National Flood Insurance Program
Community Rating System

Biennial Report to Congress

2012

Homeland Security

Federal Emergency Management Agency

March 6, 2014

Message from the Administrator

I am pleased to present the 2012 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 42 *U.S.C.* 4022 (b)(4), 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 Tim Johnson
Chairman, Senate Committee on Banking, Housing and Urban Affairs

The Honorable Mike Crapo
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

Inquires relating to this report may be directed to me at (202) 646-2780 or to the Agency's Deputy Associate Administrator for Federal Insurance, Edward L. Connor, at (202) 646-2780.

Sincerely,

W. Craig Fugate
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 was initiated in 1990 to recognize and encourage community implementation of floodplain management activities that exceed the minimum standards of the NFIP. The National Flood Insurance Reform Act of 1994 codified the CRS. 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.

There are 10 CRS classes: Class 1 requires the most credit points and gives the largest premium reduction; Class 10 receives no premium reduction. The CRS recognizes 19 creditable activities, organized under four categories numbered 300 through 600: Public Information, Mapping and Regulations, Flood Damage Reduction, and Warning and Response.

As of October 1, 2012, 1,229 communities received flood insurance premium discounts through the CRS, based on implementation of local flood risk reduction, outreach, and educational activities that exceed Federal NFIP minimum floodplain management requirements. These CRS activities help communities to become more sustainable and disaster resistant through increased citizen understanding of all hazard risks, construction of safer infrastructure through disaster-resilient building codes, attention to future growth and changing conditions, protection of the natural environment of floodplains and coastal areas, and encouragement of a Whole Community approach to management of all hazards.

The CRS is managed through a multidisciplinary, collaborative approach involving many stakeholders, including federal, state, local, tribal and territorial officials; professionals with expertise in floodplain management; insurance industry and underwriting experts; and academic researchers.

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, and Part IV concludes the report and discusses future program directions. Major highlights are listed below.

- The 1,229 CRS communities represent over two-thirds of all flood insurance policies in the United States. Although it offers premium discounts, it continues to be a revenue-neutral program.
- The CRS continues to see growth both in the number of participating communities and in the number of communities that improve their CRS Class. CRS participation is well distributed across the nation, with the 11 top-rated communities now including eight counties.
- The CRS acts as a model for communities. It supports research into mitigation techniques, emphasizes stronger multi-hazard building codes, fosters a Whole Community approach to building resilience through floodplain management, and encourages all-hazards planning. National recognition for a high rank in the CRS helps celebrate a community's successes.
- 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 natural hazards, and broader appreciation of the importance of the natural environment. The CRS will take a substantial step in its ongoing program improvement with the new 2013 *CRS Coordinator's Manual*.

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I. Legislative Requirement

This is the ninth Biennial Report to Congress for the National Flood Insurance Program's Community Rating System. The Report is submitted pursuant to Section 541(4) of the National Flood Insurance Reform Act of 1994 (the Riegle Community Development and Regulatory Improvement Act of 1994), which 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 part of the National Flood Insurance Program (NFIP), which is administered by the Federal Emergency Management Agency (FEMA) of the Department of Homeland Security. Within FEMA, the CRS is administered by the Federal Insurance and Mitigation Division.

This 2012 Biennial Report reviews the main activities of the past two years, how refinements have been made to the program's creditable Activities and points, and how the program has fared in its efforts to accomplish its goals. The core of the report follows this section, and is split into three parts.

- **Program Overview**. Part II summarizes the CRS; its purpose, goals, and priorities; current statistics on community participation; and the costs and benefits of the program.
- **Program Accomplishments.** Part III discusses the program's progress and accomplishments.
- **Conclusions**. Part IV provides analysis on future programmatic directions.

More details on the topics covered here are available from FEMA. Most of the publications referenced can be found at http://CRSresources.org.

II. Program Overview

Floods are our nation's most costly natural disaster. Over the past three decades, national flood losses have averaged $7.82 billion and 94 lives annually.[1] Reducing these losses has been a core purpose of FEMA since its creation in 1978. At the center of FEMA's flood-reduction efforts lies the NFIP. The NFIP, which functions through a private/public partnership, allows people and organizations to purchase federally backed flood insurance in communities that participate in the NFIP. The more than 21,000 NFIP participating communities collectively hold over 5.5 million flood insurance policies. Community participation is voluntary, and requires that communities adopt certain floodplain management standards, primarily regulation of new development in their floodplains. Because of the active role it requires communities to take in managing their floodplains, the NFIP has been heralded as the single most cost-effective natural hazard reduction program in the country's history.[2]

Unfortunately, floods continue to cause devastation each year. Although total flood losses vary from year to year, average annual flood losses across the nation are increasing.[3] The increase in average annual flood losses can be explained, in part, as a result of growth in the nation's gross national product (GNP), however, the increase is still undesirable. To battle this trend, FEMA launched the CRS in 1990 as a way to engage local jurisdictions in implementing floodplain management techniques that exceed the minimum requirements of the NFIP. These techniques are ones that further reduce communities' susceptibility to flooding, build disaster resilience, and help the communities pursue their broader sustainability goals. For example, a community can earn credit for improving its stormwater management system or by protecting portions of its floodplain from development. That credit can translate into flood insurance premium discounts for the entire community.

Over the past two decades, the CRS has become nationally-recognized as leading the NFIP, through a voluntary incentive program option, in reducing the nation's flood losses. Over 1,200 participating communities have chosen to use progressive, research-backed techniques to mitigate their flood risk, enable reduced flood insurance premiums, and decrease flood damage. A complete list of all the CRS communities can be found at www.fema.gov/national-flood-insurance-program-community-rating-system.

[1] National Weather Service Hydrologic Information Center—Flood Loss Data website http://www.nws.noaa.gov/hic/

[2] 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.

[3] National Weather Service Hydrologic Information Center—Flood Loss Data website http://www.nws.noaa.gov/hic/

CRS Goals

The purpose of the CRS is to support the NFIP. 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. Communities are encouraged to decrease the exposure of the built environment (including building contents) to flood damage, especially properties that are subject to repetitive flood losses. New buildings and their contents should be protected from known and future local flood risks. Standards higher than those set out in the minimum criteria of the NFIP may be needed to accomplish these tasks. The CRS encourages communities to map and provide flood data for all their flood hazards, use the data in local regulatory programs, and share it with all users and inquirers.

Goal 2. Strengthen and support the insurance aspects of the NFIP. The CRS recognizes communities whose activities generate and contribute data to a picture of risk that enables accurate actuarial rating of flood insurance. Communities are encouraged to implement mapping and information programs that help improve the accuracy of the risk analysis for an individual property and reduce repetitive flood losses. To help expand the policy base, participating communities make their residents aware of their flood risk so that they purchase and maintain flood insurance policies.

Goal 3. Foster comprehensive floodplain management. The CRS encourages communities to use all available tools to implement comprehensive local floodplain management programs, whose concerns extend beyond the protection of insurable property to building disaster resilience and advancing broader community sustainability goals. 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 or on other properties. A community's staff should understand the physical and biological processes that form and alter floodplains and watersheds and take steps to deal with flooding, erosion, habitat loss, water quality, and special flood-related hazards. A 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 addition to its goals, the CRS has 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 can also help protect the community from earthquakes, hurricanes, landslides, drought, hazardous materials incidents, and terrorism.

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

Program Benefits

In addition to discounted insurance rates, participation in the CRS brings many other benefits both directly and indirectly to CRS communities and the nation.

- CRS communities achieve enhanced public safety.
- The program's activities increase protection of public and private property and infrastructure, thereby contributing 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.
- Many aspects of the CRS help communities encourage environmental protection.
- NFIP premium discounts keep more money in the community, driving local economies.
- A community in the CRS can use nationally recognized benchmarks as metrics to evaluate the effectiveness of its flood program.
- Technical assistance is available to design and implement some activities.
- CRS participation fosters an engaged, Whole Community approach to floodplain management and disaster resilience.
- Communities that participate in the CRS find that their floodplain management activities are better organized and more formalized than before they joined the CRS. They are administered more effectively and are more likely to remain in operation after personnel changes.
- Local governing bodies take into account the fact 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 system used in fire insurance rating has strongly contributed to local government support for fire protection programs.
- Implementing some CRS Activities, such as floodplain management planning, can help a community qualify for certain federal disaster assistance programs.
- The CRS public information Activities help build a knowledgeable constituency interested in providing grassroots support for flood protection measures.
- FEMA publicly celebrates the success of CRS communities on various websites, brochures, and at events. Participation in the CRS shows that community leaders are actively engaged in protecting their people, property, and economies.
- The CRS provides data to FEMA on different ways to implement floodplain management activities, helping the NFIP as a whole to make more informed policy decisions. New initiatives by FEMA can be based on how communities have tried them on their own, based on the metrics of CRS credits.

Flood Insurance Premium Discounts

The best known benefit of the CRS is the reduction that participating communities earn in their residents' NFIP premiums. The amount of discount, which can be up to 45%, is determined by the community's CRS class.

There are 10 CRS classes. Class 1 requires the most credit points and gives the largest premium reduction; Class 10 receives no premium reduction. The chart in Figure 1 outlines the discounts available to all insurable structures in a community by class and by the structure's proximity to the Special Flood Hazard Area (SFHA).

Figure 1. Savings by CRS Class.

CRS Class	Savings in SFHA	Savings out of SHFA
1	45%	10%
2	40%	10%
3	35%	10%
4	30%	10%
5	25%	10%
6	20%	5%
7	15%	5%
8	10%	5%
9	5%	0

Earning CRS Credit

A community's CRS class is determined by the number of points it 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 credit. This is one Element in the Outreach Projects *Activity* (Activity 330), which is in the Public Information *Series* (300 Series). Below is a list of the Series and Elements of the CRS.

300 Series: Public Information
- 310 Elevation Certificates
- 320 Map Information Service
- 330 Outreach Projects
- 340 Hazard Disclosure
- 350 Flood Protection Information
- 360 Flood Protection Assistance
- *NEW for 2013*: 370 Flood Insurance Promotion

400 Series: Mapping and Regulation
- 410 Additional Flood Data
- 420 Open Space Preservation
- 430 Higher Regulatory Standards
- 440 Flood Data Maintenance
- 450 Stormwater Management

500 Series: Damage Reduction
- 510 Floodplain Management Planning
- 520 Acquisition and Relocation
- 530 Flood Protection
- 540 Drainage System Maintenance

600 Series: Warning and Response
- 610 Flood Warning and Response
- 620 Levees
- 630 Dams.

Program Participation

As of October 1, 2012, there were 1,229 communities receiving flood insurance premium discounts through 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 written in CRS communities. Communities receiving premium discounts through the CRS cover a full range of sizes from small to large, and a broad mixture of flood risks, including coastal and riverine (Figure 2).

CRS COMMUNITIES: FOUR AT THE TOP

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

Comprehensive planning for floodplain management has been a key contributor to **Tulsa, Oklahoma**'s progress in reducing flood damage from the dozens of creeks within its jurisdiction. The City (Class 2) 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.

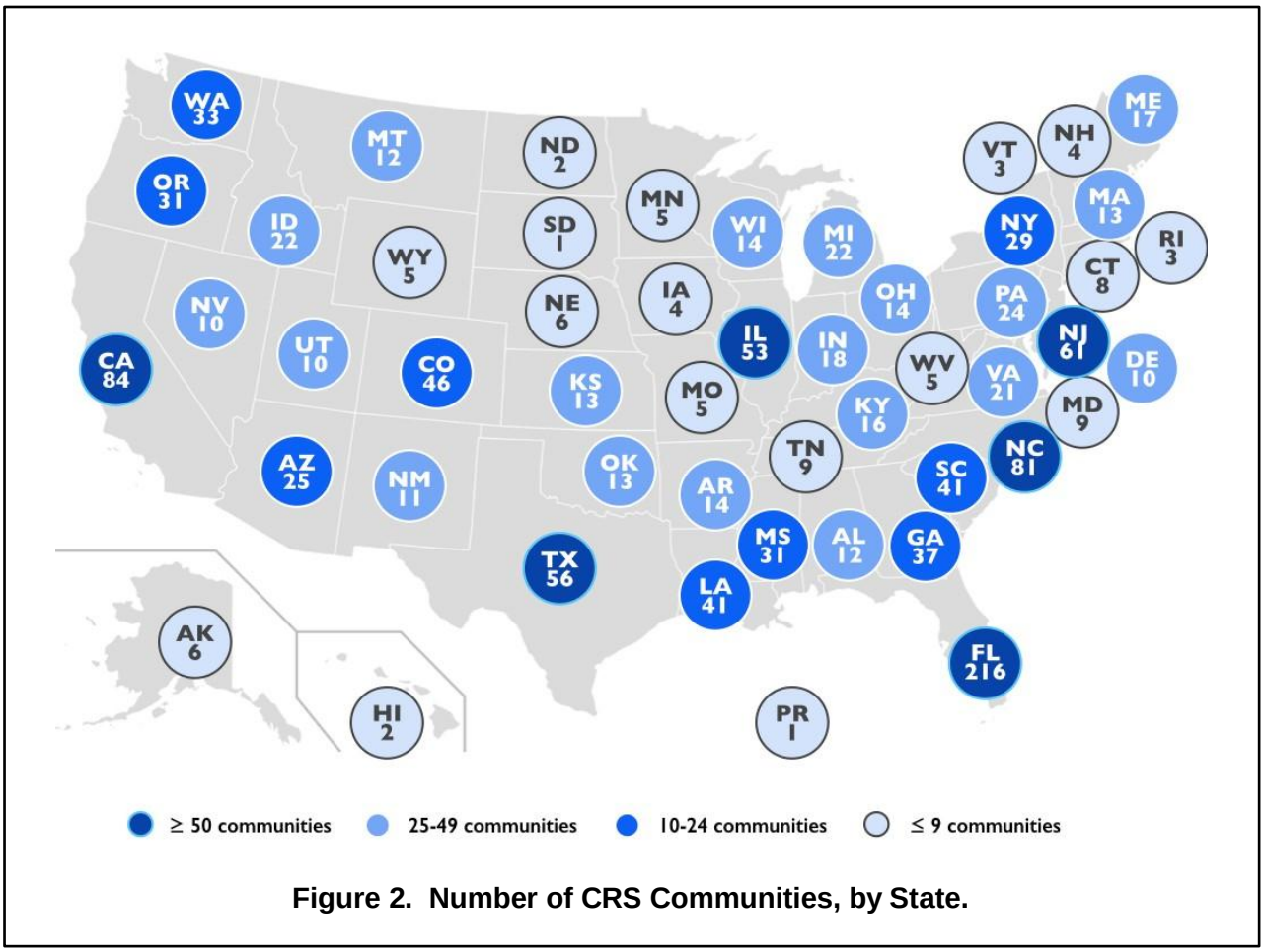


Figure 2. Number of CRS Communities, by State.

Program Administration

The CRS is guided by a partnership of public and private organizations.

Program Partners

- **FEMA**: The CRS is administered by FEMA's Federal Insurance and Mitigation Division within the Department of Homeland Security. FEMA has 10 Regional Offices that coordinate the field contacts with states and communities.
- **The CRS Task Force:** Because of the many disciplines required to develop and monitor the CRS, FEMA created the Community Rating System Task Force. Its members collectively represent the fields of actuarial science, engineering, floodplain management, and insurance underwriting (see next section).
- **States and Communities:** State, local, tribal, and territorial 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 some private organizations. It is estimated that 10%–20% of credited activities are implemented by a state or regional agency or because of a state or regional mandate (see Uniform Minimum Credits sidebar). State and regional agencies also provide technical assistance to communities.
- **Insurance Companies**: Companies that write flood insurance policies are responsible for explaining the CRS and its benefits to their policyholders.
- **Insurance Services Office, Inc.** (ISO): ISO has an arrangement with FEMA and insurance companies to process applications and provide technical assistance to FEMA, states, and communities.

The CRS Task Force

The CRS Task Force serves as an advisory body for FEMA on all matters pertinent to the CRS. Its composition is shown in the "CRS Task Force" sidebar.

The CRS Task Force meets three times each year, rotating the meeting site among the 10 FEMA regions in order to obtain input from experienced field personnel from different parts of the country. At these meetings, the CRS Task Force considers changes to CRS before making recommendations to FEMA. The ongoing program improvements that result from this process have varied from adjusting the points of an individual Element to major changes in the *CRS Coordinator's Manual.*

The CRS Task Force

Chair (consultant from the insurance industry)

FEMA Headquarters (5)
- Floodplain management
- Mapping
- Actuary
- Underwriting

FEMA Regional Offices (3)

Insurance companies (2)

Local governments (3)

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)

The Associate Administrator for Federal Insurance and Mitigation Administration is an *ex officio* member.

Administrative Costs

CRS is a revenue-neutral component of the NFIP. The revenue neutrality is accomplished by the following process:

1. All NFIP premium rates are comprehensively reviewed annually. As part of that review, appropriate rates are set for each premium category for the following year assuming no CRS discounts.

2. The CRS discounts are applied to the projected premium of each eligible building. The discounts vary by the CRS class of each CRS community and whether an insured building is inside a Special Flood Hazard Area.

3. The reduction in the aggregate NFIP premium from applying the CRS discounts is calculated.

4. A percentage factor is applied across the board so that the aggregate projected premium is the same as that calculated in step 1., above.

As a result of that process, the total dollar amount of the flood insurance premium discounts given to one group of policyholders through the CRS is off-set by increased premiums from other groups of policyholders located in (1) non-CRS communities and (2) CRS communities that are eligible only for the smaller discounts. The annual costs for administering the CRS, like all other administrative expenses of the NFIP, are funded from policyholder premiums.

The program is staffed with the equivalent of 23 FTEs: 15 field staff, three office/data processors, two technical coordinators, two consultants, and one program manager. The staff is responsible for direct program management, including implementation, oversight, outreach, and quality control, as well as office and field reviews of all participating and applying communities.

Total staff and operational costs for the program are just under $5 million annually. Other direct FEMA operating expenses are about $500,000 and include program travel, assisting community and state participation at three annual CRS classes at FEMA's Emergency Management Institute; printing the *CRS Application* and *Coordinator's Manual,* and other miscellaneous costs. Additional staffing and research costs for the CRS Strategic Plan described below added nearly $1.5 million during 2010 and 2011.

Cost-Effectiveness

The cost-effectiveness of the CRS is evaluated based upon the achievement of outcomes that support each of the three goals of the CRS. The CRS goals represent a wide range of interests to the NFIP. The achievement of certain goals is more easily measured than it is for others.

Achievement of Goal 1, "Reduce and avoid flood damage to insurable property," is readily observable. After flood disasters FEMA deploys Mitigation Assessment Teams to affected areas. These teams regularly observe that buildings constructed using the higher CRS floodplain management standards suffer less damage than buildings constructed only to the minimum floodplain management requirements of the NFIP. The most commonly studied higher standard is freeboard, credited under CRS Activity 430. Buildings constructed with their lower floors elevated a foot or more above the regulatory Base Flood Elevation receive less flood damage, as evidenced in post-disaster environments.

In 2011, a study conducted through Texas A&M University compared the amounts of flood insurance claim payments among CRS communities that implement specific floodplain management practices. The study concluded that communities that implement certain higher regulatory standards and that preserve floodplains as open space have significantly reduced total insured flood losses. These findings demonstrate that Goal 1 of the CRS is achieved in those communities implementing CRS activities.

Goal 2, "Strengthen and support the insurance aspects of the NFIP," provides a visionary framework from which numerous practical benefits to the NFIP are accomplished. In order for a flood insurance policy holder to receive an appropriate flood insurance premium rate, certain documentation materials, such as the NFIP Elevation Certificate and the effective Flood Insurance Rate Map or flood zone determination, must be reviewed by an agent or insurance company. The CRS provides incentive credits for communities to implement activities that reinforce accuracy, promote policy holder understanding, and archive important community floodplain permit documents for future reference. Although no empirical data is immediately available that quantifies improved accuracy on the insurance aspects of operating the CRS, many insurance agents from CRS communities explain that the CRS activities implemented in these CRS communities support the availability of valuable information, which helps service a policy in a more accurate and expedited manner. This directly supports Goal 2.

The outcomes achieved in support of Goal 3, "Foster comprehensive floodplain management," are evident in post-disaster evaluations and at non-disaster times. 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 Flood Warning, Levees, and Dams activities. It is not uncommon to learn of instances in which the CRS warning and response plans were successfully implemented by communities "as planned." This results in individuals' evacuating successfully from imminent flooding conditions. These events provide important evidence of the effectiveness of the CRS in achieving Goal 3.

The CRS activities that credit preserving floodplains as open space—particularly areas with habitat for threatened or endangered species—provide a direct incentive to communities to limit development in floodprone areas. Undeveloped floodprone areas do not result in flood damage to insurable property, will not need disaster assistance in the future, and provide ongoing aesthetic and

environmental health benefits enjoyed by communities and their citizens. CRS Open Space credit is widely received, with 91% of CRS communities earning some credit for preserving open space.

The flood loss reduction benefits of CRS are best evaluated after flood disasters when on-site observations and correlations about the benefits of the CRS can be made and measured. The CRS has only been available since 1990 and not all CRS communities have suffered flood damage since joining CRS. However, those CRS communities that have suffered flood damage appear to be able to identify specific CRS activities they have implemented that reduce flood damage or activities that educate citizens to be better prepared to plan for their individual and household safety.

In light of the many observed advantages to communities and citizens and the loss reduction benefits that the CRS yields for the NFIP fund, it continues to be viewed as a cost effective program, returning a benefit greater than the operational costs to administer the program.

A quantification of the cost savings from the CRS Program has not proven to be feasible because of the high volatility associated with flood events and the random nature of those events. For instance one community could be devastated by one or two major floods in, say, a certain 10 year period, while another similarly situated community could go through the same period disaster-free or with only minor flooding. However, the NFIP is currently engaged in several studies in which commercially available flood financial models and modeling techniques will be evaluated. If such a model proves to be effective for the NFIP, it's possible that the financial benefits of the CRS could be quantified.

III. Program Accomplishments

Overview

As discussed below, since the last report to Congress, CRS efforts have been focused on

1. Implementation of the CRS Strategic Plan,
2. Preparation of the new *Coordinator's Manual*,
3. Increasing community participation and improving class rankings, and
4. Meeting CRS goals and priorities.

A Strategic Plan for the CRS 2008–2013

The FEMA Strategic Plan Fiscal Years 2011-2014, February 2011, sets forth specific initiatives to be achieved over the next several years. The current Plan as well as FEMA's previous strategic plan provide both the framework and the strategic tools for FEMA's achievement of the Administrator's Intent 2012-2016.

Using the FEMA Strategic Plan as a guiding tool, FEMA's Federal Insurance and Mitigation Administration committed to the development and implementation of a similar strategic planning process for the CRS. With initiative and design from the CRS Task Force, *A Strategic Plan for the Community Rating System 2008–2013* was approved in January 2009. The report provided a path by which the CRS could be evaluated, revised, and improved. The CRS Strategic Plan may be downloaded from http://j.mp/crs-stratetic-plan.

In early 2010, the CRS Task Force had 12 working committees involved with program improvement related to the CRS Strategic Plan. Several external experts, including researchers associated with academic institutions, were included to assist with analysis and the development of recommendations. New consultants were added to the existing team. Four new committees were created during the reporting period and some existing committees were folded into new follow-up work groups. All of these committees either have, or are currently concluding, their work. Much of the committee work culminated in the revised 2013 *CRS Coordinator's Manual*.

Updating the CRS Coordinator's Manual

Background

Although ongoing program improvements to the CRS have been implemented regularly with updates to the *Coordinator's Manual* every three to five years, there was a growing perception on the part of FEMA and the CRS Task Force that a more comprehensive assessment and updating of the program were needed. Their reasoning included a desire to thoughtfully incorporate relevant changing realities into the program, including:

An improved understanding of flood risks and effective means of mitigation;

- Research conducted as part of the CRS Strategic Plan yielded qualitative and quantitative evidence of the value and effectiveness of specific mitigation and insurance activities.
- Building Performance Assessment Teams analysis of building damage after disasters is providing better knowledge of how to build in risk-prone areas in ways that enhance resilience of the built environment.
- FEMA's Map Modernization and RiskMAP, new technology, and advanced initiatives are creating a more accurate picture of risk.
- Climate change research is providing a view on future conditions.

An increased appreciation for natural floodplain functions; and

- Recent lawsuits, particularly ones based on the Endangered Species Act, emphasized the need to better coordinate flood protection with the protection of the natural functions of floodplains and coastal areas.
- Ecosystem knowledge and advocacy have grown, bringing sharper attention to and fuller understanding of ecological frameworks and their functions.

Changes in floodplain management practices.

- Building codes have evolved and strengthened, as have green building design techniques.
- State and regional programs and regulatory approaches have become increasingly sophisticated.
- Many federal programs and initiatives are addressing the challenges of flood hazards and the protection of natural floodplain and coastal functions and resources (for example, programs under the National Oceanic and Atmospheric Administration, the Environmental Protection Agency, and the U.S. Department of Agriculture).

To integrate these and other changes into the new *CRS Coordinator's Manual*, the CRS Task Force, in line with the CRS Strategic Plan, organized technical committees to evaluate all the CRS Activities and to look at several overarching issues, such as repetitive losses, coastal concerns, prerequisites, and natural functions and resources of floodplains. Committee members, who included nationally recognized flood loss reduction experts, community CRS coordinators, insurance industry professionals, and members of professional organizations, participated in over 50 conference calls and online webinars. Working committees were formed on the following topics:

Coastal issues
Dam safety
Elevation certificates
Flood insurance promotion
Floodplain management planning
Libraries and websites
Mapping
Natural functions
Open space and regulations
Prerequisites
Public information and outreach projects
Repetitive losses Community self assessment Stormwater and drainage maintenance Verification
Warning and response
Weighting review.

In cases in which the CRS Task Force thought information was missing, academic institutions conducted examinations of specific aspects of the CRS:

- University of Oregon: disaster planning, disaster recovery, mitigation operations;
- University of New Orleans, Center for Hazards Assessment, Response, and Technology (CHART): effectiveness of repetitive loss mitigation planning credits;
- East Carolina University: verification and sampling procedures;
- University of Washington, Institute for Hazards Mitigation Planning and Research: technical and staff assistance on research into 300-Series public information activities;
- University of North Carolina, Center for the Study of Natural Hazards and Disasters: floodplain management and mitigation planning; and
- Texas A&M University, Hazard Reduction & Recovery Center: losses avoided by implementing CRS credited activities.

For the Texas A&M study, researchers used a randomly selected set of 450 CRS-participating communities as a nationally representative sample with which to statistically assess the performance of specific CRS Activities and their Elements. For each selected community, the researchers tracked annual CRS point totals over an 11-year study period (1999–2009) and tested their impacts on flood insurance claim payments for insured losses. The researchers presented a summary of their findings to the 2011 Weighting Forum (see below). These findings highlighted the effectiveness of specific CRS Activities in reducing flood losses in *statistically significant ways*. For example:

- **Activity 430, Freeboard** (elevating structures higher than the regulatory base flood elevation) and Activity 420, **Open Space Preservation**, reduce *total flood losses for buildings and contents.*
- **Activity 530, Flood Protection**, decreases losses *in A and V flood zones.*
- **Activity 330, Outreach Projects,** lowers flood losses *outside the mapped Special Flood Hazard Areas.*
- **Activity 350, Flood Protection Information Dissemination,** substantially *increases the number of NFIP policyholders*.

Weighting of CRS Credit

One of the most important components of the CRS is determining the relative weighting of one CRS creditable action compared to another. Each CRS Activity and Element is assigned a certain number of points commensurate with the expected benefit achieved in support of the CRS goals. Sometimes the assigned weights and number of CRS credit points received are straightforward. For example, removing two similar buildings from a floodplain might reasonably be expected to be worth approximately twice as many points as removing one building. However, attempting to agree upon the relative point value of a good floodplain management plan compared to a regulation that requires that homes be elevated a foot above the base flood elevation introduces difficult challenges. Sorting out a full appreciation of the wide variety of benefits of CRS Activities—and the CRS credits received—occurs at a CRS Weighting Forum.

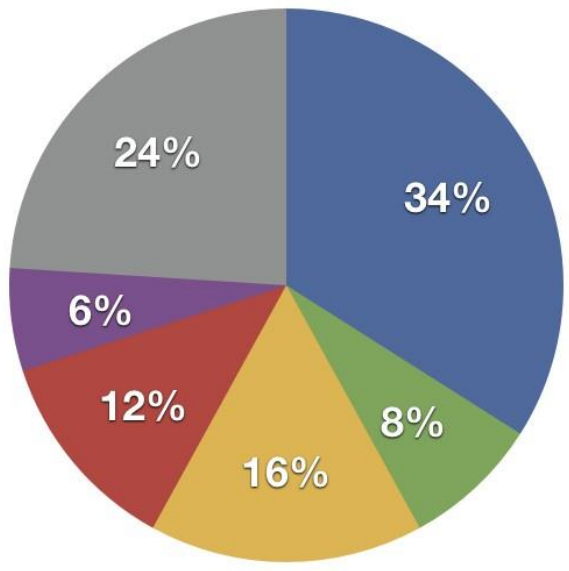
The 2011 Weighting Forum

Questions about the relative credit weights of CRS Activities were first addressed by the original CRS Task Force Weighting Forum in 1989, when a group of floodplain management experts set the points and class system for the first *Coordinator's Manual*, which became available in 1990. In 1997, a second CRS Weighing Review Meeting was conducted that used a modified version of the 1989 Weighting Forum procedure to adjust the credit for some CRS Activities as part of an overall evaluation of the CRS after its first six years in operation. The 1997 Weighting Review was not as extensive, comprehensive, or thorough as the 1989 Weighting Forum.

In response to the changes noted above in the Background section and the CRS Strategic Plan, in 2010 the CRS Task Force prepared for a new Weighting Forum. The 2011 CRS Weighting Forum reviewed all credit point weighting factors from the small Sub-Elements and Elements up to the Series level. In the spring of 2011, the CRS Task Force began a review of the CRS weighting structure, when its committees, additional subject-matter experts, and representatives of local governments went through a process to evaluate the relative weights of the more than 100 creditable Elements and Sub-Elements of the CRS. The Element weighting process included highly detailed evaluation and policy analysis, ultimately producing consensus on the relative weights of all the Elements within each Activity.

The final weighting, when the relative credit for the Activities was determined, took place June 5–9, 2011, when 50 invited participants met in Philadelphia for the third CRS Weighting Forum. The 2011 Weighting Forum was a multi-disciplinary, collaborative effort that included representatives of the CRS Task Force; knowledge area experts; academics; insurance specialists; and representatives from local, state, and federal governments (Figure 3).

Figure 3. 2011 Weighting Forum Participants, by Profession



Over the five days of the Weighting Forum, participants met in facilitated groups to evaluate and assign relative weights to the Activities by comparing them against one another. At the end of each step, the small groups reported their findings to the entire body, and results were tallied and discussed. At each incremental level, the Forum had to reach consensus that the results were acceptable to all members. On the last day of the Weighting Forum, points were tallied and averaged, and the group reviewed and approved the changes. On the day after the Weighting Forum, the CRS Task Force met and voted to formally recommend the results to FEMA.

To be sensitive to the impact the re-weighting of credit would have on participating communities, the recommended changes were tested via computer models against all CRS participating communities. FEMA made minor edits until an acceptable level of stability with current practice was achieved (see "Effect of New *Coordinator's Manual* on Existing CRS Communities" below), established the total number of points available for the entire program, and then incorporated the results into the new 2013 *CRS Coordinator's Manual*.

Highlights of Changes to the *Coordinator's Manual*

The substantive changes of the new 2013 *CRS Coordinator's Manual* are listed below.

1. The first new Activity in 20 years is being added to the CRS. Activity 370 (Flood Insurance Promotion) provides credit for communities that take an active role in encouraging people to obtain and maintain their flood insurance coverage. Activity 370 credits
    - A *flood insurance coverage assessment***:** an assessment the community's current level of coverage and identifying shortcomings.
    - A *coverage improvement plan*: a committee-prepared plan with specific committee composition (must include local insurance agents and lenders).
    - *Implementation of the coverage improvement plan*: implementing the projects described in the plan.
    - *Technical assistance*: providing advice and information about flood insurance.
2. More credit is provided for preserving open space and freeboard, the two Elements confirmed by the Texas A&M study as having the greatest impact on flood losses.
3. There is a new approach to public information programs, which will increase the credit provided for planned, coordinated outreach projects that are the product of Whole Community engagement.
4. There are more points available for protecting the natural functions of floodplains and coastal areas. This includes a new credit for implementing regulations that encourage low-impact development.
5. New credit is provided for exemplary administration of local regulations, including points for conducting field inspections and re-inspections.
6. The 50-page *CRS Application* is replaced with a shorter web-based "QuickCheck," thereby reducing paperwork and easing entry into the program for qualified communities.
7. A new web-based self assessment can engage communities in identifying the CRS Activities that will help them the most.
8. A new approach is taken to provide credit to programs that prepare people and emergency management offices for the potential failure of a levee or dam.
9. More emphasis is placed on prohibiting fill in the floodplain, including *not* approving LOMR-Fs (Letters of Map Revision based on Fill).

10. To improve verification, more items need to be submitted with each annual recertification, including all Elevation Certificates collected during the previous year.

A 15-page PDF overview of the changes to the new *Coordinator's Manual* may be found at http://j.mp/summary-crs-changes.

Effect of New *Coordinator's Manual* on Existing CRS Communities

To be responsive to the impact on communities that changes to the CRS may have, FEMA has established procedures for the transition to the new *Coordinator's Manual.* Any community receiving a CRS verification cycle visit before the 2013 *Coordinator's Manual* becomes effective will be verified using the current *Coordinator's Manual*. Once the 2013 *Coordinator's Manual* becomes effective, communities receiving a cycle visit are verified using the new *Coordinator's Manual*. Computer models predict that the 2013 *Coordinator's Manual* changes will affect CRS communities differently. Some communities will see an increase in the points they receive since points for certain Activities have increased (e.g., Activity 420 Open Space Preservation). Other communities will receive fewer points for certain Activities (e.g., Activity 320, Map Information Service). It is likely that some communities with marginal CRS Class 9 programs will have to identify new CRS credits in order to earn enough points to remain in the CRS.

Typically, CRS communities do not request credit for all the activities they are currently implementing unless that additional credit would be enough to advance the community to a higher CRS Class. A community that finds itself losing CRS credit with the 2013 *Coordinator's Manual* likely could identify activities deserving credit not previously received. As with all verification visits, the ISO/CRS Specialists will work with communities to identify additional activities eligible for CRS points.

Collaboration and Dialogue on the *Coordinator's Manual*

The creation of the new *Coordinator's Manual* has been an iterative, engaged process. As noted above, the changes came through committees and the Weighting Forum, but the input was not limited to these groups. Aware that the changes being discussed would have wide implications for communities, the NFIP, and floodplain management in general, FEMA and the CRS Task Force went to great lengths to: (1) cast a wide net when gathering ideas, (2) include broad representation in the decision making process, (3) share proposed changes with affected parties to gather their input before finalization, and (4) when final decisions were made, be sure all parties were aware of the changes. The dialogue and outreach efforts included:

- Fifty-one one- to two-hour webinars on the proposed changes, both providing information and gathering feedback. Over 1,600 people attended one or more of the webinars.
- Presentations and discussions about the process and proposed changes at various national, state, and regional conferences.
- A website dedicated to the coming changes and the reasoning behind them (found at www.CRS2012.org). In addition to serving as the coordination point for the webinars, the

site allowed users to download PDF files of the webinar slides, read the supporting documents the committees used while making their decisions, and provide their comments and feedback directly to the *Coordinator's Manual* drafting team.

Program Growth, Class Improvements, and Engagement

FEMA and its partners actively encourage and assist communities not only to join but also to remain in the CRS. Because of these efforts, over the past two years the CRS has seen growth in the number of participating communities along with better performance by those already participating (Figure 4 and Figure 5). As of October 2012, the program has one Class 1 community, three Class 2 communities, and seven Class 4 communities. The 11 CRS communities having the best CRS Class ratings include eight large unincorporated counties. The other 1,200 CRS communities are distributed among Classes 5 through 9.

Over the last two years, activities to encourage participation and class improvement have included:

- Simplifying the documentation needed and removing other impediments to applying for the program;
- Building new websites to make accessing information in the CRS easier than ever (see the "CRS Online" sidebar);
- Providing color brochures that explain the CRS to non-participating communities;

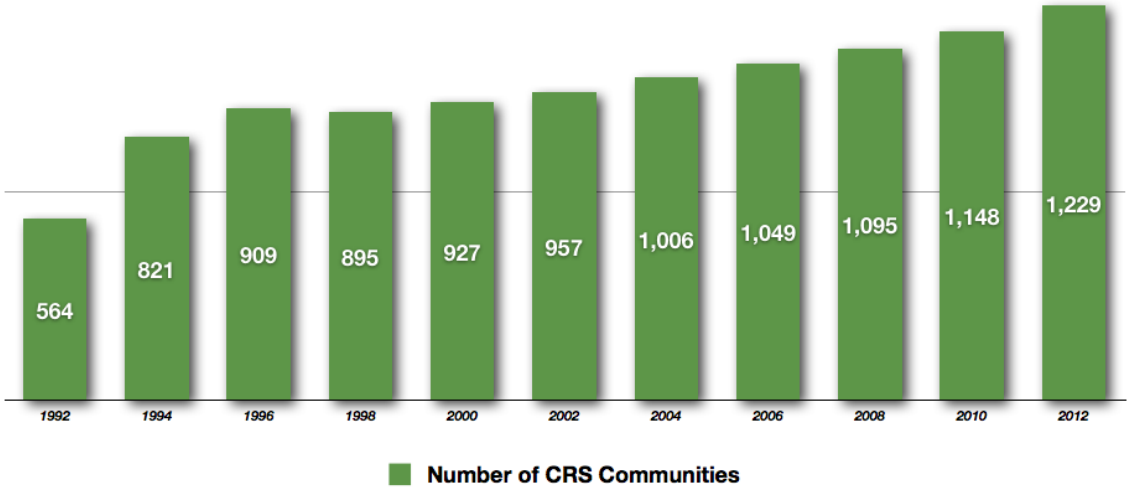


Figure 4. CRS Participation: Numbers of Communities.

Figure 5. Number and Growth of Top Tier (Classes 1-4) CRS Communities, by Year.

- Putting CRS information and publications on FEMA's website;
- Providing technical assistance to participating communities;
- Conducting training programs on applying to and administering the CRS;
- Making presentations about the CRS at local officials' workshops;
- Promoting uniform minimum credit and master applications in states and counties that administer their own programs with higher standards (see sidebar on Higher State Standards);
- Including articles on the benefits of the CRS in newsletters of professional organizations and associations of local officials; and
- Supporting CRS users groups (see next section).

HIGHER STATE STANDARDS: UNIFORM MINIMUM CREDITS

The CRS credits all of a community's actions that work toward the three goals, regardless of what agency implements the actions. Therefore, when a state takes steps to ensure that its communities surpass minimum NFIP standards—for example, requiring that all construction is elevated to at least a foot above the base flood elevation—the CRS credits all CRS communities within that state.

The CRS Task Force aggregated and reviewed the CRS-creditable activities being undertaken by each state so that communities could more easily get the proper CRS credit. The number of uniform points found in some states was substantial. In Michigan, for example, communities may be eligible for enough points to move up one and one-half CRS classes.

The resulting report has greatly reduced the documentation requirements for participating communities and helped new communities get into the program by providing them with a leg up towards their first class.

More information on Uniform Minimum Credits is available at http://crsresources.org/200-2/.

CRS Users Groups

An indicator of the strong community engagement fostered by the CRS is the growth over recent years of CRS community officials' organizing their own "CRS User Group" partnerships. The number of these self-organized and self-supported CRS Users Groups has now reached 16 nationwide with additional groups forming each year. This only includes groups of which FEMA is aware. The latest list at the time of this report is shown in the box below.

CRS Users Groups (as of May 2012)

Name	Area
Coastal Hazards Outreach Strategy Team (C-HOST)	Mississippi coast
Colorado Association of Stormwater and Floodplain Management CRS Committee	Colorado
Flood Loss Outreach and Awareness Task Force (FLOAT)	New Orleans area
Floodplain Awareness Success in Texas (FAST)	Houston
Georgia Users Group	Central Georgia
Illinois Users Group	Illinois
Jefferson Parish, Louisiana Users Group	Jefferson Parish, Louisiana
Miami-Dade County Users Group	Miami-Dade County, Florida
Northwest Regional Floodplain Managers Association (NORFMA) CRS Committee	Alaska, Idaho, Oregon, Washington
Oklahoma CRS Workgroup	Oklahoma
Palm Beach County Users Group	Palm Beach County, Florida
Southern California Users Group	Los Angeles
Southwest Florida Users Group	Fort Myers, Florida
Tampa Bay Regional CRS Committee	Tampa Bay
Virginia Users Group	Norfolk
Volusia County CRS Users Group	Daytona Beach, Florida

CRS User Groups are made up of community officials who want to improve their communities' CRS ratings, stay current on changes in the program, share the lessons they have learned, participate in training and workshops, and find new ways to help and protect their citizens. Currently CRS user groups are focused on preparing for the revisions to the *CRS Coordinator's Manual.* CRS Users Groups have been one of the primary audiences for the webinars described above.

Progress Towards Achieving CRS Goals

This section reports progress the CRS has made towards achieving its three goals since the 2010 Report to Congress. The CRS goals guided both the implementation of the CRS Strategic Plan and the rewrite of the *CRS Coordinator's Manual* and are heavily reflected in the programmatic changes being implemented by the CRS.

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

Ongoing Efforts

Efforts to reduce flood losses have always been at the core of the CRS. By implementing floodplain management practices that exceed the requirements of the NFIP, over 1,200 CRS communities lower their risks from flooding and other hazards. This is well recognized and reflected in the program. The CRS Series are built around 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 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 Activities (600 Series): Credits measures that protect life and property during a flood, through flood warning and response programs.

THE CRS ONLINE

The CRS is working with partners to develop a new, centralized website for the program. The site, which will be a part of the NFIP's extremely popular FloodSmart outreach program, will serve as a one-stop resource for people wishing to learn more about the CRS and will include an extensive resource library. The site will be located at http://floodsmart.gov/crs.

Selected Changes with 2013 *CRS Coordinator's Manual*

When writing the new *CRS Coordinator's Manual*, FEMA and the CRS Task Force worked to assure that the CRS encourages the most effective actions and behaviors, based on the best available knowledge. Below are examples of ways that the program continues to evolve and improve.

Improved understanding of flood hazards and mitigation options. Research supported by the CRS Task Force is providing concrete data that identify those floodplain management practices that

are most effective in reducing flood losses. This information is used to guide the program towards encouraging communities to implement the best loss-reduction practices.

New class prerequisites and credit for activities proven to reduce risk. To achieve Class 4 or better, communities will need to have a freeboard requirement of at least one foot and obtain at least 700 points under Activities 430 (Higher Regulatory Standards) and 420 (Open Space Preservation). The new credits for effective risk-reduction measures are listed below.

- The credit for freeboard (requiring new buildings to be built a foot or more above the 100-year flood level) is being doubled. Research has shown this to be one of the most effective means of reducing flood losses. 68% of CRS communities receive credit for freeboard.
- Increased credit is being offered for preserving floodplain areas as open space. 91% of CRS communities receive some credit for open space preservation. The amount of credit ranges considerably depending upon what the percentage of the community's Special Flood Hazard Area is managed as open space .
- There is new credit for regulations that prohibit or limit the design and use of enclosed areas of buildings below the base flood elevation.
- Credit is being increased for programs that limit the stormwater runoff from new developments.
- There are more credits and more opportunities to receive credits for local mitigation plans to reduce flood losses.

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

Ongoing Efforts

In recognition of the underlying insurance principle of the NFIP, the CRS strives to ensure that the insurance program is economically and actuarially sound by promoting the sale of flood insurance and reinforcing opportunities to support accurate insurance rating. Improving available data is a key component of many parts of the program. Relevant activities are listed below.

- 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.

Selected Changes with 2013 *CRS Coordinator's Manual*

New Activity specifically designed to promote the NFIP. The 2013 *CRS Coordinator's Manual* unveils Activity 370 Flood Insurance Promotion, the first new Activity added in the program's history. The Activity has three steps.

Step 1. Flood insurance coverage assessment. The credit is provided for assessing the community's current level of flood insurance coverage and identifying shortcomings.

Step 2. Coverage improvement plan. A plan to increase coverage must be prepared by a committee that engages local insurance agents and lenders.

Step 3. Implementation of the coverage improvement plan.

Credit is also available for "technical assistance," i.e., providing advice about flood insurance.

Verification of all of a community's new Elevation Certificates. Knowing the exact elevation of a building is critical to understanding its flood risk and determining its insurance rate. Requiring and maintaining Elevation Certificates are among the best ways to ensure that structures are built and insured correctly. Although the CRS has always sampled a community's Elevation Certificates for accuracy, with the new *CRS Coordinator's Manual* the CRS will begin gathering and checking all of the Elevation Certificates, helping make sure 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.

Ongoing Efforts

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 and work toward their broader sustainability goals.

- This approach is most explicitly addressed in Activity 510 Floodplain Management Planning, which credits a 10-step approach to floodplain management. Its Whole Community approach engenders the development of a plan that takes into account all of the community's areas, departments, and stakeholders. As of October 2012, 46% of the CRS communities were receiving credit for a floodplain management plan.
- There are credits for maintaining open space areas in their natural, unimproved, state in Activities 420 Open Space Preservation and 430 Higher Regulatory Standards, in order to protect the natural functions of floodplain and coastal areas.
- The 600 Series of Warning and Response Activities are designed to encourage communities to implement flood warning and response programs to protect life and health and support local emergency management. 40% of CRS communities receive CRS credit for Flood Warning Programs.

Selected Changes with 2013 *CRS Coordinator's Manual*

Revisions to Activity 510 Floodplain Management Planning. The CRS is helping to improve the local planning process in several ways.

- New criteria are being implemented for the planning committees, including multi-jurisdictional committees, which will encourage partnerships and stakeholder engagement.
- A community's problem assessment must cover repetitive flood loss areas and all hazards identified in the hazard assessment.
- Communities will get extra credit for assessing the impact of climate change, including sea level rise.
- Local goals stated in a plan must now address all problems identified in the assessment, fostering a Whole Community approach.

Increased focus on natural floodplain functions. Within the natural disaster field, there is an increasing recognition of the importance of the many benefits of naturally functioning floodplains. The CRS has long credited the preservation of open space, and provided extra credit if that open space is in its natural state. The CRS continues to evolve in response to the growing understanding of the importance of natural floodplains and coastal areas.

Some of the changes implemented to emphasize the importance of naturally functioning floodplains are given below.

- Increased credit is given for open space parcels that have been preserved in or restored to their natural state. There are bonus credits for additional attributes, such as having critical habitat for endangered species or educational materials on the site's natural floodplain functions.
- Natural shoreline protection is a new Element that credits programs that protect both riverine and coastal natural channels and shorelines. These areas 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, e.g., 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 habitat conservation or restoration plan or a green infrastructure plan.
- New environmental compliance criteria for Activities 520 Acquisition and Relocation, 530 Flood Protection, 540 Drainage System Maintenance, and 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. Comprehensive floodplain management cannot limit itself to only considering current conditions. Changes in the natural and man-made environment will likely alter our nation's floodplains. The CRS recognizes this, and provides incentives to communities that look forward in many ways, including:

- To become a Class 4 or better community, 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 the community's regulatory map is based on future-conditions hydrology, including sea level rise.
- If a community's stormwater program manages runoff from future development, credit is provided 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 get worse 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 programs to set new development back from areas that will be flooded by rising sea levels.

A New Tool for Engagement—the CRS Community Self Assessment

Although the floodplain management planning process for Activity 510 described above is an ideal first step for many communities, others may not have the immediate option of such an involved process. The CRS Community Self Assessment, which is accessible online via http://CRSresources.org/200, is a new, voluntary tool designed to be a quick and simple way for communities to gain a basic understanding of their floodplains and determine where to best direct

their efforts to most effectively reduce their flood exposure. It should be especially helpful for new staff and communities new to the CRS.

To complete the CRS Self Assessment, communities progress through five steps.

Step 1. Take an inventory of the floodplain. This step asks a series of questions designed to help a community look at its flood risk holistically. It includes questions about the built environment in the floodplain and what natural functions the local floodplain offers.

Step 2. Describe and map the hazards. This step walks communities through the process, hazard by hazard, of creating a mapped picture of the flood exposure and natural floodplain functions.

Step 3. Identify specific flood problem areas. Here, the community uses the map it created in Step 2 to outline specific areas where it may want to reduce flood risk and/or protect natural functions.

Step 4. Analyze flood problem areas. In this step, the community conducts a flood problem analysis of each area to determine its resources and assets.

Step 5. Assess hazards, exposures, and activities. In this final step, the community returns to a broader, community-wide focus to characterize its floodplain, assess its challenges, and explore possible means of flood risk reduction.

The CRS Community Self Assessment is designed to take one person less than one day to complete. The amount of time required will depend on a number of factors, including the size of the community, the types and scope of its flood risks, the familiarity of the person completing the assessment with the community's problems and assets, and the general availability of information. However, communities are encouraged to complete the five steps at whatever pace they wish. Over 100 stakeholders from around the country provided invaluable feedback after they tested the CRS Community Self Assessment during its development.

IV. Conclusions

As a leading innovation initiative of the NFIP, the CRS continues to make significant progress towards achieving its stated goals and priorities. The CRS helps and encourages communities to address a wide spectrum of natural hazard risks by recognizing CRS-credited activities that reduce more than just flood risks—such as the adoption and implementation of disaster-resistant building codes and collaborative hazard planning processes. The program helps communities to understand their repetitive flood loss properties and requires that a deliberate path of analysis and mitigation be pursued. The CRS is a growing component of the nation's tools to mitigate natural hazards risks.

This report has provided an overview of CRS operations, data profiling its current status, and highlights of progress toward achieving its goals. Key findings are summarized below.

- The 1,229 participating CRS communities represent over two-thirds of all flood insurance policies. Participating communities can be found nationwide.
- The program has grown steadily over the past decade, averaging 25–30 new communities each year. In addition, CRS communities are improving their floodplain management programs and receiving better CRS classifications in return. As a result, the number of Class 7 and Class 8 communities continues to increase as the number of entry-level Class 9 communities decreases.
- 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, and broader appreciation of the importance of the natural environment. Since the last Report to Congress, the CRS has undergone the most comprehensive evaluation in the program's two-decade history. The CRS will take a substantial step in its ongoing program improvement with the implementation of the new 2013 *CRS Coordinator's Manual*.
- In addition to the benefits of the CRS's basic approach of encouraging and crediting floodplain management activities, the CRS also helps reduce disaster losses through a range of approaches. For example, the CRS acts as a model for FEMA's all-hazards risk approach for communities; supports research into mitigation activities; emphasizes stronger multi-hazard and disaster-resistant building codes; and encourages a collaborative, Whole Community approach to all-hazards planning and other activities.
- The costs borne by communities in implementing activities credited under the CRS are justified by the benefits that ensure: 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. Implementing some CRS Activities, such as

floodplain management planning, can help a community qualify for certain federal assistance programs such as the Hazard Mitigation Grant Program, which may be available in counties that have received a Federal Disaster declaration.

- 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.