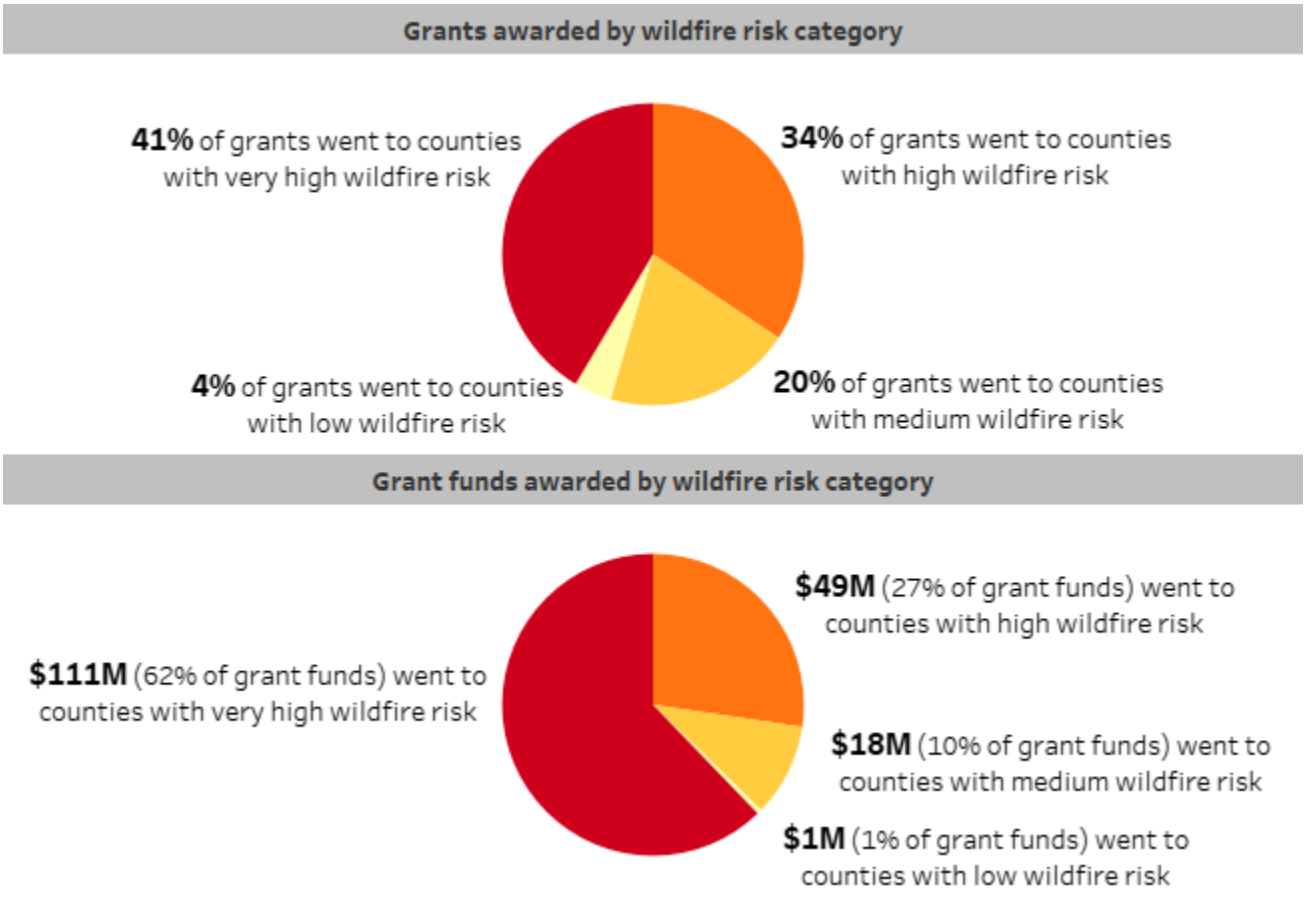
Low-capacity communities had higher success rates compared to higher-capacity communities. When we divide the proposals into low-, medium-, and high-capacity communities, we see that proposals from lower-capacity communities were selected more often than proposals from higher-capacity communities.



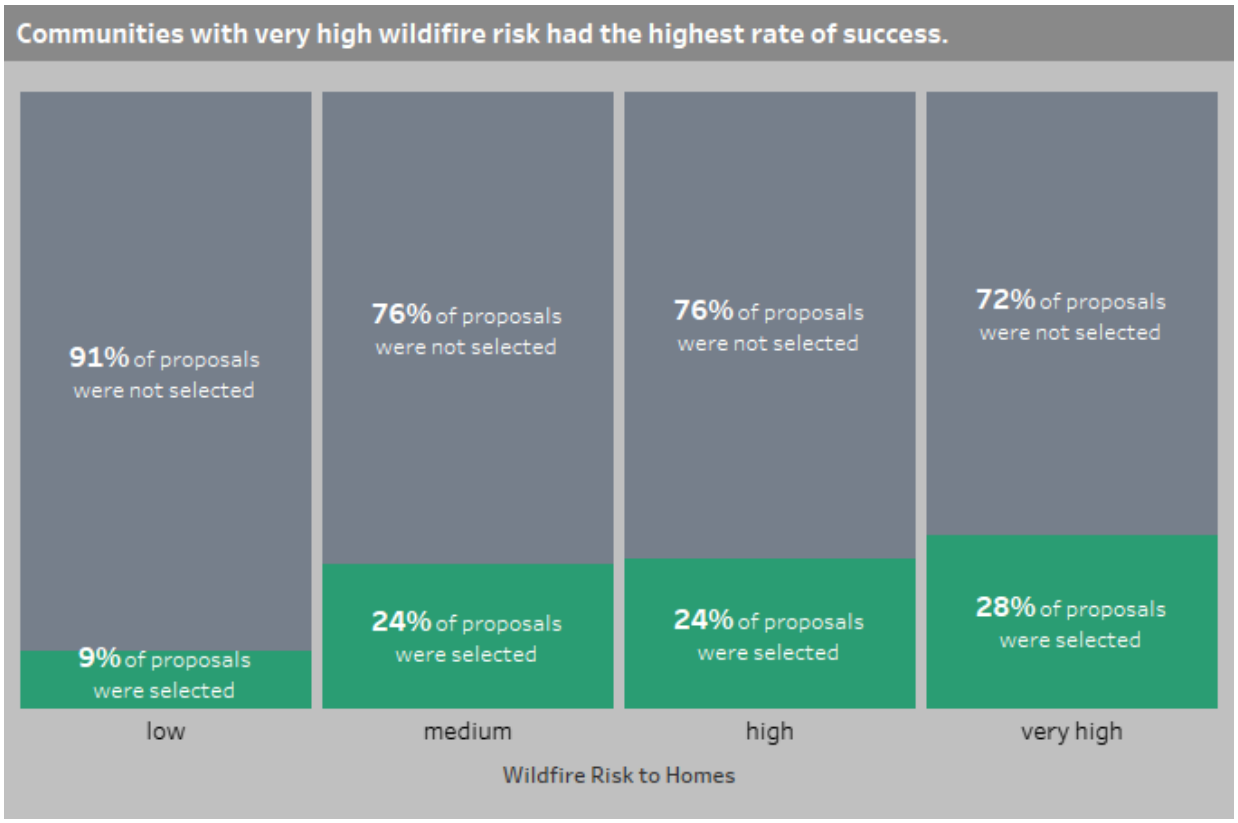
3. Wildfire risk

This portion of the analysis sought to understand whether proposals were selected from places with high wildfire risk when viewed nationally. All CWDG funding went to communities that self-identified as having high or very high wildfire risk and applicants were allowed to use local and state data to quantify wildfire risk in their proposal. However, when viewed at the national scale, a proposal's risk level may not be as severe. We used the national "Risk to Homes" dataset from the U.S. Forest Service's *Wildfire Risk to Communities* project to examine national risk rankings for proposals.

Three-quarters of grants and 89% of funding were awarded to high and very high risk communities. As the figure below demonstrates, a small share of grants (24%) and funding (11%) was awarded to communities with low or medium national risk. There may be legitimate reasons for funding wildfire grants in these locations, however. The national data could be incorrect; national datasets can be too coarse and lack local calibration. Allowing communities to use local data allows communities the flexibility to demonstrate their risk using local knowledge. However, communities with their own datasets are often higher-capacity. If the CWDG program intends to prioritize resources to those places with the highest risk nationwide, the program may need to limit wildfire risk data for prioritization. Overall, the majority of CWDG grants are being awarded to communities with high risk nationally.



Communities with very high wildfire risk had the highest rate of success. We analyzed the success rate of proposals (the share that was selected) submitted by communities in each of the national wildfire risk ranks (low, medium, high, and very high). As shown below, proposals with very high national wildfire risk had the highest rates of success and communities with low national wildfire risk had the lowest rates of success. Communities with moderate and high wildfire risk showed the same rate of success.



4. Review Process

This portion of the analysis sought to understand whether there was inconsistency in reviewer scores. A high range of variability among reviewer responses could indicate a lack of clarity in the scoring rubric or in the application instructions. We measured inconsistency by measuring the standard deviation among reviewer scores for each proposal.

Reviewer scores were generally consistent, but three questions showed more variability. As shown in the table below, questions 2 (budget), 5 (landscape impacts), and 6 (project sustainability) have the most inconsistency in scores, regardless of whether the proposal is a CWPP or a Project. These questions may need to be further clarified in both the application and scoring rubric.

Project applications have less consistency in scoring than CWPP applications. This is counter to some feedback from applicants, which indicated that the application questions were not easy to answer for CWPP applications.

Percent of proposals with inconsistent* reviewer scores by section.

	CWPPs	Projects
1. Project Description	5%	7%
2. Budget	8%	10%
3. Accomplishments	2%	7%
4. Collaboration	4%	7%
5. Landscape Impacts	5%	9%
6. Project Sustainability	7%	9%

* Inconsistent reviewer scores were defined as those with high variability between reviewers (standard deviation > 2.5).

Appendix A: Methods & Data Sources

The U.S. Forest Service provided Headwaters Economics with a dataset for all 2022 CWDG applications ("CWDG Dataset"). The CWDG Dataset included information provided by the applicant (including latitude/longitude, project name, grant request amount, and scoring prioritization criteria for low income, wildfire hazard potential, and severe natural disasters); the type of application (CWPP or project); reviewer scores; and whether the application was selected.

Headwaters Economics georeferenced each application based on applicant-provided latitude and longitude and paired the CWDG Dataset with additional data sources, as described below.

Scale of analysis and georeferencing

This analysis was conducted at the county scale because CWDG applications varied greatly in their scope and it was not feasible to determine whether applications were proposed at the sub-county level. One application from Puerto Rico was not selected for funding and was excluded from the analysis. One application from Washington state was included twice in the original Forest Service announcement of funding from March 2023 and was removed from this analysis.

To conduct the analysis, Headwaters Economics first assigned each application to a county based on the applicant-supplied latitude and longitude. Some proposed projects are likely to impact more than one county, but each application was only assigned to a single county. Typos in the latitude/longitude for a small number of applications were manually corrected.

Counties were also assigned to U.S. Forest Service Regions. Counties split between multiple Regions were assigned to the Region with the maximum county land area.

Additional Data Sources

National wildfire risk data are from the "Risk to Homes" dataset in the Wildfire Risk to Communities project. Applications in counties where the "Risk to Homes" national percentile rank is ≥70 are considered high or very high national wildfire risk.

CEJST "disadvantaged' and "low income" are from the Climate and Economic Justice Screening Tool, version 1.0 (2022). Applications in counties where at least one census tract is categorized as "disadvantaged" or "low income" by CEJST were considered disadvantaged or low income for the purposes of this analysis. It is important to note than 84% of U.S. counties have one or more census tract identified as disadvantaged. By generalizing these data to the county level, it may overestimate the impact on disadvantaged communities.

The Rural Capacity Index is from Headwaters Economics, *A Rural Capacity Map* (2021). The Rural Capacity Index is a measure of whether communities have the staffing and expertise to support infrastructure and climate resilience projects and is comprised of 10 indicators. Counties are categorized as "low capacity" if their index score ranks in the lower 33% of counties nationwide.

Measuring variability in reviewer scores

The CWDG Dataset included reviewer scores by application and by question. Headwaters Economics calculated the inconsistency of reviewer scores by question and by application type. Inconsistent reviewer scores were defined as those with high variability between reviewers (standard deviation > 2.5).

Appendix B: Proposals by State

Table B.1: Number of applications by state and application type.

	Selected			Not Selected			Grand Total
	CWPP Applications	Project Applications	Total	CWPP Applications	Project Applications	Total	
Alaska	1		1	5	5	10	11
Arizona		1	1	13	12	25	26
California	8	25	33	20	32	52	85
Colorado		1	1	16	17	33	34
Georgia	1		1	4		4	5
Hawaii	5		5				5
Idaho		2	2		5	5	7
Illinois				1		1	1
Indiana				5		5	5
Kansas				3		3	3
Kentucky	1		1				1
Maine				1		1	1
Massachusetts				1		1	1
Michigan				1	1	2	2
Minnesota		1	1		1	1	2
Montana	1	3	4	6	5	11	15
Nebraska		1	1				1
Nevada		1	1	6	4	10	11
New Jersey				1	3	4	4
New Mexico	1	4	5	6	13	19	24
New York					1	1	1
North Carolina	11		11	1		1	12
North Dakota	1		1		1	1	2
Ohio					3	3	3
Oklahoma		1	1	10	4	14	15
Oregon	3	7	10	6	13	19	29
South Carolina				3		3	3
South Dakota		1	1	1	1	2	3
Tennessee				1		1	1
Texas				8	1	9	9
Utah		2	2	7	16	23	25
Virginia				1	2	3	3
Washington	3	10	13	15	18	33	46
Wisconsin		2	2		9	9	11
Wyoming		1	1	4	3	7	8
Grand Total	36	63	99	146	170	316	415

Table B.2: Funding amounts by state and application type.

	Selected			Not Selected			Grand Total
	CWPP Applications	Project Applications	Total	CWPP Applications	Project Applications	Total	
Alaska	$217,038		$217,038	$869,270	$15,757,521	$16,626,791	$16,843,829
Arizona		$341,217	$341,217	$1,493,287	$7,022,459	$8,515,746	$8,856,963
California	$1,613,610	$95,215,354	$96,828,964	$2,785,574	$83,712,631	$86,498,205	$183,327,169
Colorado		$1,110,024	$1,110,024	$2,204,342	$33,890,679	$36,095,021	$37,205,045
Georgia	$190,440		$190,440	$736,800		$736,800	$927,240
Hawaii	$416,800		$416,800				$416,800
Idaho		$883,844	$883,844		$3,245,912	$3,245,912	$4,129,756
Illinois				$42,500		$42,500	$42,500
Indiana				$250,000		$250,000	$250,000
Kansas				$188,500		$188,500	$188,500
Kentucky	$73,675		$73,675				$73,675
Maine				$250,000		$250,000	$250,000
Massachusetts				$68,200		$68,200	$68,200
Michigan				$31,556	$477,319	$508,875	$508,875
Minnesota		$892,000	$892,000		$75,000	$75,000	$967,000
Montana	$117,648	$9,166,365	$9,284,013	$361,562	$6,690,969	$7,052,531	$16,336,544
Nebraska		$182,866	$182,866				$182,866
Nevada		$2,340,061	$2,340,061	$805,043	$4,928,931	$5,733,974	$8,074,035
New Jersey				$1,074,000	$9,474,710	$10,548,710	$10,548,710
New Mexico	$63,000	$11,419,174	$11,482,174	$682,696	$36,258,303	$36,940,999	$48,423,173
New York					$1,134,110	$1,134,110	$1,134,110
North Carolina	$1,392,285		$1,392,285	$231,635		$231,635	$1,623,920
North Dakota	$248,924		$248,924		$269,400	$269,400	$518,324
Ohio					$550,494	$550,494	$550,494
Oklahoma		$134,500	$134,500	$1,470,583	$22,097,972	$23,568,555	$23,703,055
Oregon	$720,417	$22,800,931	$23,521,348	$542,237	$42,741,328	$43,283,565	$66,804,913
South Carolina				$60,000		$60,000	$60,000
South Dakota		$62,289	$62,289	$10,000	$2,328,589	$2,338,589	$2,400,878
Tennessee				$225,000		$225,000	$225,000
Texas				$1,140,658	$2,007,863	$3,148,521	$3,148,521
Utah		$5,086,617	$5,086,617	$386,090	$19,828,447	$20,214,537	$25,301,154
Virginia				$671,720	$1,669,753	$2,341,473	$2,341,473
Washington	$294,446	$23,139,553	$23,433,999	$2,070,909	$29,307,888	$31,378,797	$54,812,796
Wisconsin		$716,938	$716,938		$780,856	$780,856	$1,497,794
Wyoming		$234,825	$234,825	$538,116	$1,134,070	$1,672,186	$1,907,011
Grand Total	$5,348,283	$173,726,558	$179,074,841	$19,190,278	$325,385,204	$344,575,482	$523,650,323

Appendix C: Proposals by U.S. Forest Service Region

Table C.1: Number applications by Forest Service Region and application type.

	Selected			Not Selected			Grand Total
	CWPP Applications	Project Applications	Total	CWPP Applications	Project Applications	Total	
R1: Northern Region	2	4	6	6	6	12	18
R2: Rocky Mountain Region		4	4	23	20	43	47
R3: Southwestern Region	1	5	6	19	25	44	50
R4: Intermountain Region		4	4	14	26	40	44
R5: Pacific Southwest Region	13	25	38	20	32	52	90
R6: Pacific Northwest Region	6	17	23	21	31	52	75
R8: Southern Region	13	1	14	28	7	35	49
R9: Eastern Region		3	3	10	18	28	31
R10: Alaska Region	1		1	5	5	10	11
Grand Total	36	63	99	146	170	316	415

Table C.2: Funding amounts by Forest Service Region and application type.

	Selected			Not Selected			Grand Total
	CWPP Applications	Project Applications	Total	CWPP Applications	Project Applications	Total	
R1: Northern Region	$366,572	$9,360,209	$9,726,781	$361,562	$6,960,369	$7,321,931	$17,048,712
R2: Rocky Mountain Region		$1,590,004	$1,590,004	$2,795,958	$36,333,388	$39,129,346	$40,719,350
R3: Southwestern Region	$63,000	$11,760,391	$11,823,391	$2,175,983	$43,280,762	$45,456,745	$57,280,136
R4: Intermountain Region		$8,116,678	$8,116,678	$1,336,133	$29,023,240	$30,359,373	$38,476,051
R5: Pacific Southwest Region	$2,030,410	$95,215,354	$97,245,764	$2,785,574	$83,712,631	$86,498,205	$183,743,969
R6: Pacific Northwest Region	$1,014,863	$45,940,484	$46,955,347	$2,613,146	$72,049,216	$74,662,362	$121,617,709
R8: Southern Region	$1,656,400	$134,500	$1,790,900	$4,536,396	$25,775,588	$30,311,984	$32,102,884
R9: Eastern Region		$1,608,938	$1,608,938	$1,716,256	$12,492,489	$14,208,745	$15,817,683
R10: Alaska Region	$217,038		$217,038	$869,270	$15,757,521	$16,626,791	$16,843,829
Grand Total	$5,348,283	$173,726,558	$179,074,841	$19,190,278	$325,385,204	$344,575,482	$523,650,323