National Flood Insurance Program Community Rating System

2016 Biennial Report to Congress

March 8, 2017

Homeland Security

Federal Emergency Management Agency

Message from the Acting Administrator

I am pleased to present the 2016 National Flood Insurance Program Community Rating System Biennial Report to Congress, which has been prepared by the Federal Emergency Management Agency.

This document has been compiled in response to requirements set forth in Section 541(1) of the National Flood Insurance Reform Act of 1994 (Pub. L. No. 103-325) which direct that "Not later than 2 years after September 23, 1994, and not less than every 2 years thereafter, the Director shall submit a report to the Congress regarding the program under this subsection. Each report shall include an analysis of the cost-effectiveness of the program, any other accomplishments or shortcomings of the program, and any recommendations of the Director for legislation regarding the program."

This report is being provided to the following Members of Congress:

The Honorable Mike Crapo
Chairman, Senate Committee on Banking, Housing and Urban Affairs

The Honorable Sherrod Brown
Ranking Member, Senate Committee on Banking, Housing and Urban Affairs

The Honorable Jeb Hensarling
Chairman, House Committee on Financial Services

The Honorable Maxine Waters
Ranking Member, House Committee on Financial Services

Inquiries relating to this report may be directed to me at (202) 646-3900 or to the Agency's Deputy Associate Administrator for Insurance and Mitigation, Roy Wright, at (202) 212-2780.

Sincerely

Robert J. Fenton
Acting Administrator
Federal Emergency Management Agency

Executive Summary

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is administered by the Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA). The CRS is a voluntary insurance rating program implemented in 1990 to recognize and encourage community floodplain management activities that exceed the minimum floodplain management standards of the NFIP. The National Flood Insurance Reform Act of 1994 codified the CRS within the NFIP. Under the CRS, flood insurance premiums for policyholders in a CRS-participating community are reduced to reflect the added flood risk protection that results from community activities that meet the three goals of the CRS: (1) reduce and avoid flood damage to insurable property; (2) strengthen and support the insurance aspects of the NFIP; and (3) encourage a comprehensive approach to floodplain management.

As of May 1, 2016, there are 1,391 communities receiving flood insurance premium discounts through the CRS, based on their implementation of local flood risk reduction, outreach, protection of natural floodplain functions, and educational activities that exceed minimum federal NFIP floodplain management requirements. These CRS-credited activities help shape sustainable and resilient communities.

The CRS was developed and implemented to enable the nationwide reduction of disaster risk through a multidisciplinary, collaborative approach involving federal, state, and local officials; professionals with expertise in floodplain management; insurance industry and underwriting experts; and academic researchers. The CRS leverages a whole community approach to advancing risk management capability.

Part I of this report outlines the legislative requirements for this document. Part II provides an overview of the CRS. Part III highlights some of the program's many accomplishments, Part IV discusses economic benefits, and Part V concludes the report and discusses future program directions. Major highlights are listed below.

- Over two-thirds of all flood insurance policies in the United States are located in the 1,391 communities participating in the CRS.
- The CRS continues to see growth both in the number of participating communities and in the number of communities that are improving their CRS Class ratings, such as moving from a CRS Class 9 to a CRS Class 7 or from a CRS Class 6 to a CRS Class 4. CRS participation is well distributed across the Nation and is recognized as a practical means for improving the affordability of flood insurance.
- As delineated under "Program Benefits" (page 4), the CRS is regarded as a model for local government floodplain management best practices. It supports the building of community baseline data on risk exposure, emphasizes stronger multi-hazard building codes, fosters a whole community approach to improving resilience through comprehensive floodplain management, and encourages adaptation of new development practices shaped by changing climate conditions. Achieving a CRS rating brings national recognition, and gives a community reason to feel proud about its achievement and accomplishments.
- The CRS continues to evolve in response to emerging technologies and science, quantitative and qualitative research about the value of mitigation and insurance, better understanding of floods and other natural hazards, and deeper awareness of the importance of the natural functions of floodplains. Research is showing that the CRS approach appropriately recognizes community and state efforts to reduce flood losses and improve community resilience.

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I. Legislative Requirement

This is the eleventh Biennial Report to Congress for the National Flood Insurance Program's Community Rating System. The Report is submitted pursuant to Section 541(1) of the National Flood Insurance Reform Act of 1994 (Title V of the Riegle Community Development and Regulatory Improvement Act of 1994) (Pub. L. No. 103-325), which amends Section 1315 of the National Flood Insurance Act of 1968 (42 U.S.C. 4022). Section 1315(b)(4) of the National Flood Insurance Act of 1968 states:

> *COMMUNITY RATING SYSTEM AND INCENTIVES FOR COMMUNITY FLOODPLAIN MANAGEMENT.*
>
> *(4) REPORTS.–Not later than 2 years after the date of enactment of the Riegle Community Development and Regulatory Improvement Act of 1994 and not less than every 2 years thereafter, the Director shall submit a report to the Congress regarding the program under this subsection. Each report shall include an analysis of the cost-effectiveness of the program, any other accomplishments or shortcomings of the program, and any recommendations of the Director for legislation regarding the program.*

The Community Rating System (CRS) is a voluntary program and is part of the National Flood Insurance Program (NFIP), which is administered by the Department of Homeland Security's Federal Emergency Management Agency (FEMA). Within FEMA, the CRS is administered by the Federal Insurance and Mitigation Administration.

This 2016 Biennial Report to Congress reviews the main activities of the past two years, refinements to the program's implementation, and the program's progress in accomplishing its goals. The core of the report follows this section, and is split into three parts: **Program Overview**, **Program Accomplishments,** and **Conclusions**. More details on the topics covered here are available from FEMA. Most of the publications referenced can be found on www.CRSresources.org and on FEMA's website.

II. Program Overview

Floods are our Nation's most costly natural disaster. Reducing flood damage and flood-related losses has been a core purpose of FEMA since its creation in 1979. The NFIP lies at the center of FEMA's flood-reduction efforts. The NFIP allows property owners to purchase federally backed flood insurance in communities that participate in the NFIP. As of February 2016, there were 5.1 million residential and commercial flood insurance policies in force, with over $1.2 trillion in written coverage. Annual premiums are about $3.5 billion.[1] From 1978 through February 2016, over 2.1 million losses were paid, totaling nearly $53 billion[2]. Because of the active floodplain management role the NFIP requires of participating communities, the NFIP has been recognized as the single most cost-effective natural hazard reduction program in the country's history.[3]

To address a trend of increasingly costly floods, FEMA launched the CRS in 1990 as a way to incentivize local jurisdictions in implementing floodplain management techniques that exceed the minimum requirements of the NFIP and as a means of bringing positive attention to those communities that are implementing strong floodplain management programs. These floodplain management techniques reduce communities' susceptibility to flood damage, build disaster resilience, help communities pursue broader sustainability and resilience goals, and reduce the cost of flood insurance. For example, a community can earn credit for elevating buildings to reduce potential flood damage or for protecting portions of its floodplain from development. That CRS credit can translate into flood insurance premium discounts for the entire community.

Twenty-five years after its creation, the CRS continues to evolve as an insurance rating program and to be recognized as an effective voluntary flood loss reduction opportunity for communities. In the aftermath of Superstorm Sandy, the Biggert-Waters Flood Insurance Reform Act of 2012, and the Homeowner Flood Insurance Affordability Act of 2014, interest in the CRS has grown. As of the time of this report, almost 1,400 participating communities have chosen to use the progressive, research-backed techniques of the CRS to mitigate their flood risk, earn reduced flood insurance premiums for their residents, foster a whole community approach to emergency management, and build local resilience.

CRS Goals

The purpose of the CRS is to support the NFIP and to appropriately rate communities for their flood loss reduction efforts. All CRS efforts work toward meeting three goals.

Goal 1. Reduce and avoid flood damage to insurable property. The CRS supports the NFIP by working to minimize flood losses nationwide, both inside and outside of mapped floodplains, and for both existing and any future development. Communities are encouraged to decrease the exposure of the built environment to flood damage. This is especially emphasized for properties that are subject to repetitive flood losses. New buildings and their contents should be protected from current and future flood risks. Floodplain management standards that exceed the minimum criteria of the NFIP may be necessary to accomplish these objectives. The CRS encourages communities to

[1] http://bsa.nfipstat.fema.gov/reports/1011.htm
[2] http://bsa.nfipstat.fema.gov/reports/1040.htm
[3] Thomas, E, and S Medlock, 2008. "Mitigating Misery: Land Use and Protection of Property Rights Before the Next Big Flood," *Vermont Journal of Environmental Law* 9: 155–198.

conduct studies to define flood risk and to use the data in local floodplain management programs to guide better, safer development and disaster response, and share it with all users and inquirers.

Goal 2. Strengthen and support the insurance aspects of the NFIP. As an insurance rating program, the CRS recognizes communities whose activities generate and contribute data that assists with accurate rating of flood insurance. Communities are encouraged to implement flood risk studies and flood risk awareness initiatives that help improve the accuracy of the risk analysis for individual properties and reduce repetitive flood losses. They are required to collect and maintain accurate elevations for newly built buildings in their floodplains. To help expand the flood insurance policy base, participating communities make their residents aware of their flood risk to encourage them to purchase and maintain flood insurance policies.

Goal 3. Encourage comprehensive floodplain management. The CRS encourages communities to use all available tools to implement comprehensive floodplain and watershed management programs. These programs should extend beyond the protection of insurable property to embrace building disaster resilience and advancing broader community sustainability goals. The CRS fully embraces and advocates a whole community approach to reducing the impacts of flooding upon communities and floodplain occupants. The CRS recognizes local efforts that protect lives; further public health, safety, and welfare; minimize damage and disruption to infrastructure and critical facilities; preserve and restore the natural functions and resources of floodplains and coastal areas; and ensure that new development does not cause adverse impacts elsewhere in the watershed. Through the CRS, a community is encouraged to understand the changing physical and biological processes that form and alter floodplains and watersheds and take steps to minimize impacts related to flooding, erosion, habitat loss, water quality, and special flood-related hazards. The CRS's comprehensive approach includes planning, public information, regulations, financial support, open space protection, public works activities, emergency management, and other appropriate techniques.

CRS Program Priorities

In order to best meet the goals of the CRS, FEMA has identified three guiding priorities.

Priority 1. Protect and Restore Natural Floodplain Functions. Floodplains in riverine and coastal areas perform natural functions that cannot be replicated elsewhere.

Priority 2. Promote an All-Hazards Approach to Mitigation. All communities are threatened by a variety of natural and technological hazards. The staff and programs that address flooding may also help mitigate the risks of earthquakes, hurricanes, landslides, drought, hazardous materials incidents, and terrorism.

Priority 3. Encourage Consideration of Future Conditions. Floodplains change over time, driven by many natural and man-made influences. Good floodplain management acknowledges this, and includes considering how floodplains might look in the future under different scenarios including increased impervious surfaces in watersheds, erosion, new fill in floodways, rising sea levels, changes in natural functions, and many others.

Program Benefits

In addition to discounted insurance premium rates, the CRS brings many other benefits to CRS communities and the Nation.

- CRS communities enhance public safety by building local capability to prepare for, protect against, respond to, recover from, and mitigate natural hazards.
- The program's activities reduce the risks and consequences of flooding to public and private property and infrastructure. In this way they contribute to community resilience by avoiding economic disruption and losses within the community as well as reducing flood insurance claims, disaster assistance payments, and lost tax revenue.
- The CRS enhances community environmental protection.
- Crediting floodplain and watershed management best practices is one of the ways the CRS incentivizes and facilitates investments to manage for future risk.
- Lower premiums help keep flood insurance more affordable, which is significant because flood insurance is a proven way for individuals and communities to more fully recover after a disaster.
- A community in the CRS can use empirically proven, nationally recognized benchmarks as metrics to evaluate the effectiveness of its flood program.
- CRS participation fosters a collaborative, whole community approach to floodplain management and disaster resilience, both for present and future conditions.
- Because CRS programs involve people working at all levels of government, many local leaders and Tribal officials become better prepared and positioned for effective recovery and mitigation.
- CRS-participating communities' floodplain and watershed management activities are better organized and more formalized than before they joined the CRS. They are administered more effectively and better institutionalized and therefore more likely to remain in operation despite personnel changes.
- Local governing bodies understand that the community's CRS status could be jeopardized by the elimination of a flood-related activity or weakening of regulatory requirements for new development. A similar insurance rating system used in fire insurance has strongly contributed to local government support for fire protection programs.
- CRS public information activities help build a knowledgeable local constituency interested in providing grassroots support for flood protection and risk-reduction measures. Knowledgeable constituencies are better prepared and positioned to take immediate response actions in catastrophic events.
- Publicity that celebrates the success of CRS communities on various websites, brochures, and at events builds a sense of community pride. Participation in the CRS shows that community leaders are actively engaged in protecting their people, property, and economies.
- CRS communities provide data to FEMA on a variety of floodplain management activities, helping the NFIP as a whole to make more informed, data-driven policy decisions. New initiatives by FEMA are influenced by community experience, based on implementation of CRS activities.

Flood Insurance Premium Discounts

The most widely promoted benefit of community participation in CRS is the premium reduction that policy holders in participating communities receive. The amount of premium discount is determined by the community's CRS Class rating.

There are 10 CRS Class ratings providing flood insurance premium discounts ranging from 5 to 45%. Class 1 requires the most credit points and gives the largest premium reduction of up to 45 %. Class 9 policy holders receive a 5% premium reduction. Table 1 outlines the discounts available to insurable structures in a community by CRS Class. The premium discount is also influenced by a structure's proximity to the Special Flood Hazard Area (SFHA).

Table 1. INSURANCE PREMIUM SAVINGS, BY CRS CLASS

CRS Class	Savings in SFHA	Savings out of SFHA
1	45%	10%
2	40%	10%
3	35%	10%
4	30%	10%
5	25%	10%
6	20%	10%
7	15%	5%
8	10%	5%
9	5%	5%

Earning CRS Credit

A community's CRS Class is determined by the number of points the community earns by taking specific actions to reduce its flood risk. Creditable actions are organized into four *series*, which are made up of 19 *activities*, which, in turn, comprise over 100 creditable *elements* and *sub-elements*. For example, mailing information to floodplain residents is an *element* that receives CRS credit. This is one element in the Outreach Projects *activity* (Activity 330), which is in the Public Information *series* (300 series). The CRS series and activities are listed below.

300 Series: Public Information Activities

Activity 310—Requiring and maintaining elevation certificates
Activity 320—Providing flood map and flood history information to property owners
Activity 330—Dissemination of public information outreach projects
Activity 340—Disclosure of flood hazards for real estate transactions
Activity 350—Providing flood protection information through websites and libraries
Activity 360—Providing flood protection assistance to property owners
Activity 370—Promoting flood insurance

400 Series: Mapping and Regulation

Activity 410—Improved floodplain mapping
Activity 420—Preservation of floodplain open space and natural functions
Activity 430—Implementation of higher regulatory standards
Activity 440—Maintenance of flood data
Activity 450—Implementation of watershed and stormwater management programs

500 Series: Flood Damage Reduction Activities

Activity 510—Development and implementation of floodplain management plans
Activity 520—Acquisition and relocation of floodplain buildings
Activity 530—Protection of floodprone buildings
Activity 540—Implementation of drainage system maintenance programs

600 Series: Warning and Response

Activity 610—Implementation of comprehensive flood warning and response programs
Activity 620—Maintenance of levees and levee failure response programs

Activity 630—Public safety planning and response for potential dam failure

Program Participation

As of May 1, 2016, there are 1,391 communities participating in the CRS. These communities represent a significant portion of the Nation's flood risk as evidenced by the fact that more than 67% of all flood insurance policies are in CRS communities.

Communities receiving premium discounts through the CRS cover a wide range of population sizes from small to large, and a broad mixture of flood risks, including coastal and riverine (see Figure 1 and Figure 2). Through the CRS elements and sub-elements (see previous section), the program allows the participation of communities with many different needs and risk-reduction approaches.

CRS COMMUNITIES: FIVE AT THE TOP

Roseville, California (Class 1) has achieved the highest CRS rating. Floods in 1995 spurred Roseville to strengthen and broaden its floodplain management program. Today the City earns CRS credit points in almost all of the CRS's creditable activities.

Tulsa, Oklahoma's (Class 2) comprehensive planning for floodplain management has been a key contributor to progress in reducing flood damage from the dozens of creeks within its jurisdiction. The City has cleared more than 900 buildings from its floodplains.

King County, Washington (Class 2) has preserved more than 100,000 acres of floodplain open space and receives additional CRS credit for maintaining it in a natural state.

Pierce County, Washington (Class 2) prohibits new buildings in areas of deep or fast-flowing water, a regulation adopted after a helicopter rescue of families that had built in the floodplain fringe. Its low density zoning regulations give the County almost enough points for an entire class improvement.

Fort Collins, Colorado (Class 2). For several decades, the Fort Collins Natural Areas Program has proactively purchased property along the Poudre River corridor, most of which is in the floodplain. Two-thirds of that river's 100-year floodplain within the city limits is now preserved as open space.

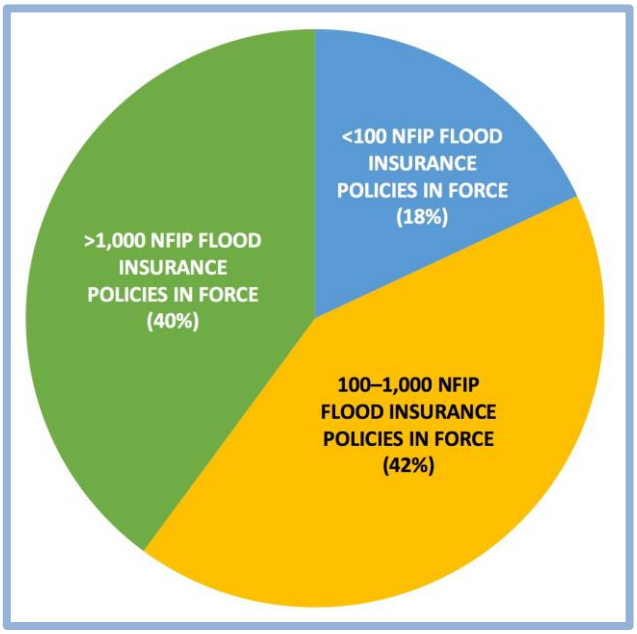


Figure 1. Number of NFIP flood insurance policies in individual CRS-participating communities.
Communities with fewer than 100 policies make up 18% of the CRS; communities with from 100 to 1,000 policies account for 42% of the CRS; and 40% of CRS communities have a policy base of over 1,000 policies.

Program Administration

The CRS is guided by a partnership that works to keep the program aligned with its goals and the understanding of risk management.

Program Partners

- **FEMA**: The CRS is administered by FEMA's Federal Insurance and Mitigation Administration (FIMA) within the Department of Homeland Security. FEMA has 10 Regional Offices that serve as field contacts with state and local government officials.

- **The CRS Task Force:** Because of the many disciplines required to manage the CRS, the Community Rating System Task Force was created as a forum to analyze and provide recommendations to FEMA. Its members, who generally convene two times per year, collectively represent the fields of actuarial science, engineering, floodplain management, and insurance underwriting, as seen in the box. The CRS Task Force is managed by a chair that is selected by FEMA and is expected to have insurance industry experience or knowledge. The Chair serves as an executive manager to oversee the work of the CRS Task Force, assure progress is made on CRS Task Force tasks and report on deliberations and recommendations of the CRS Task Force.

  In addition to these regular meetings and other communication, the Task Force will produce documents or reports, such as *A Strategic Plan for the Community Rating System, 2008–2013*, which formalize the objectives and strategies that help direct specific programmatic efforts.

The CRS TASK FORCE

- Insurance professionals (3)
- Local governments (4)
- State emergency management (1)
- Association of State Floodplain Managers (1)
- National Association of Flood and Stormwater Management Agencies (1)
- National Oceanic and Atmospheric Administration (1)
- U.S. Army Corps of Engineers (1)
- FEMA Headquarters (6)
  - Floodplain management
  - Mapping
  - Actuary
  - Underwriting
- FEMA Regional Offices (3)

- **States and Communities:** State and local governments implement the activities credited by the CRS. Most of the activities are undertaken by local governments. However, communities can receive credit for activities implemented at the state, county, or regional level, or even by private organizations. An estimated 10%–20% of credited activities are implemented by a state or regional agency or because of a state or regional mandate. State and regional agencies also provide technical assistance to communities.

- **Insurance Companies**: Companies that write flood insurance policies are responsible for managing systems that apply the CRS discount to a policy bill and explaining the CRS and its benefits to their policyholders.

- **Insurance Services Office, Inc.** (ISO): ISO has an arrangement with FIMA and insurance companies to process applications and provide technical assistance to CRS communities and to state floodplain management organizations.

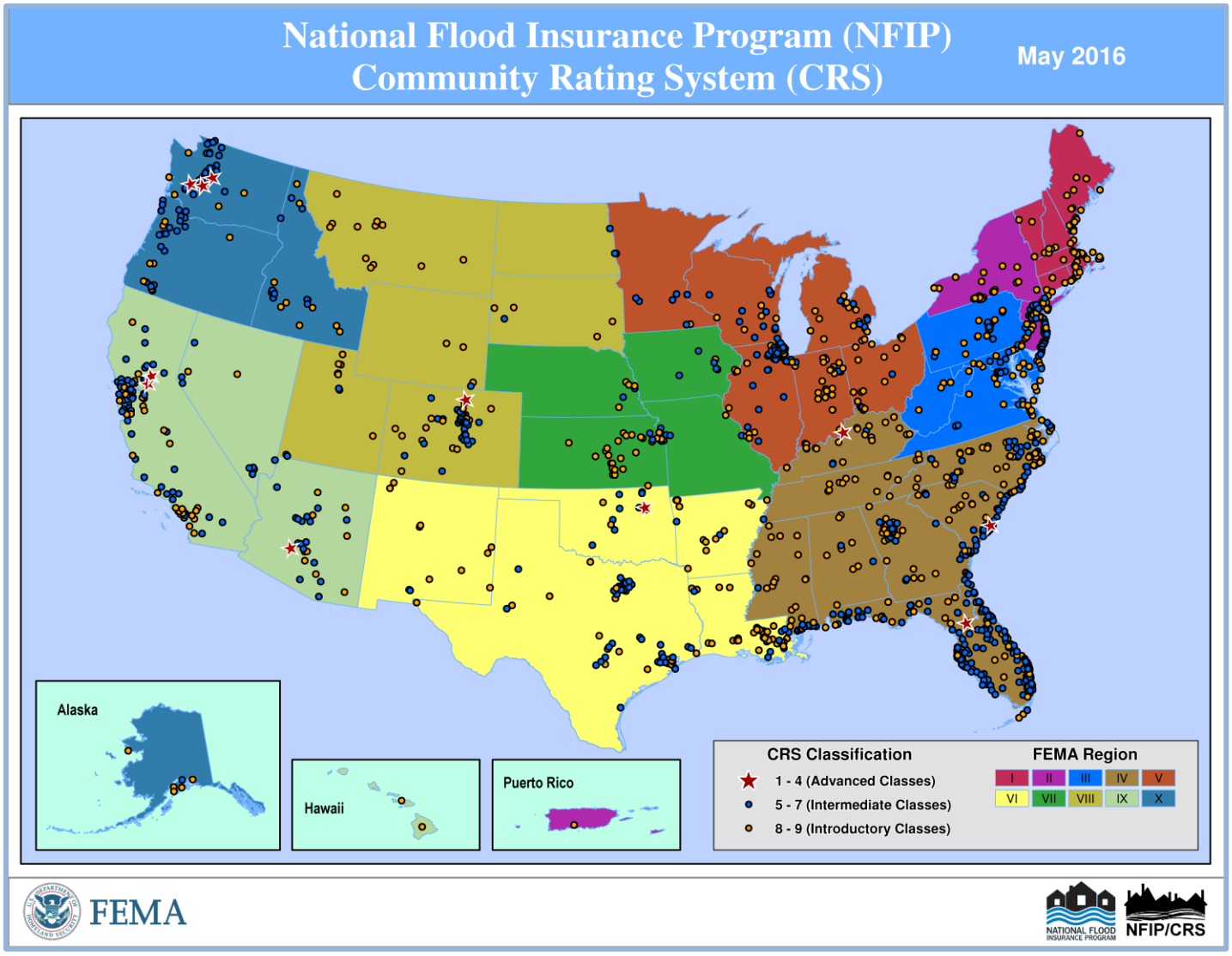


Figure 2. Distribution of Classes of CRS Communities among States and FEMA Regions.

III. Program Accomplishments

Overview

CRS efforts during 2014 and 2015 focused on

1. Program growth and class improvements,
2. Working towards CRS goals and priorities, and
3. Improving community satisfaction.

Program Growth and Class Improvements

FEMA and its partners actively encourage and assist communities in joining the CRS and improving their community programs in order to improve their CRS Class. Significant storms and floods and NFIP reforms enacted by Congress have increased interest in the CRS and improved performance among participating communities (see Figure 3). Since the time of the last Report to Congress, most states have seen an increase in the number of participating communities, and more communities have improved their CRS ratings. The transition to the *2013 CRS Coordinator's Manual*, described in detail in the last Report to Congress, continues to progress smoothly.

As of May 2016, the program has one CRS Class 1 community, four CRS Class 2 communities, three CRS Class 3 communities, and three CRS Class 4 communities. These 11 top-rated communities include seven unincorporated counties (see Table 2). The number of Class 5 communities has grown to 116—an increase of over 31% since the last Report to Congress. The remaining 1,264 CRS communities are distributed among Classes 6 through 9. Communities continue to take steps to improve their rating, and a trend of class improvement continues (see Figure 3).

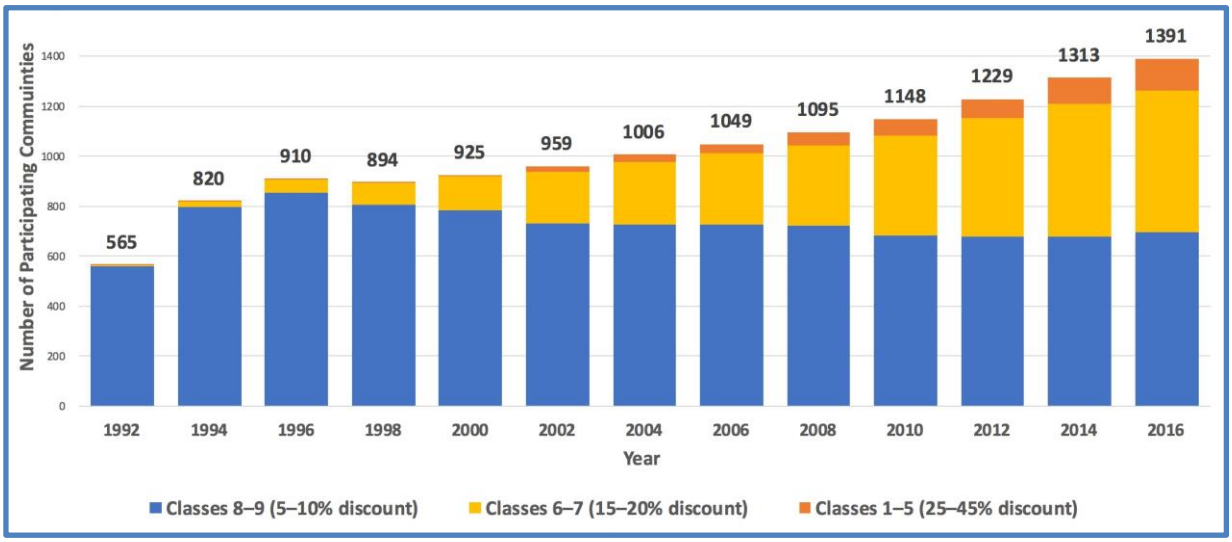


Figure 3. Growth in Numbers of CRS Communities, by Class.

In 2014 and 2015 special effort was expended to encourage communities to join the CRS and encourage existing CRS communities to advance in CRS Class. This effort was largely focused on the following:

- Improving the program's Internet presence to make accessing information about the CRS easier—see the "CRS Online" sidebar on page 16;
- Emailing the *NFIP/CRS Update* newsletter to approximately 2,500 subscribers. The newsletter is also available on FEMA's website and distributed through GovDelivery; and
- Strengthening the role of CRS Users Groups, as discussed below.
- For program years 2014 and 2015, FEMA established achievement targets for the CRS of (1) Increasing the number of CRS communities, and (2) Achieving CRS Class improvements, expressed as a percentage.

  The "achieves excellence" targets for the number of new communities joining the CRS in 2014 and 2015 were 35 communities and 40 communities, respectively. Both years' targets were met, with 47 new communities in 2014 and 68 new communities in 2015.

  The "achieves excellence" targets for CRS Class improvements for 2014 and 2015 were 35% and 25%, respectively. In 2014 the CRS Class improvements were 22%, due to the release of a new *CRS Coordinator's Manual* that required time for communities to fully incorporate into their programs. The 2015 achievement was exceeded, at 31%.

Table 2. THE ELEVEN BEST-RATED CRS COMMUNITIES (CLASSES 1–4).

Community	State	CRS Class
City of Roseville	California	1
City of Fort Collins	Colorado	2
City of Tulsa	Oklahoma	2
King County	Washington	2
Pierce County	Washington	2
Sacramento County	California	3
City of Ocala	Florida	3
Louisville–Jefferson County	Kentucky	3
Maricopa County	Arizona	4
Charleston County	South Carolina	4
Thurston County	Washington	4

Working Towards CRS Goals and Priorities

This section reports progress the CRS has made towards its three goals in 2014 and 2015.

GOAL 1. Reduce and avoid flood damage to insurable property.

The CRS program's series of activities are built around the following four broad approaches to reducing flood losses.

- Public Information Activities (300 Series): Credits programs that advise people about the flood hazard, encourage the purchase of flood insurance, and provide information about ways to reduce flood damage.
- Mapping and Regulations (400 Series): Credits programs that provide increased flood protection to new development.
- Flood Damage Reduction Activities (500 Series): Credits programs that reduce the flood risk in areas that have already been developed.

- Warning and Response (600 Series): Credits measures that protect life and property during a flood, through flood warning and response programs.

In 2014 and 2015 achievements in implementing GOAL 1 were primarily accomplished by the use of new CRS Coordinator's Manual. The new Manual provided revised CRS credit points to incentivize CRS communities to implement floodplain management measures that reduce flood risk to insurable property.

FEMA and the CRS Task Force, guided by data-driven research and expert input, use a method to assure that the CRS continues to recognize and encourage the most effective actions that lead to reduced losses, based on the best available knowledge.

Efforts to reduce flood losses have always been at the core of the CRS. Recent studies have demonstrated that measures credited by the CRS—measures that exceed the minimum requirements of the NFIP—are effective in reducing NFIP-insured flood losses. A statistical examination of flood insurance claims from 1999 to 2009 revealed that flood losses are lower for insurable buildings in CRS participating communities than they are in non-participating communities. (See the "CRS Communities Incur Reduced Losses" sidebar.) A separate study in Colorado examined the effectiveness of regulatory standards that exceed the NFIP minimum requirements. Its findings support the credits provided by CRS to recognize appropriate regulations that reduce flood losses to buildings. (See the "Floodplain Management Works" sidebar, below.)

CRS Communities Incur Reduced Losses

Research conducted by Texas A&M University showed that activities credited in the CRS can be directly associated with reduced flood losses to insurable buildings. This peer-reviewed study compared NFIP-insured losses in CRS communities to losses in non-CRS communities between 1999 and 2009. Among its findings:

- On average, flood losses for CRS communities in the Special Flood Hazard Area were 39.5% lower than those of non-CRS communities.
- Outside the Special Flood Hazard Area, losses were 34% lower in CRS communities than in non-CRS communities.
- The study used numerous control variables to compare a balanced group of CRS communities with a balanced group of non-CRS communities throughout the Nation.

GOAL 2. Strengthen and support the insurance aspects of the NFIP.

As an insurance-rating program, the CRS plays an important role within the NFIP in contributing to the actuarial, rate setting, and insurance promotion foundations of the program. Improving available data is a key component of many parts of the program.

In 2014 and 2015 relevant activities related to improving available data are discussed below

CRS Coordinator's Manual

- The 2013 *CRS Coordinator's Manual* introduced Activity 370 (Flood Insurance Promotion), the first new activity added in the program's history. The activity provides credit when a community assesses its current level of flood insurance coverage, identifies shortcomings, and implements a plan for how to improve coverage. As of the time of this report, an estimated 25 communities have taken advantage of this credit.
- Activity 320 (Map Information Service) requires that communities tell people about the mandatory flood insurance purchase requirements when they request information about

the flood hazard and flood maps. Credit is provided under Activity 340 (Hazard Disclosure) to communities that require the sellers of property to disclose flood risks.

- Activity 410 (Floodplain Mapping) and Activity 440 (Flood Data Maintenance) help ensure accurate rating of insurance policies.
- Several activities give special attention and credits for programs and projects that mitigate repetitively flooded properties.

Verification of all of a community's new NFIP Elevation Certificates. Knowing the elevation of a building is critical to understanding its flood risk and correctly determining its insurance rate. Requiring and maintaining Elevation Certificates are among the best ways to determine whether structures in the floodplain are built and insured correctly. Although the CRS has always reviewed the accuracy of a sampling of a community's Elevation Certificates for newly built structures, beginning in 2013 the CRS no longer reviews only a sample. Instead, the CRS began reviewing for accuracy all Elevation Certificates on file in CRS communities for new construction in the floodplain. This helps ensure that structures are built as designed and that insurance rates for buildings accurately reflect their real risk.

GOAL 3. Encourage a comprehensive approach to floodplain management.

Through the breadth of its 19 creditable activities, the CRS encourages communities to look comprehensively at their flood risks, how they might be reduced, and how communities can achieve greater disaster resilience, protect naturally functioning floodplains, and work toward their broader sustainability goals.

As with GOAL 1 and somewhat with GOAL 2, the new CRS Coordinator's Manual provided greater incentives for communities to pursue CRS activities in years 2014 and 2015 that direct effort in comprehensive watershed management, preservation of open space and consideration of future conditions that may influence flood risk.

Using a comprehensive approach to floodplain and watershed management. This is most explicitly addressed in Activity 510 (Floodplain Management Planning), which credits a 10-step approach to floodplain management planning. This whole community approach fosters the development of a plan that takes into account all of the community's areas, departments, and stakeholders by

- Encouraging planning committees, including multi-jurisdictional committees, to build and improve partnerships and stakeholder engagement;
- Requiring a community's problem assessment to cover repetitive flood loss areas and all hazards identified in the hazard assessment; and
- Providing extra credit for specifically assessing the impact of climate change, including sea level rise.

Preserving naturally functioning open space. The most recent version of the *CRS Coordinator's Manual* brought added recognition of the importance of the many benefits of maintaining naturally functioning floodplains in an undeveloped state. The CRS has long credited the preservation of open space in floodplains, and provided extra credit if that open space was in its natural state. The CRS continues to evolve in response to the growing understanding of the importance of natural floodplains and coastal areas. For example,

- From the perspective of CRS points available, the most highly rated land a community has is open space parcels that have been preserved in or restored to their natural state. There are bonus CRS credits for additional attributes, such as having critical habitat for endangered species.
- CRS credit is available for programs that protect natural channels of both riverine and coastal shorelines, areas that are most valuable for protecting natural floodplain functions.
- Extra credit under Activity 440 (Flood Data Maintenance) is provided if a community utilizes map layers that show areas with natural floodplain functions—for example, wetlands or designated riparian habitat.
- Under Activity 510 (Floodplain Management Planning), credit is provided for one or more plans that protect the natural functions of the community's floodplain. Examples include a habitat conservation or restoration plan or a green infrastructure plan.
- New environmental compliance criteria for Activity 520 (Acquisition and Relocation), Activity 530 (Flood Protection), Activity 540 (Drainage System Maintenance), and Activity 620 (Levees) ensure that the CRS is not rewarding projects and/or maintenance programs that have a negative impact on environmental, historical, or cultural resources.
- Class 4 or better communities will need to obtain a minimum total score of 100 points from one or a combination of elements that credit protecting natural floodplain functions.

Encouraging communities to consider future growth and changing conditions, including climate change. Comprehensive floodplain and watershed management cannot limit itself to considering only current conditions. Changes in the natural and man-made environment alter the Nation's floodplains and coastal areas. The CRS recognizes this, and provides incentives to communities that are forward-looking and consider climate resiliency, including

- To become Class 4 or better, a community must demonstrate that it has programs that minimize increases in future flooding.
- To achieve Class 1, a community must receive credit for using regulatory flood elevations in its V Zone and Coastal A Zone that reflect future conditions, including sea level rise.
- Credit is provided under Activity 320 for communities that provide information about areas not mapped on the Flood Insurance Rate Map that are predicted to be susceptible to flooding in the future because of climate change or sea level rise.
- Credit is provided under Activity 340 when prospective buyers of a property are advised of the potential for flooding due to climate changes and/or sea level rise.
- Under Activity 410, credit is provided when a community's regulatory map is based on future-conditions hydrology, including sea level rise.
- Credit is provided for watershed management programs that manage runoff from future development and redevelopment under Activity 450.
- Communities whose watershed master plans manage future peak flows so that they do not exceed present values receive credit under Activity 450.
- Credit is provided under Activity 510 for flood risk assessments and problem analyses that address areas likely to be flooded and flood problems that are likely to become more

severe in the future as a result of (1) changes in floodplain development and demographics, (2) development in the watershed, and/or (3) climate change or sea level rise.

- Credits for mapping and managing development that is subject to coastal erosion can encourage local programs to set new development back from areas that will be flooded by rising sea levels.

CRS Community Collaboration

Background

Successful delivery of the CRS is dependent upon an ongoing collaborative working relationship among all CRS stakeholders. FIMA learns from communities about effective floodplain management practices—which are incorporated into CRS—and communities eager to embark on improved floodplain management programs learn from each other, from leaders in state floodplain management programs, and from FIMA. Several specific endeavors are managed through the CRS in order to foster this collaboration.

CRS Users Groups

An indicator of the strong community engagement fostered by the CRS is the growth of professional peer support forums organized by CRS community officials in the form of "CRS Users Groups." The number of these self-organized and self-supported groups has reached nearly 40 nationwide. The latest list at the time of this Report is shown in Table 3.

These groups comprise community officials who want to improve their communities' CRS ratings; stay current on changes to the program; share the lessons they have learned with their peers; host and participate in webinars, training, and workshops; and seek greater understanding of new ways to help and protect their residents. The CRS Users Groups also welcome participants from communities that are preparing to join the CRS.

Training

In addition to the extensive work of ISO field specialists, the CRS provides a range of training opportunities to NFIP communities and CRS stakeholders.

Classroom Instruction

FEMA's Emergency Management Institute (EMI), offers a CRS course, "E0278: National Flood Insurance Program/Community Rating System." This is a 4-day classroom course and is offered at no cost to attendees both on the EMI campus in Emmitsburg, Maryland, and at the request of states, counties, or communities, as a field-deployed course. In 2014 and 2015, there were six CRS courses held at EMI and eight field deployed at various locations around the country. (See Figure 4 for locations.) Nearly 400 students gained a more detailed understanding of the CRS through the on-campus and field deployed class.

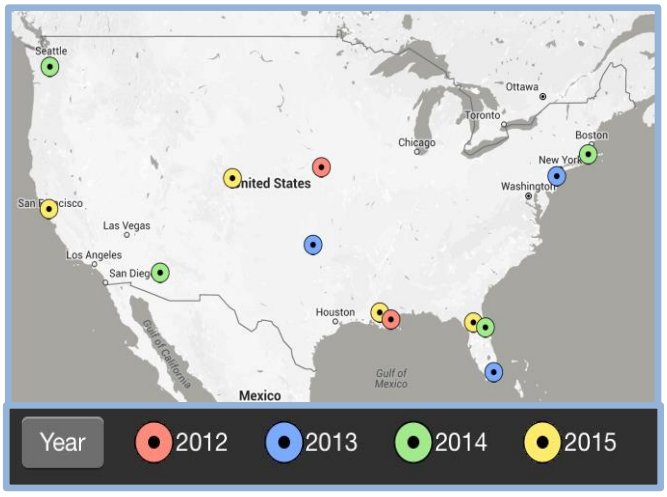


Figure 4. Sites of field-deployed CRS training courses, 2012–2015.

Table 3. CRS USERS GROUPS NATIONWIDE	
State(s) Represented	**Group Name**
Alaska, British Columbia, Idaho, Oregon, Washington	Northwest Regional Floodplain Managers Association (NORFMA) CRS Committee
Arizona	Arizona CRS Users Group
California	North Central CRS Users Group of California Santa Clara County CRS Users Group
Colorado	Colorado Association of Stormwater and Floodplain Management (CASFM) CRS Committee
Delaware	Delaware CRS Users Group
Florida	Broward County CRS Users Group Central Florida CRS Users Group Miami-Dade County CRS Users Group Northeast FL CRS Users Group Palm Beach County CRS Users Group Southwest Florida CRS Users Group Tampa Bay - Pinellas Regional CRS Committee Volusia County CRS Users Group
Georgia	Coastal Georgia CRS Users Group
Illinois	Illinois CRS Users Group
Louisiana	Capital Region Area Floodplain Task Force (CRAFT) Flood Loss Outreach & Awareness Task Force (FLOAT) Jefferson United Mitigation Professionals (JUMP) Southwest Informational Floodplain Team (SWIFT)
Maryland	Maryland CRS Users Group
Massachusetts	South Shore CRS Users Group
Mississippi	Coastal Hazards Outreach Strategy Team (CHOST)
Missouri, Kansas, Nebraska	MOKAN CRS Users Group
New Jersey	Monmouth County CRS Users Group Ocean County CRS Users Group
New York	Long Island CRS Users Group New York CRS Users Group Staten Island Alliance CRS Users Group
Oklahoma	Oklahoma CRS Workgroup
Oregon	North Oregon CRS Users Group South Oregon CRS Users Group
Rhode Island	Rhode Island CRS Users Group
South Carolina	South Carolina CRS Users Group
Texas	Floodplain Awareness Success in Texas (FAST) North Central Texas CRS Users Group
Virginia	Coastal Virginia CRS Workgroup Northern Virginia CRS Users Group
Washington	King County CRS Users Group

Webinars

The "CRS Webinar Series" offers monthly learning opportunities to local, state, and federal officials and other CRS stakeholders. CRS webinars offer an alternative to or complement to classroom learning. In 2014 and 2015, 49 webinars reached 3,329 participants. These webinars, offered at no cost, allow interested people to spend an hour with CRS experts via their computers, watching a presentation, participating in polls, and asking questions. Webinar topics range from the basic "Introduction to CRS" to specific webinars explaining how certain elements are scored, such as "Developing a Program for Public Information (PPI), a Coverage Improvement Plan (CIP), and Using FloodSmart." See the sidebar for a complete list of topics covered in 2014 and 2015.

CRS WEBINARS, 2014–2015

CRS and Higher Regulatory Standards

CRS and Natural Floodplain Functions

CRS Coordinators as Advocates for Flood Insurance—The Challenge of El Niño

Developing a Program for Public Information and a Coverage Improvement, Plan

Developing a Program for Public Information, a Coverage Improvement Plan, and Using FloodSmart

Developing Outreach Projects (Activity 330)

Drainage System Maintenance (Activity 540)

Flood Warning & Response (Activity 610)

Floodplain Management Planning (Activity 510)

Higher Regulatory Standards (Activity 430)

Introduction to the CRS

Natural Floodplain Functions

Preparing an Annual Recertification

Preparing an Impact Adjustment Map

Preparing for a Verification Visit

Workshops, Tools, and Technology

The CRS provides half-day and one-day workshops as requested by CRS Users Groups or state floodplain associations. The workshops are tailored to the area of the country and the appropriate flood loss reduction strategies.

Over the past several years the CRS has developed tools designed to help communities through the various stages of their entry into and participation in the CRS. These include

- The "CRS Quick Check," an online tool that simplifies the CRS community application process and allows for improved coordination among the FEMA regional offices, the community, and the ISO field specialists; and
- A web-based community self assessment tool that guides communities in identifying the CRS activities that will help them meet their goals of reducing risk and improving resilience.

Enhanced Web Presence

In 2014, CRS worked with the NFIP's FloodSmart flood insurance marketing campaign to add CRS content to FloodSmart.gov, the NFIP's primary flood insurance marketing website. The FloodSmart CRS section is directed towards elected officials and local government personnel. The CRS pages include information on the CRS, guidance on how to join the program, and the program's latest news. The content includes a 5-minute video called "Pocket Guide to the Community Rating System," targeting governing bodies and community groups.

THE CRS ONLINE

The CRS has a home on the NFIP's extremely popular FloodSmart outreach program. The site serves as a resource for people wishing to learn more about the CRS. it is located at http://floodsmart.gov/crs.

While occasional requests for printed materials surface, communities overwhelmingly request access to CRS tools and documents online. The program continues efforts to make all possible materials and tools accessible via the Internet, including additional videos such as the 10-minute "Community Rating System (CRS) Overview."

Communities often request examples of steps other communities are taking to reduce their flood risks. The CRS is nearing completion of a new "Success with CRS" website that features over 20 stories on current CRS communities, documenting the effectiveness of the program in supporting communities and meeting the goals of the CRS.

IV. Cost Effectiveness

Administrative Costs

The CRS is a revenue-neutral component of the NFIP. The total dollar amount of the flood insurance premium discounts provided to policyholders in CRS communities is offset by increased flood insurance policy premiums from policyholders not located in a CRS community. The approximately $5 million annual cost for administering the CRS, like all other administrative expenses of the NFIP, is funded from policyholder premiums.

Fiscal Benefits

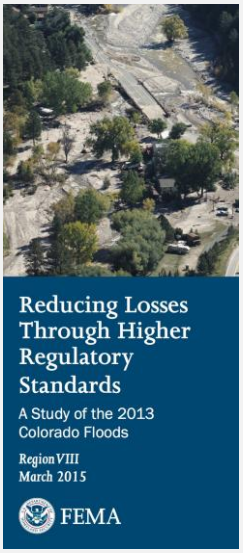
The CRS reduces disaster assistance through the following avenues.

Reduced damage to insurable property. FEMA deploys Mitigation Assessment Teams to affected areas after flood disasters. These teams regularly observe that buildings constructed to CRS standards suffer less damage than buildings that do not incorporate floodplain management best management standards. In September 2013, an unprecedented rainfall event in Colorado resulted in massive flooding that impacted 18 Colorado counties and 132 jurisdictions, including some of the most advanced CRS jurisdictions in Colorado. The scale of the event and the data available provided a unique opportunity to quantitatively evaluate the impacts of floodplain management through higher regulatory standards and policy actions. The study concluded that floodplain regulations that incorporate a higher standard—like those credited in the CRS—result in a reduction in flood-related losses (see sidebar for more details). The enforcement of a standard known as "freeboard," which requires the lowest floors of new construction to be a foot or more above the base flood elevation, has resulted in an estimated $206 million reduction in flood losses.

A more actuarially-sound NFIP. Accurate information is required to determine appropriate flood insurance premium rates. Applicable information is found on documents such as the NFIP Elevation Certificate and the currently applicable Flood Insurance Rate Map or flood zone determination. The CRS provides incentives to communities to improve the accuracy and availability of these and other important documents and data.

Economically efficient floodplain management. One of the most recognizable benefits of CRS participation accrues to those communities that implement the flood warning, flood response, and exercise activities associated with the CRS credits under the Warning and Response series. Several CRS communities that were affected by the 2013 Colorado floods had credited flood warning and response plans that were activated "as planned." This resulted in the successful evacuation of individuals from imminent flooding conditions, protecting lives, and saving what would have been large rescue expenditures.

FLOODPLAIN MANAGEMENT WORKS



2013's catastrophic floods in Colorado presented an opportunity to evaluate the efficacy of regulations like those credited by the CRS. The report's conclusions were clear: regulations, smart building, and open space reduce flood damage.

V. Conclusions

The CRS continues to make significant progress in achieving its stated goals through providing a voluntary incentive-based flood loss reduction opportunity within the NFIP.

FEMA found no apparent shortcomings to the program, even though serving the growing interest of communities and interested parties in the program presents growing challenges each year. There are no recommendations for legislative changes to Section 541 of the National Flood Insurance Reform Act of 1994.

This report has provided an overview of how the CRS operates, its current status, and how well the program is progressing toward achieving its goals. The main findings are summarized below.

- The 1,391 participating CRS communities represent over two-thirds of all flood insurance policies. Communities from all 50 States and Puerto Rico participate in the CRS.
- The program has grown steadily over the past decade, averaging 34 new communities each year, with an acceleration in growth since the last report, with 121 communities joining in the last two years. In addition, CRS communities are improving their floodplain and watershed management programs and receiving better CRS classifications in return.
- The CRS continues to evolve in response to emerging technologies and science, quantitative and qualitative information about the value of mitigation and insurance, better understanding of flooding and other hazards, climate resiliency, and deeper appreciation of the importance of the natural environment.
- A growing body of empirical research is showing that the CRS approach is effective at reducing flood losses.
- The CRS integrates FEMA's all-hazards risk approach to mitigation for communities; offers research into mitigation activities; credits stronger multi-hazard and disaster-resistant building codes; and encourages a collaborative, whole community approach to all-hazards planning and other CRS activities.
- The costs borne by communities in implementing activities credited under the CRS are offset by the benefits that ensue: enhanced public safety, reduced damage to property and public infrastructure, avoidance of economic disruption and losses, minimized human suffering, and protection of the environment. These benefits accrue to all residents, whether they have flood insurance or not.
- A CRS community benefits from having an added incentive to maintain its flood mitigation programs over the years. Communities that participate in the CRS find that their floodplain management activities are better organized and more formalized. They are administered more closely and effectively and remain in operation even after changes in personnel. The CRS celebrates community successes by providing national recognition for the effort a community puts into flood mitigation, and striving to improve community satisfaction with the program by fostering open dialogues about continuous improvements of the CRS.