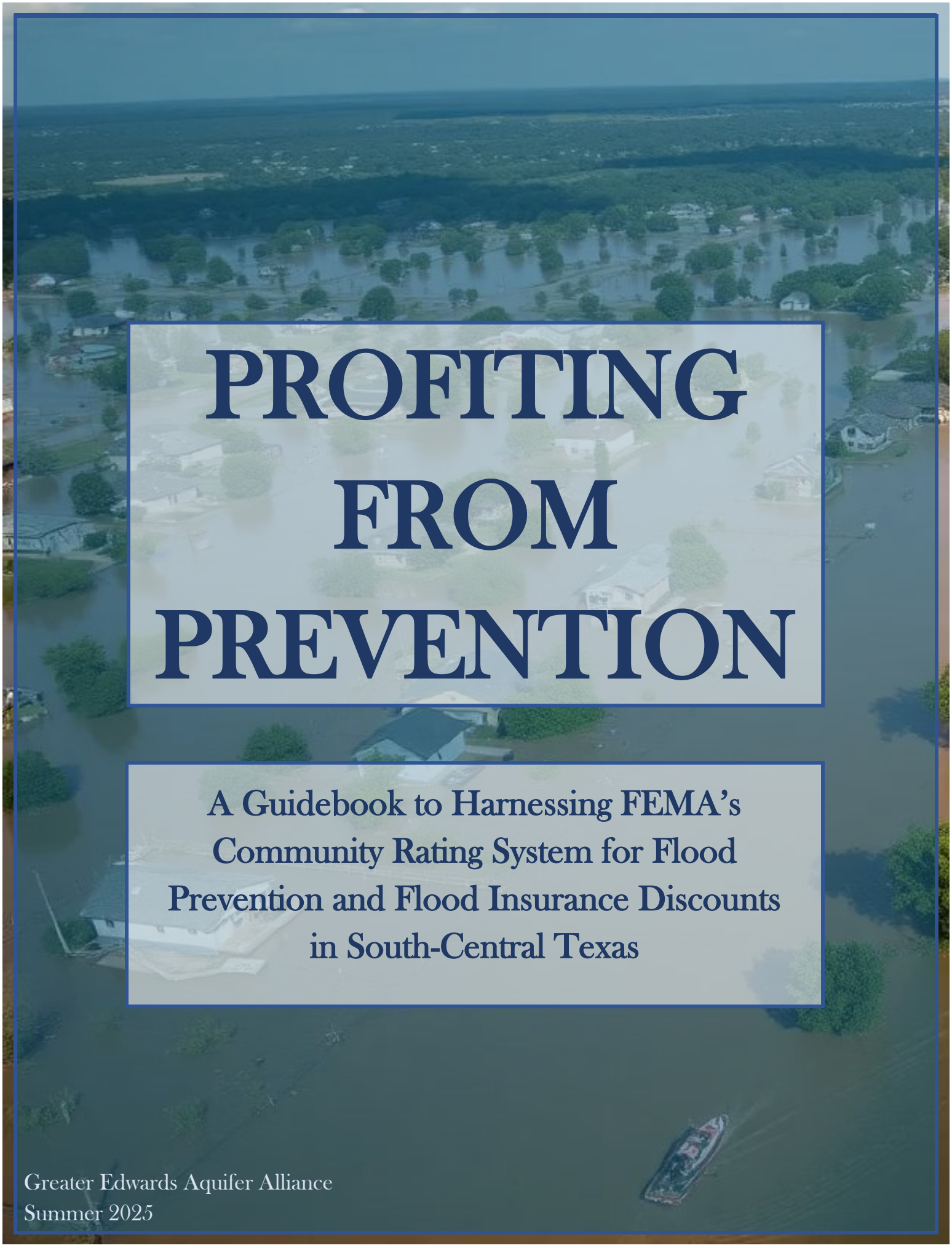

PROFITING FROM PREVENTION

A Guidebook to Harnessing FEMA's Community Rating System for Flood Prevention and Flood Insurance Discounts in South-Central Texas

Greater Edwards Aquifer Alliance
Summer 2025

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Introduction

Context

Changing weather and rapid growth are combining to make flooding more dangerous than ever before. Global temperatures are steadily increasing evaporation and overall levels of moisture in the air. This increased moisture leads to higher runoff levels, more intense storm events, and dangerous flooding. Urban development driven by increasing population growth only further compounds the issue, altering landscapes with impermeable surfaces and diminishing our landscape's ability to naturally absorb and regulate water flow.

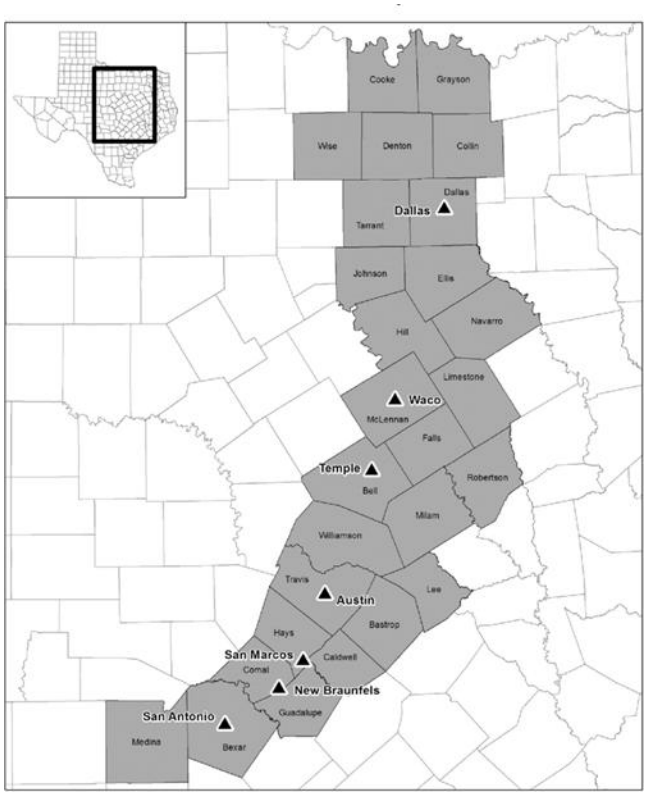


Figure 1. Map of Counties and Major Cities in Flash Flood Alley[1]

These flooding issues are of even greater concern in South-Central Texas. The area referred to as "Flash Flood Alley" runs through the heart of Texas and is one of the most flood-prone regions in the U.S.[2] The Gulf Coast provides a constant source of moist air over the region that, when meeting with cooler air masses from the north, produces extreme rainfall events. This effect is exacerbated by regional topography. The Balcones Fault Zone and resulting Balcones Escarpment creates areas throughout South-Central Texas characterized by sloped landscapes, referred to as the Hill Country. The Hill Country is karstic terrain, composed of limestone that forms thin soils, hard surfaces, and steep hills.[3] These soils are also rich in clays that do not easily absorb water, triggering high water runoff funneled into valleys by the rugged terrain.

These extreme flood events happen in a cyclical nature with extreme droughts in the Texas Hill Country. Prolonged dry periods are often followed by intense rainfall events, leading many to forget about flood concerns during drought seasons, resulting in severe damage when flash flooding follows.[4]

What once might have been manageable floods now often overwhelm infrastructure and pose a serious risk to people and property. These trends demand urgent responses focused on adaptive infrastructure, watershed planning, and resilience-building at the community level through public outreach and education.

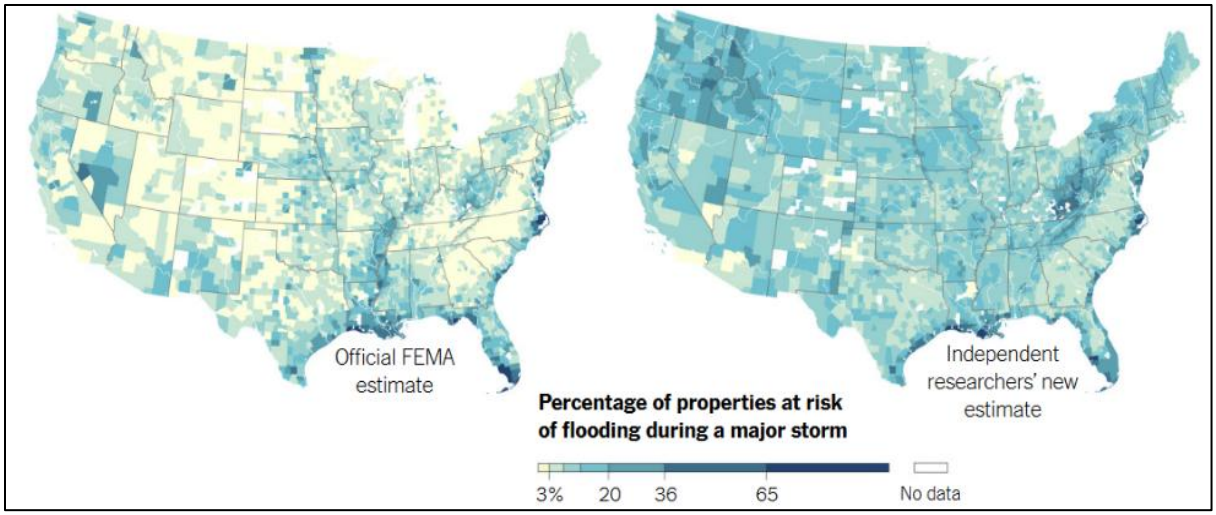


Figure 2. Difference in Flood Risks Between FEMA and Independent Researcher[5]

Federal Emergency Management Agency (FEMA) estimates often do not reflect increases in annual rainfall that shift floodplains, as FEMA flood maps are primarily based on historical flood data. The most dangerous of these areas are floodways. These are the center of the floodplain, the first areas to flood, with the fastest moving, most dangerous and destructive waters. Changing weather patterns and added impervious cover shift the location of floodways, placing past developments into hazardous areas. Typically, development is prohibited within floodways, though exceptions are often granted. This is why local level mapping and management is crucial to assessing future conditions of a community's flood risk.

Texas itself does not have a complete floodplain profile, through FEMA or any other database, including the Texas Water Development Board. A map of available data on the 500- and 100-year floodplains within the scope of the study can be found on page 8. Adopting a CRS program can serve as a blueprint for good flood management for communities.

Scope of Study

This report explores 20 counties in South-Central Texas: Bandera, Bexar, Blanco, Burnet, Caldwell, Comal, Edwards, Gillespie, Guadalupe, Hays, Kendall, Kerr, Kinney, Llano, Medina, Real, Travis, Uvalde, Val Verde, and Williamson. These counties encompass four regions, each with their own flood planning group – regions 10 (Lower Colorado-Lavaca), 11 (Guadalupe), 12 (San Antonio), and 13 (Nueces). There are also parts of some counties in regions 8 (Lower Brazos), 14 (Upper Rio Grande), and 15 (Lower Rio Grande).

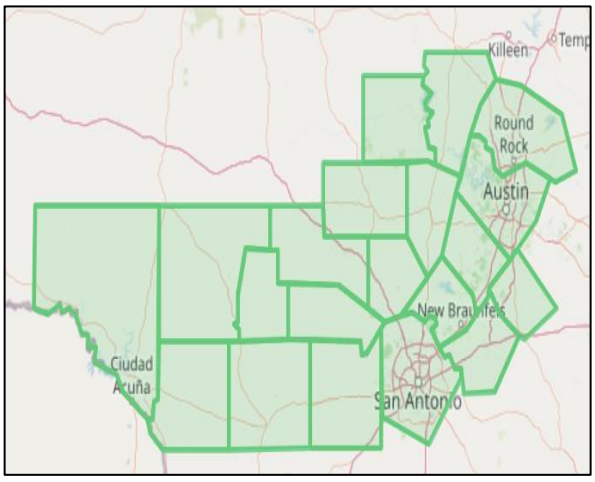


Figure 3. Map of Included Counties

Definitions

100-year flood/ Base flood: The flood having a 1-percent chance of being equaled or exceeded in any given year.

Best Management Practices (BMPs): A practice or combination of practices that is an effective, practicable means of preventing or reducing the amount of pollution generated by nonpoint sources.

Community: Any political subdivision (city, town, village, township, county, or special district) or tribal entity that has the authority to adopt and enforce floodplain management ordinances and that participates in the National Flood Insurance Program (NFIP)

Community Rating System (CRS): A program within the National Flood Insurance Program (NFIP) that provides flood insurance premium discounts to communities that take actions to reduce flood damage, exceed minimum NFIP requirements, and promote flood awareness.

Elevation Certificate: Documents key features of a property, including its location, flood zone, building characteristics and, most importantly, the elevation of its lowest floor. Elevation certificates are often required for properties in high-risk flood zones.

Environmental Protection Agency (EPA): A U.S. federal agency established to protect people and the environment from significant health risks, which sponsors and conducts research and develops and enforces environmental regulations.

Federal Emergency Management Agency (FEMA): An agency within the U.S. Department of Homeland Security charged with responding to presidentially-declared disasters. The federal agency under which the NFIP is administered.

Flood Insurance Rate Map (FIRM): An official map of a community, on which the Federal Emergency Management Agency has delineated both the special flood hazard areas and the risk premium zones applicable to the community.

Flood Insurance Study (FIS): A compilation and presentation of flood risk data for specific watercourses, lakes, and coastal flood hazard areas within a community. When a flood study is completed for the NFIP, the information and maps are assembled into an FIS. The FIS report contains detailed flood elevation data in flood profiles and data tables.

Floodplain/ Floodprone Area: Any land area susceptible to being inundated by water from any water source.

Floodplain Management: The operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans,

flood control works, and floodplain management regulations. The National Flood Insurance Program (NFIP) underwrites flood insurance coverage only in communities that adopt and enforce floodplain management regulations through an ordinance that meets or exceeds NFIP criteria.

Floodproofing: Any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents.

Hazard Mitigation: The sustained actions taken to reduce or eliminate long-term risks to people and property from hazards or disasters, such as flooding, earthquakes, wildfires, landslides, or tsunamis.

Impervious Surfaces: Hard surfaces that prevent or significantly reduce the infiltration of water into the soil. These surfaces, such as roofs, roads, and parking lots, force rainwater to run off instead of soaking into the ground.

Low Impact Development (LID): A management approach and set of practices that can reduce runoff and pollutant loadings by managing runoff as close to its source(s) as possible. Common examples include rain barrels, rain gardens, bioswales, and green roofs.

National Flood Insurance Program (NFIP): The federal program that provides flood insurance to property owners, renters, and businesses. Having this coverage helps them recover faster when floodwaters recede. The NFIP works with communities required to adopt and enforce floodplain management regulations that help mitigate flooding effects.

Outreach Projects: Initiatives designed to connect with and support a specific community or group of people, often with the goal of providing resources, information, or assistance where it is needed most.

Repetitive Loss Properties: Properties that experience recurring flood damage, i.e., any insurable building for which two or more claims for more than $1,000 were paid by NFIP within a ten-year period.

Special Flood Hazard Zone (SFHA): The land in the floodplain within a community subject to a 1-percent or greater chance of flooding in any given year. The area may be designated as zone A on the flood hazard boundary map (FHBM). After detailed rate-making has been completed in preparation for publication of the FIRM, zone A usually is refined into zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE or V.

Concerning Facts

21% of Texas land is within a Special Flood Hazard Area.[6]

1/5 of Texans (nearly 6 million people) live or work in flood hazard areas (including the 100- and 500-year floodplain).[6]

These regions are also experiencing rapid population growth, with Texas growing by 5% from 2020 to 20235. This indicates a startling pattern of adding more people and more development to the floodplain.[8]

Using floodplain data from FEMA and the Texas Water Development Board, we identified thousands of structures in the 500- and 100-year floodplains in each county in the study. Structure data was acquired through FEMA's Texas Structures database.

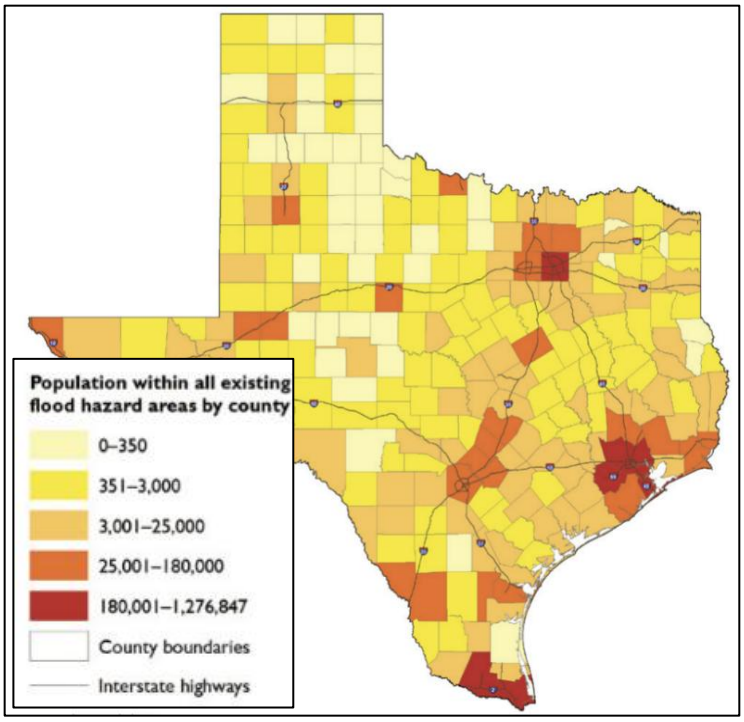


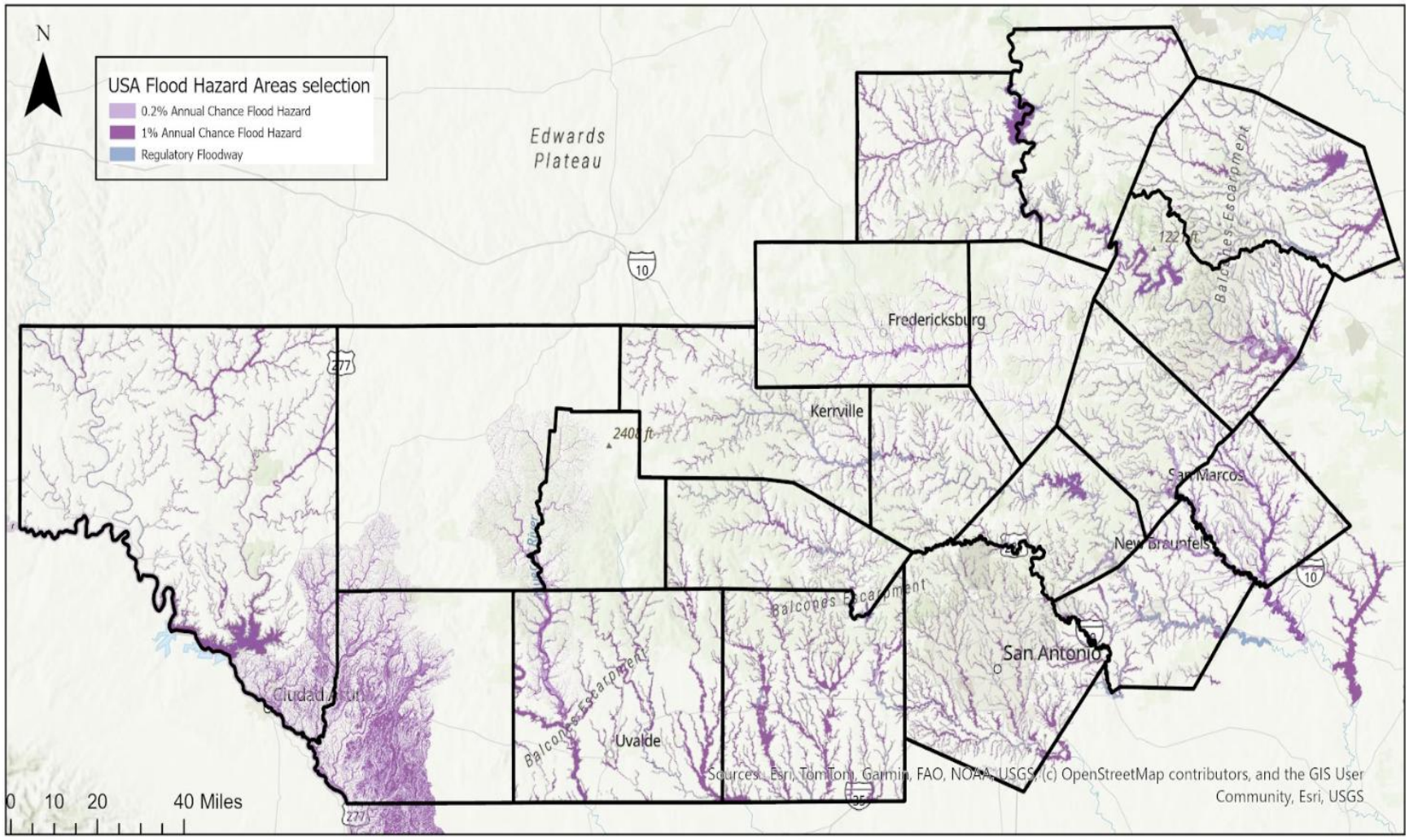
Figure 4. Populations Within Existing Flood Hazard Areas by County from the 2024 State Flood Plan

County	Structures in Floodplain	Structures	Percent in Floodplain
Bandera	2837	24804	11%
Bexar	7353	348672	2%
Blanco	881	12699	7%
Burnet	6692	391455	2%
Caldwell	1367	23096	6%
Comal	7219	103127	7%
Edwards	276	6183	4%
Gillespie	1883	31743	6%
Guadalupe	10077	77706	13%
Hays	4838	95689	5%
Kendall	2649	30077	9%
Kerr	5651	38312	15%
Kinney	1919	4269	45%
Llano	6816	24157	28%
Medina	5374	39896	13%
Real	631	5889	11%
Travis	16686	245280	7%
Uvalde	2632	19824	13%
Val Verde	1836	26622	7%
Williamson	4443	173756	3%
Total	92060	1723256	5%

Figure 5. Structures in the Floodplain by County

Data for counties Blanco, Gillespie, Edwards, Kinney, and Real is incomplete, implying the possibility of more structures in their floodplains.

A map displaying the floodplains is provided on the next page.



The above map is created from a combination of data from the National Flood Hazard Layer from FEMA and Base Elevation data from the Texas Water Development Board's Map Viewer.

Areas of Blanco, Edwards, Gillespie, Kinney, and Real counties have incomplete mapping due to missing data currently reflected in in-progress floodplain studies by the Texas Water Development Board.

What can be done?

Several communities are already implementing flood prevention and mitigation measures to combat extreme weather events. Few, however, benefit from the additional economic potential of the Federal Emergency Management Agency's Community Rating System. The Community Rating System promotes flood management and prevention through a variety of measures and rewards participating communities with significant discounts on flood insurance premiums through the National Flood Insurance Program. The CRS program presents a multi-pronged opportunity for our localities. Not only would governments be protecting their citizens and their property, they could also be saving their community money. Although learning to utilize a complex system such as CRS can be complicated and could seem too costly, online resources to assist curious communities are plenty, and the application process is straightforward. The program's wide base of credited activities ensures that even the smallest of communities can gain a discount. The need for increased flood protection is ever-growing, and the CRS program presents a good opportunity for communities to seek a simultaneous financial boon for residents.

Flood prevention efforts in Texas have long been prioritized to a much lesser degree compared to flood response projects. The Greater Edwards Aquifer Alliance initiated this report and guidebook as a way to help communities understand the benefits of responsible flood prevention efforts, the benefits to their residents of the CRS program, and the process for applying for the CRS discounts. This project was started in early June 2025, weeks before the devastating July 4th weekend flooding. The deadly flood in the Texas Hill Country further indicated the need for responsible floodplain management and investment into not only response, but also prevention.

While involvement in the CRS would not have stopped the flash flooding from occurring, floodplain preservation, responsible land use efforts, increased public education, and improved warning systems could help save future lives and lower future rebuilding costs. We hope this guidebook can help ensure that a tragedy of a similar scale is not again inflicted on Texans.

The variety of projects and initiatives needed to join CRS are admittedly expensive, but the costs pale in comparison to the cost of cleanup and rebuilding after disaster. For example, early estimates of the July 4th floods show that the financial toll could reach $22 billion, accounting for damage to businesses, campgrounds, and other facilities, as well as disruptions to commerce, losses from power outages and road closures, travel delays, tourism losses and broad infrastructure damage.[9] These impacts are likely underestimates; they do not account for the long-term physical and mental health care costs for survivors and impacted families.

It is time for Texas to abandon the mindset of reacting and rebuilding. The cost of this thinking accumulates quickly and includes risking human lives. Texas is the most disaster-prone state in the country, recording 190 extreme weather events between 1980 and 2024, each inflicting more than $1 billion in damage.[10] Proactive floodplain management must become a priority for Texas.

What is the Community Rating System?

The Community Rating System is a program under the National Flood Insurance Program (NFIP) that has been conducted by FEMA since its start in 1990. CRS is a voluntary incentive program implemented to recognize and encourage community floodplain management activities that go beyond the minimum standards of the NFIP. Any community that is compliant with NFIP minimum standards may apply to join the CRS. Under the CRS, flood insurance premiums are discounted up to 45% to reward a community that meets the goals of CRS: reduce flood damage to insurable property, strengthen and support NFIP, and create a comprehensive approach to floodplain management.

Discounts are provided based on a class rating system. There are 10 classes with flood insurance premium discounts in Special Flood Hazard Areas (SFHAs) ranging from zero percent for Class 10 to 45% for Class 1. Class is determined by the number of total credits that a community receives from a series of 19 potential activities. Discounts increase by five percent at every improvement in Class. Discounts are available, at a lower rate, outside of the SFHA for all properties that have flood insurance in that community.

Table 110-1. CRS classes, credit points, and premium discounts.

CRS Class	Credit Points (cT)	Premium Reduction	
		In SFHA	Outside SFHA
1	4,500+	45%	10%
2	4,000–4,499	40%	10%
3	3,500–3,999	35%	10%
4	3,000–3,499	30%	10%
5	2,500–2,999	25%	10%
6	2,000–2,499	20%	10%
7	1,500–1,999	15%	5%
8	1,000–1,499	10%	5%
9	500–999	5%	5%
10	0–499	0	0

Figure 7. Chart of CRS classes from Coordinator's Manual

Activities consist of 4 major categories: Public Information, Mapping and Regulations, Flood Damage Reduction, and Warning and Response. Each category has between 3 and 7 activities. Each activity has multiple elements which are comprised of several variables. An impact adjustment is calculated for each element to assess the action's impact on the community's floodplain. This nested system of credit identification provides many avenues for a community to qualify for credit for any activity.

Some activities are easier to acquire credit for than others. Specific guidelines for each activity can be found in the CRS Coordinators Manual. The Coordinators Manual is currently unavailable on FEMA's Community Rating System webpage. The most current edition is the 2017 edition and is available only through an internet archive or through the provided google drive share link below:
https://drive.google.com/file/d/1dAZSrPNs6R5cGWKgSFhXTVM9BWpqiMSg/view?usp=sharing

Table 110-2. Credit points awarded for CRS activities.*				
Activity	Maximum Possible Points	Maximum Points Earned	Average Points Earned	Percentage of Communities Credited
300 Public Information Activities				
310 Elevation Certificates	116	116	38	96%
320 Map Information Service	90	90	73	85%
330 Outreach Projects	350	350	87	93%
340 Hazard Disclosure	80	62	14	84%
350 Flood Protection Information	125	125	38	87%
360 Flood Protection Assistance	110	100	55	41%
370 Flood Insurance Promotion [5]	110	110	39	4%
400 Mapping and Regulations				
410 Flood Hazard Mapping	802	576	60	55%
420 Open Space Preservation	2,020	1,603	509	89%
430 Higher Regulatory Standards	2,042	1,335	270	100%
440 Flood Data Maintenance	222	249	115	95%
450 Stormwater Management	755	605	132	87%
500 Flood Damage Reduction Activities				
510 Floodplain Mgmt. Planning	622	514	175	64%
520 Acquisition and Relocation	2,250	1,999	195	28%
530 Flood Protection	1,600	541	73	13%
540 Drainage System Maintenance	570	454	218	43%
600 Warning and Response				
610 Flood Warning and Response	395	365	254	20%
620 Levees	235	207	157	0.5%
630 Dams	160	99	35	35%

Figure 8. Activities by Credit from the CRS Coordinators Manual.

A more detailed description of activity categories can be found in Appendix A.

Actions of Current Participants

As of publication, within the scope of the study area there are 10 communities currently participating in the Community Rating System. Below is a chart indicating which activities the communities are currently receiving credit for and which activities they are not receiving credit for but could. The latter was assessed through an examination of the communities' online resources for any potential projects or programs that could potentially receive CRS credit.

These communities provide examples of what other communities in the region should be looking toward for guidance on how to utilize CRS. The most distinctive difference seen between participating and non-participating communities was the availability of flood information on the

community's website. Publicly available information such as linking FEMA flood maps or providing flood protection and flood proofing information can provide a community with a surprising amount of credit through activities in the 300 series. This information also directly contributes to increasing public awareness of flood risks, thereby increasing community safety when floods do occur.

CRS Eligible Communities																				
April 1, 2025 Effective Date			What CRS Activities Are They Doing?																	
COMMUNITY	CRS CLASS	% DISCOUNT	310	320	330	340	350	360	370	410	420	430	440	450	510	520	530	540	610	620	630
Leon Valley	6	20																			
Live Oak	7	15																			
San Antonio	6	20																			
New Braunfels	8	10																			
Guadalupe County	8	10																			
San Marcos	7	15																			
Boerne	7	15																			
Austin	5	25																			
Pflugerville	7	15																			
Sunset Valley	7	15																			
April 1, 2025 Effective Date			Credit Per Activity																		
COMMUNITY	CRS CLASS	% DISCOUNT	310	320	330	340	350	360	370	410	420	430	440	450	510	520	530	540	610	620	630
Leon Valley	6	20	38	90	173	15	49	55			481	465	107	50	169	375			255		
Live Oak	7	15	38	70	12	15	40	55			812	90	92	30				250			
San Antonio	6	20	38	90	280	20	67	55		139	368	385	144	60	50	81		281			
New Braunfels	8	10	38	90	138	20	54				131	240	123	235	65	190					29
Guadalupe County	8	10	84	90	126	20	71	55	15			99	116	53	193		135	265			29
San Marcos	7	15	22	90	64	23	44	55			258	614	146	245	65			115			29
Boerne	7	15	42	90	130	15	54	55		27	207	511	121	215	282						
Austin	5	25	38		155	20	76			21	703	182	218	225	332	266					
Pflugerville	7	15	38	90	180	15	62	55	15		598	184	90	200				87			
Sunset Valley	7	15	38	90	15	15	39	55			1362	370	90	60	244	57					
Maximum Possible Credit			116	90	350	80	125	110	110	802	2020	2042	222	755	622	2250	1600	570	395	235	160

Currently Receiving Credit | May Be Potential for Credit | Not Receiving Credit, No Potential

Figure 9. Currently Participating Communities Within Research Scope

The second chart shows what activities communities are currently receiving credit for and how much credit is received. For many activities it is difficult to receive full credit; few, if any, CRS participants receive full credit nationwide. Therefore, communities should not be discouraged by low credit numbers in some categories. The scores demonstrate the potential for any community to receive a discount, as they can meet credit class requirements in an infinite number of ways.

Although these communities do not seem to have publicly accessible plans regarding specific CRS projects, comparing community activities with received credit is a good start for those who are considering applying to the program.

San Antonio does provide a publicly accessible CRS implementation plan for Activity 510 (Floodplain Management Planning) which includes a series of charts delineating achieved and in-progress projects and the funds needed to complete these projects. This can be a valuable resource for communities unsure of where to begin or what planning for CRS may look like.

The presence of Sunset Valley as a Class 7 is also encouraging. With a population of just over 600 and a size of under 1.5 square miles, Sunset Valley shows that even small, potentially resource-limited communities can receive discounts through the CRS program. The major reason for Sunset Valley's success is the credits they received for open space preservation. In this instance, being a physically small community gives them the advantage of having a higher ratio of open space to Special Flood Hazard Area.

Because what works for Sunset Valley may not work for every community – though open space preservation is highly encouraged – FEMA provides specific resources and recommendations to small communities. The CRS recognizes that many small communities face challenges that larger ones do not, such as smaller budgets, fewer personnel, part-time staff, and a lack of in-house technical expertise in engineering or geographic information systems (GIS). Suggestions for smaller communities include a focus on community floodplain land, specifically keeping track of building permits in the floodplain, checking Elevation Certificates (Activity 310), and enforcing regulations that exceed NFIP minimum requirements. FEMA also provides free technical assistance and a week-long CRS course for local officials at FEMA's Emergency Management Institute (EMI) among additional assistance discussed in Appendix D of this report.

Room for Improvement

The yellow sections of the chart indicate activities that participating communities are not currently receiving credit for that this study has identified as having the potential to receive credit. All these communities promote flood insurance (Activity 370) in some capacity on their community webpages but likely fall short of a formal assessment and plan to encourage flood insurance. This activity has straightforward elements though, making it a viable choice for any community to seek credit for.

Elements for Activity 370 (Flood Insurance Promotion) are as follows:

- Flood Insurance Coverage Assessment (FIA): Up to 15 points for assessing the community's current level of coverage and identifying shortcomings. This is likely where most communities' points for this section are credited.
- Coverage Improvement Plan (CP): Up to 15 points for a plan prepared that has representation from local insurance agents.
- Coverage Improvement Plan Implementation (CPI): Up to 60 points for implementing the projects in the CP plan.
- Technical Assistance (TA): Up to 20 points for providing advice about flood insurance.

Credit could also be received for Activity 530 (Flood Protection), although credit received for this category is minimal across the state and the country, due to the specificity of the activity's elements. Each of these studied communities performs some flood protection activities, but

these projects may be incomplete or unverified. Flood protection projects available for receiving credit include:

Retrofitting projects:

- Elevating buildings above predicted flood level,
- Dry floodproofing,
- Wet floodproofing,
- Protecting basements from sewer backup, and
- Barriers (for individual structures only), including levees, berms, and floodwalls

Structural flood control projects:

- Channel modifications, including enlarging box culverts,
- Storm drain improvements, including enclosing open channels,
- Diversions and other structural projects, and
- Small reservoirs, including retention and detention basins

Projects such as these are discussed in many participating and non-participating community's comprehensive or master plans or in sections of other local department plans such as street, drainage, or parks plans.

The last recommendation for current and future participants to seek credit for is under Activity 610 (Flood Warning and Response). Elements include:

- Flood threat recognition system (FTR): Up to 75 points for a system that predicts flood elevations and arrival times at specific locations within the community.
- Emergency warning dissemination (EWD): Up to 75 points for dissemination of flood warnings to the public.
- Flood response operations (FRO): Up to 115 points for implementation of specific tasks to reduce or prevent threats to health, safety, and property.
- Critical facilities planning (CFP): Up to 75 points for coordinating flood warning and response activities with operators of critical facilities.
- StormReady community (SRC): 25 points for designation by the National Weather Service as a StormReady community. A community can only receive credit for this element if they are receiving some credit in each of the other above elements (See paragraph below).
    - List of StormReady communities within scope of study:
        - Austin (Participating)
        - Cedar Park
        - Converse

- Helotes
- Hutto
- Kyle
- Leander
- Leon Valley (only community in study receiving this credit)
- New Braunfels (Participating)
- Round Rock
- San Antonio (Participating)
- San Marcos (Participating)

There are criteria that a community must meet to receive credit for Activity 610.

- To receive credit for Storm Ready Community, the community must receive some credit in each of the elements Flood Threat Recognition, Early Warning Dissemination, Flood Response Operations, and Critical Facility Planning.
- The community must have a description of its flood hazard.
- There must be a multi-level flood inundation map or series of related maps (e.g., surge and evacuation zones) that are tied to different levels of response as designated in the community's plan.
- There must be an adopted flood warning and response plan that is associated with the maps in credit criterion.
- There must be one or more annual outreach projects on the flood warning and safety precautions.
- There must be an annual exercise of the plan or an emergency operations center activation, with a lessons-learned report.

Activity 610 may seem daunting to receive credit for, as only 20% of communities are currently receiving some amount of credit. However, this activity is critical to protecting people and property and can be used as an example of optimal disaster planning for flood hazards.

Texas Priorities and Insufficiencies

All the participating communities in the CRS follow a similar pattern of credit, with some communities achieving some activities at a consistently higher rate than others. "Higher Regulatory Standards" is the most achieved activity nationally, with an even higher rate of achievement in Texas. However, the areas where Texas falls below the national average may be the most concerning. Texas falls behind when it comes to flood warning and response, flood hazard mapping, flood insurance promotion, stormwater management, and acquisition and relocation.

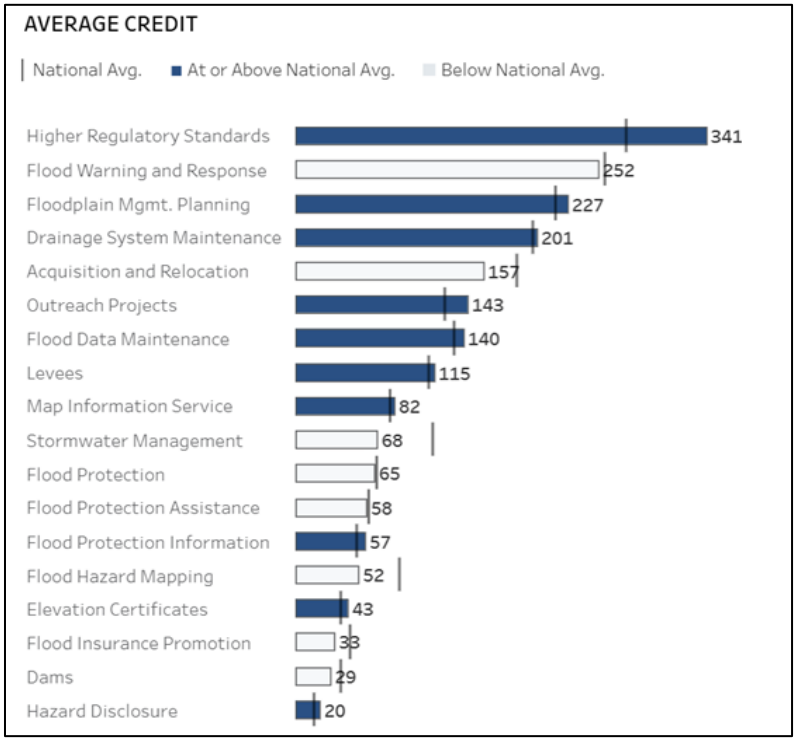


Figure 10. Activities by Average Credit

These activities directly serve to protect people living in flood hazard zones. Closing these gaps is not just possible, it is imperative. By prioritizing these overlooked activities, Texas communities can raise their CRS scores and, more importantly, reduce their flood vulnerability.

Potential Participants

This study examined the activities of 70 communities across South-Central Texas, identifying where it may be possible for the community to receive credit through CRS. Focus was placed on current and proposed projects and ordinances discussed in a community's publicly available documents, including stormwater management plans, city master plans or future comprehensive plans, and other helpful information found on a community's government webpage.

The following section provides a theoretical understanding of where communities may receive credit based on the examination of the above factors; GEAA cannot confirm that communities would in fact receive credit for these activities. It is our hope that communities can use this resource as a jumping-off point for enrolling in the CRS program, but the community would need to work directly with the CRS program.

It is important to address the complexity of receiving CRS credit. The nested system of credit ensures that only the ISO/CRS Specialist can truly determine the amount of credit given to a

community. More information on credit calculation can be found under the How to Apply to CRS section of this document and in the CRS Coordinators Manual.

It is not possible for this report to specifically address every community that was examined. For clarity on the amount of credit possible for your community, use the CRS Quick Check or the CRS Community Self-Assessment available at CRSresources.org/200.

A summary of the activities identified for which each of the assessed communities may be able to receive credit is featured in Appendix A of this report.

Applicable to all Potential Participants

Activity 310 (Elevation Certificates) is a requirement for joining the CRS as it is seen as a key indicator of community compliance with the requirements of the NFIP. While elevation certification is not a requirement to participate in NFIP, it is common for counties and cities to enforce them in the SFHAs. All communities identified in the study show some maintenance of elevation requirements for new structures in SFHAs. It is unclear whether these are specifically in the form of elevation certificates or rather under building permits but it would likely not be difficult to implement elevation certificates within the permitting process. As Activity 310 is a requirement for participation in the CRS, it is necessary for communities to implement and maintain elevation certificates.

Every community in Texas is eligible for 25 points under Activity 340 (Hazard Disclosure) due to the state's hazard disclosure laws.

Activity 430 (Higher Regulatory Standards) has a 100% accreditation rate throughout CRS participants and thus is a great choice for any community seeking to participate. This activity is incredibly broad as higher standards are understood to mean standards that exceed NFIP's minimum requirements. With a maximum credit limit of over 2,000 points, and 17 elements that communities can receive credit for, this activity can provide a massive boost to a communities rating.

Elements include:

- Development limitations (DL): Up to 1,330 points for prohibiting fill, buildings, and/or storage of materials in the SFHA.
- Freeboard (FRB): Up to 500 points for a freeboard requirement.
- Foundation protection (FDN): Up to 80 points for engineered foundations.
- Cumulative substantial improvements (CSI): Up to 90 points for counting improvements cumulatively.
- Lower substantial improvements (LSI): Up to 20 points for a substantial improvement threshold lower than 50%.

- Protection of critical facilities (PCF): Up to 80 points for protecting facilities that are critical to the community.
- Enclosure limits (EL): Up to 390 points for limiting enclosures below the base flood elevation.
- Building code (BC): Up to 100 points for adopting and enforcing the International Code Series.
- Local drainage protection (LDP): Up to 120 points for ensuring that new buildings are protected from shallow flooding.
- Manufactures home parks (MHP): Up to 15 points for removing the elevation exemption for manufactured homes placed in existing manufactured home parks.
- Coastal A Zones (CAZ): Up to 500 points for enforcing V-Zone rules inland from the V-Zone boundary.
- Special flood-related hazard regulations (SHR): Up to 100 points for enforcing appropriate construction standards in areas subject to a special flood-related hazard.
- Coastal erosion hazard regulations (CER): Up to 370 points for enforcing appropriate construction standards and setbacks in areas subject to significant coastal erosion.
- Other higher standards (OHS): Up to 100 points for other regulations.
- State-mandated regulatory standards (SMS): Up to 20 bonus points if a regulatory standard is required by the state.
- Regulations administration (RA): Up to 67 points for having trained staff and administrative procedures that meet specified standards.

Top 6 Communities

	Potential for Credit		May Be Potential for Credit		No Potential for Credit

COMMUNITY	310	320	330	340	350	360	370	410	420	430	440	450	510	520	530	540	610	620	630
Round Rock																			
Kyle																			
Kerrville																			
Seguin																			
Lockhart																			
Wimberley																			

Figure 11. Activities for Top 6 Potential Applicants

The top six communities with the highest potential for receiving credit within the Community Rating System are outlined in Appendix B. These communities were ranked by the amount of potential they showed for credit. Visually, this is demonstrated by the highest amount of green and yellow sections.

Green indicates the completion of at least one element of an activity indicating potential for credit if application occurs. Yellow indicates that an element may have been completed but it is difficult to tell if the community could receive credit for the activity due to a lack of readily available information. Red indicates that no element of an activity seems to be in progress or completed.

This list was also assessed by the level of flood risk to people and property as indicated by First Street, a company that provides physical climate risk data for properties in the US. The presence of Kerrville on this list was decided using these methods before the July flooding occurred, further demonstrating the importance of preventative floodplain management and improved disaster response. This is also the reason for Wimberly's placement in the Top 6 communities even though they rank below other communities when only assessed for credit potential.

Appendix B contains an assessment of each chosen community's activities, including what they may be able to receive credit for and areas where they might be able to improve. This information was compiled from each community's city ordinances, city plans, and any other pertinent information available on their government webpages.

For a community to truly be able to estimate the credit they are applicable for they should complete the Community Rating System Self-Assessment found at:
https://crsselfassessment.us

Table of All Potential Participants

Potential for Credit	May Be Potential for Credit	No Potential for Credit

Non-Participating	What CRS Activities Are They Doing Or Could Be Doing?																		
COMMUNITY	310	320	330	340	350	360	370	410	420	430	440	450	510	520	530	540	610	620	630
Round Rock																			
Kyle																			
Kerrville																			
Lockhart																			
Seguin																			
Wimberley																			
Cedar Park																			
Hutto																			
Horseshoe Bay																			
Helotes, Texas																			
Fredericksburg																			
Schertz																			
Georgetown																			
Bandera																			
Alamo Heights																			
Cibolo																			
Fair Oaks Ranch																			
Blanco																			
Del Rio																			
West Lake Hills																			
Seguin																			
Selma																			
Buda																			
Leander																			
Manor																			
Liberty Hill																			
Dripping Springs																			
The Hills																			
Terrell Hills																			
Converse																			
Castroville																			
Universal City																			
Grey Forest																			
Bulverde																			
Shavano Park																			
Garden Ridge																			
Lakeway																			
Taylor																			
Bee Cave																			
Martindale																			
Llano																			
Rollingwood																			
Windcrest																			
Jonestown																			
Olmos Park																			
Uvalde																			
Thrall																			
Devine																			
Castle Hills																			
Luling																			
Balcones Heights																			
Hill Country Village																			
Hollywood Park																			
Von Ormy																			
Hondo																			
Point Venture																			
Granger																			
Florence, Texas																			
Jarrell																			
Bartlett																			
Johnson City																			
Elmendorf																			
Kirby																			
Briarcliff																			
Lago Vista																			
China Grove																			
Weir																			
New Berlin																			
Ingram																			
Brackettville																			

Figure 12. Potential Applicants Within Research Scope

City vs County Participants

Texas counties and cities do not have the same authority to implement all aspects of the Community Rating System. Home-rule Texas cities are able in many instances to regulate and pass rules and ordinances stricter than state law. Under state law, however, Texas counties are unable to implement regulations and ordinances stricter than those imposed by the state. Counties have extremely limited land development and land-use authority and have no zoning authority. Counties are also only able to currently regulate under the 2008 International Residential Building Code or to the version of the code adopted by the county seat (Section 233.153(a), Texas Local Government Code).

To qualify for a CRS Class 6 or better, a community must receive a 5/5 classification or better under the Building Code Effectiveness Grading Schedule (BCEGS). To achieve this BCEGS score, a community must have the ability to adopt building codes, pass code amendments, and implement zoning and land-use provisions, effectively barring county participation or advancement past a Class 7 rating. The CRS also provides credit to communities that have adopted the current editions of the International Residential Code and International Building Code, which counties in Texas are unable to do.

By preventing counties from being able to fully meet the requirements of the Community Rating System, Texas is effectively capping the discount residents in unincorporated areas can receive on their flood insurance premiums at 15 percent, while their counterparts in incorporated cities could plausibly receive up to 45 percent.

Key Recommendations

Communities receive credit for engaging in any of the 19 creditable activities. CRS specialists use specific formulas and adjustment factors to calculate the credit points for each activity, which can be found in the Coordinator's Manual. Because flood loss prevention activities have a greater impact in high growth or developing areas, credit points in some categories are adjusted upwards to reflect the rate of growth in the community containing the community. **More detail on how to apply to the CRS program can be found in Appendix C. Funding opportunities can be found in Appendix D.**

The key recommendations for communities seeking to join the Community Rating System prioritize activities in the 300 series and Activity 610 (details listed in Appendix A of this report). The 300 series focuses on public information disclosure and includes 7 activities. This report highlights some of these activities below that many communities are already performing or can easily modify existing materials in order to qualify for credit.

Activity 310 (Elevation Certificates)

- Maintaining elevation certificates: Up to 38 points for maintaining Federal Emergency Management Agency (FEMA) Elevation Certificates on all buildings built in the Special Flood Hazard Area (SFHA) after the date of application to the Community Rating System. All communities applying to CRS must apply for this element.
- Maintaining Elevation Certificates for post-FIRM buildings: Up to 48 points for maintaining Elevation Certificates on buildings built before the date of application to the CRS but after the initial date of the Flood Insurance Rate Map (FIRM).
- Maintaining Elevation Certificate for pre-FIRM buildings: Up to 30 points for maintaining Elevation Certificates on buildings built before the initial date of the FIRM.

Activity 320 (Map Information Service)

- Basic FIRM information: 30 points for providing basic information found on a Flood Insurance Rate Map (FIRM) that is needed to write a flood insurance policy.
- Additional FIRM information: Up to 20 points for providing information that is shown on most FIRMs, such as protected coastal barriers, floodways, or lines demarcating wave action.
- Problems not shown on the FIRM: Up to 20 points for providing information about flood problems other than those shown on the FIRM.
- Flood depth data: Up to 20 points for providing information about flood depths.
- Special flood-related hazards: Up to 20 points for providing information about special flood-related hazards, such as erosion, ice jams, or tsunamis.
- Historical flood information: Up to 20 points for providing information about past flooding at or near the site in question.
- Natural floodplain functions: Up to 20 points for providing information about areas that should be protected because of their natural floodplain functions.

Activity 330 (Outreach Projects)

- Outreach projects: Up to 200 points for designing and carrying out public outreach projects. Credits for individual projects may be increased if the community has a Program for Public Information (PPI). Topics for Outreach Projects include:
  - Know your flood hazard.
  - Insure your property for your flood hazard.

- Protecting people from the hazard.
- Protect your property from the hazard.
- Build responsibly.
- Protect natural floodplain functions.

- Flood response preparations: Up to 50 points for having a pre-flood plan for public information activities ready for the next flood. Credits for individual projects may be increased by the PPI multiplier.
- Program for Public Information: Up to 80 points added to Outreach Project credits and up to 20 points added to Flood response preparation credits, for projects that are designed and implemented as part of an overall public information program.
- Stakeholder delivery: Up to 50 points added to Outreach Project credits for having information disseminated by people or groups from outside the local government.

Activity 340 (Hazard Disclosure)

- Disclosure of the flood hazard: Up to 25 points if real estate agents notify those interested in purchasing properties located in the SFHA about the flood hazard and the flood insurance purchase requirement. An additional 10 points are provided if the disclosure program is part of a Program of Public Information credited under Activity 330 (Outreach Projects).
- Other disclosure requirements: Up to 5 points for each other method of flood hazard disclosure required by law, up to a maximum of 25 points.
- Real estate agents' brochure: Up to 8 points if real estate agents are providing brochures or handouts that advise potential buyers to investigate the flood hazard for a property. An additional 4 points are provided if the disclosure program is part of a Program for Public Information credited in Activity 330 (Outreach Projects).
- Disclosure of other hazards: Up to 8 points if the notification to prospective buyers includes disclosure of other flood-related hazards, such as erosion, subsidence, or wetlands.

Due to Texas Hazard Disclosure Laws, any community in Texas will likely receive 25 points automatically.

Activity 350 (Flood Protection Information)

- Flood Protection Library: 10 points for having 9 FEMA publications on flood protection topics housed in the public library.

- Locally pertinent documents: Up to 10 points for having additional references on the community's flood problem or local or state floodplain management programs housed in the public library.
- Flood protection website: Up to 77 points for providing flood protection information via the community's website. An additional 28 points are provided if the website is part of a Program for Public Information. There are three ways to receive credit under this element:
    - Providing information on the messages conveyed in the community's outreach projects credited under Activity 330.
    - Posting or linking real-time gauge information so users can see current water levels and, where available, flood height predictions.
    - Posting Elevation Certificates or the data from the Elevation Certificates.

Activity 360 (Flood Protection Assistance)

- Property protection advice: Up to 25 points for providing one-on-one advice about property protection (such as retrofitting techniques and drainage improvements). An additional 15 points are provided if the assistance program is part of a Program for Public Information.
- Protection advice provided after a site visit: Up to 30 points if the property protection advisor makes a site visit before providing the advice. An additional 15 points are provided if the site visits are a part of a Program for Public Information.
- Financial assistance Advice: 10 points for providing advice on financial assistance programs that may be available. An additional 5 points are provided if the financial assistance advisory is part of a Program for Public Information.
- Advisor training: 10 points if the person providing the advice has graduated from the EMI courses on retrofitting or grants programs.

Activity 370 (Flood Insurance Promotion)

Complete element list can be found in Appendix A of this report.

Many communities can qualify for what the CRS calls "state-based credit," based on the activities or regulations a state or regional agency implements within communities.

CRS Recommendations

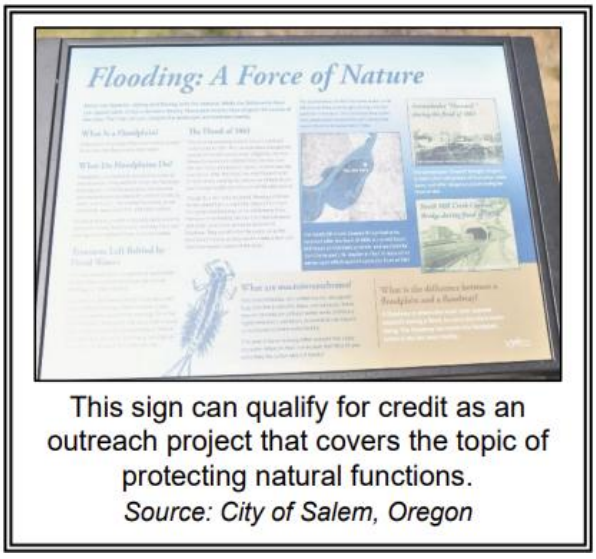
Although the Coordinator's Manual makes some recommendations on activities for communities to engage in, it is not within the scope of that manual to make specific recommendations dependent on local and regional differences. Below are broader topics in which the CRS program places immense value.

Floodplain Preservation

The CRS Coordinator's Manual outlines several benefits to floodplain preservation and provides special credit for communities that protect and restore natural floodplain functions. When kept free of development, floodplains provide the necessary flood water conveyance and storage needed by a river system. Minimal or absent development in a floodplain allows it to perform its natural function, reducing flood velocities and peak flows downstream. Natural floodplains moderate water temperature, filter runoff, improve water quality, and provide habitats for diverse species of flora and fauna.

The CRS encourages state, local, and private programs and projects that preserve or restore the natural state of floodplains and protect these functions. CRS also encourages communities to coordinate flood reduction programs with other public and private activities that preserve and protect natural and beneficial floodplain functions. Credits specifically for floodplain protection are found in the following activities:

- Activity 320 (Map Information Service) – Credits for advising people about area that should be protected because of their natural functions of the community's floodplain functions.
- Activity 330 (Outreach Projects) – Credit is provided for outreach projects that include descriptions of the natural functions of the community's floodplains.
- Activity 350 (Flood Protection Information) – Credit points are available for a website that provides detailed information about local areas that should be protected for their natural floodplain functions and how they can be protected.



This sign can qualify for credit as an outreach project that covers the topic of protecting natural functions.
Source: City of Salem, Oregon

Figure 13. Floodplain Outreach Project

- Activity 420 (Open Space Preservation) – Extra credit is provided for open space areas that are preserved in their natural state; have been restored to a condition approximating their pre-development natural state; or have been designated as worthy of preservation for their natural benefits, such as being designated in a habitat conservation plan.
- Activity 430 (Higher Regulatory Standards) – Regulations that protect natural areas during development or that protect water quality are credited.

- Activity 440 (Flood Data Maintenance) – Adding layers to the community's geographic information system (GIS) with natural floodplain functions (wetlands, designated riparian habitat, flood water storage areas) is credited.
- Activity 450 (Stormwater Management) – Erosion and sediment control, water quality, and low-impact development techniques minimize the impacts of new development. These measures are credited, along with regulations that require the maintenance of natural flow regimes.
- Activity 510 (Floodplain Management Planning**)** – Extra credit is provided for plans that address the natural benefits of floodplains and recommend ways to protect them.
- Activities 520 (Acquisition and Relocation), 530 (Flood Protection), and 540 (Drainage System Maintenance) credit flood reduction measures such as capital improvement programs and drainage improvement projects. No such projects or programs can be credited unless a thorough environmental review is conducted.

Future Conditions

The CRS recognizes that floodplains and watersheds inevitably change over time, driven by natural and human-caused changes. Good floodplain management understands this and prepares for how floodplains may look in the future. Floodplain managers must cope with the potential for increased impervious surfaces in watersheds, new fill in floodways, rising sea levels, changes in natural floodplain functions, and many other factors.

The CRS acknowledges this and provides opportunities for additional credit in the following ways:

- Credit is provided under Activity 320 (Map Information Service) for communities that provide information about areas (not mapped on the FIRM) that are predicted to be susceptible to future flooding because of climate change or sea level rise.
- Credit is provided under Activity 340 (Hazard Disclosure) when prospective buyers of a property are advised of the potential for flooding due to climate changes and/or sea level rise.
- Credit is provided under Activity 410 (Floodplain Mapping) when the community's regulatory map is based on future-conditions hydrology, including sea level rise.
- Credit is provided under Activity 430 (Higher Regulatory Standards) when a community accounts for sea level rise in managing its coastal A Zones.
- Credit is provided under Activity 450 (Stormwater Management) if a community's stormwater program regulates runoff from future development.
- Credit is provided under Activity 450 (Stormwater Management) for a community whose watershed master plan manages future peak flows so that they do not exceed present values.

- Credit is provided under Activity 450 (Stormwater Management) for a coastal community whose watershed master plan addresses the impact of sea level rise.
- Credit is provided under Activity 510 (Floodplain Management Planning) for flood hazard assessment and problem analysis that addresses areas likely to flood and flood problems that are likely to get worse in the future, including changes in floodplain development and demographics, development in the watershed, and climate change or sea level rise.

The Coordinators Manual also indicates NFIP requirements that have related CRS credits starting on page B-1 of the manual. The Coordinator's Manual also lists regulations credited by the Community Rating System that are not related to minimum NFIP requirements.

Regulations credited under Activity 430 (Higher Regulatory Standards):

- Section 432.c: Requiring that fill and building foundations be designed to protect them from damage due to erosion, scour, and settling.
- Section 432.f: Requiring that critical facilities, such as hospitals and hazardous materials storage sites, be protected from higher flood levels.
- Section 432.a: Maintaining floodplain storage by prohibiting fill or by requiring compensatory storage. Although floodway regulations preserve flood conveyance, they allow the flood fringe to be filled in, which can have a significant effect on downstream flood heights.
- Section 432.a: Prohibiting new buildings in the floodplain. Credit is divided for prohibiting certain kinds of buildings.
- Section 432.a: Prohibiting storage of materials or storage of hazardous materials in the floodplain.
- Section 432.m: Implementing other regulations that exceed the minimum requirements of the NFIP regulations.

Regulations credited under other Activities.

- Section 342.b: Requiring developers or sellers to publicize or disclose the flood hazard on their properties.
- Section 422.a: Prohibiting new buildings and filling in the floodway, V Zone, or other parts of the floodplain to preserve open space.
- Section 422.e: Regulations that encourage preserving floodplain lands as open space.
- Section 422.f: Zoning to minimize the number of buildings on the floodplain to reduce the damage potential and help maintain flood storage capacity.
- Section 422.g: Programs that protect natural channels and shorelines.
- Section 452.a: Requiring new developments to provide retention or detention of their stormwater runoff to minimize the increase in flood flows due to watershed urbanization.

- Section 452.c: Requiring erosion and sedimentation control during construction projects to reduce siltation and the resulting loss of channel carrying capacity.
- Section 452.d: Require developers to implement appropriate "best management practices" that will improve the quality of stormwater runoff.
- Section 452.e: Prohibiting dumping or placing debris in stream channels.

Appendices E and F of the CRS Coordinator's Manual contain documentation necessary for receiving credit for certain activities under the Community Rating System. Instructions for completing these documents are also included in these appendices as well as on CRSresources.org.

GEAA Recommendations

The Greater Edwards Aquifer Alliance has its own recommendations for both community action and state action. These recommendations are presented below.

Require the Texas Water Development Board to prioritize funding projects through the Flood Infrastructure Fund that prioritize green stormwater infrastructure and nature-based solutions.

Green stormwater infrastructure (GSI) is an approach to managing stormwater runoff in ways that mimic the natural environment as much as possible, using plants, soil, and stone to filter and manage stormwater more effectively. GSI reduces the volume of stormwater that enters our sewer systems, protects our rivers and streams, and improves water quality. Green stormwater infrastructure tools allow runoff to be absorbed by plants, filter into the ground, or evaporate into the air. Some systems also slowly release the water into a sewer once wet weather and the threat of overflows have passed. Examples of green stormwater infrastructure include rain gardens, swales, stormwater planters, and green roofs.

Nature-based solutions are the broader category for management techniques such as GSI. These solutions utilize structures that mimic the natural environment to maintain or restore the health of a natural area. Natural approaches provide a wide range of benefits referred to as ecosystem services. These benefits include improvements in water quality, recreational amenities, and the protection of wildlife habitats.[11]

In the context of flood mitigation, nature-based solutions focus on the restoration and preservation of the natural floodplain through removing or preventing gray infrastructure and implementing green infrastructure in its place. This allows rainfall to be captured where it falls rather than being funneled into urban or downstream areas. The CRS provides credit for nature-based solutions under various activities such as Open Space Preservation (Activity 420) and elements such as wetland protection and living shorelines.[12] The Texas Water Development Board is currently developing a guidance document for communities on pursuing nature-based solutions for flood mitigation in Texas. This document is estimated to be released in Fall 2025.

Grant counties the authority to increase building codes, at minimum within the floodplains.

Counties have limited policy tools to regulate buildings in areas most prone to flooding, even though a quarter of the state's land carries some degree of severe flood risk, placing nearly 6 million Texans potentially in harm's way. Floodplain experts highlight that state lawmakers should consider ways to give counties better tools to manage flood plain development. Increasing county and state standards can help reduce flood risk and lower the impact of high hazard flood events on people, property, and revenues. Due to current restrictions on county authority over building codes, unincorporated areas suffer. Counties do not have the authority to conduct building inspections of these areas after construction, making any available standards hard to enforce and leaving these areas more vulnerable to flood disasters.

The Guadalupe, San Antonio, and Lower Colorado Rivers are major contributors to flooding in Flash Flood Alley in the Hill Country due to their unique hydrogeological characteristics. Counties with land in the floodplains of these river basins are limited in their ability to protect current and future residents from the high risks of flooding. Some level of land use or building code and enforcement authority would allow those counties to ensure that inappropriate structures are not placed within the risky 100- or 500-year floodplain.

Grant counties the authority to limit impervious cover within the floodplains.

Limiting impervious cover over environmentally sensitive areas is exceedingly critical to the protection of local and regional water supplies – polluted runoff is widely recognized by scientists as the greatest threat to water quality, and increased runoff can lead to floods, placing people and property in harm's way. Impervious cover reduces ground water recharge, threatening aquifer supplies, as well as impacting groundwater-based springflow to streams, especially during periods of low rainfall, which then impacts surface water supplies.

By decreasing the ability of the ground to infiltrate storm water, impervious cover can lead to significant increases in the volume and velocity of flooding. With increasing impervious cover, cities, counties, and other local authorities must spend more of their limited budgets on flood preparation and prevention, emergency responses, new water supplies, and more expensive water treatments. Counties should be allowed to limit impervious cover in hydrologically sensitive areas to protect people and property from the risks and impacts of flood events.

Allow the Texas Water Development Board to advise FEMA on flood map exemptions.

In the aftermath of the July 4th, 2025 floods, many news sources reported that Camp Mystic was able to have some of its property – including structures in the floodway – exempted from the FEMA flood maps, placing campers at risk.

FEMA does not have the same level of understanding of risks on the ground in Texas as the Texas Water Development Board does. TWDB mapping and data efforts highlight risk more accurately than FEMA does. TWDB has a better understanding of not just the risk, but also of the region and

river basins. TWDB should be encouraged to weigh in on and provide FEMA recommendations as to whether a requested exemption from the FEMA flood map should be approved.

Conclusion

It is important to recognize that application to CRS and advancing within the system is a lengthy process that requires dedication, maintenance, and often the completion of projects that may take years. However, joining the Community Rating System is a worthwhile investment monetarily and, more importantly, for community safety and the ability to prevent and recover from disaster. The guidelines to join are available, all it takes is the first step.

Flooding risk is going to worsen in our region, whether we choose to address it or not. Storms have already demonstrated a rising intensity and an associated rising danger. Many of our communities are not equipped to handle what the storms of tomorrow may bring, evidenced further by the increase of flood disasters across Central Texas and the technical, political, and financial constraints of communities that preclude them from being able to fully handle flood impacts.

The Wharton Risk Center's Assessment of CRS reflects the balance of cost and benefit for CRS Participation. They conclude that "The historical 1:1 match between the cost of CRS and its estimated benefits is an endorsement of CRS and supports its continuation. [11]" As the frequency and severity of major flood events increases, "such as those in 2005, 2012, and 2017, we expect the CRS will become crucial in mitigating damages and will yield greater net benefits to the NFIP."[13]

The Community Rating System is a helpful tool for communities to structure their flood preparedness and response while providing their residents with an additional monetary benefit. Many Texas communities (currently participating or not) are already performing activities for which they could receive credit. Therefore, there is little reason for a community not to seek to join or raise their classification within the CRS.

The CRS program is not just about points or premiums; it is about people. It is about neighbors protecting neighbors, about planning not just for today, but for the storms to come. By working together, by investing in mitigation, education, and resilience, we are not just rebuilding, we strengthen ourselves. The time has come to make a commitment to better our communities and to ensure a safer future for generations of Texans to come.

Resources

CRS Coordinator's Manual 2017 Edition:

https://drive.google.com/file/d/1dAZSrPNs6R5cGWKgSFhXTVM9BWpqiMSg/view?usp=sharing

Basic information on the Community Rating System:

FEMA Overview of CRS:

https://www.fema.gov/floodplain-management/community-rating-system

Online Guides on documentation and many CRS activities:

https://crsresources.org/

CRS success stories:

https://successwithcrs.us/

Community Rating System Discount Guide:

https://agents.floodsmart.gov/sites/default/files/fema-nfip-crs-guide-2023.pdf

Semi-Regular Webinars by CRS:

https://crsresources.org/training/

Guide for Small Communities:

https://crsresources.org/files/guides/small-communities-in-the-crs.pdf

CRS Credit for Habitat Protection:

https://crsresources.org/files/guides/crs-credit-for-habitat-protection.pdf

Tools for Self-Assessment within CRS:

CRS Self-Assessment:

https://crsselfassessment.us/the-community-self-assessment/

CRS Quick Check:

https://crsresources.org/files/forms/crs-quickcheck.pdf

Funding Sources:

https://floodcoalition.org/fundingfinder/#home

Flood Plans:

Texas 2024 State Flood Plan (Texas Water Development Board):

https://www.twdb.texas.gov/flood/planning/sfp/2024/index.asp

Guadalupe Regional Flood Plan:

http://www.guadaluperfpg.org/Documents-Public-View.aspx

San Antonio Regional Flood Plan

https://www.region12texas.org/regionalfloodplan/

Other Links:

ISO Building Code information:

https://www.isomitigation.com/bcegs/bcegs-classifications-and-survey-process/

San Antonio Activity 510 Implementation Plan:

https://www.sanantonio.gov/Portals/0/Files/TCI/Services/CRSActivity510ProgressReport_2023.pdf?ver=2023-09-21-134452-773

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Figures

Figure 1. Map of Counties and Major Cities in Flash Flood Alley

https://www.researchgate.net/figure/Texas-Flash-Flood-Alley-counties_fig1_317393428

Figure 2. Difference in Flood Risks Between FEMA and Independent Researchers

https://www.nytimes.com/interactive/2020/06/29/climate/hidden-flood-risk-maps.html

Figure 3. Map of Included Counties

Olive Irons, made using https://mapgoose.com/

Figure 4. Populations Within Existing Flood Hazard Areas by County

https://www.twdb.texas.gov/flood/planning/sfp/2024/doc/SFP-2024-07.pdf

Figure 5. Structures in the Floodplain by County

Olive Irons, Using ArcGIS Pro with floodplain data from Texas Water Development Board's Base Level Elevation Viewer and FEMA's National Flood Hazard Level Viewer and Texas Structure data from FEMA

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Olive Irons, made using ArcGIS Pro with data from Texas Water Development Board's Base Level Elevation Viewer and FEMA's National Flood Hazard Level Viewer

Figure 7. Activities by Average Credit

https://www.fema.gov/floodplain-management/community-rating-system

Figure 8. ***Chart of CRS classes from Coordinator's Manual***

https://drive.google.com/file/d/1dAZSrPNs6R5cGWKgSFhXTVM9BWpqiMSg/view?usp=sharing

Figure 9. Activities by Credit from the CRS Coordinators Manual

https://drive.google.com/file/d/1dAZSrPNs6R5cGWKgSFhXTVM9BWpqiMSg/view?usp=sharing

Figure 10. ***Currently Participating Communities within Research Scope***

CRS Eligibility Spreadsheet:

Olive Irons, https://1drv.ms/x/c/f74cfdd7a7e1e666/EUVJVbb0ZwxCiXCgiHA4Z5ABwgYWZ6AbZOz_eYeErBqfSg?e=AnhYvO

Figure 11. ***Activities for Top 6 Potential Applicants***

CRS Eligibility Spreadsheet:

Olive Irons, https://1drv.ms/x/c/f74cfdd7a7e1e666/EUVJVbb0ZwxCiXCgiHA4Z5ABwgYWZ6AbZOz_eYeErBqfSg?e=AnhYvO

Figure 12. Potential Applicants Within Research Scope

CRS Eligibility Spreadsheet:

Olive Irons, https://1drv.ms/x/c/f74cfdd7a7e1e666/EUVJVbb0ZwxCiXCgiHA4Z5ABwgYWZ6AbZOz_eYeErBqfSg?e=AnhYvO

Figure 13. Floodplain Outreach Project

https://crsresources.org/files/guides/crs-credit-for-habitat-protection.pdf

Appendix A: Activities

300 Series (Public Information)

Activity 310 (Elevation Certificates) - Maintaining construction certificates and making them available to the public.

Activity 320 (Map Information Service) - Providing Flood Insurance Rate Maps (FIRMS) and other map information and publicizing that service.

Activity 330 (Outreach Projects)- Providing the public with information needed to increase flood hazard awareness and to motivate actions to reduce flood damage, encourage flood insurance coverage, and protect the natural functions of floodplains.

Activity 340 (Hazard Disclosure) - Real estate agents advising potential purchasers of floodprone property about the flood hazard, and local regulations requiring disclosure of the hazard.

Activity 350 (Flood Protection Information) - Maintaining a community public library and/or website that contains flood-related information.

Activity 360 (Flood Protection Assistance) - Advising property owners and renters about how to protect buildings from flooding and publicizing that service.

Activity 370 (Flood Insurance Promotion) - Assessing flood insurance coverage in the community and implementing a plan to promote flood insurance.

400 Series (Mapping and Regulations)

Activity 410 (Floodplain Mapping) - Developing regulatory maps for areas not mapped by FEMA or flood mapping based on future conditions, detailed topography, or other standards.

Activity 420 (Open Space Preservation) - Keeping floodprone land free of development.

Activity 430 (Higher Regulatory Standards) - Regulations that exceed the NFIP's minimum criteria for floodplain management.

Activity 440 (Flood Data Maintenance) - Gathering and/or maintaining more accessible, useful, and/or accurate floodplain data for regulation, insurance rating, hazard disclosure, and property appraisals.

Activity 450 (Stormwater Management) - Watershed planning and regulations that prevent future development from increasing flood hazards or diminishing water quality.

500 Series (Flood Damage Reduction Activities)

Activity 510 (Floodplain Management Planning) - Adoption of flood hazard mitigation and/or natural functions plans using the CRS planning process, and/or conducting repetitive loss area analyses.

Activity 520 (Acquisition and Relocation) - Acquiring insurable buildings, relocating them out of the floodplain, and leaving the property as open space.

Activity 530 (Flood Protection) - Protecting buildings from flood damage by floodproofing, elevation, or minor structural projects.

Activity 540 (Drainage System Maintenance) - Annual inspections of channels and retention basins and maintenance of the drainage system's flood-carrying and storage capacity.

600 Series (Warning and Response)

Activity 610 (Flood Warning and Response) - Timely warning of flood threats and coordinating flood response activities.

Activity 620 (Levees) - Annual levee inspection programs and plans to respond to floods caused by levee failure.

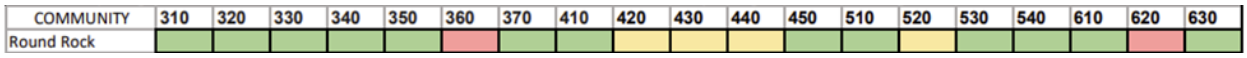
Activity 630 (Dams) - State dam safety programs and plans to respond to flooding caused by dam failure.

Each activity contains multiple elements and variables requiring detailed consideration to ensure that credit is received. Further details are available in the CRS Coordinator's Manual.

Appendix B: Top 6 Community Overview

The top 6 communities with the highest potential for receiving credit within the Community Rating System are outlined here. These communities were ranked by the amount of potential they showed for credit. Visually, this is demonstrated by the highest amount of green and yellow sections. This list was also assessed by the level of flood risk to people and property as indicated by First Street, a company that provides physical climate risk data for properties in the US.

Round Rock



Round Rock is a StormReady community verified under the national weather service. Therefore, if the community receives other specific credits under Activity 610 (Flood Warning and Response) the community can receive credit for this status. They must receive some credit under each of the elements – FTR (flood threat recognition system), EWD (emergency warning dissemination), FRO (flood response operations), and CFP (critical facilities planning). More details on each element can be found in Appendix A of this report and section 610 of the Coordinator's Manual.

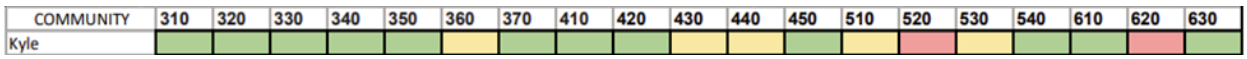
Round Rock's webpages *Flooding 101* and *Flood Safety* provide details on flood preparation (emergency supply kits, alerts, evacuation plans, suggesting flood insurance), what to do during and after a flood, and additional resources related to flood issues.

Round Rock also has a webpage with general floodplain information. The site explains how to find if your home is in the floodplain and discusses the changing precipitation patterns in Texas as well as providing flood maps through GIS (Geographic Information Systems).

The community's Lake Creek Flood Mitigation Plan, estimated to be completed by Fall 2025, may qualify for credit under Activity 530 (Flood Protection) or Activity 630 (Dams) due to Texas' state dam safety program. The city will already be seeking changes in homeowners' insurance rates as this project is expected to remove over 100 homes from the floodplain.

Round Rock's resources indicate completion of the element Emergency Warning dissemination under Activity 610, but the city may be barred from receiving credit due to lack of completion of other credit criteria for this activity.

Kyle



Kyle is a StormReady community verified under the National Weather Service. Therefore, if the community receives other specific credits under Activity 610 the community can receive credit for this status. They must receive some credit under each of the elements – FTR (flood threat recognition system), EWD (emergency warning dissemination), FRO (flood response operations),

and CFP (critical facilities planning). More details on each element can be found in Appendix A of this report and section 610 of the Coordinator's Manual.

Kyle's resources indicate completion of the element Emergency Warning dissemination under Activity 610, but the city may be barred from receiving credit due to lack of completion of other credit criteria for this activity.

Kyle has 5 dams within city limits and has an extensive webpage on dam failure with information on preparation, including emergency supplies, communication, and general recommended action in case of a dam failure. Kyle also has a Flood Safety webpage with preparation and recovery information in the case of a flood event. These two pages indicate a strong potential for credit under the 300 series (Public Information).

Kerrville

COMMUNITY	310	320	330	340	350	360	370	410	420	430	440	450	510	520	530	540	610	620	630
Kerrville																			

Kerrville's resources indicate completion of the element Emergency Warning dissemination under Activity 610, but the city may be barred from receiving credit due to lack of completion of other credit criteria for this activity.

The waterways, streams, creeks, and river areas in Kerrville are largely privately owned, making it difficult for the city to manage development in these areas that may lower stormwater volume and flood damage. Kerrville's Stormwater Master Plan (2020) is an extensive study of problem areas for flooding and contains a list of a variety of projects that if completed, may qualify for credit under various activities under the CRS. These projects include emergency warning systems at known low water crossings, a flood protection study to analyze updated flood risks within the city, and a study detailing where detention ponds should be provided, among others.

This plan identifies site-specific recommendations for each body of water, stream, or creek. Also present are records of all city-owned dams, detailing those with issues and citing concerns and how they may be addressed.

Fourteen project areas are identified by the Stormwater Master Plan, each with their own flood hazard and each with conceptual solutions presented. These projects would likely receive some amount of credit under an associated CRS Activity.

Seguin

COMMUNITY	310	320	330	340	350	360	370	410	420	430	440	450	510	520	530	540	610	620	630
Seguin																			

Seguin's Flood Information webpage provides a variety of information ranging from emergency information, low water crossing, floodplain mapping, damage reporting and recovery, and a link

to their drainage improvement projects. This webpage alone indicates potential for activities in the 300 series (Public Information) and the 500 series (Flood Damage Reduction Activities).

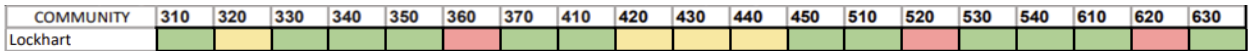
The city's comprehensive plan identifies action items for the city to complete ranging from promoting low-impact development to requiring stormwater detention basins and increasing green infrastructure. Many action items correlate to specific activities such as the goal of acquiring land along creeks to reduce flood damage, which aligns with Activity 520 (Acquisition and Relocation).

Seguin also prioritizes maintaining natural floodplain functions and reducing intense development on riverside properties. The city discusses greenbelts and open space as an aesthetic benefit. The city aims to use conservation easements to create permanent open spaces, allowing the community to gain credit under Activity 420 (Open Space Preservation).

Seguin's resources indicate completion of the element Emergency Warning dissemination under Activity 610, but the city may be barred from receiving credit due to lack of completion of other credit criteria for this activity.

One of the action items identified by Seguin's Comprehensive Plan is to join the Community Rating System. They demonstrate a desire to join the program, beginning by establishing stricter standards for development in the floodplain, and establishing open space in the floodplain.

Lockhart



While Lockhart does not have a central flood information webpage, they have flood safety information covered under emergency management webpages and flood preparation information under hurricane preparation webpages. Centralizing this information on one webpage would be a great way to increase the community's potential for receiving credit and to provide important flood information to residents.

Lockhart's Plum Creek Protection Plan may be applicable for credit under floodplain preservation activities due to its focus on maintaining natural floodplain functions through use of Best Management Practices such as Grow Zones, Rain Gardens, signage, and the removal and replacement of non-native vegetation. These BMPs are intended to preserve water quality and other mechanisms of the watershed. This project as well as others may be applicable for credit for restoring natural floodplain functions.

Lockhart may be applicable for credit under Activity 420 (Open Space Preservation) as their parks and land use plans place emphasis on preserving open floodplain as a method to reduce stormwater runoff and flooding.

Lockhart's resources indicate completion of the element Emergency Warning dissemination under Activity 610, but the city may be barred from receiving credit due to lack of completion of other credit criteria for this activity.

Wimberly

COMMUNITY	310	320	330	340	350	360	370	410	420	430	440	450	510	520	530	540	610	620	630
Wimberley																			

While Wimberley does not have a central flood information webpage, they have flood safety information covered under their emergency operations page. They also provide access to flood maps through FEMA and a map of all low water crossings in city limits. The community has also hosted a workshop on watershed health through Lone Star Healthy Streams to discuss watershed function, water quality, and BMPs to reduce contamination. Centralizing this information on one webpage would be a great way to increase the community's potential for receiving credit and to provide important flood information to residents.

In their comprehensive plan, the city outlines their goal of creating a watershed protection plan and master drainage plan as well as encouraging stormwater drainage systems that preserve natural areas and overall limiting of impervious cover. If these goals are met there is potential for credit.

Wimberley's resources indicate completion of the element Emergency Warning dissemination under Activity 610, but the city may be barred from receiving credit due to lack of completion of other credit criteria for this activity.

Appendix C: How to Apply to CRS

Prerequisites

Before applying to join the Community Rating System a community should ensure that they qualify for at least 500 credit points and meet all of the following Class 9 prerequisites. Receiving higher classifications have additional prerequisites.

Class 9 Prerequisites:

1. The community must have been in the regular phase of NFIP for at least one year.
2. The community must meet all the minimum requirements of NFIP. This must be assured formally by FEMA within six months of the initial CRS verification visit.
3. The community must maintain FEMA Elevation Certificates on all new buildings and improvements in the SFHA after applying for credit.
4. If there are repetitive loss properties in the community, certain actions must be taken, including updating the list of these properties, mapping repetitive loss areas, describing the cause of losses, and undertaking yearly outreach projects to these areas. A community with 50 or more of these properties must prepare a repetitive loss area analysis or floodplain management plan to address the problem.
5. The community must maintain all flood insurance policies that it has been required to have on community owned properties.

Class 8 Prerequisites:

1. Must meet all Class 9 prerequisites.
2. The community must adopt and enforce at least a 1-foot freeboard requirement (including machinery and equipment) for all residential buildings constructed, substantially approved, and/ or reconstructed due to substantial damage throughout its Special Flood Hazard Area where base flood elevations have been determined on the Flood Insurance Rate Map (FIRM) or in the Flood Insurance Study (FIS), except those area that receive open space credit under Activity 420 (Open Space Preservation).

Class 6 Prerequisites:

1. Must meet all Class 8 prerequisites.
2. The community must have received and continue to maintain a classification of 5/5 or better under the Building Code Effectiveness Grading Schedule. Both BCEGS (residential/ personal and commercial) must be class 5 or better. The BCEGS program measures a community's building code adoption and enforcement as they relate to natural hazard mitigation. More information can be found at www.isomitigation.com/bcegs/iso-building-code-effectiveness-grading-schedule-bcegs.html.

Class 4 Prerequisites:

1. The community must meet all Class 6 prerequisites.
2. The community must have received and continue to maintain a classification of 4/4 or better under the BCEGS.
3. The community must demonstrate that it has taken appropriate steps to eliminate or minimize future flood losses. To do this, a Class 4 or better community must receive credit for the following CRS activities.
   a. Activity 430 (Higher Regulatory Standards) – The community must show that it enforces higher regulatory standards to manage new development in the floodplain.
      I. The community must receive at least 700 points (after the impact adjustment) under the elements of Activity 430 and under Activity 420
   b. Activity 450 (Stormwater Management) – The community must receive the following credits for its watershed management plan(s)
      I. WMP1: 90 points (before the impact adjustment) for meeting all of the credit criteria for WMP,
      II. WMP2: 30 points (before the impact adjustment) for managing the runoff from all storms up to and including the 100-year event to ensure that flood flows downstream of new development do not increase due to the development, and
      III. An impact adjustment value of rWMP= 0.5 or more. Alternatively, the community may show that at least 50% of the watershed areas where future growth is expected is covered by one or more credited watershed management plans.
   c. Activity 510 (Floodplain Management Planning) – The community must have adopted and be implementing a floodplain management plan that receives at least 50% of the maximum credit under Activity 510, calculated after the impact adjustment.
   d. Obtain a minimum total credit of 100 points (after the impact adjustment) from one or a combination of the following elements that credit protecting natural floodplain function:
      I. 420 – Natural functions open space (NFOS),
      II. 420 – Natural shoreline protection (NSP),
      III. 430 – Prohibition of fill (DL1),
      IV. 440 – Additional map data (AMD12) natural functions layer,
      V. 450 – Managing the volume of stormwater runoff (SMR, DS),
      VI. 450 – Low impact development (LID),
      VII. 450 – Watershed management plan (WMP),
      VIII. 450 – Erosion and sediment control (ESC),
      IX. 450 – Water quality (WQ), and
      X. 510 – Natural floodplain functions plan (NFP)
   e. Document the following life safety measures:

I. Obtain some credit under Activity 610 (Flood Warning and Response)

II. Have a map of all the levees and all areas protected by levees and an inventory of the types of buildings (residential, commercial, etc.) and the critical facilities that would be exposed to flooding should the levee(s) be overtopped or fail. This is under Activity 620 (Levees).

III. Have a description of the dam failure threat, including a map of all areas that would be flooded by the failure of each high-hazard-potential dam that affects the community, and the types of buildings (residential, commercial, etc.) and critical facilities that would be flooded. This is under Activity 630 (Dams).

Class 1 Prerequisites:

1. Meet all the Class 4 prerequisites.
2. Meet the minimum standards of the NFIP as determined by a Community Assistance Visit conducted by FEMA within the previous 12 months.
3. Promote flood insurance as a vital way to protect residents and businesses from the financial impact of a flood. This is demonstrated by at least 50% of the buildings on the community's SFHA covered by a flood insurance policy or obtaining at least 50% of the maximum points under Activity 370 (Flood Insurance Promotion).
4. Demonstrate that it has a "no adverse impact" approach to floodplain management. A no adverse impact approach is one in which the action of one property owner or community does not adversely affect the flood risks for other properties or communities. "Adverse impact" is measured by increased flood stages, increased flood velocity, increased flows, or the increased potential for erosion and sedimentation. This prerequisite is demonstrated by receiving credit under the following:
    a. For all of the floodplains in the community;
        I. The community must be enforcing regulations that discourage development in the floodplain. This is demonstrated by receiving a combined total of at least 150 points under open space incentives (OSI) under Activity 420 (Open Space Preservation) and development limitations (DL) under Activity 430 (Higher Regulatory Standards).
        II. All new critical facilities must be protected to the 500-year flood level. This is demonstrated by receiving credit under protecting critical facilities (PCF) under Activity 430 (Higher Regulatory Standards) and by enforcing the regulations throughout the 500-year floodplain.
        III. The community must have mapped and be enforcing regulations appropriate for all flood-related hazards within its jurisdiction. This is demonstrated by receiving credit under Activities 410 and 430 for all special flood-related hazards that are identified in the community's floodplain management or

hazard mitigation plan credited under Activity 510 (Floodplain Management Planning).

b. In the community's riverine floodplains:
    I. The community's program must address potential increases in riverine flood elevations caused by new development. This is demonstrated by receiving the following credits:
        a) Activity 450 (Stormwater Management) – an impact adjustment value of rWMP= 0.75 or more. As an alternative, the community may show that at least 75% of the watershed area where future growth is expected is covered by one or more credited watershed management plans; and
        b) All riverine floodplains must be mapped using future conditions hydrology as credited under the higher study standard credit (HSS) under Activity 410.

c. In the community's coastal floodplains:
    I. The community must receive credit for regulating new development in coastal A Zones under CAZ under Section 430.
    II. The community must receive credit for using regulatory flood elevations in the V Zones and coastal A Zones that reflect future conditions, including sea level rise. This is demonstrated by receiving credit for future-conditions hydrology under the higher study standard credit (HSS) under Activity 410.
    III. The community must receive credit for regulating new development in areas subject to erosion (CER) under Activity 430 (or demonstrate that it does not have a coastal erosion problem).

5. Have a commitment to mitigate its repetitive loss problem as well as problems caused by other natural hazards.
6. Section 501 (Repetitive Loss List): The community must demonstrate that at least 25% of the properties on its current FEMA repetitive loss list have been protected from damage from repetitive flooding through acquisition, retrofitting, or structural flood control projects.
7. Activity 510 (Floodplain Management Planning): The community must have a multi-hazard mitigation plan that has been approved by FEMA as meeting all of the requirements outlined under 44 CFR.
8. Protect natural floodplain functions. This is demonstrated by having a total credit of at least 150 points (after the impact adjustment) from one or a combination of the elements listed under the Class 4 prerequisites.
9. Have a program to address the threat to life safety that flooding poses to the residents of the community. This is demonstrated by receiving the following credits:

a. The community must obtain some credit under all of the elements in Activity 620 (Levees) for all levees mapped and identified in the inventory prepared for the Class 4 prerequisite.
b. The community must obtain some credit under all the local elements in Activity 630 (Dams) for all areas mapped and identified as subject to dam failure flooding in the inventory prepared for the Class 4 prerequisite. The credit for the state's program (SDS) is not counted toward this prerequisite.

A community may propose alternative approaches to any of these prerequisites that are more appropriate for local conditions.

Application Process

To begin the process of applying to the Community Rating System, a community will need to submit the following documentation. This part can be submitted digitally to NFIPCRS@ISO.com.

1. A letter of interest sent to the FEMA Regional office stating interest in joining, designating the community's CRS coordinator, stating that the community will cooperate with the verification process, and providing an understanding that approval from the office is needed for an ISO/CRS Specialist to visit and certify activities for credit. The CRS Coordinator is the local official who coordinates the community's CRS activities and is the point of contact for verification and recertification.
2. Copies of this letter must also be sent to the State NFIP Coordinator and the Insurance Services Office (ISO). An example letter is available at crsresources.org/200.
3. Documentation showing that the community is implementing activities warranting at least 500 points to qualify as a Class 9. A CRS Quick Check is available at crsresources.org/200 for this purpose. The community may also use a state-specific equivalent or another method that demonstrates each creditable element.

Approval will result in an initial verification visit where all activities deserving of credit are assessed. This includes activities not in the initial participation request.

Other documentation must be provided to the ISO/CRS Specialist before they can submit their findings for processing. Some of the five required documents can be submitted digitally.

1. Correspondence from FEMA Regional Office stating that the community is within compliance with the minimum requirements of the NFIP.
2. The CRS Program Data Table with lines 6 and 13 completed. The table is found under Recertification at crsresources.org/200.
3. Documentation for each element where credit is desired. The ISO-CRS Specialist will review this with the community during the visit and will collect what is needed.

4. Certifications signed by the community's Chief Executive Officer (CEO).

The Chief Executive Officer of a community is the official who is charged with the authority to implement and administer laws, ordinances, and regulations for the community. The CEO may be a mayor, city or county manager, county executive, chair, or president of a county council, etc. The head of a department is not considered a CEO.

Verification

After the verification visit is complete and all proper documentation has been received, the ISO/CRS Specialist provides a verification report. This report with be reviewed and confirmed by FEMA and ISO, needing several months to do so. FEMA makes the final decision on the community's credit and classification. FEMA is required to give insurance companies a 4-month advance notice, so they can advise their agents of the rating change before policies are renewed. A community's classification will take effect on May 1 or October 1 about 8-12 months after the verification visit.

If a CRS community retrograded to a Class 10 it may apply to be reclassified as a Class 9 or better community. The community must submit a new application, not a modification or documentation to correct problem activities.

Recertification

A community must recertify annually that it is continuing to meet the requirements for its class. The ISO/CRS Specialist sends the community a list of its credited activities, and it is the community's responsibility to respond by the deadline or its annual recertification package. This can be submitted digitally.

A community that fails to recertify will retrograde to Class 10.

Credit will be lost if a community fails to submit the listed items or certify that all prerequisites are being met. This could result in a change in Class if enough credit is lost.

Credit Calculation

Each activity has a number of elements, each of which have a maximum number of credit points. These points are earned if the element meets the listed credit criteria. The credit earned for each activity needs to be adjusted to reflect the impact of the community's activity on floodplain development and on their flood insurance premium base. This comes in the form of an Impact Adjustment calculation.

The last step for each activity is to multiply the element's credit points by its impact adjustment. The credits for each element are then totaled to compute the activity's credit points. The points for all activities are totaled to determine the community's CRS classification.

Examples of the credit calculation process can be found in the CRS Coordinator's Manual.

Appendix D. Finding Funding

While utilizing the already established infrastructure and programs is the focus of the recommendations in this report, encouraging improvements or the development of new projects and programs is also important. Building new systems, however, requires funding that a community may not have.

In the 2024 State Flood Plan, the Texas Water Development Board lists numerous funding sources for flood mitigation, drainage, stormwater, and other flood related projects.

Potential Local Sources identified by Regional and State Flood Plans

- General Funds: from property, sales, and other taxes (often limited to funding drainage maintenance and flood mitigation)
- Stormwater Utility Fees: provides a dedicated revenue for stormwater management directly based on how much a property contributes to stormwater runoff.
- Transportation Fees: drainage systems are often within the transportation right-of-way.
- Bonds: stormwater revenue bonds or general obligation bonds, can fund various flood mitigation activities from detention systems and home buyouts to upgraded early warning systems, and infrastructure repairs
- Permitting or Impact Fees: less common but can include floodplain development fees.
- Special Tax Districts: used to tax only a portion of the population who will benefit from a specific project (only used by a few communities statewide)
- Private sector funding: could include donation of land, resources, and services or funding a portion through development agreements or public-private partnerships.

Texas Water Development Board Funding

- Flood Infrastructure Fund: created to assist with financing drainage, flood mitigation, and flood control projects, including planning and design activities, work to obtain necessary regulatory approvals, and construction and/or implementation of flood projects. Only available for projects included in the TWDB State Flood Plan.
- Texas Water Development Fund: the agency's existing $6 billion general obligation bonding authority. Financial assistance for flood control may include structural and non-structural flood protection improvements.

Federal Funding

- Clean Water State Revolving Fund: can fund flood-related (pre-disaster) mitigation projects, but applicants must compete with wastewater projects. The TWDB has also allocated funds in the Clean Water and Drinking Water State Revolving Funds since 2017

to provide post-disaster funding options to communities for projects related to water supply, wastewater, or stormwater management facilities with urgent need situations.

- Flood Mitigation Assistance (through FEMA): provides annual federal funding to help states and communities pay for cost-effective ways to reduce or eliminate the long-term risk of flood damage to repetitive loss and severe repetitive loss structures that are insured under the National Flood Insurance Program. The TWDB administers the Flood Mitigation Assistance grant program for the state of Texas on behalf of FEMA.

Additional funding sources can be found at https://floodcoalition.org/fundingfinder/

Assistance from CRS

CRS Specialists are available to assist community officials in applying to the program and in designing, implementing, and documenting the activities that earn even greater premium discounts. A week-long CRS course for local officials is offered free of charge at FEMA's Emergency Management Institute (EMI) on the National Emergency Training Center campus in Emmitsburg, Maryland and can be field deployed in interested states. A series of free webinars is offered throughout the year. FEMA will also provide free technical assistance through their Community Assistance Program for communities with concerns about maintaining or acquiring the necessary staff to organize an effort to join the CRS.