November 2018

CAPACITY BUILDING IN THE NFIP COMMUNITY RATING SYSTEM

Viability of Regional CRS Support Positions in Virginia

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Sea Level Rise

EXECUTIVE SUMMARY & REPORT CONTENTS

Interest in the National Flood Insurance Program's (NFIP) Community Rating System (CRS) continues to grow in Virginia. As the CRS Program's reporting requirements increase and frequent manual updates bring confusion, the amplified burden on staff time raises questions of affordability and considerations of cross-jurisdictional cost-sharing. Wetlands Watch, in coordination with several academic institutions, assessed how to finance and coordinate technical assistance for the CRS Program in Virginia. This document will:

(1) Outline CRS stakeholder feedback received by Wetlands Watch on how a cost-share position that provides CRS support across multiple jurisdictions could operate in Virginia.

Pages 1-5

(2) Summarize an all-day meeting, CRS Finance Strategies Workshop, convened by Virginia Sea Grant, where a panel of academic experts offered recommendations for financing CRS technical assistance in Virginia.

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(3) Distribute a graduate student report that examines how localities implement the CRS program across the country, focusing on financing and technical assistance. The CRS & Virginia: Learning from CRS Programs Around the USA was authored by graduate students from the Public Policy and Law programs at the College of William & Mary and prepared for Virginia Sea Grant and Wetlands Watch.

Following the Addendum on pg. 18

ACKNOWLEDGMENTS

Wetlands Watch thanks the Virginia Coastal Zone Management Program for funding this work. This project, Task 92.04, was funded in part, by the Virginia Coastal Zone Management Program at the Department of Environmental Quality through Grant FY17 #NA17NOS4190152 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended. The views expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Department of Commerce, NOAA, or any of its subagencies.

Thank you to members of the Coastal Virginia CRS Workgroup, staff from Virginia's planning district commissions located in the Coastal Zone, and many Virginia local government staff. Special thanks to Wetlands Watch staff, Skip Stiles, Shereen Hughes, and Ross Weaver, Virginia Sea Grant Director, Troy Hartley, College of William & Mary Public Policy and Law students, Taylor Goelz, Lauren Pudvah, and Peter Wells (Quinn-Jacobs), Wetlands Watch Intern Jennifer Seay, and workshop participants, Troy Hartley, Shep Moon, Michelle Covi, Stephanie Davis, Carol Rosenfield, and Mark White.

ABOUT WETLANDS WATCH

Wetlands Watch, an environmental non-profit located in Norfolk, Virginia, operates statewide to conserve and protect wetlands through education and advocacy. Sea level rise is the biggest threat to our tidal wetlands; we work with local governments to encourage nature based adaptation solutions to sea level rise adaptation.

Wetlands Watch, Inc. 2018

Please cite this document as: "Capacity Building in the NFIP Community Rating System: Viability of Regional Support Positions in Virginia," Stiff, M.C., Goelz, T., Wetlands Watch, 2018.

Please cite content from the student report independently.

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In an effort to broaden public engagement in sea level rise adaptation, Wetlands Watch developed an app to track flooding. The logo above is from the "Sea Level Rise" app, downloadable on all app stores.

Feasibility of Regional CRS Coordination in Virginia

Multi-Jurisdictional & Cost-Sharing

Virginia Locality Feedback: Summary & Recommendations

Feedback Summary

Wetlands Watch interviewed officials from various localities, planning district commissions, state agencies, and other stakeholders engaged in CRS work across Virginia to determine interest in establishing CRS coordination to benefit multiple localities. The majority of interviewees support the creation of cross jurisdictional CRS support staff; however, the level of assistance needed varies based on region, rural or urban community character, and locality staff capacity.

Although the prevailing opinion from interviewed staff supported the concept of a multi-jurisdictional CRS staff, some regions in tidewater Virginia report they do not require CRS assistance, due to lack of knowledge and interest in the CRS Program. For these communities, offering multi-jurisdictional CRS assistance may be helpful in the future, but local support to join the CRS Program is the necessary first step, which communities are not prepared to give without the following knowledge and information:

- Anticipated staff burden of CRS Program participation
- Cost of this staff burden
- Percentage of time the regional CRS support staff would save localities
- Cost to the locality for the CRS support

A future Wetlands Watch project funded by the Virginia Coastal Zone Management Program aims to address the needs identified by those regions in Virginia not ready for multi-jurisdictional CRS support (project to be completed fall 2019).

The recommendations included below address the feedback received from coastal localities, planning district commissions, and other stakeholders engaged in the CRS Program in Virginia.

Feedback Recommendations

Regional CRS Facilitator Position

Large, urban localities within the northern Virginia and south Hampton Roads regions did not identify an urgent need for CRS technical assistance, citing their sufficient staff capacity and expertise to execute the CRS Program in house. In these regions, a regional CRS Coordinator could serve as a facilitator, rather than a technical assistance provider. A recommendation from south Hampton Roads included funding the Coastal Virginia CRS Workgroup to function as a facilitator, providing communities with continuing education, regional collaboration, coordination with Insurance Services Office, Inc. (ISO)/FEMA, and CRS training. This framework would include the option of localities independently investing more for specific technical assistance, to advance a class or receive points in a specific activity, as needed.

Regional CRS Technical Assistance Position

Small, rural tidewater localities, particularly at risk from flooding, communicated stronger support for a multi-jurisdictional CRS Coordinator that provides greater technical assistance to manage CRS Programs in communities, at all stages - joining, annual recertification, and cycle visits. Localities in these communities referenced the significant staff burden as a deterrent to joining the CRS, maintaining participation, and improving rating in the CRS Program. Therefore, for small, rural localities the level of support for a technical assistance provider would be higher than that of a CRS facilitator. A recommendation from one tidewater community included hosting a CRS Coordinator at the Planning District Commission and requiring those communities enrolled in the CRS Program contribute to the position salary according to the level of support required for each locality. As new localities seek to join the CRS Program, they begin investing in the position.

Virginia Coastal Stakeholder Feedback: Feasibility Comments

Virginia's coastal zone includes eight of Virginia's twenty-one Planning District Commissions (PDCs), regional planning entities that serve member localities through regional collaboration and guidance on shared issues. Feedback from localities overwhelmingly recommended that any future staff providing CRS assistance work through the existing PDCs organizational structure, with a few recommendations that a handful of neighboring communities coordinate, independent of PDCs, to support a cross-jurisdictional CRS support position. Also mentioned throughout the coastal region is the need for any cross-jurisdictional CRS positions to coordinate closely with the Virginia Department of Conservation and Recreation's State CRS Coordinator, Kristin Owen.

Concept Presented – Regional CRS Technical Assistance Position: We sought feedback and discussed about the creation of a Regional CRS Technical Assistance Position that could serve member jurisdictions in a manner similar to how Shannon Hulst Jarbeau serves the towns in Barnstable County, Massachusetts. Ms. Hulst Jarbeau works for and is funded by the County, with some assistance from Sea Grant, as Regional CRS Coordinator, assisting the member towns with their CRS Programs, covering about 75% of each town's CRS Coordinators' workload. A regional multi-jurisdictional CRS Coordinator would likely never completely eliminate all staff functions at the locality level – local CRS Coordinators will work closely with the regional Coordinator.

Feedback from Hampton Roads Communities

The Hampton Roads region is complex, with seventeen communities of varying sizes, zoning, land use, etc. The region is not neatly packaged with a County providing somewhat identical services to member towns, as is the case in the Barnstable County MA. Additionally, many of the communities include large cities with significant infrastructure and large staff with myriad programs to manage, further complicating participation in the CRS Program. These realities present a challenge to a Regional CRS Technical Assistance Position working to manage such diverse CRS participating communities. When asked what type of CRS assistance would be helpful to Hampton Roads communities, most reported only a small amount of assistance would be required to improve CRS ratings. The communities indicated a strong staff capacity, or the financing to hire consultants, to manage participation and class improvement in the CRS program.

Recommendation – Regional CRS Facilitator: Discussions with members of the Coastal Virginia CRS Workgroup revealed that the Hampton Roads region is interested in a "**Regional CRS Facilitator**" position. This position would offer facilitation and regional coordination, offering similar, but more substantial services than those currently provided by Wetlands Watch staff, Mary-Carson Stiff, who chairs the Coastal VA CRS Workgroup. The Regional CRS Facilitator would serve the following roles:

- Act as liaison with ISO for the region, increasing efficiency in communication between ISO representatives and localities
- Share information and data about localities' current CRS Programs and potential regional projects for shared credit, particularly those activities related to resilience
- Serve as a "CRS Coach" – someone who could offer specific guidance, but not necessarily technical assistance, such as directing the community on the best way to achieve a class increase
- Help safeguard the impacts of CRS staff transitions in localities, addressing a pervasive problem across the region. Staff turnover results in loss of a CRS Coordinator's institutional knowledge if the CRS Program duties and responsibilities reside only with the Coordinator. A Regional CRS Facilitator could maintain certain documentation related to each locality's CRS Program and offer educational support for new CRS Coordinators, helping avoid a situation that happens all too often – a new CRS Coordinator starts from ground zero with the CRS Program.

The methods discussed for financing such a position varied, including the suggestions that the state could fund the positions through general funds, or FEMA Hazard Mitigation Assistance funding, or the Hampton Roads Planning District Commission could host the Regional CRS Facilitator with all participating CRS communities paying a yearly amount for the Facilitation service, basing the fee off the size of the community. In the PDC hosted scenario, if a community wants to join the CRS Program, or seeks specific and substantial assistance with an activity, they can contract directly with the Facilitator for that assistance, at additional cost.

Feedback from Northern Virginia Communities

Feedback Received: Feedback from northern Virginia communities echoed those concerns of the Hampton Roads communities regarding a Regional CRS Technical Assistance Position, opting for less technical assistance and more regional facilitation. Communities in Northern Virginia are primarily urban and large, with varying land use and zoning practices, making consistency across the region difficult for a CRS staff position managing multiple CRS programs. Northern Virginia communities have sufficient staff resources, or financing to hire consultants, to maintain participation in the CRS.

Recommendation – Regional CRS Facilitator: The region is interested in better coordination and facilitation across jurisdictions to help CRS Coordinators save time on documentation, learn about which activities other communities are earning credits, and experience better communication between ISO and the community. For these reasons, a Regional CRS Facilitator would better serve the Northern Virginia region than a technical assistance provider.

Feedback from Richmond Region Communities

Feedback Received: Communities in the Richmond region vary tremendously, from urban to suburban to rural. CRS participation is low in this area, making the concept of supporting a regional CRS support position difficult to discuss. Localities note there is little interest in joining the CRS Program as residents are unaware of the CRS and locality staff who have knowledge of the CRS express concerns over the reportedly high administration burden and complicated nature of the CRS. Communities want to know more about the CRS's time commitment and reporting requirements before they can comment on whether a cross-jurisdictional CRS position would be helpful. Although not located in the Richmond region, the Northern Neck region provided similar feedback regarding the low CRS participation rate and moderate interest in joining the CRS Program.

Recommendation – CRS Program Outreach: Regions with low CRS participation could benefit from CRS specific outreach, where individuals with CRS expertise share insight beyond that found in generic CRS Program outreach materials. Communities want to know specifically about time commitments, documentation requirements, and expectations for maintaining participation: joining, recertifying yearly, and cycle visits. They want assistance with weighing the costs and the benefits of joining the CRS Program before making a decision that impacts the finances of property and business owners.

Feedback from Rural Coastal Virginia Communities

Feedback Received: Rural communities in Virginia reportedly face staff capacity and financial challenges, which makes participating in the CRS Program more difficult. These communities experience a high burden to administer the CRS Program on a daily basis, let alone in the higher impact cycle visit years. These stressors make these regions potential candidates for a multi-jurisdictional CRS support position that provides more technical assistance in the administration of the CRS Program. A Regional CRS Technical Assistance Position could work through a Planning District Commission or through a county, serving the member localities directly. Many rural communities in coastal Virginia also follow a county/town municipal construct, offering a framework that could better accommodate a Regional CRS Technical Assistance Position than other urban or suburban regions in Virginia. The Eastern Shore contains only two counties, yet 19 incorporated towns, so housing the position at the county seat may be a viable solution. It is important to note that, similar to the Richmond regional communities, some rural coastal regions of Virginia, such as the Northern Neck, experience low CRS participation rates and may be better candidates for the Outreach Campaign strategy before establishing a regional CRS support position.

Recommendation – Regional CRS Technical Assistance Position & CRS Program Outreach: Rural regions in Virginia with CRS participating communities will benefit from a Regional CRS Technical Assistance Position to reduce the burden of administering the CRS Program at the locality level. The tidewater Virginia regions where this Position would work best include the Eastern Shore and the Middle Peninsula, where fewer communities encompass the regional land area, community character is smaller and rural, and staff support and financial resources are limited. Additionally, these regions are at risk from flooding due to low elevations and exposure to large bodies of water. Communities receiving the CRS Program support would likely finance this position, however, grant support could provide some supplemental funding. FEMA Hazard Mitigation Assistance could fund CRS technical assistance. Funding organizations like Virginia Sea Grant or the Virginia Coastal Zone Management Program may

offer supplemental funding for a pilot Coordinator position.

To summarize these results, please refer to the following table:

Coastal VA Communities Feedback

Multi-Jurisdictional CRS Technical Assistance Positions

Position Recommended	Position Responsibilities	Interested VA Communities
Regional CRS Facilitator Position	ISO Liaison Information & Data Sharing CRS Coach Protect Institutional CRS Knowledge	Hampton Roads Region, Northern Virginia Region
Regional CRS Technical Assistance Position	Manage Majority of CRS Programs for Each Community Submit CRS Applications to Join Manage CRS Annual Recertifications Manage CRS Cycle Visits with ISO ISO Liaison	Rural Coastal Regions
Not Ready for Regional Support Position, but CRS Program Outreach Needed	CRS Outreach Must Address: Anticipated staff burden of CRS Program participation Cost of this staff burden Percentage of time the regional CRS support staff would save localities Cost to the locality for the CRS support	Rural Coastal Regions, Richmond Region

Potential Model Programs or Organizational Structures

The following are a list of recommended potential models or existing organizations, recommended during stakeholder interviews, to consider when structuring regional CRS positions in Virginia:

- The SolSmart Program model is a DOE funded program that offers technical assistance, of varying levels of support, to communities on how to grow solar panel use in a community. A SolSmart representative for the region offers administrative support, trainings, workshops, assistance with establishing permitting processes, etc. depending on the level of need.

- The Central VA Emergency Management Alliance is an organization of local emergency management professionals sharing ideas, strategies, building networks and capacity with the goal of increasing resilience to natural events across central Virginia.

- Virginia Planning District Commissions are voluntary local government associations that provide technical assistance, planning recommendations, and regional coordination.

Virginia Community Rating System Finance Strategies Workshop

Workshop Briefing & Recommendations

Workshop Overview

On December 13, 2017, Virginia Sea Grant hosted a Community Rating System (CRS) Finance Strategies workshop held at the Mason School of Business at the College of William & Mary, in Williamsburg, Virginia. The workshop followed a report from a team of William & Mary Public Policy graduate students that offered a comprehensive review of CRS technical assistance services nation-wide. The student report and other presentations informed the workshop discussion among finance and resilience experts from academia and other agencies, with the goal to explore innovative, sustainable funding strategies for CRS technical assistance services in Virginia. Additional workshop objectives included (a) brainstorming innovative, sustainable funding strategies for the CRS in Virginia, (b) identifying promising, specific ideas that may grow into recommendations, and (c) generating a final deliverable that can be widely shared, nationally.

The Problem: Growing Interest in CRS Program with Limited Technical Assistance

Interest in the National Flood Insurance Program's (NFIP) Community Rating System (CRS) Program continues to increase in Virginia, as flood insurance premiums climb to rates that reflect the actual flood risk under Congressional reforms aimed at relieving the NFIP's mounting debt. The CRS, a voluntary local government administered program, offers flood insurance premium discounts to high risk policy holders when local governments take specific actions to reduce flood risk in the community. The more points a local government earns by reducing risk, the higher the insurance premium discounts. Currently, twenty-five communities in Virginia participate in the CRS, with eight communities in the process of joining, and more considering joining the CRS Program in the future. While the primary benefits of CRS Program participation are clear to high risk policyholders through flood insurance premium reductions (5%-45%), the costs of participating in the Program are less known. Wetlands Watch completed a report, "The Costs & Benefits of the CRS Program in Virginia," that determined CRS Coordinators in Virginia reportedly spend somewhere between 1% to 100% of a full time employee each year on implementing the CRS Program, with the median percentage of 13% of a full-time employee. **This level of staff commitment can deter a community from joining the CRS Program.**

Although some states offer extensive technical assistance to CRS Communities (Florida, for example), which helps lighten the burden of CRS Coordinators, Virginia's state budget does not direct significant funding to support a robust technical assistance program for the CRS Program. Currently, limited CRS technical assistance is performed by the state's designated CRS Coordinator, Kristin Owen (VA Department of Conservation and Recreation), due to the department's very restricted budget. Additional CRS technical assistance is provided by a local non-profit organization, Wetlands Watch, through a myriad foundational and government grant sources. Until the state government invests more resources into funding CRS support, the state's technical assistance support will remain limited. Wetlands Watch cannot sustain

long-term technical assistance for the CRS Program through grant funding, as most funders will not support on-going technical assistance. At the same time, CRS technical assistance is critical to educate communities about the CRS Program, help with the application process, and assist communities to succeed in the Program. **The current model for assistance in Virginia is not sustainable**. The workshop aimed to address this problem and identify solutions for how the CRS Program can grow and succeed in the Commonwealth of Virginia.

Workshop Presentations: Summary

Wetlands Watch Introduction to the CRS in Virginia Presentation

Presentation Content: Wetlands Watch's Director of Policy, Mary-Carson Stiff, presented an overview of the CRS Program, explaining why Wetlands Watch, a non-profit engaged in sea level rise adaptation planning at the local government level, views the CRS Program as a tool for incentivizing resilience and adaptation. Activities that earn CRS credits, such as open space preservation and acquisition and relocation, help communities advance in the CRS Program, while also offering property protection and relief from the increased flooding coastal Virginia experiences due to sea level rise. Reducing or eliminating development in the floodplain through the use of land conservation and open space allows for wetlands migration in the face of sea level rise, aligning with Wetlands Watch's organizational goals of protecting and conserving wetlands in tidewater Virginia. The presentation also reviewed the role Wetlands Watch plays in providing CRS technical assistance and support, through Mary-Carson Stiff's position as Chair of the Coastal VA CRS Workgroup and CRS technical assistance provider for a number of communities including the City of Hampton, James City County, and the City of Newport News.

Presentation Discussion: Discussion centered around general National Flood Insurance Program (NFIP) and CRS Program clarification questions. Additional questions about Congressional reforms to the NFIP led to a discussion about the impact rising flood insurance premiums have on the growing interest in the CRS Program in Virginia.

The College of William & Mary Graduate Student Report Presentation

Presentation Content: Public policy graduate students from the College of William & Mary, Taylor Goelz and Lauren Pudvah, presented the findings from the attached report, The CRS & Virginia: Learning from CRS Programs Around the USA, that examines how localities and other stakeholders implement the CRS program, through technical assistance and financial support, across the country. The report was written by Taylor Goelz, MS/MPP Graduate Student, College of William & Mary and the Virginia Institute of Marine Science, Lauren Pudvah, MPP Graduate Student, College of William & Mary, and Peter Wells (Quinn-Jacobs), JD Graduate Student, William & Mary Law School and prepared for Virginia Sea Grant and Wetlands Watch. The presentation highlighted the organization of CRS support from several states, noting interesting financial models and cost-sharing. Most states use FEMA hazard mitigation funding to supplement CRS support, while some use funding from the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) program, the National Oceanic and Atmospheric Administration (NOAA), and the Army Corps of Engineers. Two states, Florida and Washington, fund CRS technical assistance through state budgets. Florida funds three CRS employees and Washington offers grant assistance for CRS support. As one of the many examples referenced, the students

highlighted the Regional CRS Coordinator position in Barnstable County, Massachusetts, which this report references on page 13, as a potential model for providing CRS technical assistance in Virginia. Further, many CRS communities across the country rely on CRS User Groups for support. There are a multitude of methods to provide CRS technical assistance and funding, but no single preferred method could be employed and equally effective in every state or every region. State funding is not commonly utilized nationally to support the CRS Program and a regional or cross-jurisdictional CRS Coordinator position appears to offer a strong solution, but in practice is difficult to implement, requiring financial support from multiple communities and often, depends upon the employment of a high-energy, high-performing "superstar" coordinator.

Presentation Discussion: Questions from workshop attendees after this presentation focused on how a regional CRS Coordinator position could function in Virginia. Specifically, what grants could fund this type of position and what the barriers exist to establish such a position. Discussion also covered the local opposition in Virginia to joining the CRS Program, which is a barrier when considering a regional position that would service a number of communities, with only 50% of the communities currently enrolled in the CRS Program.

Presentation Recommendations: Troy Hartley (VA Sea Grant) suggested the CRS Program could be a focused theme for a Hampton Roads Adaptation Forum, where a strategic plan for CRS technical assistance could be an end goal of the meeting. Mary-Carson Stiff (Wetlands Watch) recommended local governments could create special tax districts over those flood zones that receive a CRS policy discount benefit and require those property owners contribute a small tax to finance the CRS Coordinator salary in their community or the salary of a regional CRS Coordinator position that serves the community. Carol Rosenfield (UNC) recommended the local government could use a portion of the savings earned by the local government's actions to fund flood control improvements or fund staff time to administer the CRS Program. Mark White (UVA) recommended examining the alignment of incentives with benefits. The local government bears the burden of completing all the work to enroll and maintain participation in the CRS Program, yet it does not experience a direct benefit, making it a difficult program to champion – the incentive does not match the benefit. Identifying a method for communicating more about the benefits to local governments will make a stronger case for participation and monetizing the benefits is critical to the messaging. The full text of the student report is included at the close of this briefing report, following the addendum on page 18.

Wetlands Watch Costs & Benefits of the CRS Program & Services in VA Presentation

Presentation Content: Wetlands Watch's Director of Policy, Mary-Carson Stiff, presented the findings from a report completed in fall of 2017, "The Costs & Benefits of the CRS Program in Virginia." The report noted that growing interest in the CRS Program in Virginia raises questions about the costs of administering the CRS Program to a local government. This unknown cost precipitated the completion of the report. Wetlands Watch interviewed CRS Coordinators in Virginia to determine what percentage of their time is spent on the CRS Program each year and found CRS Coordinators in Virginia reportedly spend somewhere between 1% to 100% of a full- time employee each year, with the median percentage of time as 13% of a full-time employee. Wetlands Watch used a standardized average salary for a CRS Coordinator in Virginia to calculate the benefit cost ratios for each CRS community in the state,

basing the benefits off the total flood insurance premium savings for the community. These benefit cost ratios are available in the report. The report also examines the secondary benefits of the CRS Program to a local government, to help encourage local governments to join a program that offers no direct financial benefit to the local government expending staff time and resources to administer the Program.

Presentation Discussion: Questions and conversation about the presentation centered around how Wetlands Watch finances the CRS work provided to the local governments and the state. The principal question was whether local governments pay Wetlands Watch to complete its work on the CRS. Wetlands Watch staff present at the workshop, Skip Stiles and Mary-Carson Stiff, discussed the use of foundation support to fund technical assistance and most recent support from the Virginia Coastal Zone Management (CZM) Program to fund the cost benefit report, noting also that the organization has spoken with local governments about starting a contract for specific CRS support, although no contract has been executed to date.

Presentation Recommendations: Stephanie Davis (VA Tech) commented that some local governments will fund nonprofits through the form of "community contributions." Stephanie recommended that Wetlands Watch contact a local government's budget or finance department and request information about ways nonprofits can request money from the community's appropriate decision-making body (City Council, Board of Supervisors, etc.).

Workshop Panel Discussion and Recommendations

The remainder of the Workshop focused on dialogue between the academic expert panelists, Stephanie Davis (VA Tech), Carol Rosenfield (UNC), and Mark White (UVA), and workshop participants. Many of the comments and recommendations made during workshop presentation discussions were revisited during this time and explored in greater detail. Recommendations from the panel emphasized:

- focusing on economic incentives of the CRS,
- using key stakeholders, like those in the business community, to advocate for CRS participation, and
- identified best practices for the non-profit Wetlands Watch to continue its advisory services.

Conversations focused around finance sources and funding for CRS staff time, rather than funding to implement CRS credit earning activities. Wetlands Watch is at the center of these recommendations, however, any organization or entity providing CRS support could benefit from the suggestions of the panel.

Wetlands Watch Assistance in the CRS Program: Recommendations and Discussion

Highlighted Recommendations:

- **Local government budgets include "Community Contributions" sections where funds are typically directed to non-profits serving the community.**
- **Cash flows dedicated for CRS support must align more closely to the**

benefits.

- **Focus on how the CRS is an economic incentive program for communities to increase their flood resilience and economic strength.**
- **Building relationships with local government managers is critical to building CRS support.**
- **Considering funding the Wetlands Watch CRS expert to focus more exclusively on the CRS Program.**
- **Consider shifting Wetlands Watch business model to create a for-profit arm for consultancy for detailed CRS trainings.**

The first topic discussed was whether local governments were providing funding to Wetlands Watch to complete the cost-benefit analysis work, and other projects, which offer a beneficial service to local governments. **Wetlands Watch does not receive funding from local governments, but relies on foundational and governmental grants to finance CRS work in the state.** The panelists identified the need to fix the disconnect between the services provided by Wetlands Watch and the lack of funding from local governments to perform these services as critical to formulating a plan for CRS technical assistance in the future. Wetlands Watch's response to this recommendation captured a number of difficulties and potential conflicts with non-profit organizations, particularly an advocacy organization like Wetlands Watch, receiving money from local governments - may restrict their perceived credibility to criticize a local government's action (e.g., contesting a development permit that fills in wetlands, but may feel constrained to criticize a funder) or may lead some to question their motivation. **Stephanie (VA Tech) noted that localities budgets include "Community Contributions" sections where funds are typically directed to non-profits serving the community**. Stephanie outlined the timeline for Wetlands Watch to pursue these local government resources: attend budget public hearings and present on organizational work and impact to the community in January and wait for budget announcements in April. Pursuing this funding could increase Wetlands Watch's visibility with local governments without sacrificing their mission. This proposed recommendation also addresses Wetlands Watch's concern that they could lose faith from individuals in the environmental NGO community if they were to accept funds from local governments on a contract basis.

The panel emphasized that any cash flow dedicated for CRS support must align more closely to the benefits. This sensible recommendation proves incongruent with the CRS Program because the support provided, whether from local government staff time to implement the program or from a third party performing the implementation, does not directly benefit those providing the support, but rather benefits a removed group of individuals, policyholders in high-risk flood zones. Given this complication, the panel focused on presenting attractive incentives for localities to implement the CRS Program.

When discussing how to encourage more CRS participation state-wide and encourage current CRS communities to invest in improving their CRS rating, panelists inquired whether local governments enrolled in the CRS Program received any flood insurance premium discounts on local government owned structures. The flood insurance premium discounts earned by the local government could offer a benefit that may incentivize local government participation. Unfortunately, this benefit is not realized in local governments. Wetlands

Watch clarified that local governments typically self-insure their structures through private firms and would not receive the CRS discount. NFIP policies only insure up to $500,000, while most local government structures are worth much more. Therefore, **attempts to incentivize localities to participate and succeed in the CRS Program based on policy discounts earned on their own structural flood insurance is not a viable option.** Note: it would be worthwhile to look into this issue further. Wetlands Watch's cost-benefit analysis scratched the surface, but knowing more about how locality owned buildings are insured would be helpful.

The panel recognized the need to properly communicate the benefits of the CRS with local governments and line up the incentives. **Focusing on how the CRS is an economic incentive program for communities to increase their flood resilience and economic strength should drive local government interest in the CRS Program.** The panel stressed that these types of messages are best heard at the at the City Manager level. The panel recommended that Wetlands Watch seek an audience with the Virginia Local Government Managers Association and address membership during an association meeting to reach as many decision makers as possible. **Wetlands Watch must meet and build relationships with local government managers to help make the CRS a priority in Virginia.** One way in which Wetlands Watch could encourage CRS participation and success is through a local community's municipal bond rating. Many bond rating agencies issued formal letters of inquiry requesting information from localities about what resilience actions are underway in the community to reduce the impacts of flooding and sea level rise and the financial investments committed to implement these actions. **The panel recommended that Wetlands Watch should make clear to communities that participation in the CRS program could be a perfect action to demonstrate the community's commitment to protect infrastructure, mitigate flooding, thereby reducing the threats to the insurability of their community.** Workshop participants resolutely supported this recommendation.

The panel identified one element of Wetlands Watch's CRS support offered to local governments, one-on-one locality consulting, that will prove extremely difficult to finance outside of paid consulting agreements with each community. This one-on-one attention includes Wetlands Watch sitting with localities and working through mapping, ordinances, policies, and plans and preparing documentation for CRS reviewers. Once Wetlands Watch walks the localities through this detailed process, the CRS Coordinators should assume the role of completing the CRS tasks in the future, without Wetlands Watch's assistance. **The panel suggested exploring methods to fund the Wetlands Watch CRS expert to focus more exclusively on the CRS Program, completing one-on-one consulting, but also developing plug and play tools that other localities could use to save time when implementing the CRS.** States like Iowa and Florida developed packets of documents that walk communities through the CRS process, whether they want to apply for the program, gain new credits, or prepare for a cycle visit. Developing this on the Virginia state level would be extremely time intensive for the Wetlands Watch expert and the Virginia Department of Conservation and Recreation (DCR), but would be a good way to generalize the expertise at Wetlands Watch and DCR, and possibly reduce time burdens down the road. Wetlands Watch supported the idea of developing a model for how to get CRS work done that could be exportable to communities beyond Virginia, but expressed hesitation to limit the Wetlands Watch staff to only CRS Program tasks.

As an organization, Wetlands Watch's services include the CRS Program, stormwater management, conservation landscaping, and local government adaptation to sea level rise. **The panel, specifically Mark (UVA), recommended that Wetlands Watch tackle the issue of consultancy by shifting their business model and creating a for-profit arm.** The panelist advised that many non-profits take this approach to gain flexibility and freedom in services. Wetlands Watch could use funds generated from CRS consulting to support some of their other organizational activities. Wetlands Watch expressed concern in accepting money for services, specifically regarding the possibility of an IRS red flag. When non-profits receive more than one third or one fourth of their funds from a single source, the IRS worries the non-profit has become a "captive non-profit," prompting an investigation into the organization. **Expanding beyond one-on-one consulting, the panel recommended that Wetlands Watch develop their consultancy to include larger seminars or workshops where they could share information, mimicking the information sharing that exists in CRS Users Groups, but through more detailed training.** Wetlands Watch noted they considered using their platform as Chair of the Coastal Virginia CRS Workshop to offer intensive, in depth training, but indicated this would require a lot of time and funding. Mark (UVA) recommended that to expand the usefulness of these sessions and generate funding for the work, a registration fee would be required for both in person and online attendance. Framing these trainings as an investment for communities to help learn about the economic incentives of the CRS Program will justify the costs. Webcast availability would allow the participation of more individuals and the availability of saving the seminars for future use. Wider benefits include that these webinars and the information they provide could hopefully help address a problem in Virginia's coastal region of misinformation on the CRS. Wetlands Watch was receptive to the recommendation of adding consultancy fees and possibly expanding the consultancy to webcast seminars and noted it would help justify the amount of time their expert spends on CRS consulting.

Regional and State Approaches to CRS Technical Assistance: Recommendations and Discussion

Highlighted Recommendations:

- CRS programs and/or activities should extend beyond local boundaries.
- A regional CRS support position could serve communities in coastal Virginia.
- The Property Assessed Clean Energy Program could be a strong model for a cross jurisdictional cost-sharing CRS Program.
- Require all policyholders that receive a CRS premium deduction to contribute a percentage of their savings to a pot of funding that would directly finance technical CRS assistance.
- Consider having Wetlands Watch CRS expert, Mary-Carson Stiff, serve as a start-up regional coordinator for CRS in Virginia.
- Consider establishing a special taxing district or a similar taxation funding tool to support either a regional coordinator or CRS program staff.
- The state needs to invest more in the Department of Conservation and Recreation CRS support position.

- A unified front in VA that advocates for CRS changes could make an impact at reforming the CRS Program – cooperation with CZM & VASG would be especially helpful.

- Establish an on-call funding scheme in Virginia, through DCR, university, or other organization, that could provide information and counsel on the CRS.

The workshop presentations and panel recommendations addressed the possibility of a regional CRS coordinator or similar cost-shared financing mechanism for CRS support in coastal Virginia. One recommendation proposed arranging five similar communities to contribute a set amount of money each to fund a regional coordinator to assist each community with administration of the CRS Program. **The flooding problems the CRS aims to address impact multiple communities in a shared watershed, therefore the solutions to help reduce flooding should extend beyond local boundaries.** A regional approach helps spread the staff time burden levied on CRS Coordinators each year. The more frequently localities work on elements of the CRS together, the wider the burden could be shared. A regional CRS position also reduces fear and confusion of the program, especially if there is an expert regional coordinator who can help communities through the process, lessening communities' hesitation to join.

The student presentation referenced a regional CRS Coordinator working in Barnstable County, Massachusetts who handles 75% of the staff burden of the CRS Program for each CRS town located in the County. Wetlands Watch staff holds this model as a gold standard; however, when proposed to coastal Virginia CRS communities, **CRS Coordinators expressed hesitation in transferring the model to the Hampton Roads region in particular, due to the varying sizes and character of the communities.** The Barnstable County regional position works due to the cohesiveness of the communities within the county; each town adopts similar programs and policies and the County enforces similar regulations in each town. Virginia permits varying structures of local governments. Cities or towns are not always located within counties and even those communities that are located in a county may not share services. Additionally, funding streams from the state are focused on an individual community basis. **An identical Barnstable County regional approach would work less well in coastal Virginia, but could be modified to meet the needs of communities in the region.**

Panelists made several recommendations based on the modification of the Barnstable County regional approach for Virginia. A "Regional" designation, the panel noted, does not require a coordinator to work within one county. **A region could be defined as similar communities with limited resources who join together to pool resources.** If communities are similar enough and they can identify shared problems, then the panel suggested this could be a step forward in moving floodplain management from a locality to a watershed focused approach. Carol (UNC) mentioned the **Property Assessed Clean Energy Program, which is available in many states and assists with disaster resilience, could be a strong model for a cross jurisdictional cost-sharing CRS Program.** Localities or individuals can opt into the program, which then pays out when necessary. Carol expressed interest in coming up with a similar system in Virginia for CRS technical assistance. This program presents incentive issues for local government participation. In Connecticut the state played on a central role to help communities opt in, which helped take some of the weight and the burden off municipalities to understand and participate in the

program. Another recommendation involves **requiring all policyholders that receive a CRS premium deduction to contribute a percentage of their savings to a pot of funding that would directly finance technical CRS assistance,** whether through the local community CRS Coordinator or through a cost-shared Coordinator position. Currently, the CRS Program does not allow a locality access to the CRS premium reduction money paid to policyholders, making implementing this approach difficult to predict. Regardless of these barriers, the panel regarding the alignment of the costs and benefits of the CRS Program on a regional scale as essential.

Regarding any regional approach, the panelists suggested that the Wetlands Watch CRS expert, Mary-Carson Stiff, serve as a start-up regional coordinator for CRS in Virginia. This position benefit communities through outreach and expertise, start the process of promoting a regional approach to the CRS, and serve as a platform to promote the unique niche that Wetlands Watch filled within the CRS program in Virginia, which could possibly lead to more funding opportunities. While this recommendation was well received, Wetlands Watch did not confirm the organization would support such a position, as it would likely require full time staff attention, limiting Mary-Carson Stiff from other Wetlands Watch program work.

One of the most discussed topics during the workshop was the possibility of a **special taxing district or a similar taxation funding tool to support either a regional coordinator or CRS program staff generally.** Special tax districts are common mechanisms to concentrate the funding collected for a certain project in the area or region where the project will impact, in this case, direct taxation of the floodplain. The panel saw this as an easy sell to city councils; Wetlands Watch (or another entity), under the name of the CRS program, could provide cities with a viable justification to increase taxes to raise money. The City of Virginia Beach employs a special tax district to fund beach replenishment in the Sandbridge beach community, presenting an example replicable for funding CRS work. The panel advised that engaging the local business community is critical to help sell this idea to local government officials who would implement the special taxing district. Regarding the marketing of a special tax district plan, Wetlands Watch contends that citizens may be wary of a plan in their area because it would label their community as “high-risk district” and in the past, the organization has had trouble selling this to localities. This tax action could unintentionally communicate red flags for a community, even though the community is already in a floodplain and therefore more at risk. Tackling the marking of a special tax district and how to connect it to a more favorable label presents a real challenge.

The suggestions above advocate for communities to work together to help each other with CRS, elevate floodplain management planning in the community, and overall reduce the burden of the CRS Program workload. The panel discussed the **additional benefits of the regional approach, including using these unified groups of CRS communities to help with CRS awareness and information sharing.** Wetlands Watch indicated they saw three different areas of activity related to their CRS work: promoting the CRS and growing interested in the program generally, individual local government CRS consulting, and communicating local experiences to the CRS Program national policy team to help reform the CRS. The regional approach was suggested to be particularly useful for helping share information widely and using local experience to impact the national process. **The panel expressed particular interested in the information sharing and advocacy element of a regional approach to the CRS Program.** A regional approach to CRS

could help create a unified, focused message that could help streamline information about the CRS Program. This concentrated approach could help advocate for changes in the federal CRS program to help it better fit the needs of communities in Virginia. For example, Wetlands Watch works to obtain CRS credits for resilience and sea level rise planning and implementation projects underway in coastal Virginia communities. In the current CRS Program many of these actions do not receive credit. Wetlands Watch is also working to reform the CRS Program to credit small voluntary parcel-level best management stormwater projects on private property, which local governments implement for flood mitigation purposes, as well as water quality. **If Virginia presented a unified front to advocate for these changes, it could make a greater impact on shifting the national level requirements.**

The panel recommended strengthening the unified front through **cooperation between Wetlands Watch and the Virginia Coastal Zone Management (CZM) and Virginia Sea Grant (VASG) programs, particularly for improving relationships with the business community and educating state and national level programs.** To strengthen business relationships, VASG referenced the possibility of working together to request funding for CRS activities performed by Wetlands Watch. To strengthen advocacy, CZM noted the option to use the Program's relationship with coastal Planning District Commissions (PDCs) to raise awareness and education on the CRS. CZM's quarterly meeting with the coastal PDC in the state could serve as a platform for future discussions. **The combined power of the on-the-ground expertise of Wetlands Watch and the national connections of VASG and CZM could have a strong impact on improving the national program.** This collaboration could also inquire about other pots of money available at the federal level, like from the Environmental Protection Agency (EPA), as Carol (UNC) suggested. In North Carolina an EPA grant specifically for small drinking water systems provides funds for experts to provide technical assistance. Other pots of federal money may be available if the three organizations combined forces.

Discussion about engaging the VASG and CZM programs led to panel questions about the state level support for the CRS in Virginia. Currently, the Virginia Department of Conservation and Recreation (DCR) leads the state CRS Program, however, budget and staff shortages limit the assistance available. **Any expansion in state efforts for the CRS program would require increased funding from the Virginia General Assembly**. Carl (UNC) outlined a funding process in North Carolina that allows state dollars to go to faculty at academic institutions, allowing faculty to serve advisory rolls to localities on various issues. These North Carolina General Assembly funds allow on call counsel for many municipalities that may not have resources to hire a lawyer on staff. **Carol proposed establishing a similar on-call funding scheme in Virginia, through DCR, university, or other organization, that could provide information and counsel on the CRS.**

A relationship between Wetlands Watch, the Coastal Zone Management Program, and Virginia Sea Grant could be particularly effective in educating Virginia government agencies and the General Assembly for CRS Program support. This group together could raise awareness about policy options, e.g., the creation and distribution of a revolving loan, or similar mechanism, that would offer funding for flood mitigation actions, like CRS Program support, creating a theoretically sustainable source of funding local governments. Currently, the Virginia Department of Emergency Management is working on a similar program for on the ground funding, but not limited to mitigation

activities. The panel was interested in the notion of tweaking existing funding strategies from the state level.

Private Sector Support: Recommendations and Discussion

Highlighted Recommendations:

- **Growing the CRS Program requires business community support to influence city councils and boards.**
- **Develop a system to "certify" a company, property, private sector business on a resiliency scale, whether that be regarding floodplain management knowledge, sea level rise or another measure.**

The panel discussed the importance of developing private sector buy-in to grow CRS technical assistance in Virginia. Big banks often operate charitable arms and could offer potential sources of funding. The student presentation noted how in other states, real estate associations partner with CRS communities and even provide funding in some instances. As new FEMA flood maps include more properties, real estate agents engage more in the CRS Program, knowing the flood insurance premium discounts will help market and sell high-risk properties. Educating small or mid-size private companies that may not use private flood insurance, but use NFIP policies instead, about the benefits of the CRS Program may help generate support of and inspire success in the CRS Program. The panel was surprised to hear that most businesses don't know about the CRS, and emphasized that increasing the scope of Wetlands Watch's message to the business community is key for any forward movement. **The panel emphasized that Wetlands Watch, or any other group working on growing the CRS Program, needs business community support if they hope to have any influence over city councils and boards at the local level.**

Panelists inquired about whether private consulting firms provided CRS technical assistance. The student presentation revealed that in some states Dewberry plays a large role in the CRS program, through consulting and even creating plug and play CRS documents. Wetlands Watch noted that private firms work with Virginia CRS communities, offering CRS technical assistance as well. Private firms often provide a service for communities without insuring continuity of CRS knowledge in the community. This concern led the panel to recommend the formation of a certification program that could be incorporated into Wetlands Watch's CRS work. Environmental certification systems, like the Leadership in Energy and Environmental Design (LEED) Program, make sense to the business community - they can advertise to potential customers and could improve their eco-image. With this framework in mind, the panel suggested that **Wetlands Watch develop a system to "certify" a company, property, private sector business on a resiliency scale, whether that be regarding floodplain management knowledge, sea level rise or another measure.** The benefit of this kind of certification would help Wetlands Watch translate the benefits of the CRS program in a method the business community understands. This more business-focused model would allow Wetlands Watch to reach a new audience with resiliency issues.

Workshop Conclusions

The CRS technical assistance and support provided to Virginia's coastal communities is not keeping pace with the increased interest in joining and succeeding in the CRS Program.

The Virginia Department of Conservation and Recreation (DCR) manages the state supported CRS technical assistance through the state CRS Coordinator, Kristin Owen. Due to funding constraints, the support offered by DCR is not sufficient. The state should invest more in the state CRS Coordinator to bolster CRS assistance to local governments. Wetlands Watch provides CRS technical assistance to Virginia communities, primarily in the coastal zone; however, the non-profit's resources are strained, resulting in CRS technical assistance program that is also not sustainable or sufficient to meet the needs of Virginia communities. Workshop discussions from the presentations and panelists recommended that Wetlands Watch reevaluate the manner in which they help localities and consider requesting financial contributions for the CRS assistance offered. The panelists stressed the importance of engaging the business community in Virginia to help encouraging localities to join the CRS and improve existing CRS programs. Panelists also recommended applying creative approaches for CRS support, such as exploring regional or cross-jurisdictional CRS positions and financing. The CRS technical assistance landscape in Virginia will shift and the recommendations offered herein could offer potential frameworks for the future.

Addendum

Workshop Agenda

10:00am	Welcome, Introductions, Charge for the Day Introduction to Community Rating System (Mary-Carson Stiff)
10:15am	***CRS and Virginia: Applicability of Outreach, Funding and Organizational Strategies from Around the USA*** Taylor Goelz, Virginia Institute of Marine Science and W&M Public Policy Program Lauren Pudvah, W&M Public Policy Program Peter Wells, W&M Law School and W&M Public Policy Program
10:35am	***Costs and Benefits of CRS program and services in Virginia*** Mary Carson Stiff, Wetlands Watch Skip Stiles, Wetlands Watch
11:00am	***Q&A from Panel and Open Discussion*** Stephanie Davis, Virginia Tech Carol Rosenfeld, UNC Chapel Hill Mark White, University of Virginia
12noon	***Gather Lunch and Thoughts***
12:30pm	***Working Lunch*** – Open Discussion, Q&A, Brainstorming strategies for Virginia
1:30pm	***Preliminary Suggestions, Ideas and Recommendations from the Panel*** Stephanie Davis, Virginia Tech Carol Rosenfeld, UNC Chapel Hill Mark White, University of Virginia
2:30pm	***Q&A on Panel's Suggestions and Summary of Promising Ideas*** Group discussion
3:00pm	***Wrap up and Next Steps*** Workshop Report

Workshop Attendees

Troy Hartley, Executive Director, Virginia Sea Grant

Michelle Covi, Assistant Professor of Practice, Old Dominion University & Virginia Sea Grant

Shep Moon, Coastal Planner, Virginia Coastal Zone Management (CZM) Program

Skip Stiles, Executive Director, Wetlands Watch

Mary-Carson Stiff, Director of Policy, Wetlands Watch

Stephanie Davis, Assistant Professor of Practice, School of Public & International Affairs, Virginia Tech

Carol Rosenfield, Senior Project Director, Environmental Finance Center, University of North Carolina, Chapel Hill

Mark White, Associate Professor of Commerce, and Director, McIntire Business Institute, University of Virginia

Taylor Goelz, MS/MPP Graduate Student, College of William & Mary and the Virginia Institute of Marine Science

Lauren Pudvah, MPP Graduate Student, College of William & Mary

Photo: Wetlands Watch

THE COMMUNITY RATING SYSTEM AND VIRGINIA

Learning from CRS Programs Around the USA

Report prepared for Virginia Sea Grant and Wetlands Watch
by Taylor Goelz, Lauren Pudvah, and & Peter Quinn-Jacobs
Masters Students of Public Policy at the College of William & Mary

EXECUTIVE SUMMARY

As flood insurance premiums increase, Virginia localities are more eager to participate in the National Flood Insurance Program's (NFIP) Community Rating System (CRS). The CRS incentivizes localities to undertake resilience measures by offering escalating discounts on flood insurance based on the amount and quality of local action. Lack of information about the program and lack of sustainable funding sources often restrain localities from participating in the CRS as much as they would like, or preclude participation completely.

This report serves as a resource to communities in Virginia and across the United States that wish to start participating in the CRS, improve their community ratings, or simply maintain their ratings in the program. By highlighting CRS activities occurring around the country, this report offers a choice selection of best practices for implementing the CRS and overcoming common obstacles associated with the program.

Resources within this report include:

- a table of state codes explicitly mentioning and supporting the CRS
- 16 case studies of best practices in diverse CRS communities
- a discussion of overall themes of success in CRS implementation
- a 50 state matrix broadly summarizing CRS activities across the US

ACKNOWLEDGEMENTS

The authors would like to thank the Virginia Sea Grant, Wetlands Watch, and the William & Mary Public Policy Program for funding and supporting this work. This research project was conducted for a client-driven student research project in the William & Mary Masters of Public Policy Program. The views within this document are those of the authors and do not necessarily reflect the views of Virginia Sea Grant or Wetlands Watch. Additionally, the authors would like to note this document is not an exhaustive list of CRS implementation across the United States, and may not represent all the best practices in the CRS on a national, state, and local level.

We would like to thank the following people for their time, support, input, and contributions: Daryl Cook (James City County, VA), Shannon Jarbeau (Barnstable County, MA), Lisa Auermuller (Rutgers University, NJ), Ken Bouma (Department of Natural Resources, IO), Jennifer Gilbert (Office of Strategic Initiatives, NH), Abbie Sherwin (Office of Strategic Initiatives, NH), Sue Baker (Department of Agriculture, Conservation, and Forestry, ME), Jennifer Sparenberg (Maryland Historical Trust), Mary-Carson Stiff (Wetlands Watch, VA), Donna Creef (Dare County, NC), Lora Eddy (The Nature Conservancy), Niki Pace (Louisiana Sea Grant), Stephen Deal (Mississippi-Alabama Sea Grant), Danny Hinson (Florida CRS Initiative), Tom McDonald (Savannah, GA), Shari Mendrick (Hilton Head, SC), Madeleine Russell (Georgia Sea Grant), Denise Bell (Birmingham, AL), Bill Neville (Ocean City, MD), Debbie Vascik (TX), Margaret Brooks (Monmouth, NJ), Joe Barris (Monmouth, NJ), Noah Taylor (St. Petersburg, FL), Scott McKinney (Department of Ecology, WA), Stephanie DiBettito (Water Conservation Board, CO), Sarah Owen (FEMA Region IX), and Samantha Malenovsky (Miles City, MT).

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HOW TO USE THIS DOCUMENT

The purpose of this document is to provide information and resources to anyone interested in learning more about the CRS program.

The first resource in this report is a collection of 16 case studies of best practices in diverse CRS communities across the United States. These case studies often contain links to, as well as appendices describing, additional tools and resources. Localities are encouraged to look for case studies that specifically address obstacles that the locality faces. This section should not be read to mean that all localities must do what the communities of interest have done in order to succeed in the CRS.

The second resource in this report is its discussion of overall themes of success in CRS implementation. Communities interested in performing well within the CRS may benefit from this bigger picture view in order to brainstorm, plan, or evaluate their own CRS projects.

The third resource in this report is a table of state codes. The table lists all the states, as of November of 2017, that explicitly mention and support the CRS through their state codes. Localities can potentially use this information to encourage their states to do more to acknowledge and prop up the CRS.

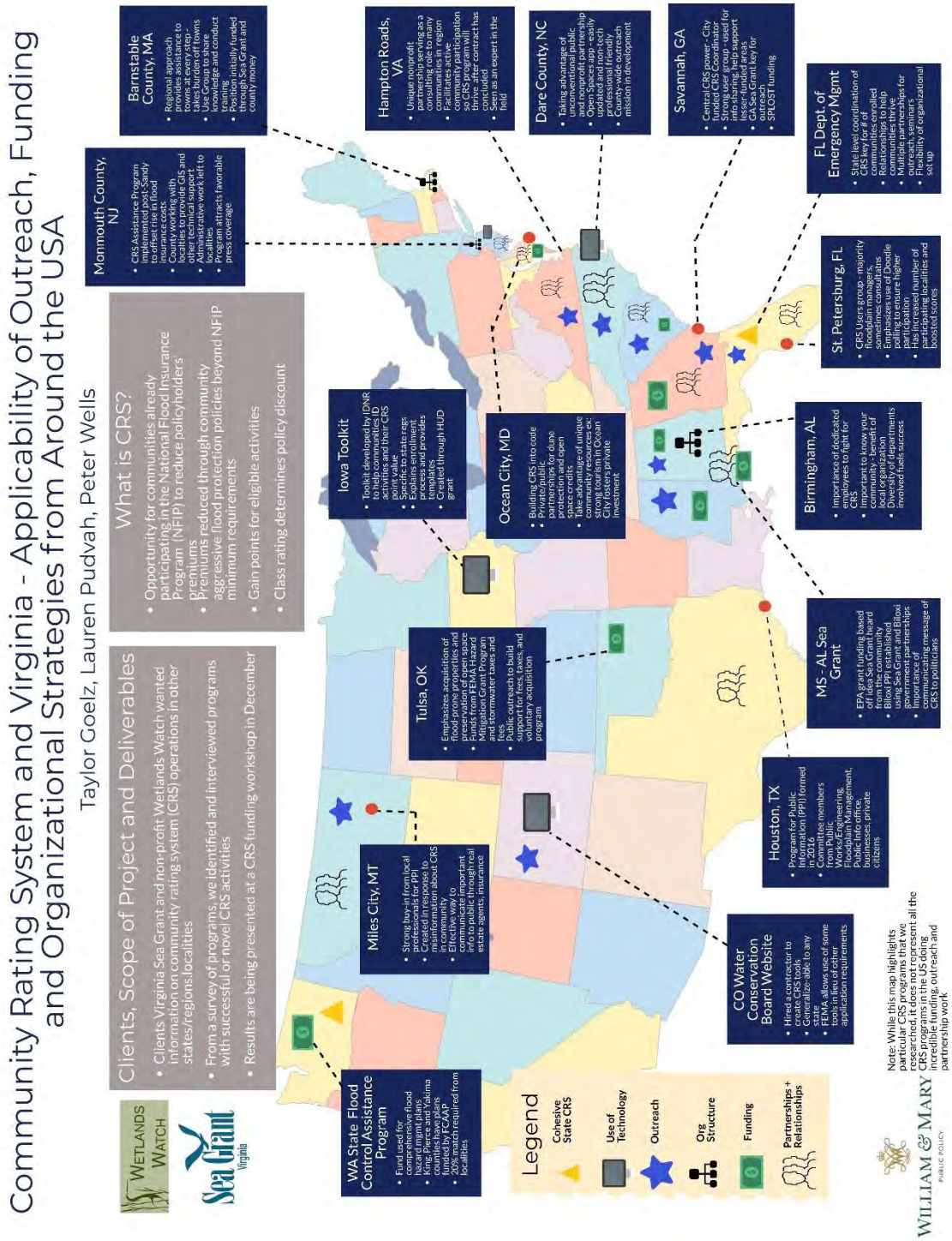
The fourth resource in this report is a 50 state matrix and state-by-state summary of national CRS activities. This matrix contains links to additional tools and resources.

Use of CRS Category Symbols: The case studies in this report fall into 6 categories:

1. Cohesive state CRS implementation
2. Innovative use of technology
3. Interesting outreach initiatives
4. Effective organizational structure
5. Unique funding strategies
6. Unconventional partnerships

Each category has a corresponding symbol listed to the right of this description. These symbols appear throughout the case studies and 50 state summary to help users locate pertinent information quickly.

POSTER: CRS ACROSS THE UNITED STATES



RESEARCH METHODS

Our research began with a broad internet search of CRS programs in all 50 states. We looked for local, state, academic, and nonprofit involvement with the program. We sorted this information into a 50 state matrix to capture a general idea of national CRS implementation. From this research we selected 22 communities of interest with unique or particularly successful CRS stories. We then developed some general interview questions, as well as specifically-tailored questions based on the activity in each community of interest. We conducted 21 phone interviews with conversations ranging 20 minutes to 75 minutes and 2 in-person meetings. Many interviewees suggested we speak with others involved with the CRS, and we followed some of these leads to additional interviews. Once we completed all the interviews, we wrote 17 comprehensive case studies that we believe could serve as a resource to communities in Virginia as well as nationally.

STATE CODES EXPLICITLY SUPPORTING CRS

The information in this table is current as of November 2017. State laws concerning the CRS are subject to change over time.

State	***Code Section***	***Description***
Alabama	§ 11-81-241	Under the Property Insurance and Energy Reduction Act, projects can be considered "qualified" if they reduce the likelihood of repetitive loss as defined by the NFIP/CRS.
California	Art. 2.5: § 79044.5	Appropriates $1,000,000 annually for education and technical assistance in participating in NFIP & CRS.
Connecticut	§ 25-68k	Instructs the Commissioner of Energy and Environmental Protection to establish and administer a hazard mitigation and floodplain management grant program to prioritize, among other things, participation in the CRS.
Florida	§ 163.3178; § 553.73	§ 163.3178 Requires comprehensive planners to encourage local governments to participate in the CRS; § 553.73 relieves amendments to local codes from certain obligations as long as they are made to participate in NFIP or CRS.
Illinois	§ 315 ILCS 35/10	Mandates an urban flooding study that, among other things, emphasizes finding strategies to increase CRS participation.
Oklahoma	§ 110.2	States the intent of the legislature to support participation in CRS.
Texas	§ 16.315	Authorizes all political subdivisions to take appropriate action to participate in CRS.
Virginia	§ 2.2-220.4; § 15.2-2223.3	§ 2.2-220.4 requires a report about CRS participation, including a cost-benefit analysis for impacted localities that are not participating; § 15.2-2223.3 authorizes localities in the Hampton Roads area to include plans for CRS participation in comprehensive plans.

CASE STUDY: BARNSTABLE COUNTY, MASSACHUSETTS

Massachusetts communities banded together to create a regional CRS coordinator position hosted in Barnstable County. The first of its kind in the entire country, the position and has proven very effective. Since implementation, 7 out of 15 now participate in the CRS, and 4 towns have applications in progress. A regional approach saves localities time, resources, and money. The CRS program can be resource intensive due to its complexity, but regional program coordinator takes the burden off the localities and allows one person to become significantly familiar with the program and help localities apply, improve their ratings, and maintain programs.

In 2017, in recognition of the innovation and successful implementation of this regional effort, Barnstable County and the Cape Cod Cooperative Extension received the James Lee Witt Local Award for Excellence in Floodplain Management. The National Association of State Floodplain Managers presents this award annually to pioneering local-level floodplain managers.

Notable CRS Elements: Organizational Structure Highlights, Funding

Organizational Structure Highlights:

- Barnstable County is the regional government for communities located on Cape Cod in Massachusetts.
    - The County encompasses 15 small communities with a population of around 215,000 people.
    - **Driving Factor:** Cape Cod is a man-made island surrounded by the Atlantic Ocean, meaning a majority of the County is flood-prone.

- The Cape Cod Regional CRS Coordinator position is a full-time position housed in the Cape Cod Cooperative Extension, the education department for Barnstable County.
    - Cape Cod Cooperative Extension hosts the coordinator because it already provides technical assistance and education to County residents.
    - Cape Cod originally funded the position two years through seed money from Woods Hole Sea Grant and Barnstable County.

- This full time regional position was the first of its kind in providing general floodplain management knowhow, in addition to technical assistance to the county's towns for regulations or issues pertaining to the NFIP and CRS.

    - The coordinator spends half of his or her time assisting specific communities with CRS implementation.
    - The other half of the coordinator's time is spent supporting regional implementation of CRS. This can involve providing technical assistance on the NFIP, coordinating work to earn credits on region-wide CRS activities, operating an active CRS user group, and even providing flood insurance help to local residents.
    - The coordinator also provides assistance and support for Community Assistance Visits, CRS Verification Visits, and annual reviews.
        - The assistance is provided through one-on-one consulting, workshops, classes, and leading a very active CRS users group.
    - Since the creation of the position, towns already participating in the CRS program have received valuable technical support to advance their programs.
        - The regional coordinator has enrolled 3 more towns into the CRS program, and 4 more have their applications in process.

- This regional approach is a great example of communities working together to expand their administrative resources to find success in the CRS. Other smaller communities facing similar challenges could progress in the CRS by encouraging their regional governments to create a regional coordinator position.

Centralized Knowledge & Approach:

- One of the biggest hurdles getting into the CRS program is the lack of knowledge and resources. The program has a cumbersome application process and is resource heavy to enroll. By providing a full-time regional position, multiple localities can benefit from centralized knowledge.
    - Given FEMA's frequent updates to its 600-page CRS manual, local resource-strapped officials may not have time to devote to the CRS program.
    - The regional coordinator can become an expert in the manual and program, taking the burden off local employees.

- A full time, centralized governmental position also carries the benefit of maintaining knowledge and experience in government hands. Localities risk losing important expertise by hiring consultants.
    - FEMA changes point values for different CRS activities and regularly demands paperwork from localities to prove their continued compliance, and if no person with enough resources follows how the CRS develops, localities could fall out of the program or forgo points because they no longer have the time or knowledge of a contractor.
    - By dedicating a staff person to working solely on CRS and the NFIP, regional governments can grow institutional knowledge. Applying to and staying in the

program means completing a lot of repetitive tasks. Appointing one person learn the process for a number of localities saves an immense amount of work for each benefiting locality.

- Since Barnstable created the position, the CRS coordinator has alleviated localities' burdens by providing general program documentation (logs on building codes, elevation certificates, etc.) and providing reminders for upcoming deadlines and program requirements.
    - The ability to devote a full time position to the CRS program has allowed the coordinator to do things like design comprehensive "plug and go" templates for localities to apply for CRS points.
        - Localities simply choose the document for the respective program attribute, plug in their specific information, and send it to the appropriate people.
        - This is extremely helpful for towns since they have limited time and resources to devote to the program.

- This approach also has the benefit of helping all localities in a region, with no political or financial ties to one locality or department.
    - This allows for more cooperation and knowledge sharing in participating communities.
    - The coordinator can easily point to approaches that worked in surrounding communities that could also work for a different community.

- The coordinator runs an active users group that conducts quarterly two-hour meetings.
    - Here, she presents a platform to share things like general information about floodplain management, new information about the NFIP, general technical assistance, and highlights from participating communities.
    - Like other CRS users groups, this forum attracts people from outside the jurisdiction as well, allowing people to share information about implementation challenges and triumphs.

How Barnstable Got Buy-in for the Position:

- There was broad support for the hiring of a person to provide assistance to the communities to enroll in the CRS program, but no consensus on how.
    - Some preferred hiring an outside consultant, but some wanted the an ongoing position for assistance after the enrollment phase.
    - Barnstable conducted a community survey, which revealed that local government staff preferred the option of continuous, long-term support.

- The county also conducted a cost-benefit analysis, which found an annual cost savings of $2.1 million to policyholders if every community in the county reached a CRS Class 7.

- The survey, coupled with the cost-benefit analysis, facilitated the buy-in necessary to hire a full-time employee to further the communities' participation in the CRS program.

Funding Highlights:

Regional Coordinator Position

- Barnstable County and Woods Hole Oceanographic Institute Sea Grant funded the position for the first two years.
- The county now pays the salary for the position.

MA CRS Applicable Grants

- State uses various grants to pay for some aspects of the regional CRS program. This is not a full list.
  - Massachusetts Emergency Management Agency (MEMA) grants
    - Homeowners located in the flood zone to pay for elevating their home
  - FEMA hazard mitigation grants
  - NOAA grants

Local Contacts

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Related Material

Cape Cod Cooperative Extension Flooding Basics

- Information on floodplains, NFIP, flood maps, and CRS

CASE STUDY: BIRMINGHAM, ALABAMA

The City of Birmingham has dedicated itself to CRS in a state where CRS is not a high priority. The local-level support and initiatives stem from staff dedication and an organizational structure that helps embed CRS into the operations of the entire local government. A reliable stream of local money for projects, outreach, and a CRS Coordinator have helped Birmingham achieve success in the program as the #1 ranked CRS community in Alabama. Birmingham government knows what projects will work and how to do them because of its strong connection with the community. This level of on-the-ground knowledge would not be possible on a regional or state-wide level.

Notable CRS Elements: Organizational Structure, Outreach, Funding

Organizational Structure

- Having a dedicated position of CRS Coordinator helped the community increase its CRS ranking, but the city had a tough time creating the position. The city staff learned that before you approach people higher up about creating a new position, you should make sure to have a good argument as to why the position should exist.
    - **Driving Factor:** An administrator and some support staff used to run Birmingham's CRS program, but the city wanted to improve to a Class 5. With this goal, it was easier for the administrator to use this timing and take advantage of this request to "strike a deal" to create a position.
    - When looking to create a full time CRS position, Birmingham emphasized that you "can't be afraid to ask and negotiate" for what you want, but that asks requires reasons to back them up. Birmingham shifted funds for this position from recently-eliminated position. Quick action and good timing ensured that the funding for the eliminated position went only to the CRS Coordinator position.
    - A good CRS coordinator focuses his or her efforts on the people who live in the floodplain, those who will benefit from form the coordinator "asking the right questions, talking to the right people, and building the right relationships."

- Having a point person for CRS makes a huge difference in organization, but ***a coordinator can also function as an advocate for the program***.
    - The extra attention to organization provided by a coordinator can help a community improve its CRS score. A single dedicated point person ensures that all communication with FEMA goes through his or her office, that the proper documents reach ISO, and that information can easily pass to the coordinator's successor. In addition to improving the organization of a CRS prograkm, a CRS

Coordinator can advocate the program to other members of government. Coordinators have "their ear[s] to the ground" and can explain how CRS policies positively impact individuals in the community.
    - Local-level initiatives benefit from the work of a CRS point person because maintaining a community's rank in the CRS involves organization and updates throughout the year. Also, the coordinator can help connect different pieces of local government. When one person runs the program, everyone knows who too when with questions about it.

- The CRS coordinator occupies a unique position within Birmingham city government. The position allows for access to a diverse group of other public servants and takes advantage of the "passion" the city has for CRS.
    - In Birmingham, Planning, Engineering and Permitting Department houses the city's CRS program. This department is full of engineers, planners, architects, demolition crews, surveyors, and drafters. The CRS administrator professed that constant access to this diverse set of experts is "absolutely wonderful" because she can speak to a lot of people and get a variety of opinions very quickly. This helps CRS projects gain support from all areas of the government and makes sure that the CRS program becomes the product of all city government.
    - **Driving Factor:** Birmingham's program succeeds because of the city's passion for CRS. Birmingham has had a long history of flooding and in the past, it has not always done a good job addressing these flooding dangers. The city wants to make up for past inadequacies and help individuals in need.
    - This passion for CRS has also led to an immense amount of institutional knowledge that stays within the government. All of the past CRS Coordinators still work for the city in different capacities. The ready availability of these individuals and their "willingness to help" ensures that no backtracking occurs when a new CRS coordinator takes over.
    - CRS in Birmingham uses a hard copy and digital filing system that encompasses its whole CRS program. According to the current coordinator, even "if no one's here," a new Coordinator could get up to speed and maintain the city's CRS ranking. "If you care enough about what you do," she explained, you set those things up for the next generation.

Outreach Highlights

- ***Outreach not only helps a community earn CRS points, it also publicizes a CRS program and its activities.***
    - In Birmingham a few years ago, a dispute between the private sector and the city over a building code caused the city to retrograde to a Class 8. The CRS

Coordinator learned after this event that a coordinator should include him or herself in all CRS-related discussions. By politely joining, a coordinator makes stakeholders and other government employees aware of how government activities impact CRS. The CRS coordinator needs to advocate for the individuals within the city's flood zone.

Funding Highlights

- ***Getting into the CRS program does not have to cost a lot of money.***
    - Communities looking to get into CRS sometimes make the mistake of aiming too high in terms of projects, and that can cause the cost of entering the program to skyrocket. If, however, communities take advantage of the "low hanging fruit" activities, things they are already doing that they could get credit for, then CRS should not cost more initially than the cost of the administrative time.
    - First, determine what points you already qualify for. One of the best places to look is at local or state floodplain management ordinances that your community already abides by. If you adopt the basic floodplain management ordinance suggested by your state or region, "you've got it made."

- A community maintaining its rating will spend less than on improving its rating.
    - Some high-rank communities pay through the nose for their "monster" outreach programs. The larger scale you look at for projects, the more money it will cost. The costs of small things, like custom pens with flood information on the sides, will add up quickly.

- Birmingham has an outreach budget, but the CRS does not always use it.
    - Despite the availability of funds, the CRS administrator tries only to tap into the fund every few years. By not requesting funds every year, she makes sure that the city realizes she is purposeful in her requests, and that she applies the monies with a strategic plan in mind.

Local Contacts

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Related Materials

- Floodplain Management Team website - https://www.birminghamal.gov/about/city-directory/planning-engineering-permits/floodplain-management-and-disaster-mitigation-services/floodplain-management-team/
- Flood Science Center article on Birmingham - https://www.floodsciencecenter.org/products/crs-community-resilience/success-stories/birmingham-alabama/

CASE STUDY: COLORADO WATER CONSERVATION BOARD

In 2016, when the Colorado's state coordinator for the NFIP set a resiliency goal for the state, the Colorado Water Conservation Board (CWCB) decided to fund the creation and maintenance of a web portal to encourage more and stronger participation in CRS. CWCB hired AECOM, a private consulting firm with some staff who were experts in the CRS, to build the website. While still a work in progress, the site already hosts a number of invaluable tools for communities interested in the CRS. With the exception of the interactive maps and a handful of other tools, most of the contents of the web portal are not limited to Colorado, and localities anywhere can freely access them.

Notable CRS Elements: Use of Technology, Outreach

Use of Technology Highlights

- ***Localities new to the CRS can find what they need to get started on the website.***
    - The website has introductory information about the CRS to bring public servants who are new to the program up to speed. It also boasts an interactive flowchart that can roughly determine whether looking into the CRS further would be worthwhile for a community.
    - It also employs a "quick check" survey, which consists of a small number of yes or no questions, each associated with a specific number of available points in the CRS. If your answers indicate that your community can achieve at least a class 9 under the CRS, the tool provides you with a template for an interest letter to submit to FEMA and links you to its "next steps" portion of the website. The Colorado ISO representative will even review the results of the quick check as part of a locality's application process.
    - The "next steps" portion gives an overview of the application process to participate in CRS and directs interested localities to necessary resources that they will need to complete the process.

- The CWCB provides savings estimations to Colorado localities upon request.
    - For those communities in Colorado who are considering joining the CRS or taking on new CRS projects, the CWCB offers its expertise in calculating insurance premium savings. The board has access to Colorado data that make this estimation possible.

- The website also has a very rough estimator that localities can use themselves to project how much each household will save, but the tool is only designed to show the change from non-participation to receiving a class 9 ranking.
- Having a good idea of how much money the community can save can have multiple benefits. First, the community can use the estimation to decide whether or not to join the CRS or take on a new project. Second, the public servant looking into the CRS can use the estimate to demonstrate the importance of the program to superiors in local government or to the general public.

- Localities can access a cache of useful documents and links through the portal.
  - The resources section of the website has a prodigious collection of external links to helpful websites, template and example documents concerning the application process, sections of the FEMA's CRS coordinator's manual split up by topic, and many other things that a locality might find useful when deal with CRS. While the sheer amount of information might seem daunting, the library is easily searchable by key terms.

- ***The portal suggests CRS activities based on a short survey.***
  - For those localities that may already be taking actions that they could receive points for under the CRS, CWCB's website has a comprehensive list of activities for which FEMA awards points. With just a few answers to yes or no questions about what actions a locality has already taken with regard to flooding, the website will recommend certain actions for which the locality can qualify for points. This recommendation is accompanied by links to applicable documents from the website's resource library.

Outreach Highlights

- Colorado has advertised its tool to interested groups and nearby states.
  - Recognizing the general applicability of its CRS tool, CWCB reached out to its neighboring states in FEMA Region VIII to share the CRS website. Of the five other states in the region, Montana and Wyoming have expressed interest in the website.
  - CWCB has also brought the tools to the attention of a bimonthly CRS committee in Colorado hosted by the Colorado Association of Stormwater and Floodplain Management. Members of this committee hold influential positions in local government when it comes to flooding and the CRS, and would likely be the ones to use the tools on the website.

Local Contacts

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CASE STUDY: DARE COUNTY, NORTH CAROLINA

After an offhand comment during a 2013 meeting with The Nature Conservancy (TNC) about how proposed oyster maps could be used for CRS mapping, Dare County and TNC established a public-nonprofit partnership to develop an Open Spaces app. This app allows communities within Dare County to bypass GIS departments and perform their own mapping open space analyses for CRS credit. Other communities can use the open source app for free. TNC credits its local relationships in the community with getting the app established and running, but emphasizes TNC's role as a mere partner, noting that communities should become self-sufficient in the near future. Given the lack of a cohesive state CRS program in North Carolina, Dare County has taken wide-scale outreach into its own hands and created partnerships within the area to better "share war stories" of CRS.

Notable CRS Elements: Partnerships, Use of Technology, Outreach

Partnership Highlights

- **Just ask**.
  - The TNC Open Space app came out of an off-the-cuff suggestion during a meeting about oysters.
  - This initial inquiry has led to:
    - an app that will help Dare County with its next CRS visit in 2020.
    - a new partner for local government.
    - a new role for TNC with a more local focus. This partnership defies a long-time bias of local government against involvement of nonprofits as partners. Local officials in Dare County are starting to see nonprofits more as assets and less as stakeholders to be appeased.

- When working within CRS, relationships matter.
  - Dare County highlighted that it lacks a strong relationship with its ISO representative; they do not have frequent meetings, and asking ISO questions is sometimes difficult. The county's ISO representative, the county believes, is spread too thin.
    - For example, Dare County recently submitted paperwork to obtain certain CRS points, but when the ISO report came back, the community found it did not get those points, and the report contained little-to-no explanation. The county lacks feedback on how ISO assigns points, which hinders the county's ability to plan for the future.

- The county's lack of reliance on ISO has forged strengthened regional relationships. These relationships resulted in a county-wide Program for Public Information, which gets out the word about CRS and can potential even earn points for the community.

Outreach Highlights

- In addition to its PPI, Dare County has partnered with its constituent communities to instigate a county-wide, single-message outreach campaign.
    - The county coordinator feels that the organization is one of Dare County's strong suits right now.

- County staff have found that in communities with many policyholders, coordinators and CRS workers have any easy time advocating for CRS. ***CRS can sell itself***.
    - Communities must take part in effective and targeted communication with key stakeholder groups in order to obtain buy-in. Any communication has to meet stakeholders where they are and explain CRS in a way that matters to them.
    - Dare County highlights that it's difficult to find time for communication when the individual in charge of CRS "wears too many hats" in government, splitting his or her time between multiple projects.

Use of Technology Highlights

- TNC originally developed the Open Spaces app out of its 2008 Coastal Resilience Project launched in New York and New Jersey after Hurricane Sandy. TNC saw the Open Spaces app as a way to expand its coastal hazards and flooding work and focus more on a local level.
    - Original funding for the Coastal Resilience Project and the app came from private donors, foundation money, and more localized individual donors.
    - The local TNC office communicated with the corporate office about the importance of the app on a local level. TNC, while it has local relationships, is a hierarchical organization, and so the local branch had to earn national level approval before moving forward.
    - The app uses ESRI, a product widely employed and understood in the mapping community. TNC keeps the app's code open so other communities can adapt it for their needs. The group wanted a helpful and easily applicable program, and it used Dare County as a testing ground with hopes for later expansion to other areas.
    - The app tracks open space preservation, which can provide quite a few points under the latest CRS Manual.

- The app saves Dare County time coordinating with its GIS department. The county's GIS team can do all the work done by the app, but that often takes a lot of time. With the app, non-experts can do the mapping necessary for CRS in-house and bypass the GIS department. This has proven a time-saver for both CRS implementers and the GIS team.

Local Contacts

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CASE STUDY: FLORIDA DEPARTMENT OF EMERGENCY MANAGEMENT

In 2014, the Florida Department of Emergency Management (FDEM), the agency tasked with coordinating CRS on the state-level in Florida, implemented a CRS Pilot Study in an effort to advance CRS participation, "from modifications to new applications." The Pilot Program, concluded in 2016, employed a Toolkit to help the 3 full-time state CRS employees enroll new communities, improve communities' ratings, and provide outreach and education. The program also leveraged partnerships to centralize CRS in the state. This state-centered institutional knowledge and the relationships the state-level individuals possess benefit individual communities and CRS in Florida as a whole.

Notable CRS Elements: Partnerships, Outreach, Cohesive State CRS

Partnership Highlights

- ***FDEM fostered relationships at every level.***
    - The head of the FDEM CRS initiative worked both for ISO and on a local CRS level for years. This dual knowledge of how CRS communities think and the requirements for acquiring points has proven immensely beneficial to Florida. He knows everyone involved in CRS in Florida, and whenever staff changes in a locality, he makes a point to introduce himself and bring new CRS coordinators into the fold.
    - His years of varied experience makes it easier to call people and ask for advice, get clarification, or create new partnerships. These connections came in handy when designing the Pilot Program.

- ***CRS benefits from multiple partnerships with a variety of groups.***
    - FDEM relies on partners from local to the national level, including ISO, FEMA, and Florida Sea Grant.
        - Partners at different levels provide different resources that FDEM cannot. A diverse group of partners also helps FDEM access varied sources of information, and makes sure FDEM uses all its resources in the most efficient manner.
        - FDEM uses its partnerships and relationships for outreach. It asks ISO representatives to conduct informational sessions alongside FDEM representatives. Florida Sea Grant helps FDEM expand its network of communities.

Outreach Highlights

- ***Communicate the importance of your program, not just for CRS points.***
    - Implementing the state pilot program became a “no brainer” once the governor understood what CRS was. CRS coordinators must communicate with politicians and stakeholders using appropriate language and incentives.
    - Programs need someone who can effectively “sell this program to anyone.” CRS needs an active, involved, and organized individual to lead the charge for communities, keep CRS on the minds of people in charge, and keep people lower down motivated.

- Outreach helps with state-level coordination
    - When a new CRS coordinator comes on board in a community, FDEM immediately reaches out and offers assistance.
    - Being proactive on a state level and staying organized and up to date on communities in Florida helps FDEM prevent communities from dropping in class ratings with a changing of the guard. The consistent institutional knowledge at the state level helps calm over any community-level changes.

- When developing outreach material, use local natural-disasters to reach out to communities. This relates CRS to recent events that localities find important.
    - Taking advantage of dangers in your community for outreach points not only gets necessary CRS points but also allows the communication of the most pressing flood-related issues in your area.

Cohesive State CRS

- ***State level CRS coordination enables consistent institutional knowledge***, organized and kept at a higher governmental scale.
    - Centering CRS Coordination at FDEM makes enables coordination among communities and streamlines recertification work. Communities can rely on the state for backup.
    - Institutional knowledge at the state level allows the department to provide services, assistance, and coordination for smaller communities that do not have as much time. State coordination can remedy the issue of “too many hats” that CRS creates in smaller communities.

- Partnerships in Florida work because of the presence of a central state-level coordinator.
    - CRS in communities or on a state level need someone whose job is geting other people (stakeholders, partners, other communities) involved. Creating

partnerships and finding new avenues for coordination and cooperation is just as important as partnerships.

- The location of the CRS office at the state level is key.
  - In Florida, the NFIP office used to house the state level CRS program. This did not work well for state level CRS coordination because of the lack of focus on the CRS alone. The position within FDEM has worked better because FDEM has more flexibility, and can jump on issues when they arise at local levels.
    - The flexibility that arises from FDEM's lack of association with the NFIP office allows the CRS full-time employees to move quickly to help communities. This is one of the aspects of the program.
  - Florida sought to place CRS on the state level in a way that ensured the correct amount of bureaucratic oversight without losing flexibility.

Local Contacts

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Related Materials

- State of Florida CRS Toolkit - adapted from Dewberry toolkit
  - Link - http://www.floridadisaster.org/mitigation/CRS/

CASE STUDY: GEORGIA SEA GRANT

Thanks to Georgia Sea Grant, almost 100% of counties on the Georgia coast participate in the CRS. Sea Grant's preexisting relationships with communities made it the go-to place for help with the CRS. Sea Grant's involvement began because of a city councilman on Tybee Island. Communities must be willing to accept help with the CRS before any organization can provide that help, so when communities in Georgia approach Sea Grant first, it jumped at the opportunity. Sea Grant acted as a link between local communities and national operations. Sea Grant's role with CRS has chiefly involved creating and fostering partnerships, providing funding, and helping with organization.

In working with CRS across many counties, Georgia Sea Grant learned that connecting counties fosters relationships between them. Relationship in turn foster information sharing, such that if one community improves its CRS rank, it will share its projects and methods with other communities so they can move up together. The biggest lesson Sea Grant has learned from promoting CRS projects is that focusing on the overall benefits of any given project helps earn buy-in more than talking about earning points through the program. Sea Grant couches CRS ranking as an added benefit instead of a goal in and of itself.

Notable CRS Element: Partnerships, Outreach, Funding

Partnership Highlights

- ***It is important to be invited in to help with CRS.*** Outside partners or governments can have trouble convincing a community to participate.
    - At one point, Georgia Sea Grant and North Carolina Sea Grant worked together with two communities, Tybee in GA and Hyde County in NC, to help each of them enter the CRS program. Tybee invited Sea Grant to help and Sea Grant spent a year attending public meetings and listening before working jointly with the city to create a list of priority projects. This differed from the initiation in North Carolina. Sea Grant put it this way: "[North Carolina Sea Grant] chose Hyde County, but Hyde County didn't choose us." From the beginning, the community did not embrace CRS or even see the need for flood insurance, despite the many vulnerabilities present in the Inner Banks community. The poor community focused on short-term solutions and remained uninterested in the lifestyle changes that Sea Grant recommended for flood resilience and CRS points. The community ended up dropping out of the CRS program entirely.

- Outside partners can act as bridges between communities to enhance CRS.

- When Camden County asked Sea Grant to help with CRS, Sea Grant suggested a joint Program for Public Information (PPI) between the county and the City of St. Marys (a city within Camden County). The existence and success of this PPI overcame a communication barrier between the county and city due to cultural differences. Sea Grant, through a series of meetings, acted as an intermediary between the city and county, and both governments learned "over telling jokes and cookies" that they actually had a lot of learn from each other. Without Sea Grant's involvement, this partnership probably would not have happened, but now the communities work together in a coordinated outreach effort encompassing a large area.
- The close relationships Sea Grant fostered continue to blossom on their own. In this area of Georgia, when it comes to getting CRS points, "as soon as somebody goes, they'll all go" because of the trust and communication between communities. They all want to help the others succeed.
- Sea Grant staff also present at conferences and spread the message about how CRS operates in Georgia. Communities really love this, and always want to know what people at conferences say about them and how they and their work are received. This allows Georgia communities to broadcast on a national scale.

- Sea Grant can offer unique help to interested localities because of its diverse group of partners.
  - In Tybee Island, after the community and Sea Grant jointly developed priority projects, Sea Grant brought a team of lawyers, planners, living shorelines experts, and "every [other] conceivable idea" to help. Sea Grant then seamlessly transitioned the team to St. Marys.
  - Sea Grant recently contacted SmartVent, a national company that has in the past few years gotten into the flood insurance business specifically to help individuals install flood vents. The company does 'free nights," where it examines people's flood insurance policies to see if insurers are overcharging. As flood insurance becomes more of an issue, Georgia Sea Grant thinks more partnerships like this will arise.
  - **Just Ask.** In Camden County, because of Sea Grant's outreach, a local electronic billboard offered to run flood messages for free, a huge community service. All Sea Grant had to do was ask.

- "You can't do it for them."
  - The Georgia Sea Grant representative emphasized how some local staff find it "easier to ask [her] than try to read that book [the CRS Manual]," but she cannot make communities do the work. As long as CRS is organized on a local level, Sea Grant or other regional partners have no authority to mandate communities to do anything. The help and background information Sea Grant can provide is

great, especially for small communities where individuals wear a lot of hats, but at the end of the day success in the CRS lies in the hands of the localities.

Outreach Highlights

- ***Citizens touched by outreach projects can become tools of further outreach.***
    - In St. Marys, a local citizen interested in the CRS process and how it could help sea level rise issues hosted and held a meeting on sea level rise. Sea Grant noted that this meeting, and the fact that a citizen hosted it, "got the city to sit and say they needed to listen." Staff turnover in St. Marys to individuals more friendly to CRS has also helped projects progress in the county.
        - No one can control staff turnover in communities, and it can seriously impact CRS implementation, positively or negatively.
    - In Tybee Island, another citizen made an impact at a city council meeting. The floodplain manager in the area did not contact Georgia Sea Grant about CRS until a resident came in and showed the manager their flood insurance bill. This personal interaction made a big difference.
    - This personal contact also helped Georgia Sea Grant reach out to a Georgia congressman who had no idea that "overnight, people could be priced out of their houses" based on national legislation.

- Try to tap into unique outreach opportunities.
    - After Hurricane Matthew and Irma, Georgia Sea Grant happened to talk to a woman who organizes a local Visitor's Center. She had seen a lot of hurricane evacuees come through, and she answered a lot of the evacuees' questions. With her help, Sea Grant identified what questions came up most often and created outreach materials to put in Visitor's Centers about what to do before, during, and after a flood. This location reaches a wide range of individuals who otherwise might not see the information. This project also has potential along the Atlantic coast, since hurricane impact such large areas. The unique inter-state connections that Sea Grant provides have allowed these outreach materials to reach outside of Georgia.

Funding Highlights

- Sea Grant provides a unique exterior funding opportunity, but it can be difficult to apply when community-level politics get in the way.
    - After the PPI in Camden and St Marys, Sea Grant had funding for more projects from a Coastal Incentive Grant. With matching funds from Sea Grant, the

organization saw a natural path toward resilience. When local elections came around, however, the city council shifted completely. The city manager quit and the staff was completely replaced. None of these public servants "wanted anything to do with CRS." How do you fulfill a grant that has already been awarded concerning CRS participation when the community does not want it? Sea Grant learned to "never lead with CRS," that even if "you know it's going to be one of your outcomes," you should not put that on the table first. Discussing projects instead within the context of resiliency and flood protection helped sustain the projects after the political shifts.

Local Contacts

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Related Materials

- Georgia Sea Grant Report—*St. Marys Flood Resiliency Project*
  - http://www.stmarysga.gov/StMarys_Plan_03_06_2017_JME.pdf
- Georgia Sea Grant Report—*Tybee Island Sea Level Rise Adaptation Plan*
  - http://www.cityoftybee.org/DocumentCenter/View/400
- Poster on Georgia PPI—activities and outreach organized for the region
- Poster on CRS Work in Coastal Georgia—created for the Extension Disaster Education Network

Community Rating System Program of Public Information in Camden County and the City of St. Marys

St. Marys and Camden County are taking unprecedented steps to work closely together to implement Georgia's first joint Program for Public Information (PPI) through the National Flood Insurance Program's Community Rating System, which outlines steps that the city and county will take to educate its citizens on flood hazards. The goal of the PPI is to better inform the public about their flood risks. This includes identifying what residents can do to decrease future damage, improving community flood hazard preparedness and recognizing the benefits of having flood insurance coverage. All public information activities will have the same objective: to get people to protect themselves and their property, in preparation for a flood event, during an event and through the entire recovery phase.

The PPI followed a seven step process:
Establish a PPI Committee
Identify the community's public information needs
Form task managers
Identify outreach projects to convey the messages
Determine other public information initiatives
Prepare the PPI document
Implement, monitor and evaluate the program

The CRS Manual provides six topics for messaging:
Know your property for your flood hazard
Protect people from the hazard
Protect your property from the hazard
Build responsibly
Protect natural floodplain functions

An additional four topics are available for PPI messaging:
Hurricane Preparedness
General Preparedness
Basement Flooding
Flood Education

Committee Members:
Jeff Adams, Angie Eaton, Mike Hawes, Michelle Russell, Jerry Brown, Jeffrey Ross, Travis Redden, Tracy Sparks, Scott Brown, Rachael Eldridge, Kevin Long, Jeb Sikes, Jessica Stamer

Michelle Russell UGA Marine Extension and Georgia Sea Grant Brunswick, Station, mschusse@uga.edu

Target Audience	Outreach Project	Outcome	Assignment	Proposed schedule	Stakeholder(s) or Partner(s)	Topic Messages	1	2	3	4	5	6	7	8	9	10
Youth	[illegible]	Identify flood risk Develop family & community emergency plans; increase community-wide emergency planning Build FEMA emergency kit	Scott Brown; Angie Eaton	Annually	Floodplain managers City and County staff Camden County Schools Home Depot, Ace Hardware	**#1 Know your flood hazard** Find your property on a flood zone map. Do your homework **#2 Protect people from the hazard** Have a plan. See table below **#3 Protect natural floodplain functions** Know the tide cycles. Floodwaters are influenced by tides in Coastal Georgia **#7 Hurricane Preparedness** Plan and prepare a hurricane kit. Know where you will go. Evacuate early when required, remember to create a plan for your pets **#8 General Preparedness** Gather information about flooding **#10 Flood Education** Educate yourself. Know the risks!	✓		✓			✓	✓	✓		✓
	[illegible]	Help map the future of the town on 50 Day Increase awareness of disasters, also recognize the DMA and how their homes, critical infrastructure and community facilities have to flood zones, storm surge and wastewater use Use GIS to display the footprint of hurricane Matthew in Camden County, as a teaching tool	Angie Eaton; Jeff Adams	5:00pm	Floodplain managers City and County staff Camden County Schools Home Depot, Ace Hardware, EMA	**#1 Know your flood hazard** Get accurate information from trusted sources. Ask "What flood zone am I in?" **#4 Protect your property from the hazard** Know your floodplain manager to visit your property **#3 Protect natural floodplain functions** Tidal waters are susceptible to flooding. Welcome to the Georgia Coast **#8 General Preparedness** Gather information about flooding **#10 Flood Education** Educate yourself. Know the risks!	✓			✓		✓		✓		✓
Building Community	First Coupons for Home Buyers and Renters	Increase number of people seeking for information or visiting the City and County flood awareness website	Jeff Adams	[illegible]	Realtors, Banks, Realtor Brokers, Contractors	**#1 Know your flood hazard** Don't wait. Do your homework. Get accurate information from trusted sources. If "all else fails" the storm arrives, save yourself some money **#4 Insure your property for your flood hazard** Get flood, angle or mitchell and ask about flood insurance. Get flood insurance before a storm arrives. Find out if the insurance options for wind, hurricanes, flood and wastewater backup protection **#2 Protect people from the hazard** If you are safe, stay safe. Have a plan. If an emergency, use social media. Stay in contact. Let others know where you are **#6 Protect natural floodplain functions** Respect the marsh and its regulations. It is part of the beauty in our area, after a storm,	✓	✓	✓			✓				✓
	Brochure and Website (website on Elevation Certificates for Home Buyers)	Recognize your flood risk Increase number of elevation certificates on file Increase number of elevation certificates on the Florida number of repetitive loss homes Obtain Elevation Certificate to the Parcel to increase number of structures repaired with permits	Michael Wood; Scott Brown; Jeff Foster	Bulletin Association Forum Annually Website information, with PDF downloads online increased daily	Builders Association Forum Annually Website information, with PDF downloads online increased daily; Builder's Association, Local Business, Camden High School Building Academy	**#1 Know your flood hazard** Get your floodplain manager's office. Ask your floodplain manager to visit your property **#4 Protect your property from the hazard** Get an elevation certificate. Educate yourself about flooding before you build. Educate air conditioners and hot water heaters **#5 Build responsibly** Get a permit. Find out an official. Elevate a foot or two. It makes a world of difference **#6 Protect natural floodplain functions** Welcome to the Georgia Coast. Be careful, the marsh is beautiful but when it fills with water during flooding or a storm surge it is dangerous. Know the tide cycles. Floodwaters are influenced by the tides in Coastal Georgia **#8 General Preparedness** Gather information about flooding **#9 Basement Flooding** Avoid flood waste. Avoid more flooding! Elevate your home above Base Flood Elevation	✓			✓	✓		✓	✓		
	Brochure Focus to Ask Realtors, Lending & Insurance & Bankers	Increased the number of real estate agents, bankers and insurance agents who will service their clients on flood awareness	Jeff Adams	[illegible]	Insurance Companies, Realtors, Mortgage Lending Companies, Rotary Club, Kiwanis, Chamber of Commerce & Welcome Centers	**#4 Protect people from the hazard** If "all be prepared. If you are safe, stay safe. Let others know where you are. Get the Emergency Operations Center for accurate information after an evacuation. Wait for GDOT to certify the safety of bridges before returning to an area that has been evacuated **#4 Protect natural floodplain functions** Welcome to the Georgia Coast. Be careful, the marsh is beautiful but when it fills with water during flooding or a storm surge it is dangerous. Know the tide cycles. Floodwaters are influenced by the tides in Coastal Georgia			✓			✓				
	Brochures for Home Buyers, Real Estate, Lending and Insurance Companies, Development Community & Other Homeowners	Know your flood hazard before you buy or build Purchase flood insurance for property and contents. Increase in flood insurance policies and the percentage of DMA structures with insurance	Kevin Long, Nancy Stamey, Rachelle Eldridge	[illegible]	Insurance Companies, Realtors, Mortgage Lending Companies, Rotary Club, Kiwanis	**#1 Know your flood hazard** "If all else fails" before a storm arrives, ask your homework. Ask "What flood zone am I in?" **#2** Insure your property for your flood hazard. Get flood insurance before a storm arrives. Find out if the insurance options for wind, hurricanes, flood and wastewater backup protection. Find out the peace of mind, buy flood insurance even if you are not in the Special Flood Hazard Area **#5 Build responsibly** Do a permit. Find out an official. Elevate a foot or two. It makes a world of difference. Know buffer regulations	✓	✓			✓					
Vulnerable Areas	Adopt a Stream Program: promotion in the County. Properties located in the a-zone	Increase the volume functions by increasing the total and consistency	Jessica Stamer; Jessica Russell	Targeted mailings to County a-Zone properties	Zone Homeowners, Council, Jessica Stamer, Adopt a Stream Program, Coast Guard	**#1 Protect natural floodplain functions** Adopt a Stream and your town's major natural are do-thing **#8 General Preparedness** Gather information about flooding **#10 Flood Education** Educate yourself. Know your risks!						✓		✓		✓
	Telephone Planning Workshop: Focused on Critical Care Facilities, Historical St. Marys Downtown Area, & Zone Properties during the Year. Other Properties	Identify or educate your property to reduce future flood damage	Jeff Adams	[illegible]	EMTA, Sea Grant, Camden County Planning & Emergency Preparedness	**#1 Know your flood hazard** Have yourself some money. Do your homework. Don't wait. Get angle or mitchell **#4 Insure your property for your flood hazard** Find out if the insurance options for wind, hurricanes, flood and wastewater backup protection. Find out the peace of mind, buy flood insurance even if you are not in the Special Flood Hazard Area **#2 Protect people from the hazard** If you are safe, stay safe. Have a plan. Stay in contact. Let others know where you are. Use social media **#4 Protect your property from the hazard** Educate yourself about local regulations. Elevate your home. Educate air conditioners and hot water heaters. Educate yourself before you build **#5 Build responsibly** Get a permit. Check your flood zone **#10 Flood Education** Gather information about flooding	✓	✓	✓	✓	✓					✓
	Group mailing to the Repetitive Loss Areas	Decrease in Repetitive Loss claims, increase inquiries about flood zones and property risks	Scott Brown; Angie Eaton	Targeted mailing to Repetitive Loss Areas, September 2014	City and County Staff	**#1 Know your flood hazard** Have your self some money. Do your homework **#4 Insure your property for your flood hazard** Get flood insurance before a storm arrives **#2 Protect people from the hazard** Have a plan. Be prepared **#4 Protect your property from the hazard** Educate your home. Protect your belongings from water entering your home during floods **#5 Build responsibly** Get a permit. Check your flood zone **#3 Protect natural floodplain functions** Tidal waters, we are susceptible to flooding **#8 General Preparedness** Gather information about flooding. Take education yourself **#9 Basement Flooding** Have your sump pump to prevent flooding **#10 Flood Education** You can protect yourself, your property and your family	✓	✓	✓	✓	✓	✓		✓	✓	✓

Messages

Know your Flood Hazard
Call your floodplain manager's office
Call Angie Eaton, 912-510-5314, in Camden County
Call Michele Wood, 912-510-4025 in St Marys
Ask, "What flood zone am I in?"
Ask your floodplain managers to walk your property
Get accurate information from trusted sources
Find your property on a flood zone map
Save yourself some money
Y'all, call before a storm arrives
Do your homework
Don't wait

Insure your Property for your Flood hazard
Call Scott, Michele or Angie and ask about flood insurance
Y'all learn the insurance options for wind, hurricanes, flood and wastewater backup protection
Get flood insurance before a storm arrives
Y'all, get flood insurance more than thirty days before the storm arrives
Y'all, maintain your flood insurance policy
For peace of mind, buy flood insurance even

Protect people from the hazard
If you are safe, stay safe
Have a plan
Y'all be prepared
Let others know where you are
Stay in contact
Use social media
Call the Emergency Operations Center for accurate information after an evacuation
Wait for Georgia DOT to certify the safety of bridges before returning to an area that has been evacuated

Protect your property from the hazard
Educate yourself about flooding before you build
Invite your floodplain manager to visit your property
Y'all educate yourself about local regulations
Protect your entryways from water entering your structure
Get an Elevation Certificate
Elevate air conditioners and hot water heaters
Elevate your home

Build responsibly
Save yourself a headache, request a wetlands delineation
Check buffer regulations
Get a permit
Y'all ask an official
Check your flood zone
Elevate a foot or two, it makes a world of difference
Elevate your home above Base Flood Elevation

Protect natural floodplain functions
Welcome to the Georgia Coast
Y'all beware we are vulnerable to flooding
Respect the marsh and its' regulations, it is part of the beauty in our area
Be careful, the marsh is beautiful, but when it fills with water during flooding or a storm surge, it is dangerous
Know the tide cycles, floodwaters are influenced by the tides in coastal Georgia
After a storm please don't burn debris, you could start a community fire
If it flips, chip it up
Mulch fallen trees and branches
Bring your brush to the county facility on

General Public	Co-sponsor Tri-fold Brochure and Additional Website content	Learn how to protect people & property from flood hazards. Be prepared. Raise awareness. Develop family emergency plans.	Address Voice Joint Broad.	Attachment to all information packets. Completed	Water & Public Works Departments, Georgia Power, GREMC, Libraries, Extension Service, St. Marys Visitors Center	A3 Protect people from the hazard have a plan A5 General Preparedness Gather information about flooding A10 Flood Education You can protect yourself, your property and your family			✓				✓	✓
	Public Service Announcement Targeted TV & Radio interviews	Use your community Floodplain Manager about flood protection and assistance	Larry Bruce Scott Dewell Kevin Long	Schedule interviews with Kevin Long	WGIV, WACE, Laser Video Show	A1 Know your Flood Hazard. Call Kathleen or Angie. Save yourself some money. A2 Insure your property for your flood hazard. Get flood insurance before a storm arrives. Can't maintain your flood insurance policy. A3 Protect people from the hazard Have a plan. If you are safe, stay safe. A4. Protect your property from the hazard Double yourself about flooding before you build. Get an Elevation Certificate, make your Floodplain Manager be with your property. Can educate yourself about local regulations. A6 Assist responding Can act as officials. Elevate your home above Base Flood Elevation. Placate a flood or bury. It makes a world of difference. Site is permit. Obeys buffer regulations. A8 Protect natural floodplain functions Fill Plus, plus it our future higher standard standard. Know the flood zones. Floodwaters are unfavorable by the rules in Coastal Georgia A7 Hurricane Preparedness Can prepare a hurricane kit. Evacuate early when possible. Reserve a room early. Stock enough supplies, medication, and food in your kit. A10 Flood Education Educate yourself. Know your coast. Can gather information about flooding	✓	✓	✓	✓	✓	✓	✓			✓
	Public Service Announcement on radio and local newspapers	Know your Flood Risk. Be prepared. Buy flood insurance.	Larry Bruce Michael Grace	Daily, Weekly and Monthly	Vista Outdoor Advertising, Craig Ross, Larry Cheeks	A1 Know your Flood Hazard. Get accurate information from a reliable source. A2 Insure your property for your flood hazard. Maintain your flood insurance policy. A3 Protect people from the hazard. Can dial 911 for accurate information after an evacuation. Plus TOP PROS. A4 Protect your property from the hazard. Educate yourself about flooding before you build. A6 Assist responding. Act as officials. Check your flood zone. A8 Protect natural floodplain functions. Fill Plus. plus-S. Mount flood lines and practices. A10 Flood Education You can protect yourself, your property and your family	✓	✓	✓	✓	✓	✓				✓
	Stormwater Stenciling	Protect Our Waterways (Goal: In St. Marys, Kingsland and Jeffersonville Maintain current levels (no decrease) in the waterways and improve water quality)	Jessica Scarlett Stephanie Russell Jeff Adams	St. Marys Revolution Aquaculture	Citizen groups, Scouts, Coast Guard, Civic and school Kingsland and Jeffersonville adopt their storm drains	A6 Protect natural floodplain functions keep our streams clean and clear. Can develop, we are vulnerable to flooding						✓		
	FM Radio	Partner on Display in Public Areas	Stephanie Russell	Daily/Weekly	St. Marys, Camden County, FM Committee, USA Marine Extension and Georgia Sea Grant	30 Messages on Display	✓	✓	✓	✓	✓	✓	✓	✓	✓

Old Shell Road
Adopt a Stream and your team helps nature do its thing

Hurricane Preparedness
Y'all prepare a hurricane kit
Stock enough supplies, medication, and food in your kit
Evacuate early when possible
Know where you will go
Reserve a room early
Remember to create a plan for your pets

General preparedness
Gather information about flooding
Y'all educate yourself

Basement flooding
There are no basements in Camden County or St Marys GA
Install flood vents
Vent your crawl space to protect your home from flooding
Add more freeboard! Elevate your home above Base Flood Elevation

Flood education
Educate yourself
Know the coast
Y'all gather information about flooding
You can protect yourself, your property and your family.

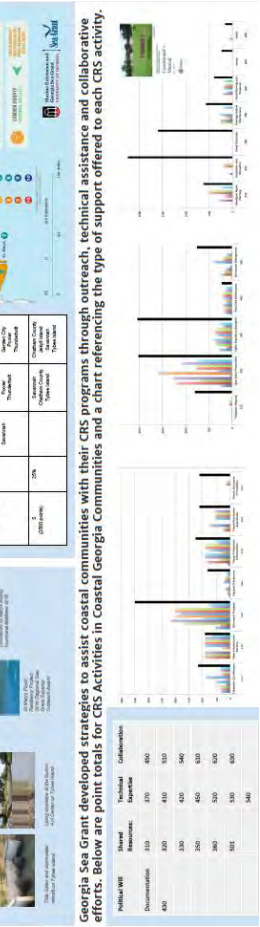
Coastal Georgia Uses a Collaborative Approach to Reduce Flood Insurance

Madeleine Russell, CFM, *Local Government Outreach Program Coordinator and Natural Hazards Program Specialist*

In May 2012, Tybee Island, Ga., held their first public meeting to begin the process of creating a Sea Level Rise Adaptation Plan. This effort was initiated by City Councilman Paul Wolff and was overseen by Georgia Sea Grant. Within five years, this effort produced the Tybee Island Sea Level Rise Adaptation Plan, followed by the St. Marys Flood Resiliency Plan, and launched UGA Marine Extension and Georgia Sea Grant into the forefront of building adaptive capacity in coastal communities through the National Flood Insurance Program's Community Rating System.

This poster provides background into floodplain management starting with Gilbert White, the father of floodplain management, and his words of wisdom to Congress in 1968 that are still relevant today. Visual samples of efforts in Georgia and the Southeast set the stage for the Community Rating System (CRS), a federal program designed to reward communities for floodplain management practices that go above and beyond minimum requirements.

Coastal Georgia communities have embraced the CRS and continue to increase participation in the program by collaborating through the Coastal Georgia CRS Users Group. This powerful, cooperative initiative contributes to the health and safety of coastal residents while rewarding individuals with flood insurance policy savings. Marine Extension and Georgia Sea Grant is dedicated to supporting CRS through technical support, developing outreach activities and hurricane response before, during and after a storm event.



CASE STUDY: HILTON HEAD, SOUTH CAROLINA

As a prominent seaside tourist community, Hilton Head, South Carolina views CRS as essential in saving money for residents and maintaining economic revenue from visitors. The small, close-knit relationships of the community have helped important stakeholders get involved with key CRS initiatives from within and outside the local government. A single CRS point person fosters and maintains these relationships. This point person becomes even more important as communities move up in class rankings and as CRS standards constantly change. Hilton Head recently transitioned from one CRS Coordinator to another.

Notable CRS Element: Partnerships, Outreach, Funding

Partnership Highlights

- CRS users groups are great places to seek out and build relationships, but not the only place.
    - Users groups help CRS coordinators in different communities realize CRS is not "every man for himself." Communities can benefit from the collective learning attitude and information sharing that goes on in users groups, whether they are new to the program or seeking to improve their scores.
    - Coordinators should also foster relationships with local stakeholders and the business community outside of users groups. For example, Hilton Head consulted with the local Homebuilders Association before making map changes to understand what changes would mean for the builders. Later, when more map changes occurred, the Homebuilders Association came back to the CRS coordinator for information.
    - These partnerships are key for communities with relationships with their ISO representative that lacks meaningful and consistent communication, like in Hilton Head.

- ***New CRS coordinators in communities have to work hard to gain the trust of stakeholders.***
    - When the new CRS Coordinator came on board this year, some stakeholders feared she would pass new, stricter regulations. She addressed this misinformation by speaking directly to the stakeholders to set the record straight. Open and honest conversations early on can ensure a successful transition to a new coordinator.

- Constantly moving CRS standards necessitate partnerships.

- As FEMA changes requirements for CRS and adds and subtracts activities that can earn points, local partnerships can provide novel ideas for projects and help justify spending on programs that benefit larger groups.

Outreach Highlights

- ***Tourism communities have a heightened responsibility to inform stakeholders about the CRS.***
  - Areas with strong tourism economies should make extra efforts to inform part-time residents, realtors, homebuilders about the CRS. The Hilton Head coordinator says that if you do not, "you are putting yourself out there to fail." Employ different communication strategies in presenting CRS work to FEMA and the general public. For example, when pitching higher freeboard requirements, Hilton Head focused the "spin" on maintaining neighborhood continuity instead of the points available under the CRS.
  - Ensuring the community understands the "why" behind actions is as important as doing the actions because it ensures buy-in and long-term project sustainability.

- Six local communities partner together for outreach, which maintains a consistent message and ensures that the message reaches a wide audience. Each of these communities relies on the unique background expertise of the others.
  - Communities can use relationships established through outreach when focusing on certain niche elements of CRS. In Hilton Head, the local building official backs CRS "100 percent" and helps with outreach regarding building code requirements. A local insurance company helps Hilton Head get the word out about flood insurance. Communicating with real estate offices helps the town understand what properties sit in the flood zone and how that will impact flood insurance costs.
  - In the local six-community partnership, the Hilton Head CRS Coordinator is the spokesperson for flood maps because of her background in GIS. Partnerships like this allow for the use of more expert outreach material by all group members.

Funding Highlights

- A locality can institutionalize funding of CRS in its budget to ensure long-term funding.
  - Hilton Head mentions CRS in its town municipal budget. This sustainable source of funding reinforces the importance of CRS with all the departments in town government.

- Hilton Head has a Stormwater Utility Fund established at a county level.
    - Hilton Head sets the fee and notifies Beaufort County to include the fee on its property tax bill; this a great example of regional cooperation and the county understanding the local level understands its citizens best
    - The town uses funds from the fee for drainage infrastructure maintenance. Some of these projects earn the town CRS points.

Local Contacts

- Shari Mendrick: Planner in the Development Review and Zoning Division
    - Phone: 843-341-4687
    - Email: sharim@hiltonheadislandsc.gov

CASE STUDY: IOWA DEPARTMENT OF NATURAL RESOURCES CRS TOOLKIT

After the most destructive floods in state history hit Iowa in 2008, the Department of Natural Resources (DNR) partnered with Iowa's Stormwater and Floodplain Management Association and contracted Dewberry Consultants to create a comprehensive state floodplain management toolkit. The toolkit contains a CRS-specific component that can be used by localities to identify implementable CRS activities based on the locality's preexisting floodplain management practices. Iowa paid for the toolkit with a HUD grant, and makes it available on DNR's NFIP website.

Notable CRS Elements: Partnerships, Use of Technology, Cohesive State CRS, Funding

Partnership Highlights

- **Driving Factor:** Massive floods from summer storms hit Iowa in 2008. That summer was one of the most destructive in state history, resulting in over $2 billion in damages. This lead the Department of Natural Resources to create a guide for floodplain management.
- Iowa orchestrated a partnership between the state, a nonprofit, and a private contractor to create the Iowa's Department of Natural Resources Floodplain toolkit.
    - Iowa's DNR first partnered with the Iowa Stormwater and Floodplain Management Association (IFSMA), a nonprofit organization representing the interests of flood hazard specialists in local and state government, consulting, researchers, insurance agencies, and Iowa residents.
    - DNR & IFSMA next contracted Dewberry Consultants, a private consulting company, to create the comprehensive toolkit for floodplain administrators.

Use of Technology Highlights: Iowa's DNR CRS Toolkit

- The CRS in Iowa is coordinated by the DNR working with communities to develop and administer their local floodplain management programs and coordinate the NFIP. DNR

created the toolkit to provide information about the NFIP and local responsibilities under the program and contains a comprehensive CRS section.

- Iowa Department of Natural Resources partnered with Iowa Stormwater and Floodplain Management Association (IFSMA), and contracted Dewberry Consultants to create a comprehensive toolkit for floodplain administrators. The toolkit contains:
    - ***Iowa Floodplain Management Desk Reference***—a 400+ page PDF providing information and resources localities can use to effectively administer a floodplain management program
    - ***Community Rating System Toolkit***—a set of fill-in documents that can help Iowa communities identify which activities may be the best fit for the community based on resources available and the floodplain management practices already in effect.
    - ***Iowa Flood Response***—a document that helps communities prepare and respond to flood emergencies, along with templates, references, and links to more information. It is a quick reference tool outlines necessary action before, during, and after a flood.
    - ***Training Session for Delegated Communities***—a training session for communities that have been delegated some of the state's floodplain permitting authority. The session provides information on floodplain administration in delegated communities.

- The CRS Toolkit helps Iowa's flood prone communities determine if the CRS program is a good fit, and identifies which activities might be best based on community resources, effort level, and preexisting floodplain management practices. The document automatically includes point values for things every community does to comply with state regulations. The toolkit comprises:

    - **Part 1: A Guide for Joining and Maintaining Participation** provides general information on CRS (Microsoft Word document).
        - This 9 page guide explains:
            - the basics of the CRS program
            - how to use the toolkit
            - the benefits of joining CRS
            - what makes a community a good fit for the program
            - the prerequisites required to join CRS
            - how to submit a CRS application
            - the requirements once accepted into the CRS program

    - **Part 2: Iowa CRS Toolkit Workbook** helps identify appropriate CRS activities and estimate how many points a locality is likely to earn (Microsoft Excel spreadsheet).

        - The worksheet has a tab for each of the 4 CRS activity categories (300, 400, 500, & 600) with:
            - a description of each creditable activity
            - documentation required for each activity to get credit
            - estimated level of effort required for each activity
            - links for additional resources to help with implementing
            - helpful tips when considering or implementing each activity
            - maximum number of credit points for each activity
            - a calculation of potential CRS class rating based on the activities identified

    - **Templates and Documents:** (Microsoft Excel & Word documents.)
        - Over 13 different fill in documents and templates to help localities with CRS activities.

Cohesive State CRS Highlights: Toolkit Implementation

- In Iowa, DNR coordinates of the NFIP and CRS program and:
    - provides communities with the legal authority required to adopt and enforce floodplain management programs and regulations.
    - sets minimum state regulatory requirements.
    - provides technical assistance to localities.
    - coordinates various State agencies' NFIP activities.
        - For example, DNR assists FEMA and the Iowa Emergency Management Division respond to flood disasters.
    - provides its CRS Toolkit.
        - DNR even provides assistance with the toolkit if needed.
- Most localities in Iowa join the CRS program because they want to receive CRS credit and discounts for floodplain management they are already engaged in.

- Iowa enacted Legislative Code 455B.262A in 2009
    - The legislation requires all communities with special flood hazard areas identified by FEMA to participate in the NFIP in order to qualify for post-disaster state assistance.
        - This makes FEMA's public assistance grants available to local governments after a presidentially declared disaster, which provides 75% of the costs of post-disaster projects on average.
        - Iowa on average contributes 10% towards the 25% non-federal match for public assistance grants.

- Enacted July 1, 2011 the state of Iowa will make the non-federal match for these public assistance grants contingent on the community's good standing with the NFIP.

Funding Highlights

- The federal government funded state projects after the 2008 floods.
  - **HUD grant:** Iowa funded the creation of the tool kit using a HUD grant.
    - The state was given the grant to create the tool kit and educational videos.
  - **The full toolkit cost about $27,000 to produce.**

Local Contacts

- Ken Bouma, Local Floodplains Program
  - Phone: 515-725-8352
  - Email: Ken.Bouma@dnr.iowa.gov
- Jason Conn, Local Floodplains Program
- Phone: 515-725-8333
- Jason.Conn@dnr.iowa.gov

Related Material

- Consider the entire comprehensive state toolkit for local floodplain administrators.

CASE STUDY: MILES CITY, MONTANA

Miles City, Montana sits at confluence of two large rivers, so it has a lot of experience with flooding. Things came to a head when FEMA changed its flood maps to include 70% of the city inside the floodplain (that number has since risen to over 80%). As a result, Miles City has more flood insurance policies than anywhere else in Montana. Suddenly, a lot of homeowners needed to buy flood insurance, and rumors about requirements under the NFIP abounded. In response to this misinformation, and to save its constituents money, Miles City created its Program for Public Information (PPI). At a low cost to the city, this program effectively disseminates important information to homeowners and professionals in the community through existing communication networks.

Notable CRS Elements: Outreach, Partnerships

Outreach Highlights

- ***The PPI communicates information to the public through local professionals.***
    - Most of the members of the PPI are local professionals who interact with the public on a daily basis, often providing advice about the NFIP. Residents often contact these professionals first about complying with the law, so providing professionals with all the important information about flooding, the NFIP, and CRS disseminates information to public through trustworthy channels.
    - The PPI provides multiple kinds of information. It primarily distributes information about flood insurance (such as who must purchase it under the NFIP), building codes under the NFIP regulations (such as which areas have heightened freeboard requirements).

- ***The PPI counters misinformation.***
    - Miles City first realized that people were spreading misinformation when local real estate agents brought the issue to the city's attention. People did not understand how the new NFIP flood maps influenced the building code and who needed to buy insurance.
    - Many people worried about non-existent rules regarding where and how they could build. Some people who did not need to buy insurance under the NFIP thought that they had to, while others who were required did not know it.
    - The city understood that many constituents would not view its website or any other city-sourced information about the real requirements of the NFIP, so it formed the PPI, which filtered information from the city through the professional class of insurance agents, real estate agents, lawyers, and others in frequent contact with members of the public.

- Members of the PPI provide resilience leadership in the community.
    - The PPI group occasionally does more than just providing information through its network of professionals. It also organizes events that promote flood preparedness in the community.
    - The city created a “flood awareness day.” This year, the event brought in presenters from the National Weather Service, Custer County Disaster and Emergency Services, the Montana Department of Natural Resources and Conservation, National Flood Services, and the Army Corps of Engineers, among others. The presenters spoke about topics ranging from Miles City’s vulnerability to flooding, to compliance with the NFIP, to how the CRS helps the city.

- ***Residents can easily provide feedback through preexisting communication networks.***
    - The PPI has received favorable and constructive feedback from the public. One of the benefits of the approach of the PPI is that makes use of bi-directional lines of communication. Not only can the city inform the public by way of professionals in the community, the community can also relate its compliments and critiques of the PPI and its efforts to the city. This keeps public servants, and the members of the PPI, more in touch with members of the public.

Partnership Highlights

- The PPI pulls together important stakeholders and leaders from the community.
    - A group of city officials, local professionals, and other interested citizens guides the PPI. The rules of the PPI require at least two lenders, two insurance agents, and two real estate agents to serve on the PPI. In addition, the rules require that the majority of members, as well as the chair of the PPI, not come from city government, though the public works director and the floodplain manager each participate.
    - This organization guarantees that leaders from each of the most important stakeholder groups (lenders, insurance agents, and real estate agents) participate in the PPI, ensuring that information can branch out from the members and into the community.
    - Miles City has found that people are eager to help out, and the community has never had a problem finding interested people to fill the required positions. Other members of the public are also welcome and even encouraged to serve on the PPI, so its membership is not limited to the required positions.

- ***The PPI formed easily and organically, with almost no work from Miles City.***
    - Local real estate agents first approached Miles City about pervasive misinformation about the NFIP, so when the city government proposed the formation of a PPI, it already had buy-in from local professionals. Once the city set the ball in motion, this group of interested professionals largely took over the structuring, scheduling, organization, and activity of the group.

Local Contacts

- Samantha Malenovsky: Floodplain Manager for Miles City, Montana
    - Phone: 406-874-8617
    - Email: smalenovsky@milescity-mt.org
- Danette Cremer: PPI Chair
    - Phone: 406-234-0280
    - Email: dannette@wamitchellagency.com

CASE STUDY: MONMOUTH, NEW JERSEY

Flooding has become an increasing problem in Monmouth County, New Jersey. The historic area comprises fifty-three municipalities with a lot of coastline. Flooding during storms has more of an impact than it used to, but the coastal communities also experience regular nuisance flooding during high tides on the full moon. All of this means that many residents of Monmouth purchase flood insurance pursuant to the NFIP. This, in combination with the havoc wreaked in the area by Hurricane Sandy, drove local governments to consider the CRS, and eventually led to the development of the CRS Assistance Program (CAP), through which the County government provides support to municipalities implementing the CRS.

Notable CRS Elements: Organizational structure, Partnerships

Organization Structure Highlights

- The CAP establishes ***clear roles for county government, smaller municipalities, and private contractors***.
    - The county government prioritizes educating municipalities about the CRS. Through the CAP, the county provides information about the CRS and dispels misconceptions about it.
    - The county government will not help municipalities with every step of implementing the CRS. Instead, it offers help with specific parts of the process that many communities, especially smaller ones with fewer resources, are less likely to handle by themselves. The county will help with things like hazard mitigation planning, advanced data analysis, and GIS mapping. It focuses on research and expects municipalities to perform the administrative work.
    - The county also requires that municipalities request for help directly, and not through private contractors. This ensures that when the county provides assistance, its work product cannot be claimed by an intermediary.
    - Since the beginning of CAP five years ago, six more localities have joined the CRS, 3 communities have improved their rankings, and four more are in process of getting into program. These localities hope to start receiving discounts in 2018.

- Post-Sandy, the county government decided to focus on inter-departmental communication.
    - **Driving Factor:** Hurricane Sandy had serious long-term impacts on Monmouth, among them an increase in flood insurance rates. In the aftermath of Sandy, thanks to the influence of a few particularly-dedicated public servants, members

of Monmouth's county government banded together to build resilience in the community.

- Through capacity building, internal discussions, and a sensitivity to people's personalities, the different departments of the county government decided to create CAP. Within these discussions, it developed a mutual understanding of the county's commitment to the CRS, its reasons for that commitment, and the expectations of each department. Key to developing this arrangement was the idea that the county needed to change its approach to flooding, and that some people within the government would need to accept more accountability than they had before.

Partnerships Highlights

- Monmouth municipalities coordinate with other New Jersey communities through a CRS users group.
  - County staff attend meetings of its CRS users group. Its group is open to anyone who wants to come, and some communities from outside the county often do. These meetings serve as a way of disseminating information about the CRS, and sharing best practices and success stories with neighbors.

- Monmouth also participates in the NFIP's High Water Mark Initiative (HWM).
  - HWM increases local communities' awareness of flood risk and encourage risk mitigation actions. Monmouth participates in the program in coordination with New Jersey Sea Grant, Monmouth University's Urban Coast Institute, and FEMA. As part of the program, Monmouth works with local schools to include HWM in curricula.

Local Contacts

- Margaret Murnane Brooks, Deputy Coordinator, Monmouth County Sheriff's Office
  - Phone: 732-431-7400 x1802
  - Email: MMurnane@mcsonj.org

- Joe Barris, Assistant Director, Monmouth County Division of Planning
  - Phone: 732-431-7460 x 8544
  - Email: joe.barris@co.monmouth.nj.us

CASE STUDY: MISSISSIPPI & ALABAMA SEA GRANT PPI IN BILOXI, MS

Post Hurricane Katrina, the coastal communities in Mississippi have become very active with CRS and flooding resilience activities. In particular, these communities became interested in expanding beyond the User Group CRS format of the past and starting a multi-jurisdictional PPI and asked the Mississippi-Alabama Sea Grant to become involved because of previous positive relationships that existed. Soon, the overwhelmingness of organizing a multi-jurisdictional PPI hit the group, and MS-AL Sea Grant decided to continue on with a PPI for just Biloxi, MS. With an EPA Gulf of Mexico grant (which has since sunsetted), Sea Grant and BIloxi were able to work together to create a PPI with very limited other examples around the nation to work from. Meetings of the PPI have commenced and Biloxi is waiting on City Council approval before the city can count the PPI points towards their CRS ranking.

Notable CRS Element: Partnerships, Funding

Partnership Highlights

- With CRS, sometimes it's best to think and start small.
    - Originally, coastal Mississippi communities wanted to join in a PPI together. Once they started examining this process, however, they realized they would need to get multiple approvals from multiple city councils and determining who the best stakeholders were would be extremely difficult. By choosing to focus on one community, Sea Grant and Biloxi were able to best utilize their partnership and rely on each other.
    - When looking to start the PPI, because there were no examples to reference, Sea Grant brought in the ISO contractor for the region to give a one-day seminar on how to form a PPI. Many folks throughout the whole Gulf Coast attended and were able to work on organizing a PPI together throughout the day including how the multipliers work, the overall points, etc. Sea Grant mentioned that this was extremely helpful to do at the onset for the Biloxi PPI, but they were also proud to be able to provide the information to a very broad community, bringing these resources in for a larger group.
- PPI's work in well-organized communities.
    - Biloxi was chosen after the multi-jurisdictional option was shelved because they have more resources than other communities, had two dedicated CRS staff members that Sea Grant could work with and they had information prepared and ready to go. The PPI was important to Biloxi for maintaining their class rating so they had incentive to work hard for it.

    - Involving Sea Grant worked well because they already had relationships with communities.
- However, even in well-organized communities, there are difficulties with communicating the importance of CRS outside of “departmental silos”.
    - In Alabama and Mississippi there is a lack of state level coordination and support so there isn’t a lot of knowledge that exists about CRS and it isn’t sustained. Having state level support would help sustain that institutional knowledge.
    - Even though Biloxi has a well organized CRS, wide-knowledge about CRS is limited in other departments and with local politicians. Because of this in Biloxi, the Sea Grant team held an informational session for the City Council (who have to approve the PPI) about half-way through the development of the PPI. Doing the informational session during a normal City Council meeting was the only option here and something that held up the process for a while, as a note. There isn’t anything in the CRS Handbook about these informational meetings, but Sea Grant highly recommends talking to the City Council before you go to them to ask them to vote on the PPI because of the lack of knowledge.
- PPI’s take a lot of paperwork so it’s best to be organized early.
    - Some of the most time consuming work at early committee meeting was inventorying the outreach, activities that were already being done because PPI requires you track this information.
    - Although this work was time consuming, it helped committee members from different sectors learn from each other and start talking about what others are doing and how they can work together.
    - When doing this inventory, there was a big fear of leaving some activity/pamphlet/outreach material out. But when establishing a PPI, don’t kill yourself thinking that you’re missing something. Part of the PPI is that it’s reviewed every year so you have the opportunity to go back and check. In Biloxi at a certain point, “people were overwhelmed” by counting everything, but at a certain point they had to stop and move forward.
- Although it’s great to learn from examples, PPI’s aren’t supposed to be cookie cutter.
    - Biloxi had the advantage/disadvantage of not having examples to follow so they were able to forge their own path. However, now that PPI’s are more common, there is the threat of copying and pasting another communities PPI structure. CRS guidelines are looking for PPI’s that are tailored to the community and targeted. So while examples are helpful, don’t follow them too closely.
    - Biloxi’s PPI development was done with the goal of being a model for other communities.

Funding Highlights

- Initial funding is important to seed a project, but some, like PPI's, can be maintained with relatively low cost.
    - The EPA Grant has sunsetted but the funds from the grant were mainly used to support staff time. Even through the grant is done, the website is still running, the PPI and outreach has already been put in motion and the people from Sea Grant "aren't going to walk away" just because the funding is gone. The PPI, once started, doesn't require much funding and provides the opportunity for a lot of points for communities.
        - Biloxi has two full-time staff members funded for CRS.

Local Contacts

- Niki Pace - now Sustainability Coordinator at Louisiana Sea Grant
    - Phone - 225-578-6342
    - Email - nlpace@lsu.edu
- Stephen Deal - Extension Specialist (Land Use Planning) for Mississippi-Alabama Sea Grant
    - Phone - 228-435-9527
    - Email - scdeal@olemiss.edu

CASE STUDY: OCEAN CITY, MARYLAND

Beach erosion threats led the community of Ocean City to focus on beach replenishment in the early 1990's. Private ownership of most of the coastal land hindered replenishment efforts, and the local government lacked the funds to purchase the land outright, so the city began a Transfers of Development Rights (TDR) Program to direct growth away from the beaches and into areas the downtown. The city amended its zoning ordinance code to create "sending" and "receiving" areas to which the development rights could be transferred. Once the community began participating in the CRS program, it realized that the open space created by the TDR program could earn it points. The open spaces, plus a supportive community and continued projects, have led to Ocean City ascending to a Class 6 community.

Notable CRS Element: Partnerships, Funding

Partnership Highlights

- **Driving Factor:** A strong private sector interest drove the TDR Program in Ocean City.
  - Ocean City's economy relies on tourism, and thus private developers abound. The city hardly needed to advertise its program for it to succeed.
  - Program was set up to give development incentives. Projects in the TDR Receiving Zone were allowed to increase their permitted density by up to 25%.

- ***The city got credit under the CRS for TDRs it had already facilitated.***
  - The city established its TDR program without CRS points in mind. After implementation, the city realized that the program preserved open space in a way that complied with FEMA's CRS 420 series of activities.

- The city government supports the CRS, but could do more to enhance its standing.
  - While the city sees CRS as a public service for the community with tangible benefits, it does not employ anyone to work on CRS full-time. The current coordinator feels that if the City wants to improve its class rating, it will need to hire someone specifically for that purpose to handle all the paperwork.

Funding Highlights

- ***Ocean City did not have to put any funds into its TDR Program.***
  - The private interest in lots within Ocean City drive the prices of development rights in Ocean City's program. This sort of program could be implemented in

areas without such strong private interests with some kind of cost-sharing arrangement, with a locality or state helping supplement the lot costs.
    - Lots in Ocean City often go for as much as $50,000 each because of the strength of the commercial real estate market in Ocean City.

Local Contacts

- Bill Neville - Director of Planning and Community Development of Ocean City, MD
    - Phone: 410-289-8942
    - Email: bneville@oceancitymd.gov

Related Materials - see below

- Article on TDR
- 2017 FEMA CRS Report for Ocean City, MD
- Press Release on obtaining Class 6 rating
- Area amended in zoning code for TDR

Mountains and Shores

APA Newsletter of the Resort and Tourism Division of the American Planning Association • Spring 1990

Transfer of Development Rights Directs Growth, Acquires Easements

Ocean City, Maryland *Really* Uses TDRs

by Jesse C. Houston

Ocean City, Maryland is a resort with a tourist economy that depends on the ocean and beach. Like nearly all coastlines, Ocean City is threatened by beach erosion. After analyzing many alternatives, and in an unprecedented show of cooperation, the town, Worcester County, the State of Maryland, and the federal government agreed that the best solution to the beach erosion problem was a Beach Replenishment Project funded by all four levels of government.

This project was to involve pumping 6.2 million cubic yards of sand from off-shore sandbars back onto the beach. The two-phase project was to cost $72 million, with the town pledging additional funding for maintenance in the future.

Major problem was overcoming private property ownership

As the planning for the project evolved, a major problem arose. Much of the beach is still privately owned, and for this public project to take place on private property, easements were required from the property owners. Because of a development restriction peculiar to a limited number of properties, it became evident that it would be impossible to obtain easements from those owners. The solution became obvious — the

(continued on page 7)

Top Ranked Ski Area Featured in LIFE Magazine

Aspen Planning Scene is Surreal

Aspen, Colorado, touted by many as the premier ski town in America, was featured in the December 1989 issue of LIFE Magazine. Much of the article focuses on the "lavish" lifestyles of those who can afford to visit the resort. Examples include "ho hum" chalets going for $1 million and condos renting for $2,000 a night. The article notes that a plate of onion rings can run you $8. A few other highlights:

- Year-round locals travel to the "less expensive" towns of Basalt and Glenwood Springs to buy their cereal, gas, and long johns.
- To help with the worker housing shortage, the town has gone into the housing business, with 230 locals standing in line for one of 46 housing units.
- Woodburning fireplaces are not allowed in new homes, a measure to protect local air quality.
- Local residents filed lawsuits to stop a Saudi developer from putting a 292 room hotel in the center of town. Donald Trump is competing for the same six-acre site.

M & S

Ocean City TDRs

(continued from page 1)

public needed to gain ownership of those properties. However, the cost of acquiring 147,000 square feet of ocean-front land was more than the local governments could afford, so alternative concepts were considered.

TDR's offer a solution

The Transfer of Development Rights (TDR) process became the answer to the problem. TDR is a growth management tool that can be used to direct growth away from undesirable areas and into areas that are more appropriate. In Ocean City's case, the lots in question were east of a building restriction line that had been set jointly by the town and the State in 1975.

Since development on these lots was not a viable option for the property owners, we saw the TDR concept as a way to provide them with substantial value in the form of development rights that could be marketed. In exchange for the development rights, the ownership of these lots was deeded to the State of Maryland, thereby eliminating the need for the easements.

How the TDR program works

We established the TDR program through our zoning code. Overlay zones were created to identify the "sending areas" (the lots that would be allocated development rights from the town) and "receiving areas," which would be areas to which the development rights could be transferred.

The program was set up to operate as follows. Each property in the "TDR Sending Zone" was allocated a number of development rights determined by the highest density permitted by the zoning code. Specifically, one development right was allocated for each 500 square feet of land. This resulted in ten owners of 147,000 square feet of land receiving 294 development rights. These development rights are essentially a property right which can be bought and sold on the market.

Density bonuses are a key

To make the program successful, a market had to be created for the transferring of development rights. Our solution was to permit development projects in the "TDR Receiving Zone" to increase their permitted density by up to 25 percent. In an attractive market such as Ocean City, this was an incentive that we believed would give substantial value to the development rights.

Comprehensive Plan was used to identify receiving areas

However, we recognized that there is a danger in permitting higher than normal density in a given area, so the receiving areas had to be identified carefully. We turned to our Comprehensive Plan and designated the locations appropriate for high density development as the receiving areas. The receiving zone is large enough so as not to risk concentrating the extra density in too confined an area. The receiving areas are also protected by requiring projects that use development rights to increase density to meet all other development standards, such as off-street parking, setbacks, and landscaping.

The TDR program is already working

The TDR program was a success in that all of the targeted property owners elected to participate. Each eligible property has been deeded to the State, enabling the Beach Replenishment Project to proceed as well as ensuring that those properties will forever be in the public domain. Approval has been granted to the first project to take advantage of the TDR program by using sixty development rights to increase permitted density by thirty units.

It may work in other communities, too

Ocean City's successful experience with the TDR concept has proven to us that it can be a valuable growth management tool. While ours was a small-scale application, the potential for directing growth into desirable locations is obvious. For resort communities, many of which are facing extreme growth pressures and threats to environmentally sensitive areas, it appears to be a management tool that can achieve desired results while providing just compensation to property owners. In these days of uncertainty over the takings issue, that makes TDR worth considering.

(Jesse Houston is Director of Planning and Community Development for the Town of Ocean City, Maryland.)

M&S

Japanese Interests in U.S. Ski Resorts Drive Up Real Estate Prices

The *Summit Daily News* reports increasing interest by the Japanese in resort real estate. The Denver newspaper reported that during the 18-month period ending November 1989, Japanese corporations bought three ski resorts in the United States at prices previously unheard of. Ski resort prices, normally figured on the basis of $40 to $50 of value per skier visit, jumped by a factor of two to four times in the Japanese purchases:

- Steamboat in Colorado was purchased by Kenion Kanko of Sapporo, Japan for an estimated $102 per skier-visit.
- Stratton Mountain in Vermont went to the Victoria Company of Tokyo for a reported $200 per skier-visit.
- Breckenridge in Colorado, previously valued at about $30 million, was sold to Victoria for $64 to $70 million.

M&S

U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472

FEMA

April 1, 2017

The Honorable Richard W. Meehan, Mayor
Town of Ocean City
301 North Baltimore Avenue
Ocean City, MD 21842

Dear Mayor Meehan:

Congratulations! The Department of Homeland Security, Federal Emergency Management Agency (FEMA), has determined that the Town of Ocean City will increase to a Class 6 in the National Flood Insurance Program (NFIP) Community Rating System (CRS). The floodplain management activities implemented by your community qualifies it for a 20 percent discount in the premium cost of flood insurance for NFIP policies issued or renewed in Special Flood Hazard Areas on or after May 1, 2017. This increase is based on a field verification of your five-year cycle CRS application.

Please note Preferred Risk Policies, applicable in Zones B, C, and X, on your community's NFIP Flood Insurance Rate Map are not eligible for the CRS discount. Standard rated flood insurance policies in Zones B, C, X, D, AR, and A99 are limited to a CRS discount of ten percent in Class 1-6 communities and five percent in Class 7-9 communities. The rates for these zones already reflect significant premium reductions.

If there are no NFIP noncompliance actions, the CRS rating for your community will automatically be renewed annually and a notification letter will not be sent to your community. This renewal will occur as long as your community continues to implement the CRS activities you certify each October. If no additional modifications or new CRS activities are added, the next verification visit for your community will be in accordance with its established five-year cycle. In the interim, FEMA will periodically send the *NFIP/CRS Update* Newsletter and other notices to your CRS Coordinator to keep your community informed.

I commend you on your community actions and your determination to lead your community to be more disaster resistant. This commitment enhances public safety, property protection, and protects the natural functions of floodplains, and reduces flood insurance premiums.

If you have any questions or need additional information, please contact the FEMA Region III Office, CRS Coordinator, Rich Sobota, by telephone at (215) 931-5514.

Sincerely,

William H Lesser

Enclosure

cc: William Neville, CRS Coordinator

NFIP/CRS

COMMUNITY RATING SYSTEM

VERIFICATION REPORT

Town of Ocean City, MD **Verified Class 6**

NFIP Number: 245207 Cycle

Date of Verification Visit: January 28, 2016

This Verification Report is provided to explain the recommendations of Insurance Services Office, Inc. (ISO) to DHS/FEMA concerning credits under the Community Rating System (CRS) for the above named community.

A total of 2080 credit points are verified which results in a recommendation that the community improve from a CRS Class 7 to a CRS Class 6. The community has met the Class 6 prerequisite with a Building Code Effectiveness Grading Schedule (BCEGS) Classification of 3/3. The following is a summary of our findings with the total CRS credit points for each activity listed in parenthesis:

Activity 310 – Elevation Certificates: The Planning and Community Development Department maintains elevation certificates for new and substantially improved buildings. Copies of elevation certificates are made available upon request. (33 points)

Activity 320 – Map Information Service: Credit is provided for furnishing inquirers with basic flood zone information from the community's latest Flood Insurance Rate Map (FIRM). Credit is also provided for the community furnishing additional FIRM information, flood depth data, and historical flood information. The service is publicized annually and records are maintained. (90 points)

Activity 330 – Outreach Projects: Credit is provided for informational outreach projects that include brochures at public buildings, general outreach projects that include a calendar mailed to residents, community meetings and events, and signs warning of the flood hazard, and targeted outreach projects that includes an outreach to the repetitive loss area. These projects are disseminated annually. (137 points)

Activity 350 – Flood Protection Information: Documents relating to floodplain management are available in the reference section of the Lower Shore Library. Credit is also provided for floodplain information displayed on the community's website. (37 points)

Activity 420 – Open Space Preservation: Credit is provided for preserving approximately 48 percent of the Special Flood Hazard Area (SFHA) as open space, protecting open space land with deed restrictions, and preserving open space land in a natural state. (737 points)

Activity 430 – Higher Regulatory Standards: Credit is provided for enforcing regulations that require development limitations, freeboard for new and substantial improvement construction, cumulative substantial improvement, enclosure limits, and local drainage protection. Credit is also provided for the enforcement of building codes, a BCEGS Classification of 3/3, and regulations administration. (551 points)

Activity 440 – Flood Data Maintenance: Credit is provided for maintaining and using digitized maps in the day to day management of the floodplain. Credit is also provided for establishing and maintaining a system of benchmarks and maintaining copies of all previous FIRMs and Flood Insurance Study Reports. (193 points)

Activity 450 – Stormwater Management: The community enforces regulations for stormwater management, soil and erosion control, and water quality. (142 points)

Section 502 – Repetitive Loss Category: Based on the updates made to the NFIP Report of Repetitive Losses as of April 30, 2015, the Town of Ocean City, MD has 37 repetitive loss properties and is a Category C community for CRS purposes. The community is required to submit either a Repetitive Loss Area Analysis or Floodplain Management Plan. (No credit points are applicable to this section)

Activity 510 – Floodplain Management Planning: Credit is provided for the adoption and implementation of the Ocean City All Hazard Mitigation Plan, adopted July 16, 2012. A progress report must be submitted on an annual basis. An update to the credited plan will be due by October 1, 2017. (140 points)

Activity 540 – Drainage System Maintenance: A portion of the community's drainage system is inspected regularly throughout the year and maintenance is performed as needed. (20 points)

Activity 710 – County Growth Adjustment: All credit in the 400 series is multiplied by the growth rate of the county to account for growth pressures. The growth rate for Worcester County is 1.00.

Attached is the Community Calculations Worksheet that lists the verified credit points for the Community Rating System.

CEO Name / Address:

The Honorable Richard W. Meehan
Mayor of Ocean City / Acting City Manager
301 North Baltimore Avenue
Ocean City, Maryland 21842

CRS Coordinator Name / Address:

William W. Neville
Director of Planning/Community Development
301 North Baltimore Avenue
Ocean City, Maryland 21842
(410) 289-8942

Date Report Prepared: August 29, 2016

Community : Town of Ocean City, MD **NFIP Number :** 245207

720 COMMUNITY CREDIT CALCULATIONS (Cycle):

CALCULATION SECTION :

Verified Activity Calculations:					Credit
c310	33				33
c320	90				90
c330	137				137
c340					
c350	37				37
c360					
c370					
c410		x CGA		=	
c420	737	x CGA	1.00	=	737
c430	551	x CGA	1.00	=	551
c440	193	x CGA	1.00	=	193
c450	142	x CGA	1.00	=	142
c510	140				140
c520					
c530					
c540	20				20
c610					
c620					
c630					

Community Classification Calculation:

cT = total of above cT = 2080

Community Classification (from Table 110-1): Class = 6

CEO Name/Address:

The Honorable Richard W. Meehan
Mayor of Ocean City / Acting City Manager
301 North Baltimore Avenue
Ocean City, Maryland 21842

CRS Coordinator Name/Address:

William W. Neville
Director of Planning/Community Development
301 North Baltimore Avenue
Ocean City, Maryland 21842
(410) 289-8942

Date Report Prepared: August 29, 2016

News Release

June 6, 2017
Contact: William Powell
Phone: (215) 931-5597
FEMAR3NewsDesk@fema.dhs.gov

OCEAN CITY LOWERS FLOOD INSURANCE PREMIUMS

Town Protects Residents, Receives Plaque

PHILADELPHIA – Residents of Ocean City, Maryland have received a reduction in their flood insurance premiums through increase of various floodplain management measures encouraged by the National Flood Insurance Program (NFIP).

The Federal Emergency Management Agency (FEMA) oversees the NFIP, which administers a program called the Community Rating System (CRS). The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed minimum NFIP requirements. The program includes 10 different class rating levels based on the number and type of activities voluntarily initiated by the participating community. Each level corresponds to a percentage discount on National Flood Insurance policy premiums within the municipality.

As a member of the Community Rating System, Ocean City is within an elite group of 15 Maryland communities that have received this recognition. With the continued steps taken by Ocean City to protect its citizens and increase its resiliency, it has moved from a Class 7 to a Class 6 Community Rating System participant. The Class 6 rating qualifies eligible National Flood Insurance Program policy holders in the City for an average of over $50 in savings on their annual premiums. In total, the upgrade in class rating level accounts for a total savings of over $1.5 million annually for citizens of Ocean City; an increase of $425,000 from Class 7.

Under the CRS, local officials are asked to meet three goals: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance. Communities can earn a CRS rating by submitting an application explaining the projects they have in place or development. Once the information is verified and approved, FEMA provides flood insurance premium discounts through the NFIP. The amount of a property owner's policy discount is based on the community's CRS rating.

For each Class that a community moves up to, it provides its residents with an additional 5% reduction in their flood insurance premiums up to the 45% reduction that a Class 1 community

receives. As a Class 6 community, Ocean City enables its residents to receive a 20% reduction on their flood insurance premiums.

For information about flood insurance, property owners should contact their insurance agent, visit floodsmart.gov, or call the NFIP's toll-free information line at 800-427-4661. To learn more about the CRS, visit https://www.fema.gov/national-flood-insurance-program-community-rating-system.

DIVISION 18. - BT-R AND BT-S BEACH TRANSFER OVERLAY DISTRICTS[16]

Footnotes:

--- **(16)** ---

Cross reference— Waterways, ch. 106.

Sec. 110-741. - Purpose.

The ocean beach is recognized as an economic, recreational and ecological asset to the state. In order to rebuild, maintain and protect the beach, which has eroded to the point that its ability to dissipate ocean storms and protect inland developed areas has diminished greatly, the State of Maryland has authorized the Ocean City beach replenishment project. The purpose of the transfer of development rights (TDR) program created by this division is to assist in the implementation of the beach replenishment project and the oceanfront building limit line restrictions and to protect the health, safety and welfare of residents, property owners and visitors of Ocean City by permitting the transfer of development rights in exchange for the granting of easements or property ownership from eligible property owners to Ocean City or the State of Maryland. This process is necessary and appropriate for the following reasons:

(1) The lots affected are oceanfront lots east of the building limit line.

(2) Construction on the beach destroys or weakens the protective dune system and leads to increased beach erosion.

(3) It is in the public interest to restrict construction on the beach.

(4) It is in the public interest for government to protect Ocean City by replenishing the beach and constructing a new dune system using sand pumping techniques.

(5) Government will not undertake beach replenishment or dune construction on private property without first receiving a property interest from the property owners.

(6) Oceanfront property owners who utilize the TDR program will increase the amount and value of improved property which is vulnerable to damage or destruction from storms.

(7) By granting easements or transferring ownership of property to the public, the owners of oceanfront property ensure that government can undertake beach replenishment and dune construction activities which will protect their improved property.

(Ord. No. 1993-1, § 105-20.1, 1-19-1993)

Sec. 110-742. - Designation of districts.

For the purpose of implementing the TDR program, the following two overlay districts are created:

(1) *Beach transfer sending (BT-S) district.* This overlay district is designated on the zoning map as "BT-S." The BT-S district includes lands east of the oceanfront building limit line which, due to restrictions imposed by the building limit line (chapter 106, article IV of the Code of the Town of Ocean City) and the BR beach reserve district of this chapter, have been and are restricted from most development.

(2) *Beach transfer receiving (BT-R) district.* This overlay district is designated on the zoning map as "BT-R." The BT-R district includes lands generally east of Coastal Highway and Philadelphia

Avenue which are identified in the comprehensive plan as suitable for relatively high-density residential development.

(Ord. No. 1993-1, § 105-20.2, 1-19-1993)

Sec. 110-743. - Compliance with other regulations.

(a) Lands in the BT-S overlay district may be used only in accordance with chapter 106, article IV (building limit line, oceanfront) of the Town of Ocean City Code.

(b) Lands in the BT-R overlay district may be used in accordance with the regulations of the underlying district with additional regulations described in section 110-744 hereof.

(Ord. No. 1993-1, § 105-20.3, 1-19-1993)

Sec. 110-744. - Transfer of development rights.

A program permitting the transfer of development rights (TDR) is created by this division. This TDR program is intended to encourage development to occur in areas deemed suitable by the comprehensive plan for Ocean City and this chapter and to discourage development in the environmentally sensitive BT-S overlay district.

(1) *Sending area.* The sending area for the TDR program is the BT-S overlay district. The number of development rights assigned to a sending parcel shall be one development right for each 500 square feet of land area, rounded to the lower increment of 500.

(2) *Receiving areas.* The receiving area is the BT-R overlay district. When utilizing development rights transferred from a sending area, a residential, hotel or motel project in a receiving area may exceed the number of units permitted by district bulk regulations on the date of application for site plan approval by 25 percent. One development right shall be required for each excess hotel or motel unit, and two development rights shall be required for each excess multiple-family unit, regardless of lot area requirements at the time of construction. A project using development rights to exceed base density shall not be considered to be nonconforming with respect to density, and excess units which are constructed using development rights shall not be counted when determining nonconformity after enactment of this division.

(3) *Registration period.* Owners of property in the BT-S overlay district who wish to participate in the TDR program must register with the Department of Planning and Community Development and be assigned their development rights on or before July 1, 1994. In order to attain the property protection afforded by beach replenishment and dune construction, at the time of registration, these properties must transfer ownership of the property to Ocean City or the State of Maryland. The registration period does not place any time restrictions on the transferring of development rights or their future use in development projects.

(4) *Procedures for transfer of development rights.*

a. An owner of land in the BT-S overlay zone who registered for the program during the registration period has been assigned the appropriate number of development rights in accordance with the formula set forth in subsection (1) hereof. A serial number has been assigned to each development right. These are recorded in the land records of Worcester County with proof of recordation provided to the Department of Planning and Community Development.

b. A TDR transfer form must be completed by the owner of development rights when they are transferred. This form must be signed by both parties in the transaction, and also by the Zoning Administrator, Mayor and president of the City Council, and recorded in the land records with proof of recordation provided to the department.

c. A TDR receipt form must be completed by the purchaser of development rights, with a copy to be provided to the department.

d. When development rights are proposed to be used in a residential, hotel or motel project, the site plan for said project must indicate the use of these development rights, including their serial numbers. All plats which are recorded in the land records for projects using development rights must include their serial numbers. A copy of said plats must be provided to the department with proof of recordation.

e. When development rights are used in a project, the units constructed using development rights are considered to be the last units built for the purposes of applying single lot density regulations.

f. After development rights are used in a project, they become part of said project in perpetuity. They can never again be transferred to another property. In the event the application of section 110-74 regarding the rebuilding of destroyed nonconforming uses, the development rights used in a development project are to be considered no differently than any other units in the project.

g. A development project that utilized the TDR program and is able to increase its base density is subject to all other development requirements, including but not limited to height, parking, setbacks and landscaping. This does not, however, preclude requests for available variances and special exceptions.

h. Future changes in lot area requirements shall not affect the number of development rights assigned to a sending parcel at the time of registration as specified in subsection (1) hereof.

i. Administration of the TDR program is the responsibility of the Department of Planning and Community Development with assistance from the City Solicitor. Appropriate forms and recordkeeping procedures are to be developed and maintained by these agencies.

j. Development rights that are transferred from a sending parcel may also be used to expand an existing residential, hotel or motel project.

(Ord. No. 1993-1, § 105-20.4, 1-19-1993; Ord. No. 1994-12, 5-16-1994)

Secs. 110-745—110-760. - Reserved.

CASE STUDY: RUTGERS UNIVERSITY NJADAPT WEBSITE AND RESILIENCY TOOL

Rutgers University, in partnership with the state of New Jersey, helps localities prepare for challenges they face due to changing climate by encouraging flood resiliency planning. Rutgers's online resilience planning tool and hands-on help to localities have encouraged participation in the CRS program throughout the state. The university's online tool assesses a community's risks and vulnerabilities, helps the community craft a plan to resilience, and highlights points it could under the CRS for its current floodplain management practices.

Notable CRS Element: Partnerships, Use of Technology

Partnerships

Academic, State & Local Partnership

- The partnership between Rutgers and the State of New Jersey formed organically with a Rutgers coastal fellow working on a project for the state addressing sea level rise and coastal hazards. The fellow was interested in the Gulf's model of helping coastal communities reduce their flood risks.

- The state of New Jersey originally developed the NJADAPT website. When Rutgers University took over maintenance of the site, it added a link to CRS and hazard mitigation planning tools. Now, Rutgers, other academic institutions, and local, state, and federal agencies all collaborate on NJADAPT.
    - Rutgers knew CRS provided incentives for localities to participate in hazard mitigation planning and floodplain management so it included information about CRS on the website.

- Rutgers has two full-time staff members dedicated to helping communities use their Getting to Resilience Tool.
    - These two staff members have worked with 45 communities to date.
        - This work entails writing a report summarizing what the community has been able to do, challenges it faces, etc.

Use of technology

Getting to Resilience: A Community Planning Evaluation Tool

- This self-assessment tool aids communities in reducing their vulnerability by providing linkages between planning, mitigation, and adaption.
    - The assessment asks yes or no questions about current floodplain management to target how much planning a locality has done.
    - Once completed, click "View your Linkages," and based on the information provided, a community can see what point value it could receive in the CRS program.

- Rutgers created the tool to encourage New Jersey municipalities to progress towards resilience in the face of a changing climate.

NJADAPT

- Jew Jersey created NJADAPT to support various stakeholders' planning and decision-making related to impacts from climate change, such as sea level rise, temperature and precipitation changes, flooding, and drought.
    - The site has web-based mapping tools, quick links, short videos, reports, and examples of current resilience implementation in New Jersey.
    - The site has a NJ Climate Adaptation Directory full of data, tools, reports, model policies, and ordinances.

Funding

- Rutgers employs two full-time people to help communities use its online tools.
    - Rutgers originally funded these positions with grant money from FEMA and NOAA after Superstorm Sandy.
    - Now the Coastal Zone and Floodplain Management Program, with help from the state, funds the positions.

Local Contacts

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Related Material

- NJADAPT Website
- Getting to Resilience Tool

CASE STUDY: SAVANNAH, GEORGIA

A bout of localized flooding in the mid 1990's led to the City of Savannah adopting a special allocated sales tax, which deposits money into a stormwater utility fund. Although the tax did not pass the first time it came to a vote, but it eventually did thanks to increased outreach that continues today. This outreach has generated interest in and support of flood mitigation projects. In addition to within-city outreach, the City of Savannah leads regional efforts in organizing users groups because of the increased time and attention it can pay to CRS. Because of the city's focused effort, it shares some of its expertise and experience with smaller, more time burdened communities.

Notable CRS Elements: Partnerships, Funding, Outreach

Partnership Highlights

- When a community appoints a single person to spend the majority of his or her time on CRS, that benefits both the community and its neighbors.
    - The issue of CRS coordinators wearing "too many hats"—not having enough time to devote to the CRS—hits communities with lower funding levels particularly hard.
    - Communities that have a designated CRS Coordinator who spends most of his or her time on CRS have a role to play regionally in supporting other communities without time or resources for CRS activities. Savannah's CRS Coordinator does this in part through runing the local CRS users group and coordinating and educating communities around Savannah.
    - Savannah's CRS coordinator sees a divide between coastal and inland communities in terms of interest in the CRS. Inland communities do not think about flooding threats as much because they are typically removed from the coast and hurricane threats. The City of Savannah and Georgia Sea Grant make an extra effort to bring these players to the table to get them involved.

- ***A point person for CRS can create partnerships and coordinate within the local government.***
    - Individuals from different departments in local government who could have a role to play in CRS or have information that could count for CRS credits need only contact a single person to help when one person runs the CRS program. In order to facilitate relationships within local government, a CRS coordinator must have good relationships with people from each relevant department.

- Georgia lacks state-level coordination.
    - Any state-wide coordination or advice comes from Georgia Sea Grant. The state NFIP Coordinator in the Department of Natural Resources is not very involved with the CRS. The Savannah CRS coordinator stated, "We know him and if we ever need anything he can help us out," but Sea Grant plays a larger partnership role for Savannah and all of Georgia.

- ***Users groups and local conferences connect people and lead to partnerships.***
    - Users groups can maintain institutional knowledge for communities with only one CRS employee. Users groups can store information so no one has to "reinvent the wheel" when a new coordinator steps in.
    - Users groups and local conferences like the one held by the Georgia Association of Floodplain Managers make coordinators feel at ease because at meetings and conferences they can talk to someone local, someone going through the same CRS process as they are, as opposed to an ISO representative. Savannah's CRS coordinator has found that communities interested in getting involved in CRS seek out users group meetings and not ISO representatives for information because users groups are less threatening.
    - The ability to meet people at conferences like the GA Floodplain Managers Association conference also eases communication, especially with outside consultants who provide necessary manpower. The mentality of "I know him and I can talk to him" emerges from conferences.

Funding Highlights

- Special Purpose Local Option Sales Tax (SPLOST) for flooding fund met resistance at first.
    - The SPLOST is a voter-approved 1% tax on taxable goods in Chatham County that the county can only use for certain kinds of construction expenses. The government divides proceeds amongst local jurisdictions based on population for capital projects. Some of this money funds food resiliency.
    - **Driving Factor:** The first time this measure appeared on the ballot, it did not pass. The City of Savannah continued to push for the tax, promoting it through a lot of outreach concerning the county's issues with stormwater drainage.
    - The tax is still in place, but more recently it has funded non-CRS projects, since the city resolved a lot of the structural storm repair issues already.
    - The tax goes back on the ballot every 5 years, and has stuck around since the mid 1980s; the city is currently in SPLOST round 6, which will last until 2020.
    - The fact that the tax did not pass at first, but then did after significant government education and outreach shows the power of those tools. This funding has been a reliable, sustainable source of revenue for projects.

Outreach Highlights

- ***Outreach funding for flooding projects comes from the city budget.***
    - Savannah's CRS coordinator admitted the city's program is "unique" in that it received $11,000 a year in order to do outreach concerning flooding issues.
    - All this money, however, is not just for the City of Savannah. Because of its strong partnerships within the region and through to the local users group, the city shares some of those funds and the products of those funds (i.e., informational packets, advertisements) with other communities.
    - Spending money on outreach "makes sense" to cities like Savannah with a large number of flood insurance policies (~16,000) because of the large potential to save money. Currently, residents of Savannah save around $1 million due to CRS efforts, including outreach.

- The requirements for "informationals" are broad.
    - The City of Savannah wants to reach 90% of the community with any of its outreach material on flooding that could get CRS points. Mechanisms for advertising include newspaper ads with 6 pages of flood information and flood maps. The city has recently forayed into green technology so it can obtain some funding from stormwater sources.
    - Newspaper ads and other outreach sources are often lengthy because of the scope of topics they have to cover, including, for example, the history of flooding in a region, points of contact, how to get elevation certificates, and flood insurance topics
    - Because these encompassing informationals take a lot of work, the city can share its work with partners reach broader areas and ensure smaller, less well-funded communities still get necessary flooding information.

- Savannah finds it important to keep flooding information in front of the community.
    - Interest in the CRS and flood insurance has spiked in the last five years because the multitude of hurricanes.
    - The city takes advantage of this hurricane interest by having a Hurricane Expo every year at a local Home Depot. State insurance agents deliver the information. The city has found that this works well.
    - Also as a part of its floodplain requirements, the city calls TV stations. It uses Hurricane Season, a tangible threat to the community, as an excuse to talk about flooding.

Local Contacts

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CASE STUDY: ST. PETERSBURG, FLORIDA

St. Petersburg, Florida deals with flooding and storm surge on a frequent basis. Located in the Tampa Bay area, the city experiences flooding during every significant rainfall event, and sometimes even when it is not raining. Parts of the city also flood regularly during high tides when there is a full moon. Much of the city rests on former estuary, so St. Petersburg has more than 35,000 flood insurances policies, more than anywhere else in Florida. The city has achieved a class 5 under the community rating system, which translates to almost $10 million in savings for residents on an annual basis. The community attributes some of its success under the CRS to a thriving users group, facilitated by St. Petersburg's floodplain manager.

Notable CRS Elements: Partnerships

Partnership Highlights

- ***Active facilitation techniques can dramatically improve participation***.
    - When St. Petersburg's floodplain manager began attending his users group meetings, he could expect around four people to show up. Morale among those who *did* participate was low. With so few people coming to the meetings, the group had limited ability to disseminate information. The participants understood that attendance was a high priority, so they appointed a facilitator of the group.
    - The facilitator worked hard to encourage participation and communicate the importance and utility of the users group. Eventually, he persevered, increasing participation from about four people per meeting to eighteen to twenty-six people per meeting.
    - According to the facilitator, Doodle polling drove his success. Potential members of the users group tend to be busy people with diverse and irreconcilable schedules. Doodle polling allows a group to decide meeting times based on which time slot in a wide range will accommodate the most people. Simply making an effort to make sure that people could come to meetings drastically improved attendance.

- The users group now attracts a wide array of interested people.
    - When it comes to organizing a users group, success begets success. Once participation began to improve, more and more kinds of people began attending meetings. Most attendees are floodplain managers and administrators from the area, but meetings have attracted other local government employees too, as well

as people from the insurance industry, bankers, and even consultants soliciting work from local governments.
    - The meetings are open to all comers. While most of the general public does not need the same kind of information that floodplain managers and administrators do, many are curious to know, and the wide range of topics covered at meetings can sometimes draw in those who you might not expect at a CRS meeting.

- ***Input from members determines discussion and activity.***
    - St. Petersburg's CRS users group takes feedback from its members seriously and incorporates feedback into its activities. The facilitator solicits larger-scale feedback from the group at least once a year. He also listens to communities when they request that the group cover certain topics or provide certain opportunities.
    - The users group brings in speakers from state and federal government and other groups, and hosts information sessions, trainings, and social events. Some of these activities qualify attendees for Continuing Education Credits for the Association of State Floodplain Managers (ASFPM).

- Neighboring communities use the group to collaborate and to share information.
    - The group sometimes helps build consensus toward a unified regional message. For example, the communities in the area around St. Petersburg recently discussed the possibility of a county-wide minimum freeboard higher than that required under the NFIP, using the CRS users group as a forum.
    - Communities, particularly smaller communities with fewer resources, attend CRS users group meetings not only for the discussions or trainings, but also for networking. Members routinely share local ordinances, contact information, tips for becoming certified floodplain managers, etc. with each other.

- The users group makes sure to work with partners out-of-state.
    - Taylor's CRS users group stays in touch with groups from outside Florida, primarily other users groups and the Association of State Floodplain Managers (ASFPM). These connections allow St. Petersburg to access a national network of local government professionals facing similar issues. The other users groups it stays in most frequent contact with are located in Florida, Texas, and Louisiana.
    - St. Petersburg can not only draw information from this network to bring to its CRS users group meetings, benefitting local Floridians, it also helps St. Petersburg and other members of its group communicate their success stories across the country.

- ***Successful CRS users groups often need a good facilitator and a core group of dedicated individuals.***

- At the center of St. Petersburg's CRS users group sits a group of very dedicated public servants who encourage participation and buy-in from others by dint of their commitment to the group. The group also relies on its facilitator to provide consistent and enthusiastic leadership.
- If a particular area lacks people with the time and energy to serve as a core group of members who maintain momentum, expanding to a larger area is an option. Reaching outside a locality's region for participants can bolster an otherwise small CRS users group.

Local Contacts

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CASE STUDY: WASHINGTON STATE

Flooding is the #1 natural hazard in Washington State, especially in the western part of the state. The people of Washington have dealt with flooding for a very long time, and the state has often led the nation in hazard preparedness. Washington's exemplary participation in the CRS program demonstrates the state's strong commitment to resilience. As of 2017, 35 localities in Washington participate in the CRS, with most participating localities achieving rank six or higher. Washington's willingness to fund hazard mitigation planning, along with the supportive role played by the state's Department of Ecology (WDOE), has placed Washington among the highest performing states in the country when it comes to the CRS.

Notable CRS Elements: Funding, Cohesive State CRS

Funding Highlights

- The Flood Control Assistance Account Program (FCAAP) began over fifty years ago.
    - **Driving Factor:** In response to major flooding in the middle of the twentieth century, the Washington state legislature created the FCAAP. Washington replenishes the fund of $4 million dollars every two years. The program now largely funds flood staff positions at the state level.

- Budget cuts have effectively ended the FCAAP's support of localities.
    - In recent years, Washington has cut the account from $4 million to $2 million every two years, limiting its efficacy. The fund has not been used for local resilience projects in over six years.

- FCAAP mostly funded projects derived from a locality's flood hazard mitigation plan.
    - At its peak, the program funded about a dozen local projects annually, usually providing between $50,000 and $100,000 per project. Localities using the fund were required to match state money with 20% of their own funds.
    - The program focused on implementing projects outlined in localities' flood hazard mitigation plans. These included outreach and outreach initiatives, infrastructure projects, and the development of flood ordinance language.

- ***The WDOE used the fund to encourage green infrastructure.***
    - Communities would apply to WDOE for money from the FCAAP, and WDOE held the authority to approve or disapprove of these applications. The submission and review process of these applications could take a long time, usually a couple years.

- WDOE exercised its authority to encourage green infrastructure projects. Committed to working with the state's rivers and coasts, Washington adopted policies and regulations favoring nature-based solutions to flooding. This policy helped the agency push communities away from a "management and control" approach to flooding, which emphasized use of dams, levees, and other gray infrastructure.

Cohesive State CRS Highlights

- WDOE does what it can to promote the CRS generally.
  - The state tasks the WDOE with encouraging and supporting the implementation of the CRS. As part of this effort, agency staff stay in contact with Washington-based CRS users groups.
  - WDOE also supports other interesting projects in the state. One example is Floodplains by Design, a public-private partnership between WDOE, the Nature Conservancy, and the Puget Sound Partnership that encourages nature-based floodplain management practices.

- WDOE collaborates with FEMA to provide training.
  - Washington also collaborates with the federal government in supporting CRS through training sessions. WDOE provides logistic support by organizing events and notifying interested groups, and ISO's representative conducts the trainings.

Local Contacts

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CASE STUDY: WETLANDS WATCH, VIRGINIA

Wetlands Watch is a small nonprofit that has become a fundamental component of CRS implementation in Virginia. Aligning its organizational mission of coastal community resilience with the CRS program has allowed the organization to serve as a consultant to many communities in the Hampton Roads region. Wetlands Watch facilitates active community participation to focus on creating a community CRS program that will thrive long after Wetlands Watch withdraws from its consulting role. Through its extensive involvement in the CRS, Wetlands Watch has become expert in program and connects this expertise to much of the work it does under various grants.

Notable CRS Elements: Partnerships, Outreach

Partnership Highlights

Driving Factor: Wetlands Watch became involved in the CRS program after a study out of the Virginia Institute of Marine Science estimated 2 feet of sea level rise would cause a loss of 50-80% Virginia's wetlands. This report, coupled with rising NFIP premiums and the fact that local governments have sole responsibility for high-risk flood areas, pushed the nonprofit to look into ways to incentivize nature based methods of improving resilience, Wetlands Watch's core objective.

- Wetlands Watch is a small nonprofit based out of Norfolk, VA that has become deeply involved in CRS implementation in the Hampton Roads area. It aids communities faced with sea level rise in adopting nature-based methods of improving local resilience, which organically led the organization to the CRS program.
    - Wetlands Watch finds that local governments' land use decisions are often motivated by complying with the NFIP, which makes understanding the NFIP and CRS integral to Wetland Watch's success in promoting community resilience. It now influences local government planning activities through the CRS program.
    - The shoreline in the Hampton Roads region is the floodplain, so helping communities with the CRS fits easily into Wetlands Watch's organizational mission.

- Before Wetlands Watch became involved in VA's CRS program, few people connected the program to community resilience. The group strives to create that tie between resiliency and the CRS program.

- Communities should work toward both economic and ecologic stability. The real estate market plays a role in both.
- Wetlands Watch values the natural benefits that open spaces provide, and sees CRS as the only way to monetize open space preservation in the floodplain.
- The nonprofit focuses on encouraging communities to implement the following CRS activities:
  - Activity 420: Open space
  - Activity 530 & 540: Acquisition & Relocation
  - Activity 430: Higher standards
  - Activity 330: Outreach

- Wetlands Watch's regional approach helps communities implement CRS more efficiently than focusing on a single locality at a time. It can work with ISO to consider crediting certain activities, and ensure localities' point evaluations stay consistent.
  - Wetlands Watch's ability to align local and federal interests proved essential to the Chesapeake Bay Preservation Act's Chesapeake Bay Preservation Areas (CBPAs) receiving CRS credit.
    - The Act protects the Bay's water quality and requires land management and planning that minimizes development in sensitive shoreline areas called CBPAs.
    - When localities received conflicting information from ISO agents, Wetlands Watch pushed to the national level to argue that localities should get CRS credit for the CBPAs.

- Wetlands Watch encourages active involvement from communities to build internally-supported CRS programs. It avoids hand-holding to ensure localities create self-sustaining programs that can continue to thrive when Wetlands Watch finishes consulting with the locality.
  - Wetlands Watch has helped:
    - Newport News set up its program's organizational structure
    - City of Hampton with its cycle visit under a new manual and conduct an open space review.
      - After this experience, the city hired a full-time CRS coordinator because it realized just how much time it takes to maintain its rating.
    - James City County conduct open space evaluation, GIS, and planning.
    - York County obtain credit implementing a CBPA buffer.

- Wetlands Watch's floodplain management program has become a critical component of the organization. Due to its innovative approach to CRS, Wetlands Watch is seen as an

expert in the field. It strives to synergize in all its projects, so many projects that involve planning or adaptation will also have a CRS component.
    - As its CRS involvement increases, the nonprofit is working to institutionalize its CRS knowledge by training and educating all staff members.
    - In addition to helping VA localities implement CRS, the nonprofit applies its CRS expertise to the work it does under various grants.

- As its involvement in CRS continues, Wetlands Watch's may shift its funding model to more closely resemble that of a consulting firm, accepting payments directly form localities. The organization currently receives most of its funding through grants.
    - Wetlands Watch believes this funding model may better fit the area, as not every community will need its assistance. It envisions working with communities that self-identify as wanting Wetlands Watch's assistance with CRS.
    - The organization anticipates the potential problem of its CRS expertise not staying in the locality after its contractual obligation ends. Wetlands Watch makes a conscious effort to keep local officials involved in the implementation process to create a program that will continue to thrive.

Outreach

- Mary- Carson Stiff (Wetlands Watch) leads an active CRS work group. She encourages everyone who had a recent site visit to share their experiences with the workgroup so members understand the process and learn about activities that received points.
    - Poquoson & Gloucester's floodplain managers started the work group in 2008.
    - The group comprises local floodplain managers, planners, and emergency managers in addition to people from the Planning District Commission, academic partners, the Virginia Department of Conservation and Recreation, FEMA, and occasionally ISO.
    - Some businesses also attend the meetings (e.g. Flood insurance of Hampton Roads, Smart vent).

Funding

- Blue Moon Fund started funding Wetland Watch's CRS work in 2014.
    - This funding will expire at the end of the year.

- VA Department of Environmental Quality's Coastal Zone Management Program provided a grant in 2017 to complete a cost-benefit analysis on CRS in Virginia.

Related Material

Wetlands Watch Website:

- Full of different land use planning guides, floodplain management & CRS, sea level rise adaptation, and related topics
    - Documents explain the topic, and some give: case study examples both national and local, tools, legislation, funding sources, and CRS point values where applicable

- The Costs & Benefits of the CRS Program in Virginia

- Flood Protection Pay-offs: A Local Government Guide to the Community Rating System

Local Contacts

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OVERALL THEMES OF SUCCESS IN CRS IMPLEMENTATION

A number of themes permeate these case studies, and a few major lessons about CRS implementation emerge from them.

First, **participating in CRS is all about learning**. The individuals highlighted in the preceding case studies, as well as others we interviewed, involved themselves in non-competitive communities focused on information sharing. When it comes to the CRS, everyone wants to help others succeed. While understanding the CRS can seem a daunting task, one need only reach a little bit outside one's locality to access a wealth of information from similarly-situated people across the country.

Second, **learning how to communicate the importance of the CRS is key** to successful implementation. Getting a CRS program off the ground requires buy-in from the community, so the community needs to understand how it will benefit from the program, and what it might miss out on if it does not participate. The case studies above, such as the Colorado Water Conservation Board, provide tools for educating people about the benefits of the CRS.

Third, **state and regional coordination can make a big difference**. Whether it helps with funding, partnerships, outreach, or overall organization, active state or regional involvement can give a community the boost it needs to secure discounted insurance rates. State and regional governments can offer smaller localities access to important resources for creating and maintaining CRS programs, as well as membership in information-sharing networks.

Finally, **no one best way to implement CRS exists**. As the diversity in the case studies suggest, many paths exist to a successful CRS program. The context that each locality finds itself in will dictate how it approaches the program. We encourage localities to search the case studies here for communities facing similar obstacles, consider how those communities overcame those obstacles, and perhaps even contact people in those communities and ask for advice.

50 STATE MATRIX

State	State Level	Regional/Local Level	Sea Grant	Academic Partnerships	Non Profit
Alabama	✓	✓*	✓		✓
Alaska	✓	✓	✓	✓	✓
Arizona	✓	✓			
Arkansas	✓	✓			✓
California	✓	✓	✓	✓	✓
Colorado	✓	✓*			
Connecticut			✓	✓	✓
Delaware	✓*	✓*	✓	✓*	
Florida	✓*	✓*	✓	✓	✓
Georgia	✓	✓	✓*	✓	
Hawaii	✓	✓	✓	✓	✓
Idaho	✓	✓			
Illinois		✓*	✓		
Indiana	✓		✓	✓	
Iowa	✓	✓		✓	
Kansas	✓	✓			
Kentucky	✓*	✓*			
Louisiana	✓	✓	✓	✓*	✓
Maine	✓		✓	✓	
Maryland	✓*	✓	✓	✓	✓
Massachusetts		✓	✓	✓	
Michigan			✓		
Minnesota	✓	✓	✓		
Mississippi	✓	✓*	✓*	✓	✓*
Missouri		✓			
Montana	✓	✓			
Nebraska	✓	✓			
Nevada	✓	✓			✓
New Hampshire	✓	✓	✓	✓	✓
New Jersey	✓*	✓*	✓	✓*	✓*
New Mexico	✓	✓			

State	State Level	Regional/Local Level	Sea Grant	Academic Partnerships	Non Profit
New York	✓	✓	✓	✓	
North Carolina	✓	✓*	✓*	✓	✓*
North Dakota	✓	✓			✓
Ohio	✓	✓			✓
Oklahoma	✓*	✓*			
Oregon	✓	✓	✓	✓	
Pennsylvania	✓	✓	✓	✓	✓
Rhode Island	✓	✓	✓	✓	
South Carolina	✓	✓*	✓*	✓	✓
South Dakota	✓	✓			✓
Tennessee	✓				
Texas	✓*	✓*	✓*	✓*	✓
Utah	✓				
Vermont					
Virginia	✓	✓	✓	✓	✓*
Washington	✓*	✓*	✓	✓	
West Virginia	✓	✓			✓
Wisconsin		✓	✓		✓
Wyoming	✓	✓			

State	Education/Outreach	Organization	Policy	Technology	Funding Sources
Alabama	✓	✓		✓	✓
Alaska	✓	✓	✓		
Arizona		✓		✓	
Arkansas	✓		✓	✓	✓
California				✓	✓
Colorado					✓
Connecticut					✓
Delaware	✓	✓	✓*	✓*	✓
Florida	✓	✓*	✓*	✓	✓*
Georgia	✓*			✓	✓*
Hawaii	✓	✓			
Idaho	✓				
Illinois			✓	✓	

State	Education/Outreach	Organization	Policy	Technology	Funding Sources
Indiana					
Iowa				✓*	
Kansas					
Kentucky	✓*	✓	✓	✓*	✓*
Louisiana	✓	✓			✓
Maine	✓		✓		
Maryland	✓		✓	✓	✓*
Massachusetts	✓	✓*			✓
Michigan			✓		
Minnesota					
Mississippi	✓		✓*	✓	✓
Missouri	✓			✓	
Montana	✓		✓	✓	
Nebraska	✓				
Nevada	✓		✓	✓	
New Hampshire	✓	✓		✓	✓

ALABAMA

State Level:

- NFIP conducted by the Alabama Dept. of Water Resources
- Limited state-level organization of CRS - most organized at the local level
    - Only 16 communities of the 432 NFIP communities in Alabama are participating in CRS

Regional/Local Level:

- Baldwin County Commission
    - Administered by the Baldwin County Planning and Zoning Department in conjunction with the Baldwin County Highway Department, Emergency Management Agency, Building Inspection Department
        - Make maps available to individuals
    - Outreach materials from the City, newsletter, newsletter 2
- Birmingham, AL
    - Floodplain Management and Disaster Mitigation Services Program
    - Have lead 3 consultant teams to facilitate a Buyout Program for flood-impacted residents
        - City provided $12 million in cash contributions with $60 federal funding for floodplain acquisitions
        - Has been able to acquire and relocate more than 1200 properties and avoid losses at $2.3 million per year (2008)
        - Provided incentives for families to move via the Flood Incentive and Relocation Assistance Program using Community Development Funds from HUD
    - CRS Coordinator at the time
        - Developed a system for organizing and maintaining the City's CRS related information
        - Organized and filed in file cabinets and is also electronically backed up regularly
    - Birmingham CRS Structure
        - Matrix structure - organizes individuals by both division and function
        - One formal CRS coordinator but all support staff are trained in CRS
        - Natural Hazards Administrator was a CRS Coordinator before, helps that administration understands the demands of CRS and are supportive of the program

        - Structure is flexible to facilitate the efficient use of specialized staff and resources
    - Funding from the local level some from community budget - designated pot of outreach funds that the CRS program can tap into
- Madison County
    - Madison County Public Works Dept serves as Floodplain Administrator for unincorporated areas of Madison County
    - Also involved is Madison County Building Inspection Department
    - Website with specific information, maps of the area
- Orange Beach, AL
    - CRS located in the Emergency Management Department
    - Presentation from the Building Official and Floodplain Administrator
    - Information from the state Association of Floodplain Managers - lacking local level knowledge, shows benefit of an outside source of knowledge coming into help

Sea Grant/Academic Partnerships:

- Mississippi-Alabama Sea Grant Consortium
    - Program for Public Information (PPI)
        - With funding from the EPA Gulf of Mexico Program, creating a PPI inthe City of Biloxi
    - Provider of information for CRS Communities
        - Partnered with other Sea Grant programs and several non-profits - link
        - Manuscript by Petrolia et al. 2017 funded in part by Sea Grant (see below for further information)
    - Funded and conducted the Dauphin Island Climate Resilience Study

Non-Profit:

- BlueUrchin LLC
    - Consulting company focused on crowdsourcing local data in Alabama
        - Do this by maximizing data quantity and quality
    - Working on an app on coastal hazards and policy

Education/Outreach:

- Related to the PPI, MS-AL Sea Grant hosted an "ABC's of Community Floodplain Mitigation" workshop to educate others on how PPI's work and their benefit

Organization:

- Birmingham has unique matrix structure - see above

    - Touted by Denise Gray, Natural Hazards Administrator - see the "Birmingham, AL Case Study" for more information
- MS-AL Sea Grant providing guidance in CRS implementation across State
    - Able to connect communities and regions that would otherwise not be connected - provide a higher up area of organization

Funding sources:

- HUD
- Federal contributions
- Local Budget

Additional Information:

- Atreya and Kunreuther 2016 - Measuring Community Resilience: The Role of the Community Rating System (CRS) - Working Paper from The Wharton School at the University of Pennsylvania
- Frimpong et al. 2017 - Community-level flood mitigation effects on household-level flood insurance and damage claims payments - Working Paper from Mississippi State University
    - Found overall difference between coastal and non-coastal communities in CRS participation
        - Found positive and significant relationship between CRS participation and NFIP participations for coastal Alabama
            - In pre-Katrina AL - coastal communities participating in the CRS program had 64 % higher NFIP participation on average than communities that did not participate in CRS
            - Non-coastal communities participating in CRS had significantly lower NFIP participation
            - No difference in pre-Katrina MS - no CRS effects in coastal versus non-coastal communities
        - For every additional year in CRS participation, NFIP policies in force decline by 10%
            - As the time between major storm events increases, residents tends to let their coverage slip
        - Found that growth in NFIP participation does not increase as the tenure of a community in CRS increases
        - Found 100 point increase in Series 400 (maps and regulation) is associated with 5%higher NFIP participation
            - No significant effects of Series 300, 500, 600 on NFIP participation

Contact Information:

- Denise Bell - Natural Hazards Administrator - 205-254-2022- denise.bell@birminghamal.gov

ALASKA

State Level:

- State FEMA Coordinator is the Alaska Dept. of Environmental Conservation

Regional/Local Level:

- Kenai Peninsula Borough
  - Are preparing a regulatory Flood Insurance Study (FIS) report document for the community
- City of Valdez
  - Provide annual floodplain newsletter
  - City gathers annually to do outreach work and education community on reducing risk of flood damage
    - This includes sending an info packet to the CRS coordinator
  - Requires any kind of work done at any time in the floodplain to have a Floodplain Development Permit issued
  - They provide a simple preparedness checklist for city residents
- Alaska Business Mapping Plan
  - Identify gaps in flood hazard data and provide a context for effectively communicating the State's mapping priorities
    - There are currently 120 municipalities in Alaska that have no FEMA flood hazard maps
  - Goals are to align State and FEMA's goals and vision, support Risk Map Development and encourage risk reduction and hazard mitigation

Sea Grant/Academic Partnerships:

- Alaska Sea Grant
  - Partnership between NOAA and University of Alaska Fairbanks
    - Promote healthy marine, coastal, and watershed ecosystems in Alaska to mitigate natural disaster damage

Non-Profit:

- Northwest Region Floodplain Management Association
  - Encourage government involvement in programs to reduce flood damages and to protect, manage and restore floodplains
  - Work closely with CRS user groups

Education/Outreach:

- Alaska Sea Grant has training and support system
    - Promote skills and knowledge to adapt to environmental change
- City of Valdez Community Outreach Program

Organization:

- Division of Community and Regional Affairs
    - Responsible for Alaska Business Mapping Plan
        - Goals are to Alignment of State and FEMA Goals and Vision and support RISK Map development

Policy:

- Have several climate change education programs with the severe melting of ice caps
- Require disaster preparedness plans

GIS tech:

- Can be found of Dept. of Environmental Conservation's Website
    - Alaska is the only state lacking digital imagery and elevation data at nationally accepted standards

Funding sources:

- Heavy funding from Sea Grant program

Contact Information:

- Kevin Reeve, Division of Homeland Security & Emergency Management, 907-428-7045

ARIZONA

State Level:

- NFIP is coordinated by the Arizona Department of Water Resources
  - Have Flood Management Program quick links
  - Department has a State Standards Work Group to develop standards and provide technical assistance
    - Goal is to promote consistent, responsible floodplain management
  - Has a reference guide for Arizona communities participating in the NFIP

Regional/Local Level:

- Maricopa County
  - Provide several resources on their website
    - State Dept. of Transportation is creating a Flood Warning system in this county to make the roads safer
    - Regularly update the county's floodplain regulations
- Pima County
  - Has a regional flood control district
    - District is involved in a variety of flood monitoring, flood control and natural resource management activities
    - Provide floodplain management activities
  - Automated Local Evaluation in Real Time (ALERT)
    - Provide mobile app for access to flood maps

Non-Profit:

- Arizona Floodplain Management Association (AFMA)
  - Provides a means of local representation on a statewide basis regarding policies and activities dealing with floodplain management
  - Provides an educational forum for technical and regulatory training and discussion relative to management of Arizona's floodplains

Education/Outreach:

- Pima County notifies at risk residents
- State Standards Work Group provides training sessions

Organization:

- State has a Regional Flood Control District

- State Standards Work Group has regular Flood Insurance Studies useful to CRS in the State

Policy:

- Pima County required elevation certificates

GIS tech:

- Information on AZ State Land Department Website
- Arizona Geographic Information Council also provides extensive GIS information

Funding sources:

- Mostly from FEMA and at the State level

Contact Information:

- Brian Cosson, CFM AZ Dept. of Water Resources, (602) 771-8657, btcosson@azwater.gov
- Chris Kirkendall, Stormwater Manager, Water Services Division, (928) 213-2473
- Kerry Redente, Insurance Services Office, 719-207-0121

ARKANSAS

State Level:

- FEMA coordinated by the Arkansas Natural Resource Commission (ANRC)
    - Promote public health, safety and general welfare to minimize public and private losses due to flood conditions
    - Host annual training sessions on CRS and publish bi-monthly CRS newsletters

Regional/Local Level:

- City of Van Beuren
    - Provide SFHA and flood insurance data upon request as a public service
- City of Little Rock
    - Have several emergency preparedness and disaster planning resources
    - Coordinate efforts of multiple agencies during disaster response and recovery efforts
    - Website provides information for Family Disaster Preparedness Kits

Sea Grant/Academic Partnerships:

- Arkansas does not have a Sea Grant program or any academic partnerships

Non-Profit:

- Arkansas Floodplain Management Association (AFMA)
    - Dedicated to promoting a common interest in food damage abatement
    - Membership is open to all people/organization involved in floodplain management and related disciplines
    - Encourages appropriate and effective approaches to managing floodplains while striving to educate the general public about floodplain management
    - AFMA works with ANRC to exam those wishing to become certified floodplain managers

Education/Outreach:

- The ANRC works in cooperation with FEMA to offer a free week-long course on the NFIP and floodplain management
    - Designed to provide an organized training opportunity for officials that are responsible for administering their local floodplain management ordinances
    - Also provide monthly CRS updates

Organization:

- ANRC works in cooperation with FEMA to organize CRS activity

Policy:

- Have a preferred risk policy implemented

GIS tech:

- Arkansas has their own GIS office

Funding sources:

- Combination of State and Federal funds directly sourced to the ANRC

Contact Information:

- Matt Burks, Emergency Management Administrator, mburks@littlerock.gov

CALIFORNIA

State Level:

- NFIP Coordinated by the California Department of Water Resources
  - Has helpful site that provides information on the CRS, what projects localities can undertake to improve their scores, and provides training resources
- California Natural Resources Agency
  - Assists with the development of floodplain analyses and assessment tools that can be utilized to support FloodSAFE programs and projects
- Ocean Protection Council
  - Coastal Resilience Partnership to develop and conduct a series of coordinated resilience workshops in coastal counties
    - Workshops provide integrated information to county planners about planning for sea level rise

Regional/Local Level:

- Roseville, California
  - First city to receive Class 1 Rating
  - Have been elevating flood-prone homes
  - Have been adding, enlarging and improving culverts along Linda Creek
    - Quadrupling the size of a culvert on the Creek to handle a 100-year storm
  - Replacing bridges to widen Cirby Creek's channel for larger stream capacity
  - Has acquired homes in the floodplain
- San Ramon
  - Each year, Engineering staff sends notices to flood zone property owners located within areas designated as Special Flood Hazard Areas
    - Website also provides some flood safety information
- Sparks
  - Hired Manhard Consulting to evaluate CRS program
- Ventura
  - Have a separate website devoted to CRS

Federal Level:

- Many Federal and state agencies funded this guide, which has a section on page 154 describing the CRS and suggesting funding sources.

Sea Grant/Academic Partnerships:

- California Sea Grant
    - Partnered with the University of California-San Diego
    - Has several research extensions studying floods and hazard mitigation

Non-Profit:

- Floodplain Management Association
    - Works in California, Nevada and Hawaii
    - Ongoing series of symposiums, conferences, and workshops addressing flood management issues

Education/Outreach:

- Outreach efforts by regional flood management departments

Organization:

- Almost everything is on the county level in California
    - Each county has their own flood/emergency management department

GIS tech:

- GIS and Flood hazard maps on local county websites

Funding sources:

- Efforts in Roseville and mainly funded by the City
    - Union Pacific Railroad Company funded bridge reconstruction
- Mainly FEMA and State Level funding allocated to counties

Contact Information:

- Ricardo Pineda, CFM California Dept. of Water Resources, (916) 574-0611, rpineda@water.ca.gov
- Donald Wolfe, LA Director Department of Public Works, (626) 458-5100

COLORADO

State Level:

- Colorado Water Conservation Board
  - created a website with an abundance of CRS resources
- Colorado Department of Local Affairs
  - Funded a hazard mapping website

Regional/Local Level:

- Boulder, CO
  - Has flood management and education programs
  - Planning for how development will or will not occur in flood prone areas
  - Protecting flood prone open space and reclaiming it when possible
  - Conducting flood studies, producing maps, and maintaining and updating flood data
  - Adopting and enforcing strict regulatory standards.
    - City staff engaged The Sanitas Group to quantify potential specific cost impacts to landowners and facility operators directly resulting from proposed flood protection regulations
- Fort Collins
  - Office of Emergency Management completed a hazard mitigation plan
  - The City has prohibited locating critical facilities in either the FEMA-mapped floodplain or the City's mapped floodplains.
  - Erosion buffers were established to protect the banks of creeks and rivers and to avoid damage to nearby structures.
  - Identified all of its high-risk dams, mapped the projected inundation levels in the areas below those dams, and conducted assessments of the risk to life and property in the hazard areas.
- Colorado Association of Stormwater and Floodplain Management
  - Represents the interests of stormwater managers and flood hazard specialists from local and state governments and from the research community
  - Has bi-monthly general meetings and an annual Conference
  - Offer year round workshop and training classes across the state
  - Provide a checklist for local communities and federal agencies in flood management
- Northern Colorado Regional Hazard Mitigation Plan
  - Participating Communities
    - Larimer County

        - Fort Collins
        - Loveland
        - Estes Park
        - Wellington
        - Berthoud
    - Hazard Mitigation Plan Steering Committee:
        - Mike Gavin – Fort Collins Office of Emergency Management
            - Project director
        - Merlin Green – Loveland Office of Emergency Management
        - Erik Nilsson – Larimer County Emergency Management
        - Pat Mialy – Loveland Office of Emergency Management
        - Eric Rose – Estes Park Office of Emergency Management
        - Larry Lorentzen - Town of Wellington
        - Steve Charles - Berthoud Fire Protection District
    - Funding
        - Funding was provided to the cities of Fort Collins and Loveland, as well as to Larimer County and FEMA. FEMA funding was allocated and managed through the Colorado Division of Emergency Management and its Hazard Mitigation program.

Non-Profit:

- Help Colorado Now
    - Partnership between Donation and Volunteer Coordination Team (DVCT) and the CO Division of Homeland Security and Emergency Management (DHSEM)
        - Website aims to provide guidance to the public on how to best help communities recover following a disaster

Education/Outreach:

- Boulder - flood management education programs

Organization:

- Mainly on the State Level

Policy:

- The Sanitas Group - quantified cost impacts to landowners in Boulder from flood regulations

Funding sources:

- FEMA provided funding for Regional Hazard Mitigation Plan
- Funding was provided to the cities of Fort Collins and Loveland, as well as to Larimer County and FEMA

- FEMA funding was allocated and managed through the Colorado Division of Emergency Management and its Hazard Mitigation program.

Contact Information:

- Kevin Houck, CFM Colorado Water Conservation Board, (303) 866-4805, kevin.houck@dwr.state.co.us

CONNECTICUT

State Level:

- Implemented by the Connecticut Department of Energy and Environmental Protection
  - Land and Water Resources Division assists municipalities with flood hazard mitigation planning
  - Dam Safety Program operates and maintains flood control facilities

Regional/Local Level:

- Southeastern CT Council of Governments
  - Seeking firms to develop a model to continue and expand enrollment in CRS to all 22 member municipalities
    - Only 2 member towns in CRS because of lack of staff resources
    - Submissions were due October 2017

- Greater Bridgeport Regional Council
  - Regional Conservation Service Program proposed in 2012
    - Would entail a region-wide implementation of CRS, flooding risk assessment, living shoreline plan

- Stamford- Success with CRS Community Profile
  - Highlight higher regulatory standards, open space preservation, and public outreach

Sea Grant/Academic Partnerships:

- Connecticut Sea Grant (UConn)
  - Published a report on community-level best practices of coastal flood management & climate change adaptation for the North Atlantic region

- UConn Center for Land Use Education & Research in partnership with CT Sea Grant
  - Adapt CT Website: Gives municipalities information, tools, and training to develop climate action and resilience plans
  - Climate Corps Municipal Assistance Program
    - Program with university students to provide assistance to CT communities who want to plan for climate change but lack the resources

- Connecticut Institute for Resilience and Climate Adaptation (CIRCA)
    - Part of UConn and Connecticut Department of Energy and Environmental Protection
    - provide assistance for the Regional CRS kickoff meeting,
    - Also do outreach, training, data gathering, and analysis

Non-profit:

- The Nature Conservancy (TNC) wrote a report for CT
    - Goal was to provide basic understanding of flooding risk, NFIP, CRS, and adaptation strategies
        - Provides links to additional resources

Funding sources:

- FEMA
- UConn CIRCA- Municipal Resilience Grant Program &
    - created a document highlighting state funding sources to increase resiliency in CT
- Milford receive grant funds of $6,500 from the Northeast Regional Ocean Council (NROC) and $13,500 from the Connecticut Association of Realtors
    - for development of CRS plan
- Shore Up CT - state funded low-interest loan program for property owners in coastal municipalities to finance property elevations

Contact Information:

- Diane Ifkovic, State NFIP Coordinator, diane.ifkovic@ct.gov, 860-424-3537

DELAWARE

State Level:

- Delaware Department of Natural Resources and Environmental Control (DNREC) guides CRS in the state
  - Gives reports before the General Assembly on Flooding in Delaware and their recommendations
    - Highlights the strict statewide standards for flooding
  - Runs statewide Sea Level Rise Adaptation Initiative through the Delaware Coastal Programs Office (DCP) within the Division of Soil and Water Conservation
    - Cooperative program between the state and NOAA
  - Offers technology tools through the Division of Watershed Stewards Shoreline & Waterway Management Section including
    - Interactive Flood Planning Tool
  - Runs the Flood Mitigation Program with information on state-wide flood maps, FEMA links, construction and planning resources, and more
- Delaware Department of Emergency Management and the DE Commissioner's Office for Insurance Department are also involved with CRS
  - Delaware Department of Insurance provides information on flood insurance availability within the state
    - Commissioner's Office provided information to each community about the CRS program of the federal flood insurance program

Regional/Local Level:

- Delaware Floodplain Management Association
  - Puts out frequent newsletter, The First State Watermark
- University of Delaware Sea Grant Program in cooperation with DNREC and FEMA started in 2016 to try to host quarterly Delaware CRS Users Group meetings
- Delaware City
  - Website on floodplain management with links to necessary maps and information - good example of a standard website
- Lewes
  - Involved at a mayoral and general manager level - recognize the importance and impact of flooding in the area
    - Mayro at the time in 2002 established a Hazard Mitigation Team - meets quarterly to discuss preparedness and awareness of future hazards

        - Mission is to maintain disaster mitigation activities begun by their involvement with FEMA Project Impact
    - Have a Hazard Mitigation and Climate Change Adaptation Action Plan that specifically mentions CRS
        - Partnership between the city, Delaware Dea Grant, ICLEI-Local Governments for Sustainability
        - Funded by Sea Grant with funds from NOAA and University of Delaware Sustainable Coastal Community Program
    - Helped out by Sea Grant with outreach and education events for flooding
        - Additional help from DNREC and DEMA with network operation
    - Type of progressive policies: Unique height limit exemption for properties within its coastal higher hazard area flood zone
- Bowers Beach
    - Example of structural and more labor-intensive CRS activities
        - Particularly prone to flooding, so the community has taken a number of unique actions
            - Relocating its commercial district to a less vulnerable location
            - Buying out and concerning repetitive flood properties to a public park
            - Replacing a large parking lot with vegetated, pervious material
        - Implemented actual retreat from a vulnerable coastal area
        - Plans to re-zone the current commercial district to residential and vice versa in a less flood prone area
- The Town of Fenwick Island
    - Created a one stop shop page by the town government and the Community Rating System Committee for flood information
- New Castle County
    - Received funding from FEMA through the state of Delaware to update floodplain maps
    - Established a strict development code in 1997 with focus on 100% protection of floodplains, wetlands, and riparian buffers
        - Prohibits development in any floodplain with minor exceptions
        - Added and Environment First series of regulations in 2003 that requires low-impact development with 50% open space required - shows a comprehensive stormwater management system

Sea Grant/Academic Partnerships:

- Delaware Sea Grant

    - Work as a facilitation partner (for CRS User Group Meetings) and source of information (their report on Coastal Hazards and Community Resiliency in Delaware, FAQ's on flooding, and flood insurnace) for the state
    - Their Natural Hazard and Climate Change Adaptation Tool Kit for Delaware includes sample implementation plans
- University of Delaware Institute for Public Administration
    - Prepared a report for local Delaware governments funded by Delaware Department of Transportation
    - Created a database for funding resilient communities, funding sources

Education/Outreach:

- DE Sea Grant created several outreach and education events - see links above
- Insurance information from Commissioner's Office for Insurance Department is available to the public
- DCP holds public workshops to identify issues and measure severity
- DNREC hosts public workshops on all issues involving CRS
    - Example: Open House Presentation regarding Flood Studies in New Castle County
    - Joint presentation with FEMA
- Local real estate professionals (ex Pat Neary) crafted a script to help homeowners speak with flood insurnace providers including tips on seeing if residents qualify and how to apply - shows outreach outside of the traditional frame that is reaching novel audiences

Organization:

- State level guidance from DNREC
    - Example: Helped Newark adopt a "model" floodplain ordinance and update zoning code
    - Central source for information and coordination for the state
- Statewide Sea Level Rise Adaptation Initiative through the Delaware Coastal Programs Office
    - Example: Helped community do a vulnerability assessment and coastal resiliency action plans in Bowers Beach

Policy:

- In 2016, DNREC's Division of Watershed Stewardship used the results of their floodplain study to send a Letter of Map Revision (LOMR) to FEMA to adjust local flood maps which impacts local and state policy
- State of Delaware Model Floodplain Management Ordinances

- DE Sea Grant created Hazard Mitigation and Climate Change Adaptation Plan - see above
- Lewes Hazard Mitigation and Climate Change Adaptation Plan - see above

Technology:

- DNREC Flood Planning Tool - see link above and information on the flood risk visualization tool
    - Developed by Sea Grant and other partners that includes list of sample implementation plans
- U of Delaware database for funding resilient communities and list of funding resources - see above

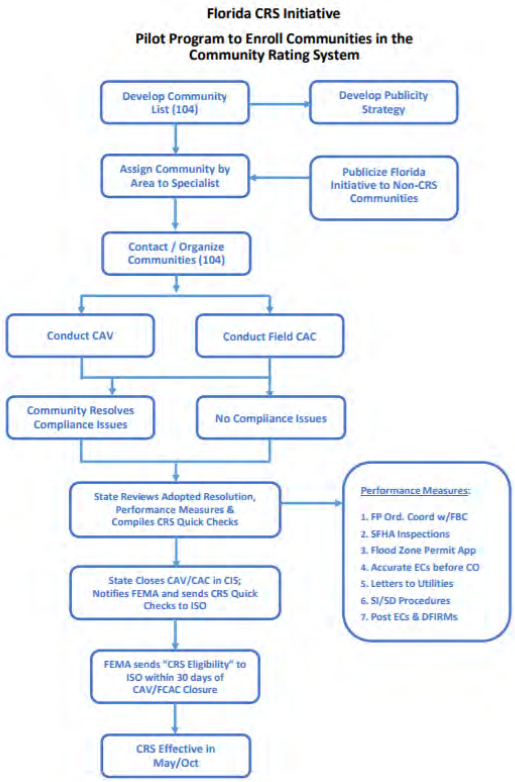
Funding sources:

- Delaware Sea Grant
- Delaware Dept of Parks and Recreation funding Bowers Beach for buyout
- FEMA's Repetitive Loss Program
- DNREC Division of Fish and WIldlife funding Bowers Beach parking lot renovation

Contact Information:

- Michael Powell, CFM Delaware Dept. Natural Resources, (302) 739-4411

FLORIDA



State Level:

- NFIP coordinated by the Florida Division of Emergency Management
    - Recently implemented a CRS Pilot Program to assist Florida communities with CRS
- Works frequently with local building inspection departments
- See the "Florida Division of Emergency Management Case Study"

Regional/Local Level:

- Sanibel
    - Been successful with Coastal Erosion Hazard Regulations
        - Higher regulatory standards for permitting erosion control structures and ecological zone development standards
        - Include limitations on developed area, impermeable coverage and required stormwater management
    - Have a Sanibel Comprehensive Land Use Plan
    - Enforce higher regulatory erosion standards by sending DNR to do preliminary inspection of dune area in question
        - Must get approval from FL Dept. of Envi Protection before doing this
    - Success stems from towns excellent public outreach and open space preservation elements
        - Send information materials with bill statements, hold annual hurricane awareness seminars and webcast city council meetings
    - Public/private partnership, with some land donated from private groups
    - City has hired consultants to advise staff on changes to CRS program
- Collier County
    - Gained credit through state parks, county preserves, private preserves, county-held conservation easement and SW Florida Water Management Conservation easements
    - Conservation Collier

        - Green space acquisition program approved by referendum
            - Allow county to tax residents quarter of a million dollars for 10 years to purchase conservation lands and green space
    - Have requirements in Land Development Code to make developers set aside certain % of site's native vegetation prior to development using GIS Mapping
    - Creates a Floodplain Management Plan and Manatee Protection Plan
    - Have a floodplain management staff focused on need to foster partnerships with other departments
        - Coordinate with other local CRS communities
- Palm Beach County
    - County started an Environmentally Sensitive Lands Acquisition Program to help natural lands being lost to development
        - City approved a $150 million bond referendum for the acquisition of lands through the Department of Environmental Resources Management (ERM)
        - As of 2011 have acquired 31,000 acres of environmentally sensitive lands
        - Cost $6-8 million a year (mostly upfront, maintenance less expensive as time goes on)
    - In addition to acquisition, the county has strict regulatory processes
        - Helped in part by their Agricultural Reserve Master Plan
        - To get CRS credits, didn't create any new deed restrictions, but performed a study to ID all deed restrictions already in existence
            - Deed restrictions have reduced flood losses, promotes recreation and tourism, open space is positive for water quality
        - Challenges to open space is people potentially building on it in the future, maybe not understanding why it's bad → education is a huge component of their work + partnerships with local communities, state and fed govt

Sea Grant/Academic Partnerships:

- Florida Sea Grant
    - Works in partnership with the University of Florida
    - Staff member focused on finding ways for local governments to best adapt to sea level rise
    - Have several flooding and sea-level rise workshops
        - Examples: Sea-Level Rise and Flooding Legal Workshop, NE Florida workshop on sea-level rise challenges
    - Provides research and suggestions to improve hazard-resilience
        - Examples: Insurance Issues, Policy Tools, Q&A's about Flood Insurance,

Non-Profit:

- Florida Association for Insurance Reform (FAIR) Foundation

- Non-profit focused on reforming flood policy
- Have a 'Get Ready, Florida' emergency preparedness campaign
- Hold several conferences and workshops on flood risk and preparedness

Education/Outreach:

- Training and workshops done by local emergency management branches
  - Sanibel County has information material with bill statements, contact information and link to watch city council meetings

Organization:

- Florida Division of Emergency Management CRS Pilot Project
  - Working with FEMA and ISO
  - Division over next 2 years will commit to enrolling NFIP communities in the CRS program
  - Including meetings with communities to evaluate local floodplain management program
  - conduct CRS Quick Check to maximize total savings
  - Requires each community to specify CRS Coordinator to be a contact for the community's participation in CRS
  - Developed seven Performance Measures that must be adopted in order to enroll in CRS under the Pilot Program
  - Adapted their toolkit from CRS toolkit developed by Dewberry
- Lee County has a multijurisdictional Program for Public Information
  - Cross jurisdictional approach that is unique
- Florida Floodplain Managers Association
  - Helps coordinate CRS Users Groups - provides central location for information
  - Hosts yearly conference which allows communities to network and learn about other programs

Policy:

- Florida has specific Building Code, water quality and local drainage protection regulations that address flooding issues
- Sanibel County has Coastal Erosion Hazard Regulations and a comprehensive land use plan - see above for details
- Palm Beach County has a Sensitive Land Acquisition program and Agriculture Reserve master plan - see above for details
- Collier County has a Green Space acquisition referendum - see above for details
- Policy tools established by Florida Sea Grant - conduct overview of sea level rise policies across Florida - see above for details

Technology:

- GIS provided by the FL Division of Water Management
- Most communities have at least a website with digital flood maps, some more interactive than others

Funding sources:

- Palm Beach County has a $150 million bond referendum for land acquisition
- Funds from state budget - see the "Florida Division of Emergency Management Case Study" for further information on state level funding

Additional Information:

- Brody et al. 2009 - Policy Learning for Flood Mitigation: A Longitudinal Assessment of the Community Rating System in Florida
    - Article looked at the change in local flood mitigation policies in Florida from 1999 to 2005
    - Results indicate that local jurisdictions do learn from histories of flood risk and this process is expedited under specific conditions
        - Found that the frequency of flood events, not the intensity, may be more influential in terms of driving CRS adoption policy
    - Florida localities are pursuing a form of least-cost learning where they appear to disproportionately select or engage in point-earning activities that are less expensive and more politically viable
        - I.e., Favoring series 300 and 400 - more public outreach, information and tightening existing regulations
        - High capital costs of structural interventions relative to the expected benefits may account for why Florida localities gravitate towards mostly non-structural solutions
    - Found Florida localities are economically rational - so FEMA or some other entity needs to provide incentives that expedite policy adoption for flood risk mitigation at the local level
- Zahran et al. 2010 - *Non-linear incentives, plan design, and flood mitigation: the case of the Federal Emergency Management Agency's community rating system*
    - Study to determine whether observed changes in annual CRS scores for participating localities in Florida are explained by non-linear incentives, adjusting for hydrologic conditions, flood disaster histories, socio-economic and human capital controls that could account for local mitigation activity scores
        - Results indicate local jurisdictions are discount-seeking, with mitigation efforts partially drive by nonlinear incentive design of CRS

Contact Information:

- Florida CRS Staff of Interest in CRS - Josh Overmyer - josh.overmyer@em.myflorida.com
- DEM CRS Coordinator - Danny Hinson - danny.hinson@em.myflorida.com

GEORGIA

State Level:

- Conducted by the Georgia Department of Natural Resources
  - Coastal Resources Division administers Coastal Incentive Grant Program
    - Administered under the authority of GA's Coastal Management Act
    - Funded by NOAA Office of Coastal Zoning Management (CZM)
    - Example: McIntosh County and City of Darien recieved $48,00 from this grant to help establish a CRS program county-wide
  - State also offers floodplain management training, how to work with administering local NFIP regulations for CRS credits, and administer the CFM exam

Regional/Local Level:

- DeKalb County
  - CRS program led by Watershed Management
  - Using money from their stormwater utility enterprise to fund additional flood mitigation projects
  - Have received several grants for their multi-jurisdictional hazard mitigation plan - hazard plan exists on a county level
  - Participating in departmental coordination (Public Works at the county and city level) to lower CRS Class rating using funds from Public Works departmental Operating Budget
- Savannah, GA
  - GIS based flood risk assessment
    - Use FEMA's HAZUS software to ID and map potential flood problem areas
  - Work with the Flood Mitigation Planning Committee and the Coastal Georgia CRS Users Group
  - Example of what a yearly report for a Class 5 community
  - Have an ongoing capital drainage improvement program funded by the Special Purpose Local Option Sales Tax (SPLOST) - see "Savannah, Georgia Cases Study" for more information
  - Fall under the Chatham County Department of Engineering Flood Mitigation Plan - thorough involvement between local and county level for coordinating CRS efforts
- Tybee Island, Georgia
  - Have a Sea Level Rise Adaptation Plan

        - Developed with the help of Georgia Sea Grant
    - Have received most of their CRS Credit through additional stormwater controls and flood proofing
    - Have mapped their own open space
- CRS Users Groups
    - Coastal Georgia CRS Users Group
        - Close to having 100% CRS communities in Chatham County
        - Have monthly meetings with 10-15 community representatives to discuss CRS in monthly meetings
    - Metro Atlanta - currently rebuilding with the help of Thomas Tkcas with the Georgia Department of Natural Resources
- Georgia Association of Floodplain Management
    - Chiefly organization and informational assistance - help provide consistent, quality information

Sea Grant/Academic Partnerships:

- Georgia Sea Grant - extensive regional partnership throughout Coastal Georgia - see "Georgia Sea Grant Case Study" for further information
        - Example: Presentation on connecting resilience to the community rating system
    - CRS Work originated with Tybee Island's CRS Extension Activities
        - Funded by Coastal Incentive Grant and administered by the Georgia DNR Coastal Resources Division
        - 3 goals
            - Assess value of CRS credits
            - Determine when the CRS directly provides a positive economic return
            - Promote extension of CRS activities along GA coast
        - Activities include
            - Perform Cost-Benefit Analysis of local government's participation in CRS
            - Connect existing mapping and coastal hazard info with credible CRS activities
            - Develop CRS public info toolkit
            - Provide one-on-one trainings on the use of the Public Information Toolkit
            - Promote expansion of CRS User Groups drawing lessons learned from successful Chatham CRS Users group

        - Have also tried to have several regional Sea Grants (e.g. McIntosh, Nags Head, Beaufort, Monroe counties)
- Carl Vinson Institute of Government at the University of Georgia occasionally hosts CRS Workshop courses in partnership with Georgia Sea Grant, Georgia Department of Natural Resources Coastal Resources Division, Coastal Regional Commission of Georgia, and Coastal Georgia URISA

Non-Profit:

- Georgia Association of Floodplain Management
    - Serve as a unifying force for the state's floodplain managers
    - Hold several outreach events e.g. conferences, workshops

Education/Outreach:

- Floodplain management training at state level and for user groups
- GA Sea Grant provides information and workshops on how to use the Public Information Toolkit
- Partners provide an immense amount of outreach assistance at the local and regional level
    - Example: Blog on local real estate firm KellerWilliams's website on Flood Insurance and the Community Rating System - information from a locally-sponsored class with applicability to the real estate market

Funding sources:

- GA Sea Grant
- Special Purpose Local Option Sales Tax (SPLOST)
- Coastal Incentive Grant by GA DNR
- NOAA Office of Coastal Zone Management (CZM)
- Stormwater Utility Enterprise Fund

Contact Information:

- Tom McDonald, Savannah Floodplain/CRS administrator, 921-651-6530
- Madeleine Russell - Georgia Sea Grant - madrusse@uga.edu

HAWAII

State Level:

- Coordinated by Hawaii Dept. of Land & Natural Resources

Regional/Local Level:

- Kaua‘i Climate Change and Coastal Hazards Assessment
  - Specific project of the Hawaii Sea Grant
  - Under this system, the County receives credit for having a shoreline setback and having additional freeboard above base flood elevation for wave inundation
  - Not officially a part of CRS program but are looking to participate to help retrofit and fill gaps in Kaua’i County
- Hawaii County
  - CRS participants but are looking to update FIRM map to effectively implement floodplain regulations
  - Have conducted a lot of research on CRS in order for the whole community to benefit
- City & County of Honolulu
  - Department of Emergency Management website details volunteer opportunities and resources before and after flood
- County of Maui
  - Has detailed Hazard Mitigation Plan that is regularly updated
  - Kaunakakai Stream flood control levee received letter of MAP revision to have recognized levees

Sea Grant/Academic Partnerships:

- Hawaii Sea Grant
  - Partner with the National Oceanic and Atmospheric Administration (NOAA) to provide links between academia, federal, state and local government and local community resources
  - They do research and education on coastal and marine resources
  - Helping to reduce the loss of human life, property and natural resources due to natural coastal hazards
  - Help local citizens, decision-makers and businesses understand and plan for coastal natural hazards

- UH Sea Grant researchers conduct cutting-edge research and often develop the engineering tools and models useful in predicting the effects of both natural and anthropogenic changes on natural systems throughout the state

Non-Profit:

- Honolulu Local Emergency Planning Committee (LEPC)
  - volunteer organization focused on bringing together local government, communities, academia, and industries as a combined resource

Education/Outreach:

- Wai Halana
  - Hawaii flood news publication by the Department of Land and Natural Resources Engineering Division
  - Issues released quarterly supported by FEMA under the Community Assistance Program
  - Focused on increasing awareness about NFIP and CRS in particular
  - Most recent issue focuses on how high tides carry a flood threat and contains tips for home buyers and sellers

Organization:

- Each island has their own FEMA/CRS structure

GIS tech:

- Found on the Hawaii Office of Planning website
  - Some map updates are needed

Funding sources:

- Sea Grant program provides a lot of funding

Contact Information:

- Dr. E. Gordon Grau, Sea Grant program director- (808) 956-7031
- Mario Siu-Li, City and County of Honolulu Floodplain Manager (808) 768-8098
- Carol Tyau-Beam, CFM Hawaii Dept. of Land & Natural Resources, (808) 587-0267, carol.l.tyau@hawaii.gov

IDAHO

State Level:

- Idaho Department of Water Resources
  - Offer CRS Training
  - Provide help list of contacts for CRS

Regional/Local Level:

- Boise
  - There is the existence of significant flood threats related to the Boise River
  - Several documents on flood protection are on file at the Boise Public Library
- Blaine County
  - Provide county floodplain management information
  - County recognized as a natural disaster area by the USDA
  - Have a floodplain conditional use permit

Education/Outreach:

- Boise has a community outreach program
- Idaho Department of Water Resources offers CRS training

Organization:

- Mostly a classic hierarchical structure
  - Counties have a lot of freedom in implementation

GIS tech:

- GIS information found on county websites

Funding sources:

- At the State Level

Contact Information:

- Scott Van Hoff, CFM Idaho Dept. of Water Resources, (208) 287-4928, scott.vanhoff@idwr.idaho.gov
- Constance Lake, Insurance Services Office, 307-333-1902, clake@iso.com

ILLINOIS

State Level:

- NFIP coordinated by the Illinois Department of Natural Resources/Office of Water Resources

Regional/Local Level:

- South Elgin
    - Used higher regulatory standards to preserve special flood hazard area (SFHA)
    - Acquisition- bought out some houses in the SFHA with hazard mitigation funds
    - Due to their SFHA ordinances if property isn't considered "high and dry" it is unsuitable for development
        - Developer must keep the land as open space
            - Can donate- South Elgin gets most of its open space from this

- Peoria County
    - Focusing on acquiring repetitive loss properties in floodplain
        - Acquire properties, demolish them, & convert land to open space
    - County works closely with the state Association of State Floodplain Managers
        - Helps them share information with and learn best practices

Sea Grant/Academic Partnerships:

- Illinois and Indiana joint Sea Grant
    - Various community planning tools to increase resiliency

Education/Outreach:

- CRS User Group
    - Illinois Association for Floodplain and Stormwater Management has a CRS committee
    - Goal is to promote floodplain and stormwater management through cooperation between local, state and federal agencies
    - Publishes newsletters and holds annual conferences to increase outreach

Technology:

- OneSTL- Sustainable Solutions Toolkit

- Regional planning tools for sustainable development of the Illinois Missouri St. Louis region
  - Contains things like: general information, examples, success measurements, and case studies
- Part of the toolkit is specific information about Floodplain Management Solutions & CRS

Policy:

- Kane County- Stormwater Ordinance
  - Prohibits any repair, replacement, or reconstruction of substantially damaged buildings in the SFHA
- Wheeling- Floodplain Ordinance
  - Smart use of water and related land resources, minimizes losses due to floods, maintain eligibility in the NFIP

Funding sources:

- Floodplain Management Resource Guide for Illinois Communities- provides all the resource of floodplain management programs and technical assistance available to communities in Illinois
  - Excellent source for any state to reference as it lists a ton of federal sources
- HUD- Peoria County received funding to remove properties
- Illinois Dept. of Natural Resources Department of Water Resources
- Illinois Dept. of Transportation
- FEMA's Hazard Mitigation Grant Program

Contact Information:

- Paul Osman, Regulatory Programs NFIP and Floodplain Manager, OWR, (217) 782-4428, paul.osman@illinois.gov
- Julie Lomax, CRS User Group Contact, Stormwater Administrator, Village of Downers Grove, 630-434-8821, jlomax@downers.us

INDIANA

State Level:

- CRS run by the Indiana Department of Natural Resources Division of Water
  - Produced a Floodplain Administrator's Guide
    - Explains state and federal floodplain regulations, permit procedures, and general CRS information
  - Indiana Floodplain Information Portal (INFIP)
    - Mapping application that provides floodplain information to help citizens determine flood risk in an effort to minimize flood damage
    - Can submit a request for floodplain analysis or regulatory assessment through the portal

Regional/Local Level:

- Indiana Association for Floodplain & Stormwater Management
  - Promotes responsible floodplain and stormwater management

Sea Grant/Academic Partnerships:

- Illinois and Indiana joint Sea Grant
  - Various community planning tools to increase resiliency

- Indiana University
  - Publication: Flood Risk Management: Exploring the Impacts of the Community Rating System Program on Poverty and Income Inequality.

Funding sources:

- FEMA funds

Contact Information:

- Michael W. Neyer, Title Director Indiana Floodplain Management Program, (317) 232-4160, water_inquiry@dnr.IN.gov

IOWA

State Level:

- NFIP & CRS Coordinated by the Department of Natural Resources (DNR)
  - Works with communities to develop and administer local floodplain management
  - Assists FEMA & Iowa Emergency Management Division in responding to flood disasters
  - Provide an award-winning Toolkit to help Iowa's flood-prone communities to determine whether the CRS program is a good fit for them
    - Toolkit explains the CRS enrollment process and provides templates to use for notifying stakeholders

Regional/Local Level:

- Cedar Rapids, Iowa
  - Have higher regulatory standards- requiring buildings to be higher than base flood elevation
  - Acquisition and relocation of property to less flood prone areas

- City of Davenport
  - Floodplain management plan requires annual CRS progress report
    - Summarizes current plan, review recent flooding and status of activities & lists objectives for the next year

Academic Partnerships:

- Iowa State Extension and Outreach Flooding In Iowa Program
  - Provide a lot of information about flooding, NFIP and CRS specific to Iowa
  - Provide a series of web-based videos to educate local officials on floodplains

Education/Outreach:

- Iowa Floodplain & Stormwater Management Association (IFSMA)
  - Work to increase participation in CRS
  - Increase awareness of the role floodplains play in conveying floodwaters and flood risks to structures that are built in the floodplain

Technology:

- DNR partnered IFSMA to produce a toolkit for local floodplain managers
  - Links activities with CRS points

Funding Sources:

- FEMA alternative project funds
- Community Development Block Grants
- U.S. Economic Development Administration funds
- HUD National Disaster Resilience Funding

Contact Information:

- Ken Bouma, Local Floodplains Program 515-725-8352 Ken.Bouma@dnr.iowa.gov
- Jason Conn, Local Floodplains Program 515-725-8333 Jason.Conn@dnr.iowa.gov

KANSAS

State Level:

- Kansas Department of Agriculture Division of Water Resources
  - Kansas Floodplain Quick Guide- a floodplain management information tool for local officials

Regional/Local Level:

- Shawnee
  - Floodplain area is 98% open space
    - Focused on stopping floodplain development and preserving open space/protecting natural functions of floodplains
    - They do this by implementing higher standards that the NFIP requirements

Education/Outreach:

- MOKAN CRS User Group- (note: as of 12/5/2017 website is not working)
  - Joint Missouri and Kansas CRS User Group
  - Purpose is to assist and support communities enrolled in CRS and communities planning to apply
  - They offer CRS support per activity, training opportunities, and a quarterly newsletter

- CRS Task Force
  - Interagency multidisciplinary advisory body- Contact is Tom Morey
  - Involved in the development & review of the 2017 CRS Coordinator's Manual

- Kansas Association for Floodplain Management, Inc
  - To promote education, training, and networking of floodplain managers

Funding Sources:

- General funding done at the state level
  - Not a lot of information on local funding for projects

Contact Information:

- Steve Samuelson, CFM, DWR/NFIP Specialist, 785-296-4622, Steve.Samuelson@kda.ks.gov

- Tom Morey, CRS Task Force, 785-296-5440 or tom.morey@ks.gov
- Melissa Mitchell, CFM & CRS Task Force, mmitchell@iso.com (913) 543-0632

KENTUCKY

State Level:

- Kentucky Division of Water is the state agency for coordinating NFIP
    - Website has links on how to achieve floodplain compliance, construction in the floodplain, and map modernization
    - Maintain GIS maps for the state
    - KDOW conducts statewide inspections to help develop flood risk information
- KDOW works with the Kentucky Department of Insurance to help extend flood insurance coverage
- Kentucky one of only a few states that requires floodplain development permits through Kentucky Revised Statute (KRS) 151.250
- Kentucky has developed, with the help of a HUD, FEMA and EDA funding, a new resiliency planning tool CHAMPS, the Community Hazard Assessment and Mitigation Planning System
    - Offered as a free resource to KY communities to enhance disaster management efforts based on the concept of understanding risk, and mitigation efforts
    - Center for Hazards Research, Kentucky Division of Emergency Management and Stantec are working together to train local emergency managers and community leaders on the system
- Kentucky Emergency Management has a Hazard Mitigation Assistance Program and is in charge of the resilience-focused updates to the state Hazard Mitigation Plan

Regional/Local Level:

- Kentucky Association of Mitigation Managers
    - This website is a concentrated source of information on flood issues on the national level that could impact Kentucky. Very little of the information is created by KAMM, but it is a valuable central resource
        - Specific CRS link on their website with basic information on CRS then specific blog post updates on CRS occurrences at the national level that could impact local CRS Coordinator's
            - Information includes new FEMA CRS Fact Sheet
            - NFIP/CRS Newsletters
            - Links to Emergency Management Institute (EMI) CRS Training programs
            - Link to information on Federal Floodplain Management

    - Administer the Kentucky Resilience Questionnaire - designed to assist local decision makers in identifying opportunities to improve resilience through existing planning mechanisms, public engagement, and disaster preparedness
        - Initially developed for the HUD National Disaster Resilience Competition from the years 2011-2013, but still useful for engaging a broader audience in the resilience discussion
- Northern Kentucky Area Development District (NKADD)
    - Serves 8 counties in Northern Kentucky (One of these participates in CRS)
    - Received a FEMA grant to coordinate a "reincarnation" of the Regional Hazard Mitigation Plan
- Louisville Metro
    - Metro Council President David Yates was presented award by regional FEMA director for outstanding efforts in CRS
        - More than 5,194 policies in the Louisville area representing more than $880 million in flood insurance coverage
    - Louisville faces many flooding issues due to its proximity to the Ohio River and possibility of flash flooding from interior streams and overloaded storm systems
    - MSD, a water utility company in Louisville, is in charge of CRS and enforcing the Louisville Metro Floodplain Management Ordinance
        - Host a Flood Mitigation Workshop
    - Because of these flooding dangers, the City has higher standards for floodplain management that have results in them being a Class 3 community - only the second community on the Eastern seaboard to receive this ranking and the highest in Kentucky
        - Louisville Metro Floodplain Management Ordinance requires a 25 foot stream buffer be maintained along streams as defined by USGS Topographic maps
        - Louisville MSD manages and regulates development to the Local Regulatory Flood Encroachment Zone that is modeled based on fully developed conditions
        - City developed a Green incentive program, that focuses on commercial, industrial and institutional properties
            - MSD assisting these property owners on a priority basis with green infrastructure incentives to reduce stormwater runoff to sewers and creeks. This reduction will lead to property managers receiving a reduction on monthly stormwater use charges
        - City is updating their Multi-Hazard Mitigation Plan to focus more in resilience
    - MSD website has information on the exact activities that the City participates in and how they do the activities in order to obtain their ranking

- City of Owensboro and Daviess County
    - CRS is administered through a combined effort of Daviess County Emergency Management Agency, Owensboro Metropolitan Planning Commission, GIS and the city/county government
        - Information on flood preparedness
        - Established a PPI (which has been adopted by the Daviess County Fiscal Court) and have their outreach strategy listed on the website - strategy team members from many different departments in government
- Lexington-Fayetteville Urban County
    - City has a Stormwater Department that has information on their Priority Projects (and map), success stories, and Stormwater Stakeholder Advisory Committee
    - Administer a Stormwater Incentive Grant Program that provides financial assistance for projects that improve water quality, reduce runoff and educate citizens
    - City spent $2,852,926 in 2016 to increase the capacity of the stormwater system
    - Several main roads benefit from additional storm drains, larger drainage pipes and an underground culvert that collects and temporarily holds rain runoff
        - Paid for by the stormwater management fee (LEXserv) & is part of a comprehensive plan to improve Lexington's sanitary and stormwater systems.

Sea Grant/Academic Partnerships:

- Kentucky does not have a Sea Grant Program or any Academic Partnerships

Education/Outreach:

- Department of Water and Emergency Management Administration offer training on their tools
- CRS trainings also offered by the KY Association of Mitigation Managers and their website is a central location for CRS information

Organization:

- State level provides technical tools, but very little help with CRS specifically
- Louisville has a regional city-county metro management approach, same with the City of Owensboro and Daviess County
    - Prominent inter-governmental agency work in additino to cross-agency

Policy:

- Stricter-than-national Kentucky state statutes on flooding
- Regional Comprehensive Hazard Mitigation/Management Plan in the process

- Local level regulations and mitigation plans

GIS tech:

- KY Division of Geographical Information provides GIS Flood Map information
- Risk MAP has provided significant new risk identification and assessment tools across KY
- CHAMPS, the Community Hazard Assessment and Mitigation Planning System is an online, free resilience tool developed by the state

Funding sources:

- KYEM Hazard Mitigation Program Grants
- HUD and FEMA Grants
- Stormwater Management Fee
- State Flood Control Matching Grant Program
    - Program uses state bonds as grants to help meet cost-share match requirements associated with projects funded by the US Corps of Engineers, the Federal Emergency Management Agency and the Natural Resources Conservation Service
    - Funds have been used in the past for acquisition and relocation of homes from flood prone areas and elevation of structures in the floodplain
- Kentucky Mitigation Managers Association's website has links to many other state and federal grants that could be applied in a CRS context

Contact Information:

- Christina Groves, CFM, Kentucky's CRS Specialist, ISO Community Hazard Mitigation, ISO - Commercial Property - Christina.Groves@verisk.com
- Alex VanPelt, CFM Kentucky Div. of Water, 502-782-7120
- Christopher Hart, Kentucky Div. of Water, (502) 564-3410, chris.hart@ky.gov

LOUISIANA

State Level:

- Only 25 of 303 municipalities participating - 8%
- CRS at the state level by the Louisiana Dept. of Transportation and Development
    - University of New Orleans' Center for Hazards Assessment, Response and Technology (UNO-CHART) in a report recommended in order to encourage and facilitate local participation in CRS, there need to be resources to increase local staffing capacity through state incentives
    - Also there is an issue with equality of funding - most funding in richer communities, leaves small, more exposed, poorer coastal communities unable to participate or advance in the CRS program

Regional/Local Level:

- Multiple User Groups
    - Capital Region Area Floodplain Task Force (CRAFT)
        - CRS User Group that works closely with the LA Dept. of Transportation and Development with monthly meetings facilitated by UNO-CHART
        - Currently working to establish a Program for Public Information (PPI)
    - Flood Loss Outreach & Awareness Task Force (FLOAT)
        - Voluntary organization of CRS participating communities in Louisiana
        - Formed with the help of Louisiana State NFIP Coordinator, CRS Coordinator and UNO-CHART
        - 10 members of FLOAT compromise 27% of the total CRS communities in the state and 42% of the total number of policies
    - Jefferson United MItigation Professionals (JUMP)
        - CRS User Group based in a single jurisdiction (different from the other user groups) Jefferson Parish
        - Take action in protecting the people and property of the Parish from future flooding
- Louisiana Resiliency Assistance Program
    - Website that is not currently active, but provides information on best practices, resources + funding, resources, and training possibilities
    - Housed in Louisiana State University
- Louisiana Floodplain Management Association

    - Forum for parish and municipal employees, state and federal officials and private sector to meet and share experiences, ideas, and solutions to common flooding problems
    - Publish newsletters (Floodwatch), host conferences and workshops - most recent newsletters have included information on the new CRS Manual and discusses upcoming webinars
- Despite this regional work, the UNO-CHART report also highlighted that there is no current mechanism in CRS by which multiple jurisdictions can share the administrative burden

Sea Grant/Academic Partnerships:

- University of New Orleans' Center for Hazards Assessment, Response and Technology (UNO-CHART) - additional link
    - Serve as a key partner with localities, in particular through planning, leading and documenting local Users Groups meetings
    - Host a Repetitive Flood Portal with information on flood recovery, flood insurance, floodplain management, and more
    - Provide information on current updates and changes to CRS and NFIP
    - Conducts research and writes reports required by CRS program and for academic purposes
    - Provides participants with meeting spaces, webinars, and information about Continuing Education Credit opportunities to Certified Floodplain Managers
    - Highlighted as an organization of "Mitigation Best Practices" by FEMA
- Louisiana Sea Grant
    - Focused on creating resilient communities in flood and stormwater management
    - Have several research and outreach objectives related to flooding in the coastal zone in particular - works frequently with MS-AL Sea Grant for a Gulf Coast-centric view
    - Creates and hosts tools like http://ppi.stormsmart.org, a website to help communities better understand how to create a Program for Public Information (PPI)

Non-Profit:

- Center for Planning Excellence - non-profit organization that coordinates urban, rural and regional planning efforts in Louisiana
    - They provide technical assistance and publish resources to assist with flood risk mitigation and water management

Education/Outreach:

- CRS Users Groups, academic and Sea Grant partners all work with outreach and education in the state through webinars, reports, open meetings, and other outreach materials
- Propensity of PPI's within Louisiana shows the dedication of organizations within the state to outreach

Organization:

- Localities participate individually, but many instances of cooperation and regional efforts in the state
- No formal connection between CRS Coordinator's and others in local government who may be taking actions that qualify for CRS points - lack of between-government department communication
- UNO's Center for Hazards Assessment, Response and Technology (UNO-CHART) provides a lot of the central organization within the state; the 3 User Groups which it oversees represent 22 million residents in Louisiana

Policy:

- Center for Planning Excellence - see link above
    - Website contains Comprehensive Resiliency Plans for multiple jurisdictions in Louisiana
    - Report on state of CRS in LA

Funding sources:

- Louisiana Resiliency Assistance Program (not currently active website) through Louisiana State University - central resource for funding opportunities which include
    - US Small Business Administration
    - USDA Rural Development
    - Many more examples
- Repetitive Flood Portal has funding matrix to highlight available funding for localities
    - FEMA funded the creation of this portal

Additional Information:

- Paille et al. 2016 - *Influences on Adaptive Planning to Reduce Flood Risks among Parishes in South Louisiana*
    - Louisiana communities have historically been slow to adapt to flood planning measures due in part to the rural nature of the state
    - Strong private property rights within the state has hurt many efforts towards land use planning

- Found inequality in CRS scores based on median housing prices - like the Center for Planning Excellence report highlighted earlier concerning economic inequality in the CRS program
- Oddly, found the number of floods in the last 5 years and the revenue base of the parish does not significantly influence the CRS scores
- Because of unique rural nature of Louisiana and the views on private property rights, CRS program administrators may need to include additional outreach and technical assistance to lower income jurisdictions to encourage more collective action

Contact Information:

- Dr. Monica Farris , mateets@uno.edu, 504-280-4016

MAINE

State Level:

- Department of Agriculture, Conservation and Forestry- Maine Floodplain Management Program
    - Works with individuals, communities and professionals to keep ordinances compliant, provide technical assistance, encourage enrollment in CRS
    - Staff provides technical information, floodplain maps and model ordinances to communities
    - Had a NOAA Coastal Fellow working on developing a coastal resilience checklist
        - Checklist was designed as a self-assessment tool to identify a community's vulnerability to flood hazards and increase resiliency
        - A subsection of her work was in CRS
        - Interviewed regional and municipal staff to gauge awareness and interest in order to identify challenges, needs, and opportunities in CRS
            - Found a general lack of knowledge, strained resources, lack of GIS expertise, and a lack of capacity
    - Fellow finished her 2 year fellowship & took a job in NH working on floodplain management
        - Now there are only 2 state level employees working on CRS
            - State has limited time and resources

- Maine Geological Survey
    - Working in partnership with the Maine Floodplain management Program & Main Coastal Program to increase participation in CRS

Regional/Local Level:

- Most localities do not have enough NFIP policies for joining CRS to be cost effective
- Had 21 communities participating in CRS but 5 have dropped out
    - Time and resources are the main obstacles

- York, Maine
    - Adopted a York County Hazard Mitigation Plan at the end of 2016
    - Had a score improvement in summer 2017
    - Work in open space mapping

- Northeast Regional Ocean Council

- State and Federal partnership serving as a forum for the development of goals and priorities of New England's coastal areas

Sea Grant/Academic Partnerships:

- University of Maine and Bowdoin College
  - Both institutions are involved in the Maine Sustainability and Water Conference
  - Presented CRS as an opportunity for Community Resilience and detailed opportunities for CRS credit
  - Mitchell Center for Sustainability Solutions provides resources of flood management

Education/Outreach/Organization:

- Maine Coastal Program
  - Maine Municipal Planning and Assistance Program provides coastal grants
  - Website details list of previous community grants in Maine

Policy:

- Mandatory Shoreland Zoning Act- shoreline zoning regulations since 1970s aimed to protect water quality and preserve shoreland areas
  - ME Department of Environmental Protection published a Maine Shoreland Zoning Guide in 2008

Funding Sources:

- FEMA
- U.S. Army Corps of Engineers supported state-led Silver Jackets Teams- help fund projects that could get CRS points although this isn't the focus

Contact Information:

- Sue Baker, CFM, Program Coordinator, ME Department of Agriculture, Conservation and Forestry, 207-287-8063, sue.baker@maine.gov
- Amber Harrison, Director of Code Enforcement/CRS Coordinator (207) 363-1002
- JoAnn Mooney, State Hazard Mitigation Officer, Maine Emergency Management Agency (207) 624-4400

MARYLAND

State Level:

- Only 12 communities participate in CRS despite 600 miles of coastline
- Maryland Dept. of Natural Resources
    - Administer Community Resiliency Grants
        - Funds come from NOAA and EPA
        - Proposals from communities should focus on addressing the impacts of hazards, including local flooding storm events and sea level rise
        - Funds awarded in 2017 to Oxford, MD are being used to help the community apply to be a part of the CRS program
        - One track specifically address Green Infrastructure goals which is now emphasized through the CRS Manual
    - Run the CoastSmart Resource Center with web-based planning tools, storm surge inundation and sea level rise maps, training programs, and information on flood insurance
        - MD launched this program in 2009 to provide a support center for local government dealing with the impacts of climate change
        - Provides financial support for county's adaptation planning processes through Coastal Communities Initiative (CCI) grant program and technical support
- MD Department of Environment offers CRS training
    - Lead state agency
    - Does this through partnership with Coastal Training Program through National Estuarine Research Reserve (NERRS)
        - National Initiative through NERRS to help coastal managers gain a better understanding of environmental issues and regulations
    - State NFIP Coordinator works out of Department of Environment - Kevin Wagner - Natural Resource Planner
        - Leader of the CRS Users Group
    - Focus chiefly on informational - digital flood insurance maps, lots of FAQs

Regional/Local Level:

- Ocean City, MD
    - Planning and Community Development office provides flood determination forms and copies of the flood map free of charge to residents

    - Heavily promoted freeboard requirements and have building code and foundation requirements
    - Developed Transfer of Development Rights program to compensate owners for private property taken to construct the dunes
        - Highly successful program where landowners are allowed to sell development rights and saved the city million dollars or land acquisition costs
    - Have a staff member dedicated to CRS
        - Bill Neville, head of this department, has spoken on the lack of funding for full-time staff dedicated to flood protection issues
    - For more information, see the "Ocean City, MD Case Study"
- Baltimore
    - CRS located within their Office of Sustainability
    - Staff Contact - Victor Ukpolo - victor.ukpolo@baltimorecity.gov
    - Have a staff member dedicated to it, but not much more information anywhere on what they actually do
    - Included in their 2013 Disaster Preparedness Plan
- Calvert County
    - CRS located within their Planning and Zoning Department - provide flood mitigation plans
    - Discuss Performance Requirements Summary (PRS) in their Flood Mitigation Plan
- Fredrick
    - CRS located within their Engineering Department
    - Class 7 community when they entered in 2010 - no one on the department staff who is dedicated to CRS
- Somerset County
    - Somerset received a grant through MD's Coast-Smart Communities Initiative program to assess county's vulnerability to climate change and develop a plan of action
- Talbot County
    - Located within their Planning and Zoning Department - still Class 8 from when it was entered in 2014 - no dedicated individual on staff
    - Focus on informationals on website

Sea Grant/Academic Partnerships:

- Maryland Sea Grant College at the University of Maryland
    - Have information on the future of coastal flooding in the state among many other resources available to the public but not CRS focused

- Storm Surges, Coastal Flooding and Climate Change, Rising Sea Level, Report on Sea Level Rise and Chesapeake Bay, George Mason University + MD Sea Grant online map on coastal flooding

Non-Profit:

- Maryland Voluntary Organizations Active in Disaster (VOAD)
  - Non-profit forum where organizations share knowledge and resources throughout the disaster cycle
  - Dedicated to minimizing the effects of floods
  - No direct focus on CRS

Education/Outreach:

- Each Local Floodplain management depart provides vast informational resources
  - Comprehensive hazard mitigation plans that address climate change and flood maps available to the public with ease - see the communities above
- Sea Grant Extension Programs
- State level CRS Training and FAQ's available

Organization:

- Mostly on the local level
- State organization comes through funding and leading the CRS Users Group

Policy:

- Baltimore has a specific Disaster Preparedness Plan
- Most counties also have a specific Hazard Mitigation Plan - see the communities above
- Writing in CRS elements into local and state codes, i.e., freeboard requirements in Ocean City, MD

Technology:

- Ocean City has flood determination forms and flood maps - link, link, link
- Digital Flood Insurance maps at the State Level

Funding sources:

- MD Community Resilience Grants through Coast-Smart Communities Initiative - some state level opportunities
- The rest of the funding is done at the local level through different mechanisms - local budget, private/public partnerships
  - Limited funding for full time CRS individuals at local level

Contact Information:

- William W. Neville, AICP, CFM - Director of Planning and Community Development, Town of Ocean City - (410) 289-8942, BNeville@oceancitymd.gov
- John Joyce, CFM MD Dept. of Environment, (410) 537-3914

MASSACHUSETTS

State Level:

- Office of Public Safety and Security- Floodplain Management
  - State website provides general information on the NFIP and flood mapping
- Office of Coastal Zone Management- StormSmart Coasts
  - Help decision makers in coastal communities address storms, flooding, SLR & climate change

Regional/Local Level:

- Cape Cod Cooperative Extension- education department for Barnstable County mandated by the Smith-Lever Act in Congress in 1914
  - Houses the Cape Cod Regional Coordination Position
    - Full-time CRS position funded initially through Sea Grant & Barnstable County- now funded solely through the county
    - CCRC helps with CRS application process, provides training, GIS support, outreach to coordinations and communities etc.

- Scituate, Massachusetts
  - Hired a coastal resource officer to take care of CRS & resiliency

Sea Grant/Academic Partnerships:

- Woods Hole Oceanic Institute Sea Grant (WHOI)
  - Funded the regional coordination efforts of Cape Cod Cooperative Extension
  - WHOI also did an evaluation in 2014 of local Federal Emergency Management Agency Flood Insurance Rate Maps

- Massachusetts Institute of Technology (MIT) Sea Grant
  - Research program dedicated to outreach and integrated educational projects
  - Works with community leaders across the state

Organization:

- Barnstable County- hired a regionally funded CRS Coordinator position
- Cape Cod CRS Users Group
- South Shore CRS Users Group

Funding sources:

- Funding available through state's Sea Grant Programs
- States uses various state grants to pay for some aspects of the regional CRS program.
    - To follow is not an exhaustive list of state funding:
        - Executive Office of Energy and Environmental Affairs' (EEA) Grant and Loan Guide
            - Information, applications, & eligibility criteria for most EEA grant programs
        - Emergency Management Agency (MEMA) grants
            - Homeowners located in the flood zone to pay for elevating their home
        - Office of Coastal Zone Management (CZM) - Coastal Community Resilience Grant Program
        - Division of Conservation Services (DCS)- grants for acquisition of conservation and recreation land

Contact Information:

- Shannon Jarbeau, Cape Cod Regional CRS Coordinator, Cape Cod CRS User Group, 508-375-6952, shannon.jarbeau@barnstablecounty.org
- Nancy Durfee, South Shore CRS User Group ndurfee@scituatema.gov

MICHIGAN

State Level:

- Michigan Dept. of Environmental Quality
  - Developed a quick guide for floodplain management in the state
    - Addresses federal and state regulations, building/residential codes
  - State requires that sellers disclose flood damage and whether flood insurance has been purchased
  - Floodplain Management Guidebook
    - Addresses federal & state regulations, building codes, residential codes, NFIP regulations

Regional/Local Level:

- City of Ann Arbor
  - Extensive park system and open space areas in floodplain
  - Higher than average regulatory standards

Sea Grant/Academic Partnerships:

- Michigan Sea Grant
  - Storm Project- help communities prepare for future storms
    - help communities assess their coastal storm resiliency planning needs
  - Supports a variety of research projects focuses on reducing flood damage

Organization:

- Department of Environmental Quality (DEQ)
  - Water management and Floodplain management programs

Policy:

- State law requires that sellers disclose flood damage and whether flood insurance has been purchased

Funding sources:

- FEMA Community Assistance Grant Program

Contact Information:

- Les Thomas, State NFIP Coordinator, 517-284-5489, thomasl@michigan.gov
- Jerry Hancock, Stormwater and Floodplain Programs Coordinator, 734.794.6430 ext. 43709, jhancock@a2gov.org

MINNESOTA

State Level:

- Department of Natural Resources implements NFIP
  - Offers assistance to local floodplain administrators
  - Website has state floodplain regulation and permitting information
  - State offers floodplain training and education

Regional/Local Level:

- Austin, Minnesota
  - Report on community's proactive flood mitigation
    - Report includes an economic analysis of the efforts
    - Used funding from local sales tax, FEMA funds & DNR grants to help fund flood mitigation

- City of Moorhead
  - Involved in a number of flood mitigation programs and voluntary acquisitions of properties
    - River Corridor Plan
      - City did several flood mitigation projects & acquisition of flood-prone properties near the Red River
        - Transferred a large portion of private property along river to public

- MN Association of Floodplain Managers
  - Host an annual conference

Sea Grant/Academic Partnerships:

- Great Lakes Region NOAA Coastal Storms Program
  - Climate Ready Great Lakes- 3 modules to help region adapt to climate change
    - Module 3 highlights adaptation tools developed by NOAA, Sea Grant, and other federal agencies

Funding sources:

- FEMA funds
- State DNR Grants

Contact Information:

- Ceil Strauss, State NFIP Coordinator, 651.259.5713 Ceil.strauss@state.mn.us

MISSISSIPPI

State Level:

- Mississippi Emergency Management Agency (MEMA) - works with Sea Grant and federal partners to educate individuals on CRS and NFIP
    - Their website has links for homeowners, businesses, and elected officials, but the links aren't working

Regional/Local Level:

- Vicksburg, MS
    - Started buyout program in 1990 to try to get rid of repetitive flooding areas and loss properties
    - Buyouts are becoming more complicated/people are more reluctant
        - City now enforcing Floodplain Damage Prevention Ordinance,
        - Code Enforcement Ordinance and property maintenance code ordinance and use of a city-developed Memorandum of Understanding works directly with homeowners to mitigate properties that are severely damaged
        - Buyouts have been funded with 75% federal and 25% local split - other than the initial cost, very few other maintenance costs with these bought-out properties
    - Memorandum of Understanding
        - Does not allow residents to move back into their flooded houses
        - Prevents homeowner from being eligible for any flood insurance or disaster mitigation benefits
        - Gives property owner power to decide how many times they want to personally repair their homes before voluntarily tearing them down
        - Allows houses to stay in the family for generational properties - helps families unwillingness to relinquish their homes
        - MOU works because the city understands the motivations of the property owners and allows them to curate an arsenal of good ordinances and codes when buyout programs are not feasible or available
    - Has strong code enforcement department
        - Property maintenance code and building code have been key resources that have allowed the city to be effective in reducing flood risk
- Jackson, MS
    - CRS conducted In their Engineering Department, within Public Works

    - Website provides information
        - City is in the same class rating as when they entered so they have not really advanced in their CRS work
- Biloxi, MS
    - Class 5 community - locally funded positions for CRS implementation and work - started the program locally in 1996
    - In the process of establishing a PPI with the help from AL-MS Sea Grant - see Alabama state document and "Birmingham, AL Case Study" for further information
        - Biloxi PPI Document
    - Examples of Outreach information - workshops supported by partnerships of different organizations (Grand Bay National Estuarine Research Reserve, MS-AL Sea Grant, MEMA, NOAA Office for Coastal Management, MS State University)
    - CRS located in Planning Department - planning division staff includes a Floodplain Manager and CRS Coordinator who's chief job it is to maintain records and documentation to keep Biloxi's flood insurnace rating at lowest class level rating possible
- Mississippi Coastal Hazard Outreach Strategy Team (C-HOST)
    - Brings together government officials, community stakeholders and public to capitalize on what's being done, coordinate messages, and develop new projects
        - Have state and federal representatives and 2-3 CRS community residents representatives that rotate
        - Representatives from CRS Communities all along the MS Gulf Coast - 11 communities
- Association of Floodplain Managers of Mississippi
    - Most of their work seems done on the individual community level and through this very active CRS group

Sea Grant/Academic Partnerships:

- Alabama-Mississippi Sea Grant Consortium
    - Had an ABC's of Community Flood Mitigation (CRS, PPI, etc.) - used in Alabama and Mississippi
    - Have held workshops on CRS for the Gulf Coast
- Find that NFIP participation is higher among coastal communities in Mississippi compared to coastal communities in Alabama
    - AL has more coastline and coastal population than MS
    - Implies that premium discounts awarded on individual policies in CRS communities may indeed by motivating residents to purchase flood policies
    - CRS program appears to be achieving its goal of increasing NFIP participation among CRS participating communities

- University of Mississippi (Ole Miss) is involved in CRS as well - helped with Dauphin Island Climate Resilience Study - see “Alabama” state profile

Non-Profit:

- Grand Bay Natural Estuarine Research Reserve (NEER)
    - Managed by the Mississippi Dept. of Marine Resources (MDMR) as a part of NOAA’s Office of Coastal Management for Mississippi and Alabama
    - Works with partners from Mississippi State University, University of Southern Mississippi to conduct research and monitoring of Grand Bay estuary
    - Works with local schools and communities to provide hands-on experiences with the coastal environment
    - Provides workshops to information on CRS
    - Keeps up on federal policy changes to provide information to its group of stakeholders - can reach a different audience than possible through the state or Sea Grant
- Grand Bay Community Collaborative
    - Group of natural resource partners, community members & stakeholders that works with the NERR to focus research/outreach on local coastal management
    - Links researchers with local community of coastal managers and stakeholders

Policy:

- Strict buyout and enforcement code/ Memorandum of Understanding in Vicksburg
    - Fill-in-the-blank Memorandum of Understanding from Vicksburg
    - Information on the MOU from Flood Science Center

Funding sources:

- MS-AL Sea Grant
- Fed/State Grant programs
    - Local budget

Contact Information:

- Kristin Greger, Regional CRS Coordinator, kgreger@biloxi.ms.us
- Stephen Deal, AL-MS Sea Grant, scdeal@olemiss.edu

MISSOURI

State Level:

- Emergency Management Agency
  - Offer NFIP training for local floodplain administrators, planners, insurance agents, elected officials, lenders, realtors, engineers and surveyors
  - Produced a Floodplain Management Quick Guide for the state

Regional/Local Level:

- Kansas City
  - Kansas City Water Services currently participates in CRS
    - Deals with the city's drinking water, wastewater, and stormwater
- Platte County
  - Has very limited information pertaining to floodplain management on their website
  - County was highlighted in the Missouri Ruralist for having:
    - Higher floodplain and stormwater regulatory standards due to adopting International Series of Building Codes
    - Relocated 95 homes out of the floodplain
    - Carried out public information and educational outreach campaigns
- St. Louis Region- Meramec Greenway
  - Collaborative project to preserve open space and build nature trails for people to enjoy along the Meramec River
    - Great Rivers Greenway partnered with Meramec River Recreation Association, St. Louis County Department of Parks, state DNR Division of State Parks, state Department of Conservation, & various municipalities in St. Louis County
  - Great Rivers Greenway is the regional greenways district for the St. Louis region and has acquired 288 acres of land in the river corridor
  - The Greenway was highlighted in The Economist for it's countywide collaboration to address flooding issues

Non-Profit:

- PEW Charitable Trust provides a fact sheet on flood management in the State
  - Highlights areas that have significant flood risk, flood statistics specific to the state, and the importance of policy to address flooding

Education/Outreach:

- MOKAN (Missouri-Kansas) CRS User Groups- (as of 12/6/2017 website doesn't work)
    - Purpose is to assist and support communities enrolled in CRS and communities planning to apply

Technology:

- OneSTL- Sustainable Solutions Toolkit
    - Regional planning tools for sustainable development of the Illinois Missouri St. Louis region
        - Contains things like: general information, examples, success measurements, and case studies
    - Part of the toolkit is specific information about Floodplain Management Solutions & CRS

Funding sources:

- State Emergency Management Agency Funds
- FEMA funds

Contact Information:

- Karen McHugh, CFM Floodplain Management Section Manager/State NFIP Coordinator, (573) 526-9129, Karen.McHugh@sema.dps.mo.gov

MONTANA

State Level:

- Department of Natural Resources and Conservation

Regional/Local Level:

- Miles City
  - Created a Program for Public Information (PPI)
    - Group is tasked with figuring out how the city can improve its CRS score
    - Comprises mostly realtors and lenders
- Gallatin
  - Maintains a Hazard Mitigation Plan
  - Lots of outreach and instruction activity
  - Has applied for grant funding to replace the Nixon Gulch Bridge, critical infrastructure that crosses the Gallatin River.
- Association of Montana Floodplain Managers - trying to create users group
  - Trying to create a CRS users group

Education/Outreach:

- Gallatin does lots of public outreach
- Miles City has a Program for Public Information

Policy:

- Gallatin maintains a hazard mitigation plan

GIS tech:

- Available on the Montana DNRC Website

Funding sources:

- Mostly at the State level

Contact Information:

- Lana Hedlund, MT Floodplain Mgmt. Program, (406) 444-6654, lhedlund@mt.gov
- Traci Sears, CFM, NFIP Coordinator, (406) 444-6654, tsears@mt.gov
- Nadene Wadsworth, Deputy SHMO, (406) 324-4875, nwadsworth@mt.gov

NEBRASKA

State Level:

- Dept. of Natural Resources
  - Website lists every community is eligible for 250 points based on state floodplain regulations
  - Offer floodplain management training and workshops, produce a newsletter, and have lots of floodplain management resources

Regional/Local Level:

- Lincoln, Nebraska
  - Class 5- extensive GIS use (use to manage city's drainage system), 61% SFHA is preserved open space, floodplain setback regulations, outreach, & the only city in the country to receive credit for levees
  - Floodplain management under Department of Building and Safety & Watershed Management

- Nebraska Silver Jackets
  - State-led interagency approach to managing flood risk through education, outreach, resources, risk assessment, and hydrologic studies
    - Resources for mapping, hazard mitigation plan , dam safety
    - NDNR, Nebraska Emergency Management Agency, U.S. Army Corps of Engineers- Omaha District, U.S. Army Corps of Engineers- Kansas City District, Federal Emergency Management Agency- Region VII, United States Geological Services- Nebraska Water Science Center, National Weather Service, & Bureau of Reclamation- Great Plains Region

Funding Sources:

- FEMA Flood Mitigation Assistance program grants
- U.S. Army Corps of Engineers supported state-led Silver Jackets Teams- help fund projects that could get CRS points although this isn't the focus

Contact Information:

- Mitch Paine, DNR Flood Mitigation Planning Coordinator, (402) 471-9252, mitch.paine@nebraska.gov
- Craig Wacker, 402.471.3957, craig.wacker@nebraska.gov

NEVADA

State Level:

- NFIP is coordinated by the Nevada Division of Water Resources (NDWR)
  - coordinate flood mitigation and management objectives at the State level for communities participating in NFIP
  - provide training in floodplain management

Regional/Local Level:

- Douglas County (Carson River)
  - The county has the Carson River Coalition (CRC) is a bi-state, multi-county stakeholder group
    - Includes planners, floodplain managers, FEMA members etc.
  - Carson Water Subconservancy District (CWSD)
    - Have a risk MAP Discovery process to better understand local flood risk and mitigation efforts
  - The county has yet to complete FEMA flood maps for the entirety of the Carson River

Sea Grant/Academic Partnerships:

- Nevada does not have a Sea Grant program or any significant Academic partnerships

Non-Profit:

- Floodplain Management Association
  - Works in Nevada, California & Hawaii to increase floodplain management awareness
    - Ongoing series of symposiums, conferences and workshops
    - Have CRS workshops and offer one-on-one sessions
    - Focuses on genuine Tribal representation in decisions affecting Tribal floodplains

Education/Outreach:

- Nevada Floodplain Management News

    - Semi annual newsletter prepared by the Nevada Division of Water Resources
    - Most recent issue (Spring 2017), details that Carson Water Subconservancy District (CWSD) applied for and received a $285,000 grant from FEMA to help cover some of the costs to create an Area Drainage Master Plan for the Johnson Lane neighborhood
- Carson Water Subconservancy District (CWSD)
    - Floodplain and flood hazard outreach and education for the Carson River

Organization:
- Very decentralized organization
    - Take state, regional, local and tribal considerations

Policy:
- NDWR has a great commitment to outreach at both the state and local level

GIS tech:
- Mostly on the local level
- There is some information available on the NV Division of State Lands Website

Funding sources:
- Mostly at the state level
- FEMA

Contact Information:
- Bunny Bishop, State Floodplain Manager, 775 684 2834
- Katherine Clancey, Flood Mapping Coordinator, 775 684 2847

NEW HAMPSHIRE

State Level:

- NFIP coordinated by the New Hampshire Office of Energy and Planning (OEP)
    - OEP provides technical assistance to communities and to the public on floodplain management
        - Conducts Community Assistance Visits to ensure NFIP communities are meeting program goals
    - Provides assistance on flood insurance and Floodplain Maps and Studies
    - Helps promote sound land use planning techniques that will reduce flood losses
- Only 5 communities in the state participate in CRS

Regional/Local Level:

- Rye & Hampton, New Hampshire
    - Provide technical assistance for CRS program application
    - Prepared a FEMA 'quick check' spreadsheet for CRS activities/points and a memo for the town planner about low effort, cost-effective activities to maximize points
    - Reviewed and mapped conserved lands in the 100-year floodplain
    - Regularly prepare outreach materials & hold information workshops
    - Have a relatively experienced staff and broad municipal support
- City of Dover
    - City was awarded a $7,500 grant from the Northeast Regional Ocean Council (NROC) as a part of the New England Coastal Community Resilience Initiative to conduct outreach activities
        - These activities were eligible for CRS points
- Northeast Regional Ocean Council (NROC)
    - State and Federal partnership serving as a forum for the development of goals and priorities of New England's coastal areas (link)

Sea Grant/Academic Partnerships:

- New Hampshire Sea Grant
    - Works with a wide range of individuals and and organizations to promote floodplain management and sustainability
- University of New Hampshire
    - Focus on statewide sustainability
    - Offering Surveying in Floodplains workshop (link)

        - General overview of floodplain management and the NFIP
    - GRANIT Flood Insurance Study (FIS) & Digital Flood Insurance Rate Maps (DFIRMs) database (link)
        - FIS revises and updates information on existing flood hazards in the state

Non-Profit:

- NH Coastal Adaptation Workgroup
    - A collaboration of 24 organizations working to assist communities in NH's coastal watershed
    - Main focus areas are community outreach, municipal planning, mapping with flood assessments and reducing coastal risks and hazards

Organization:

- NH Coastal Risk & Hazard Commission
    - Formed in 2013 to encourage statewide preparation for coastal flooding risks
        - Prepared a detailed final report centered on climate change (link)
    - Doesn't specifically talk about CRS but details ways to achieve similar goals of coast community resilience

Funding Sources:

- FEMA funds
- NOAA grants
- Northeast Regional Ocean Council grants

Contact Information:

- Jennifer Gilbert, Senior Planner, Floodplain Management Program Coordinator, NH Office of Strategic Initiatives (603) 271-1762, jennifer.gilbert@osi.nh.gov
- Abbie Sherwin, CFM, Principal Planner, Assistant State Floodplain Management Program Coordinator, NH Office of Strategic Initiatives, (603) 271-2157, abbie.sherwin@osi.nh.gov

NEW JERSEY

State Level:

- NJ Office of Emergency Management
  - Facilitate a Hazard Mitigation Program and Mitigation Assistance Grants
    - Hazard Mitigation Plan (Ready NJ) updated in 2014 with section on CRS statewide and on each locality - information dispensing and collecting on the state level
    - Hazard Mitigation programs builds on NJ's efforts in the aftermath of Superstorm Sandy to enhance resilience at critical infrastructure throughout the state
  - Host workshops, provide central location for information
  - Work in conjunction with NJ Department of Environmental Protection (NJDEP)
    - Created a "Getting to Resilience: A Coastal Community Resilience Evaluation Tool" on a statewide level with funding from NOAA Office of Coastal Zone Management
    - Tool used in many of the communities listed below as a vulnerability assessment
    - Questionnaire developed with the help of many local level government, academic and nonprofit partners

Regional/Local Level:

- New Jersey Association for Floodplain Management (NJAFM)
  - Host workshops, webinars in conjunction with NJDEP, FEMA
  - Provide access to a different set of stakeholders
- New Jersey Resilient Coastal Communities Initiative
  - Academic, Sea Grant, Nonprofit and Environmental Group partnership
  - Developed a questionnaire for local land use planners and other local government officials to help them understand how their preparedness can be worth points through CRS
    - Getting to Resilience Tool
      - Self assessment to aid communities in reducing their vulnerability by providing linkages between planning, mitigation, and adaption
        - Communities can see what CRS points they will receive based on their answers
  - Have municipal map packages for 9 counties in NJ

    - Information on Risk Communication and a Resilience Checklist, also community planning checklist to make sure they have the appropriate information
- Multiple CRS Users Groups - organized on a county level - Morris, Ocean and Monmouth County
- Monmouth County
    - County website, link above, established as "go to" place for all things CRS with a dedicated email address for information or questions
    - Planning Department/High Water Program received 2017 Sustainable Raritan Award Government Innovation Award for its unique public education effort that is raising awareness about flood risk and encouraging smart mitigation actions
    - CRS located under the Division of Planning Department who partners with the Office of Emergency Management
        - Dual leadership allows the groups to leverage technical assistance in hazard mitigation, community planning, public outreach and GIS mapping for all localities within the county who wish to participate in CRS
        - Publishes newsletter with CRS questions and answers, information on Users Groups, training opportunities and success stories
    - County employees recognized for Floodplain Management Leadership by NJAFM - central leadership and organization within the county
    - County's Board of Chosen Freeholders established a CRS Assistance Program
        - Includes program guidelines for municipalities
        - County facilitates a quarterly CRS User Group open to all municipalities - regional forum for discussion about common obstacles
        - Emphasizes that the county simply assists municipalities and is *not* responsible for managing municipal CRS programs
    - County has been exploring various ways of leveraging resources to encourage town participation in CRS and to provide baseline data
- New Jersey Sports and Exposition Authority
    - Serves as the planning and zoning agency for the 14 municipality Meadowlands District
    - Administers and verifies activities in the District including flood data maintenance, open space preservation, community outreach projects, map information services, stormwater management standards and drainage system maintenance
    - Drafted a Hackensack Meadowlands Floodplain Management Plan to assess and identify flood hazards
    - Offers a water alert system and flood maps through the Meadowlands Environmental Research Institute
    - Website also has links to other important CRS information statewide and nationally
- Oceanport

    - Pilot community in the New Jersey Coastal Community Resilience Demonstration Project administered by NJ Sea Grant - see link below in Sea Grant section
    - Locally implemented regulations include high freeboard standards - enhanced elevation is required for all building codes
    - Participates in Shrewsbury River Flood Warning system with other NJ communities which helps predict river flooding events
- Greenwich
    - Surrounded by wetlands which helps mitigate flood waters - town takes advantage of its natural resources for CRS credits and flooding prevention
    - Completed a Coastal Community Vulnerability & Resilience Assessment with NOAA partners
        - Project involved GIS mapping to abide by NOAA CSC and Hazard & Vulnerability Institute Coastal Community Vulnerability Assessment Protocol standards and the *Getting to Resilience* questionnaire
        - Outreach goals were to provide coastal communities with information on hazards and sea level rise and help local decision makers identify opportunities to improve resilience
    - Have Conservation District Zoning and Environmental Impact Statement Requirements for every conservation district in the area
        - Helps disclose ecological impacts of any development activity
    - As a result of the vulnerability study, were able to partake in a community visioning study with the University of Pennsylvania
- Ocean City
    - Website with information divided by what CRS activities they fall under - outline the town's activities with links to necessary information
    - Have a FloodSmart Program under the Department of Engineering and Construction
    - Local level technical resources and regulations - flood hazard maps, development permit requirements and flood safety information on their website
    - City Level Responsibilities related to CRS and Flooding in General include: Design, Process Municipal Permitting, Provide Support to Zoning on Permitting Issues, Construction Management, Governmental Coordination, Maintain and Monitor Municipal Infrastructure including the Boardwalk, Beaches, Bulkheads, and Bay Area
- Sea Isle City
    - Published a FloodPlain Management Plan in 2017
    - City succeeds in CRS through a combination of strict regulations and enforcement, local partnerships and construction projects which hit at the more difficult CRS activities

- CRS encouraged city to modify its cumulative substantial improvement rules - regulation amendment - link shows public officials in a FEMA video about their incentives success
    - Ensures that property owners don't 'beat the system' by applying for a 40% improvement project one year and applying for another 40% project the next
        - All about how much time it takes to do improvements
- Home buyers must sign non-conversion agreements in which they agree not to convert ground level bonus rooms into livable space - hands on regulation because of difficulty with public opposition in the past
- Recently adopted spate of regulations for flood prevention
    - Issued controversial summons to individual homeowners not in compliance - taking a more active role in regulations
- City is in the process of completing a road elevation project for the main causeway attaching them to mainland NJ
- Working in conjunction with Ocean City, Avalon and Stone Harbor to coordinate an effort to develop a FEMA Hazard Mitigation Grant Program application for the elevation of properties in the flood hazard area
    - Grant would provide 75% funding for eligible elevation projects

Sea Grant/Academic Partnerships:

- Rutgers University
    - NJADAPT Website
        - Web based tools to create maps, visualize flood hazards and monitor sea level rise
        - NJ Climate Adaptation Directory full of data, tools, reports, model policies, ordinances
        - Quick links to other state tools including the Getting to Resilience questionnaire, NJ FloodMapper and Coastal Hazards Profiler
- New Jersey Sea Grant
    - Created the repot "New Jersey Coastal Community Resilience Demonstration Project Report" with partners NJ Dept of Environmental Protection, Monmouth University Urban Coast Institute and Stevens Institute of Technology
        - Funding for the report from NOAA
        - Report on pilot project done on local level to help local level decision makers identify opportunities to improve their resiliency to coastal hazards and sea level rise
    - Sea Grant provides on the ground support, access to information and additional funds/resources

Non-Profit:

- New Jersey Future
  - Services include technical assistance, hosting workshops and webinars, helping from local to state level with resiliency issues
    - Have hosted CRS Peer Exchange workshops for communities and municipalities
    - Work with government agencies like NJ Transportation Planning Authority to provide additional resources and access to new stakeholders
    - Also works on a local level to help communities with their storm and flood resiliency initiatives
      - Example: working with Little Egg Harbor and Tuckerton since 2015 to help community leaders understand future flooding risks they are likely to face
    - Involved in a pilot project inspired by FEMA National Disaster Recovery Framework that has placed local recovery planning managers (LRPMs) in six Sandy-affected communities to assist them with long term resiliency planning
      - Report "In Deep: Helping Sandy-Affected Communities Address Vulnerability and Confront Risk" published three years post-project assessing the program's successes and challenges
      - Working to develop a national model for disaster recovery that improves equity, resiliency and sustainability outcomes and that provides a template for other states
      - Links to other local and national level resources including sea level rise studies, resiliency studies and interactive maps
- NY/NJ Baykeeper
  - Involved in the CRA process through their organization emphasis on green infrastructure
    - Worked with Great Swamp Watershed Association to provide a collection of brochures online resources to township administrators
  - Outreach resources have been used especially by Passaic County Community Rating System User Group - featured on their website
- Jacques Cousteau National Estuarine Research Reserve
  - Provide information and administrative support for the NJADAPT website and accompanying tools
  - Created a "Getting to Resilience" Recommendations Report for the City of Somers Point based on the state-level recommendations
    - Provide technical level assistance to local communities in addition to state wide or regional outreach and education efforts

Education/Outreach:

- Mix of state, local, nonprofit, and Sea Grant efforts - multiple efforts and partnerships ensure a wide variety of stakeholders are reached
- Outreach materials range from reports to infographics
- Education involves technical assistance in person, online, through webinars and in person meetings

Organization:

- Heavy state involvement and guidance, but managing the CRS left to communities
- Frequent use of partnerships for organizational support and as a way to spread funding

Policy:

- Ready NJ shows policy work being done on the state level
- Local level mitigation plans (see above) very common with local regulations being adopted to fit specific needs in each community

Technology:

- Flooding maps available at the local level and state level
- Shrewsbury River Flood Warning System is a multi-county river flood warning program - recognized as a community collaboration success story - see link above
- NJ Resilient Coastal Communities Initiative has municipal map packages
- NJ ADAPT has web based tools to create maps, visualize flood hazards, sea level rise

Funding sources:

- Hazard Mitigation Grant Program & Mitigation Assistance Grants from the NJ Office of Emergency Management
- Federal Funding has increased post Hurricane Sandy and opened a lot of doors for communities

Contact Information:

- James Watt, NJ Dept. of Env. Protection, 609-292-2296, james.watt@dep.state.nj.us
- Jennifer McCulloch, Morris County CRS Users Group, jmcculloch@co.morris.nj.us
- Mark Villinger, Ocean County CRS Users Group mvillinger@co.ocean.nj.us
- Lisa Auermuller, Watershed Coordinator, Jacques Cousteau National Estuarine Research Reserve, Rutgers University Institute of Marine and Coastal Sciences, (609) 812-0649 x204; auermull@marine.rutgers.edu

NEW MEXICO

State Level:

- NFIP Coordinated by the NM Department of Homeland Security and Emergency Management
    - Has very little info on CRS on its website

Regional/Local Level:

- Albuquerque
    - Preserving 2039 acres in the Special Flood Hazards Area as open space
    - Enforcement of regulations for stormwater management
    - The City also enforces a regulation prohibiting dumping in the drainage system
    - Devout resources to identification of impending flood threats and dissemination of warnings to floodplain residents and coordination of flood response activities
- Bernalillo County
    - County implemented new programs to make flood risk information more easily available to the public
        - Annual outreach programs
        - Stricter floodplain development standards

Sea Grant/Academic Partnerships:

- New Mexico does not have a Sea Grant Program or any Academic Partnerships

Education/Outreach:

- Bernalillo provides flood risk information

Policy:

- Albuquerque has strict regulation of dumping and maintenance of elevation certificates

GIS tech:

- On individual county websites
    - Most of them need updates

Funding sources:

- Mainly at the State level

Contact Information:

- Wendy Blackwell, DHSEM State Hazard Mitigation Officer, 505-476-9676
- Bill Borthwick, CFM New Mexico Office of Emergency Mgmt, (505) 476-9617, wborthwick@dps.state.nm.us

NEW YORK

State Level:

- NFIP Coordinated by the NY Dept. of Environmental Conservation
    - Have several flood protection projects and resources
- Southern Tier Central Regional Planning and Development Board
    - Provides technical assistance to local governments and the public with flood mitigation
        - Provides information about the CRS
        - Promotes improved state and federal policies for managing flood risks and reducing future damage

Regional/Local Level:

- Union, NY
    - Sends CRS brochures to people who live in threatened areas
- Batavia, NY
    - Gave CRS Coordination to the Assistant City Manager
    - Created a Program for Public Information (PPI)

Sea Grant/Academic Partnerships:

- New York Sea Grant
    - Have a focus group study on flood risk and uncertainty
    - Conducted far more research post Hurricane Sandy
- Wharton School - analyzed CRS in NY

Education/Outreach:

- Southern Tier Central Regional Planning and Development Board has outreach opportunities around the state

Organization:

- Hierarchical structure

GIS tech:

- Available on the County Level

Funding sources:

- FEMA and Federal Funds

Contact Information:

- William Nechamen, CFM New York Department of Environmental Conservation
  - Phone: (518) 402-8146
  - Email: wsnecham@gw.dec.state.ny.us

NORTH CAROLINA

State Level:

- Coordinated by the North Carolina Division of Emergency Management
  - Offer workshops in CRS for communities
- Solicits information from North Carolina Department of Public Safety - some inter-government cooperation
  - Participates through the NC Floodplain Management Branch, quick guide
    - Provides training for community officials
    - Maintains Flood Insurance Study and Flood Insurance Rate Map
    - Cooperates with NC Floodplain Mapping Program
    - Assists in enrollment of new communities and promotes participation in CRS
    - Provides technical assistance and offers access to technical publications and bulletins

Regional/Local Level:

- North Carolina Association of Floodplain Managers
  - Local ISO/CRS agents are listed as points of contact and members - provide association with technical information on CRS
- Dare County - see "Dare County, NC Case Study" for further information
  - Worked with The Nature Conservancy to develop CRS Explorer app
    - Technology and tools to help communities improve their CRS scores through mapping of Open Spaces
- New Hanover County
  - Planning Department provides flood education sessions and have information on websites
  - No full time person dedicated to CRS
- Kill Devil Hills
  - Website with information on flooding, specifically flood prevention information maps
  - Works together with NC Flood Map Planning Office and Dare County
    - Had a series of 3 meetings this year with surrounding localities about Flood Insurance Rate Maps
    - Rely on County level guidance because of lack of CRS person on staff full time
- Onslow County

    - Floodplain Management under the Planning and Development Department
    - Have their own GIS services to view floodplain maps - use of technology at the county level
- Kitty Hawk Woods
    - Used Deed Restrictions to obtain sensitive maritime forest lands
        - Used grants from US Fish and Wildlife Service, the Division of Coastal Management within the North Carolina Department of Natural Resources, the state, Carolina Natural Heritage Program
        - State currently has a conservation easement on these lands which protects them from development
    - Developed a Kitty Hawk Management Plan with these partners and the Town Advisory Committee
        - Included The Nature Conservancy, University of North Carolina Coastal Studies Institute and Division of Forest Resource
    - Wanted to involve residents inputs and help for maintenance - key for any floodplain management or CRS action

Sea Grant/Academic Partnerships:

- North Carolina Sea Grant
    - Worked with Hyde and Nags County using Vulnerability, Consequences, and Adaptation Planning Scenarios (VCAPS) to produce diagrams of existing and anticipated hazards
        - Used in Hyde County to determine areas for better discounts through CRS
        - Worked with Georgia Sea Grant as a partner
    - Produced a video for outreach purposes called "Living in a Flood Zone"
    - Created a Flood Planning and Resilience Guide for Hyde County - report on flood risk, flood insurance and preparedness information

Non-Profit:

- Pew Charitable Trusts has factsheets on North Carolina Flood Risk and Mitigation through their Flood-Prepared Communities project
    - Fact Sheet on financial benefits of preparing for natural disasters
- The Nature Conservancy has education and outreach efforts in NC - see the "Dare County, North Carolina Case Study" for more information

Education/Outreach:

- Information on websites including detailed FAQ sections and technological mapping tools - see links above
- Workshops by state and local offices and Sea Grant

- Coordinate county-wide outreach effort by Dare County to create consistent message and reach further with outreach - see case study for further information

Organization:

- Chiefly local level efforts with some regional cooperation within counties, due to User Groups and Sea Grant connections

Policy:

- Kitty Hawk Management Plan has deed restrictions for obtaining land - see above
- Many localities beginning to include flood issues in their strategic planning
- State and local level codes are driving policies

Technology:

- CRS Explorer app from The Nature Conservancy
- State-level floodplain maps - see above

Funding sources:

- Various funding sources - see the Kitty Hawk example - mix of state, federal and non-profit funds
- Regional work for outreach allows funds to be combined and stretched further

Additional Information:

- Landry and Li (2011) Participation in the Community Rating System of NFIP: An Empirical Analysis of North Carolina Counties
  - Looked at participation in CRS by counties in North Carolina
  - Results show flood experience and physical risk factors increase likelihood of local hazard mitigation adoption
  - The more people there are in the county, the more likely they are to participate in CRS
  - Community hazard mitigation programs promoted by CRS resulted in significantly lower loss of human life
  - The amount of government resources that are allocated to hazard mitigation is highly dependent on the available fiscal resources in a jurisdiction
  - Conclude that state agencies could take a more active role in demonstrating successful hazard mitigation programs after local flood events - promotes role of government for information sharing
    - Burby (2005) found evidence that insured losses to residential property from natural disaster are significantly reduced if the state mandates local comprehensive plans with hazard mitigation elements

- Other state involvement could be direct technical assistance, training local floodplain managers, managing or assisting with hazard mitigation activities and implementing permit processes

Contact Information:

- Philip Letsinger, CFM North Carolina Div. Emerg. Mgmt., (919) 715-8000
- Mike Bratcher, CRS Specialist from ISO, jbratcher@iso.com
- Donna Creef, Dare County Planner, donnac@darenc.com

NORTH DAKOTA

State Level:

- State Water Commission & Office of the State Engineer
  - Website has some information for floodplain management including a Quick Guide Floodplain management in ND
  - State Engineer determines community compliance with minimum NFIP standards

Regional/Local Level:

- Burleigh County Emergency Management
  - Has educational information about flooding, leaving near levees, interactive GIS tool for Apple Creek & quick guides

- City of Grand Forks
  - Building Inspections Department- oversee buildings within the city and enforce floodplain management regulations among other duties
    - Have participated in the CRS since 1990
    - One of the few cities in the state to have a Building Code Effectiveness Grading Schedule (BCEGS) rating
      - Decreases building insurance rates for citizens

Policy:

- Burleigh County Emergency Management
  - Flood Annex- plan provides information to help prepare for and respond to a flooding event
    - Annex is in effect when Burleigh County Emergency Management determines flooding poses a risk to
    - Note: doesn't specifically mention CRS or the NFIP
- City of Fargo
  - Higher regulatory standards for their floodplain
    - Has a Minimal Disturbance Zone Setback Ordinance- no building in this zone

Funding sources:

- FEMA funds

Contact Information:

- Dionne Haynes, CFM, State NFIP Coordinator, (701) 328-4961, dfhaynes@nd.gov
- Laura Horner, CFM, Mapping Coordinator (701) 328-2759

OHIO

State Level:

- Department of Natural Resources- Division of Water
  - Floodplain Management Program
    - Focused on cooperative management of state floodplains to support floodplains' natural function and benefit to reduce flood damage
  - Website has information for floodplain management including an Ohio Floodplain Regulation Criteria for Floodplain Management
  - State requires that sellers disclose whether a property had flood damage, has current flooding problems, and whether it is in the floodplain

Regional/Local Level:

- Ottawa County
  - In 2004 was working to raise structures in a repetitive loss area (info on pg 44)
  - Requires special flood hazard development permit in floodplain as of 2006 because it was a repetitive loss area in the past
- Shelby, Ohio
  - In 2011 city started partnership with Muskingum Watershed Conservancy District, and US Geological Survey to monitor and analyze the river and find a solution to flooding
  - After some large flooding of the Black Fork of the Mohican River, the city applied for FEMA grants and Ohio EMA grants to purchase 51 properties to demolish in the floodplain
    - Highlighted case study by FEMA for its floodplain management
      - Case study contains a CBA

Non-Profit:

- PEW Charitable Trust- published a flood risk and mitigation fact sheet on Ohio
  - Provides flood-risk statistics specific to the state

Policy:

- State requires that sellers disclose whether a property had flood damage, has current flooding problems, and whether it is in the floodplain

Funding sources:

- FEMA grants
- State Emergency Management Agency grants

Contact Information:

- City of Shelby Main Line- (419) 347-5131, Flood Protection Program
    - Website doesn't list any specific contacts
- Ohio DNR Water Department Floodplain Management Program, (614)265-6750
    - Website doesn't list any specific contacts

OKLAHOMA

State Level:

- Oklahoma Water Resources Board (OWRB)
    - Tasked with working with state and federal partners and local governments to prevent and mitigate the impacts of flooding in the state
    - OWRM aggressive and proactive efforts to mitigate flooding impacts have been recognized by FEMA as the best in this region and one of the best in the county
    - Oklahoma Floodplain Management Act authorizes communities to develop floodplain regulations,designate flood hazard areas and establish floodplain boards - state guidance but leaving a lot of freedom up to the localities
    - Provide technology tools like interactive maps and GIS data
    - Through their Community Assistant Program - State Support Service Element (CAP-SSE), OWRB provide technical assistance to individual communities, including CRS assistance
    - Offer training opportunities and workshops in association with Oklahoma Floodplain Managers Association
        - Variety of courses from introductory to advanced GIS - no charge for services
    - Do a lot of traveling for outreach during Flood Insurance Month
    - Trying to move from Map Modernization to Risk Map by watershed
        - Working towards developing partnerships, combining resources, sharing flood risk information, and developing a vision for the watershed
    - Proposing a Discovery Process
        - Working together to figure out scope of work for watershed
- Oklahoma State Plan Goals - use strategic planning and goals to work towards flooding prevention goals
    - Short Term
        - Support FEMA's discovery/risk map efforts
        - Inventory additional projects
        - Develop State's risk ranking
        - Compute project ranking: prioritize future projects
        - Develop implementation plan
    - Long Term
        - Secure local matching funding
        - Develop and maintain state's risk map program
        - Complete mapping activities under CTP agreement

- Oklahoma State Business Plan Priorities
  - Hope to reduce # of repetitive loss properties
  - Assist homeowners with floodplain related insurance issues
  - Provide depth grids for better risk mitigation and planning

Regional/Local Level:

- Oklahoma Floodplain Managers Association (OKFMA)
  - There are 333 Certified Floodplain Managers in Oklahoma
  - Board members also run local Community Rating System Workshops - helps connect the regional organization to local level work
  - Held a Flood Risk Symposium this year
    - 65 participants
    - Talked about identifying risks, tying economic development and community action to recovery plans
    - Improving coordination between OFMA DRT and Pre-Disaster Flood Coordination Group, hazard mitigation and building resilient communities
  - Mentoring Program
    - Regional representative and a designate mentor will visit one community per month to meet with FPA and governing body of the community to discuss roles and responsibilities of the community in the NFIP
  - Have a huge outreach committee
    - Disaster Response Team
    - Drone Support Team
    - Advanced training courses
  - Hold yearly Annual Conferences specifically on CRS
    - Lots of representatives from around the state in attendance
- Oklahoma CRS Workgroup
  - Originally organized by the Floodplain Managers Association
  - Meetings held quarterly in Oklahoma City and Tulsa
- Tulsa, OK
  - After a traumatic flood, they developed the first Citywide Flood and Stormwater Management Plan
  - In the process of completing its fourth update to its Citywide Master Drainage Plan
  - Emphasizes acquisition of flood-prone properties and preservation of open space in the floodplain
    - Through acquisition program, Tulsa has cleared more than 900 buildings
  - Mingo Creek Project formed to design and construct a system of networks of landscaped buffers and detention basins along Mingo Creek

    - Funding for projects from FEMA Hazard Mitigation Grant Program (HMGP) funds, stormwater taxes and fees, US Army Corps of Engineers
    - Have public education and outreach campaigns to build support for fees, taxes - recently established a Program for Public Information for increased outreach possibilities
        - Example of Outreach Materials and information on Repetitive Loss Areas distributed by the City of Tulsa and how the City is working to improve this area
- Broken Arrow
    - Focused on Open Space Preservation because it's the highest potential points total of any CRS section
        - Use GIS for this by looking at city owned parcels touched by floodplains
    - Have a City newsletter that talks about Flood Awareness Month every year
    - Prepare a Multi-Hazard Mitigation Plan every 5 years
        - Specifically designed to fulfill requirements of CRS
        - Have a specific Broken Arrow Community Rating System and Repetitive Loss Plan - see link above
- Chickasha
    - Floodplain management located within their Community Development Department
        - Provides information on requirements for flood insurance
        - Maintains library of Elevation Certificates online and in the Emergency Management Office
- Ponca City
    - Funding for Floodplain Management: Adopted a stormwater utility fee to fund floodplain management and stormwater pollution prevention activities and projects and have applied for and received over $1 million in FEMA funding to remove structures that have sustained repetitive damage due to flooding
        - Developed from their 2005 Stormwater Master Plan
    - Website has information on other government departments that contribute knowledge and assistance to the CRS program (Stormwater Quality Department), elevation certificates and a Flood Reference Library with links on elevation and flood damage reduction

Sea Grant/Academic Partnerships:

- Oklahoma does not have a Sea Grant Partnership

Education/Outreach:

- OKFMA outreach efforts
    - Flood Risk Symposium

    - Mentoring program for communities
    - Advanced training course (OKWRB is also involved)
    - See links above
- Tulsa
    - Public education and outreach campaigns - see PPI link above

Organization:

- OKFMA
    - Yearly strategic plans
    - Most of the work in the state comes from the Water Board and Floodplain Managers Association partnership and local level government

Policy:

- State allowance of localities to write and set their own floodplain management plans has resulted in an abundance of local level examples of these plans - see links above
    - Tulsa City Wide Flood and Stormwater Management Plan
    - Tulsa Citywide Master Drainage Plan
    - Tulsa Land Acquisition Policy
    - Broken Arrow Multi-Hazard Mitigation Plan

Technology:

- OKFMA Disaster Response Team & Drone Team - huge assistance post-disaster to communities, possibility of use for Open Space mapping and planning
- Broken Arrow has GIS for Open Space Preservation - other GIS resources exist at the state level for dams and historic flood maps, for example

Funding sources:

- Mix of state, local and federal funds - Oklahoma has a wide and diverse mix that helps them sustain their projects
    - Tulsa has FEMA Hazard Mitigation Grant Program and US Army Corps funds
        - Tulsa and Ponca City have Stormwater Taxes and fees

Contact Information:

- Gavin Brady, OWRB, jgbrady@owrb.ok.gov
- Jeff Bigby - Floodplain Administrator and Oklahoma CRS User Group Workshop Head - jbigby@brokenarrowok.gov
- Yohanes Sugeng, State NFIP Coordinator, yohanes.sugeng@owrb.ok.gov

OREGON

State Level:

- NFIP Coordinated by the Oregon Department of Land Conservation & Development
  - Website covers the basic responsibilities of local governments
  - Provide quick links with helpful resources

Regional/Local Level:

- Salem, OR
  - Provide one-on-one advice to residents regarding property protection
  - Higher regulatory standards
  - Managed stormwater runoff
  - Created a flood warning and response program
- Oregon Regional Natural Hazard Risk Assessment
  - Website identifies natural hazards and assess risk to surrounding communities

Sea Grant/Academic Partnerships:

- Oregon Sea Grant
  - Have done several sea level rise impact studies

Education/Outreach:

- Local county outreach programs
  - Training and workshops

Organization:

- Involvement minimal at the State level

GIS tech:

- Can be found on Oregon Geospatial Enterprise Office for State level
  - Counties have their own GIS Flood maps as well (need updates)

Funding sources:

- FEMA and State Level

Contact Information:

- Christine Valentine, CFM Dept. of Land Conservation & Development, (503) 373-0050, christine.valentine@state.or.us
- Marlene Jacobs, Insurance Services Office, 541-704-5434, mjacobs@iso.com

PENNSYLVANIA

State Level:

- NFIP Coordinated by the Pennsylvania Department of Community and Economic Development
    - Statewide hazard mitigation plan
    - State Legislature passed CRS-oriented bill
- The Pennsylvania State Association of Boroughs
    - Issues news about the CRS
- The House of Representatives held a workshop on how PA communities can participate in CRS

Regional/Local Level:

- Etna, PA
    - Developed a warning system
    - Wrote a comprehensive flood response plan
    - Developed flood damage ordinance
- Newtown, Pa
    - Revised a floodplain map to participate in CRS
- Tetra Tech
    - hired by Pennsylvania communities to evaluate flood-related activities including CRS

Sea Grant/Academic Partnerships:

- Pennsylvania Sea Grant
    - Has conducted several assessments on floods in the State
- The Wharton School, University of Pennsylvania
    - Published an assessment of CRS
    - Focused on the savings part of CRS

Non-Profit:

- The Center for Rural Pennsylvania
    - Issued report recommending regional coordination on CRS

Education/Outreach:

- Local communities working together to increase outreach
- Sea Grant

Policy:

- Legislature passed CRS-oriented bill

GIS tech:

- Provided by the Pennsylvania Department of Environmental Protection

Funding sources:

- CRS-oriented bill provided funding for local projects

Contact Information:

- Kerry Wilson Pennsylvania Dept. Comm/Econ Affairs, (717) 720-7445, krwilson@state.pa.us
- Tracy Vernon, tracey@vernonlanduse.com

RHODE ISLAND

State Level:

- NFIP Coordinated by the Rhode Island Emergency Management Agency
  - Held a conference on NFIP & CRS
- Coastal Resources Management Council
  - Advertised a CRS workshop

Regional/Local Level:

- Rhode Island CRS Users Group
  - Has regular meetings
- Rhode Island League of Cities and Towns
  - Provide information on CRS at emergency management conference

Sea Grant/Academic Partnerships:

- Rhode Island Sea Grant-
  - Funds some CRS education and outreach
  - Has a RI shoreline access Mobile app
- University of Rhode Island
  - Does some education and outreach about CRS
  - Created an online resource for localities

Education/Outreach:

- University of Rhode Island
- Rhode Island League of Cities and Towns
  - Both provide information and workshops on CRS in the State

Organization:

- Mainly at the local level

GIS tech:

- Department of Environmental Management has maps

Funding sources:

- RI Sea Grant provides some funding

Contact Information:

- Pamela Pogue, CFM Rhode Isl. Emerg. Mgmt Agency MURI, (401) 946-9996, pam.pogue@ri.ngb.army.mil
- Samantha, Richer, Community Rating System (CRS) Coordinator , Samantha.Richer@ema.ri.gov

SOUTH CAROLINA

State Level:

- 44 communities participating in the Community Rating System
- South Carolina Department of Health and Environmental Control
    - Specifically the Office of Ocean & Coastal Resource Management
    - Developed a Local Comprehensive Beach Management Plan process
        - Works with coastal communities to help mitigate their flooding risks
        - Because of interest in CRS, OCRM attempting to align LCBMP process with elements of CRS
    - Interested in expanding the North Carolina CRS Explorer app to South Carolina
    - Recent focus on Open Space Preservation because of the interest in the app and the number of points possible from Open Space
    - Commissioned Blue Ribbon Committee in 2010 to craft a report on shoreline management and how to improve beachfront management in South Carolina

Regional/Local Level:

- Coastal South Carolina Community Ratings System Users Group
    - Run in part by the SC Department of Health and Environmental Control
    - Provide forum for coastal communities to share lessons learned
    - Identified best practices and gain efficiencies in planning processes
    - Directed towards beaufront community administrators, planning staff and floodplain managers involved with the LCBMP planning effort
    - Website has information on activities taking place across South Carolina, presentations given at the User Group meetings and outreach material developed
- Hilton Head - see more in the “Hilton Head, South Carolina Case Study”
    - Community has a stormwater funding system for CRS projects, is guided by a management plan that emphasizes resilience and reaches out to its residents in many ways
        - Driven by their Beach Management Plan
            - Under control of Community Development Department’s Community Services Program
            - Discusses floodplain management and development policies that impact CRS
        - Partake in multiple outreach projects, including referencing CRS in the town newsletter

        - Have a budget specifically for Stormwater Expenses from 2017-2020
            - Expect to pay $3.4 million dollars over these years for improvement in flooding areas
            - Town has a Stormwater Utility Fund established at the Beaufort County level
            - Town sets the fee and notified Beaufort County to include the fee on its property tax bill
            - Town uses funds for drainage infrastructure maintenance
- Myrtle Beach
    - After Hurricane Hugo, SC established a model beach front management plan that Myrtle Beach had to implement - see link above
        - Changed city codes for construction and erosion
        - Gave new construction a higher degree of protection
        - Preserves the shorelines as open space
        - Maintenance to help the area manage stormwater and cleaning runoff
    - Regional Efforts
        - State Parks, Recreation and Tourism provides grants to the city
        - Also able to utilize Community Development Block Grant from HUD
        - Emphasize CRS Program to elected officials as an “easy win” on the campaign trail
- Beaufort
    - In 2016, city was searching for firms that could serve as an external CRS coordinator for the City’s 2017 Five-Year field audit and evaluation
        - Shows lack of time and knowledge within the government and thus the need to bring in sources of external knowledge to help with CRS
    - City of Folly also hired a consultant to help improve its rating score from a Class 7 to a Class 4 - main project by the contractor was reclassifying wetlands as open space

Sea Grant/Academic Partnerships:

- South Carolina Sea Grant
    - Have a Coastal Heritage Newsletter with flood information in each issue
    - Have separate flood resources website
        - South Carolina Coastal Information Network (SCCIN) partners with Sea Grant to provide information to the public
    - SC Sea Grant produced a Sea Level Rise Adaptation Report in 2015 for Beaufort County with partners the Social and Environmental Research Institute (SERI), North Carolina Sea Grant, and Carolinas Integrated Sciences and Assessments (CISA)
        - Specific section on how to improve the county’s CRS score

- Also in partnership with Beaufort County, Sea Grant is conducting a Regional Community Resilience project to determine how historic preservation laws conflict with resiliency strategies
  - Finding from this study will be applicable to historic communities wishing to take part or already participating in CRS
  - Contact Rebecca L. Neubauer - University of North Carolina School of Law
- Coastal Training Program of North Inlet-Winyah Bay National Estuarine Research Reserve
  - Host workshops with partners FEMA, Department of Homeland Security and Coastal Waccamaw Stormwater Education Consortium
  - Goal of the program is to encourage stewardship or coastal resources by promoting informed, science-based decision making

Non-Profit:

- Pew Charitable Trusts
  - Prepared fact sheets similar to those created for North Carolina on Flood risk and mitigation

Education/Outreach:

- South Carolina at the state level partakes in outreach through its User Group, Pew Charitable Trusts fact sheets also provide a good overview and there are many efforts at the regional and local level as well
  - Hilton Head Town Newsletter
  - South Carolina Coastal Information Network (SCCIN) - flood maps webinar, hosting User Groups meetings

Organization:

- Mix of state level supervision with strengthening regional ties through User Groups, Sea Grant and nonprofits and local level innovation

Policy:

- State level Comprehensive Beach Management Plan guides policy creation at the local level - see link above
  - Individual management plans with input from many partners
  - City codes amended for construction and erosion for example to follow policy direction of localities

Technology:

- Flood maps, state and local level GIS and webinars are the extent to many of the technological applications with the CRS program in South Carolina

- Communities are, however, looking at developing the Nature Conservancy North Carolina CRS Explorer App for the region

Funding sources:

- Stormwater Utility Fund for Beaufort County
- HUD
- State Parks, Recreation and Tourism grants

Contact Information:

- Lisa Jones, CFM South Carolina Department of Natural Resources, (803) 734-9120
- Blaik Kepple, SC Department of Natural Resources Coastal Training Program Coordinator, kepplerB@dnr.dc.gov
- Shari Mendrick - Planner in the Development Review and Zoning Division - 843-341-4687- sharim@hiltonheadislandsc.gov

SOUTH DAKOTA

State Level:

- Office of Emergency Management (OEM)
  - Works in partnership with the SD Dept. of Public Safety
  - Focused on general emergency preparedness
  - Website has basic information about the NFIP, no information pertaining to CRS

Regional/Local Level:

- Meade County
  - Only county in the state that a part of CRS
  - Only basic information about the NFIP

Funding sources:

- South Dakota Office of Emergency Management

Contact Information:

- South Dakota OEM Office, (605) 773-3231
- Angella Sutton, Emergency Management Director, 605.347.7623

TENNESSEE

State Level:

- Currently 8 CRS Communities in Tennessee - none above a Class 8 as of May 2017
- Tennessee Emergency Management Agency (TEMA) and TN Department of Environment & Conservation (TNDEC) work together in implementing CRS in the state
- But TNDEC is the main designated agency
    - TNDEC website with a number of links of floodplain management, chiefly focused on NFIP but some mention of CRS
    - Technical resources (Information on federal regulations, etc) and mapping (Tennessee Interactive Map provided by State of Tennessee Office of Information Resources-GIS Services)
    - Information on flood insurance
- Tennessee Department of Economic and Community Development recognized the economic impact of flooding and created a Quick Guide to Floodplain Management in Tennessee in 2010
    - Created model floodplain management ordinances in response to the NFIP requirements - fill in the blank documents that can be used by any TN community to even get into the NFIP to begin with in order to then participate in CRS
        - 2009 County Flood Damage Prevention Resolution
        - 2009 Municipal Flood Damage Prevention Ordinance
        - 2009 Municipal Floodplain Zoning Ordinance
- TN Department of the Military has State Hazard Mitigation Plans, information on obtaining flood mitigation assistance, and lists of other mitigation grant programs including historic preservation considerations

Regional/Local Level:

- Tennessee Association of Floodplain Management
    - Mention CRS in their newsletter, second example - but limited information
    - Presentations on CRS at their state-level Floodplain Managers Conference
- Williamson County
    - 2009 Department of Community Development Annual Report highlights the process of the County entering into the CRS program
        - Entering the program facilitated by the Engineering Department who added two Certified Floodplain Managers (CFMs) on staff to assists with floodplain inquiries

    - Count employed AMEC consultant to conduct and update floor studies on Cartwright Creek and Lynwood Branch
        - AMEC Foster Wheeler is an international consulting company focused on engineering and technical services. They have offices in Tennessee
    - 2013 Department of Community Development Annual Report mentions how the community has maintained a Class 9
        - Mentioned that Engineering Department is working with Department of Emergency Management to maintain a current Multi-Hazard Mitigation Plan and are also looking for opportunities to move to a Class 8
        - Obtain the bulk of their CRS Credits from the maintenance of their Multi-Hazard Mitigation Plan
    - Strong Stormwater Management Department where additional CRS Credits could be obtained
- Knox County/Knoxville
    - Stormwater Engineering Division within the Department of Engineering there is a Floodplain division
        - Links to Local Hazard Mitigation Plan
        - Links to FEMA webpages and floodplain insurance
        - Knox County Stormwater Management Manual
    - Engineering Department manages and regulates floodplains/floodways for NFIP/CRS
        - CRS briefly mentioned in the 2013 Land Development Manual
    - Slightly inaccurate information on CRS on the website
        - "Each participating NFIP community is rated on a scale from 10...down to 1". They then go on the mention CRS communities specifically
    - TVA - Tennessee Valley Authority - prepared and submitted an updated Flood Insurance Study for the City of Knoxville so the City received updated flood maps
        - TVA study included updated water surface profiles and digital mapping that has been integrated in KGIS - GIS jointly funded by the City of Knoxville, Knox County and the Knoxville Utilities Board

Sea Grant/Academic Partnerships:

- No Sea Grant Program
- Limited CRS work throughout the state, so limited partnerships are present
    - Call from the Tennessee Chapter of the National Association of Realtors to reauthorize the NFIP earlier this year - suggests local level interest by realtors groups in flooding issues, potential partnership opportunities

Non-Profit:

- Pew Charitable Trust

- Created fact sheets on Tennessee Flood risk and mitigation similar to fact sheets for North and South Carolina

Education/Outreach:

- Websites on the state and local level for information on flooding, flood maps, ordinances and regulations - see links above
- Information more focused on NFIP than CRS

Organization:

- State oversees NFIP and CRS operations but it's at a local level. Some work between city and county, but very little other regional work.

Policy:

- State Level & Local Hazard Mitigation Plans and Stormwater Programs - see links above

Technology:

- KGIS - jointly funded GIS mechanism for updated maps of the area
- TN Department of Finance & Administration Provides GIS/ floodplain maps

Funding sources:

- Flooding mitigation funding advertised at the state level but not offered by the state. Most of the funding is local

Contact Information:

- CAP-SSSE Tennessee Contact: Todd Bass, todd.bass.fema.dhs.gov

TEXAS

State Level:

- Texas Water Development Board (TWDB)
  - Have an NFIP State Coordinator that acts as liaison between federal component and local communities
    - Primary duty is to provide guidance and education to communities to assist in meeting the requirements through their websites, workshops and training offered in partnership with the Texas Floodplain Management Association
    - Provide grants for eligible activities and for Flood Protection Planning grants
    - Administers Fund Development Program
      - provides loans for the planning, design, and construction of water supply, wastewater, flood control
- Texas Natural Resources Information System (TNRIS)
  - Division of the TWDB responsible for geographic data and hazard mitigation planning
- State currently doesn't have measures to incentivize or disincentivize adoption and enforcement of local building codes or or land use restrictions - all left to the localities - but they guide and lead through workshops and outreach

Regional/Local Level:

- Houston, TX
  - As a city, Houston is emphasizing outreach as their main activity under the CRS.
    - Have a Program for Public Information (PPI) and Coverage Improvement Plan (CP)
      - Run by the Flood Plain Management Office under the Department of Public Works & Engineering
        - Extensive website with links of flood hazards, safety, preservation and more
      - City worked on developing educational and outreach projects, specifically community outreach campaigns
      - City is formally coordinating outreach by developing a Public Information Plan

        - Serves as a planning tool to support the City's outreach efforts and increase CRS points
    - PPI committee members include Public Works/Engineering Department, Floodplain Management, Public Information Office and private citizens and businesses
    - City assessed Need Areas, Outreach Project Topics, Outside Public Information Efforts, Community Flood Response Projects
    - City Engineering Department will monitor the PPI Outreach Projects
- Fort Worth
    - Fort Worth's main CRS work is through education and outreach at the moment, though they are working on a floodplain management plan that will help the City's resilience advance and their CRS score
        - Have a Stormwater Management Department within their Transportation & Public Works Department that is in charge of CRS
        - Website provides information on CRS and flood insurance (FAQ's including average yearly prices) in addition to essential links to national, state and local programs
        - Currently crafting a Floodplain Management Plan that will identify flood risks, their impact on the community and a prioritized action plan for reducing flood risks - Draft plan here
- StormSmartCoasts
    - Part of a larger website called StormSmart
        - Provides ability to find your peers, easily share files, and join/create your own groups. Great overview site for programs looking for a wide amount of information
    - Provide help for Before the Storm like Identifying hazards, planning, regulations and standards, mitigation, infrastructure, emergency services and training and outreach
        - And After the Storm, helping identify building damage,
        - Also prosent a list of funding and tools from around the region and country that could be useful
    - List Texas Agencies and organizations involved with floodplain management in any way - shows extent of inter governmental and organization cooperation necessary
        - Groups include
            - TX General Land Office Coastal Management Program (CMP)
            - FEMA
            - ASFPM
            - The Federal Alliance for Safe Homes (FLASH)

            - Institute for Business Home Safety
            - Texas Coastal Watershed Program
            - NOAA Coastal Services Center
- FAST - Floodplain Awareness Success in Texas Community Rating System
    - Users Group based in Houston
    - Meet on a monthly basis to share ideas and best practices, learn new approaches to successful floodplain management, stay current on CRS trends, learn about available resources and network with other communities
- Contractor
    - Lockwood, Andrew & Newman Inc.
        - Consulting agency made up of on-staff floodplain managers and a former ISO CRS Coordinator
        - Advertise ability to provide assistance in all areas of floodplain management and the CRS process from individual activities to the management of the entire process
        - Operate in Arizona, California, Florida, Illinois, and Michigan but the headquarters are in Houston
- Texas State Collaborative
    - Private/public collaboration formed to address most pressing issues affecting Texas' built environment
    - Main contributions is working at the local level to provide insight, information and technical assistance on code issues that could then be relevant to CRS scores
        - Federal Alliance for Safe Homes in partnership with the Collaborative created the Texas Leadership Toolkit for the TSC to raise awareness of weather perils specific to City of McAllen/Hidalgo County
            - Similar Toolkit created for the City of Dallas/Dallas County
        - Toolkits created to raise awareness of weather perils in major Texas cities and counties, to spotlight residential building code in effect and off insight to how code protects life safety

Sea Grant/Academic Partnerships:

- Texas Sea Grant
    - TX Sea Grant works with many partners throughout the states to provide information on the CRS program and coastal resilience in general and has made it a component of their program. It's main role is through hosting workshops and connecting individual communities to resources through providing information and technical assistance, either through them or one of their partners.
        - Mention CRS in their 2016 Annual Report as a way to increase resilience in coastal communities, one of their organization goals

            - Worked towards this goal with a Texas A&M AgriLife Extension Service and FEMA partnership
            - Held Community Engagement and Risk Communication (CERC) workshops in 6 counties for individuals from 25 different communities to help them reduce long-term risks and mitigate hazards
            - Partnership helped TXSG identify communities willing and able to improve their resiliency through CRS
            - Workshops and materials provided led to 3 communities taking steps to improve local policies or update plans
        - In 2016, facilitated a team of 12 community leaders in conducting a Coastal Resilience Index in Aransas County to gauge the communities progress to becoming more resilient
            - Utilized the Coastal Resilience Index developed by Mississippi-Alabama Sea Grant Consortium to identify technical assistance needs for increasing a communities resilience to coastal hazards
            - TX Sea Grant included CRS information because many communities identified this as a need
            - First workshop and assessment done in 2013 with partner Mission-Aransas National Estuarine Research Reserve
            - 3rd assessment in a series and showed the community, with the help of TX Sea Grant, is increasing their resiliency
            - Assessment resulted in the acquisition of a grant to help the community join the CRS Program
        - With funding from the TX General Land Office, Sea Grant supported City of Rockport's efforts to participate in CRS
            - Produce a State of the Community Report, Community Survey Synthesis
            - Also developed an Alternative Scenarios Report
            - Led to Mission-Aransas National Estuarine Research with Aransas County, City of Aransas Pass, Town of Fulton, City of Rockport entering into county-wide, multi-jurisdictional Floodplain Management Plan
- Texas A&M
    - The university acts as a partner to help on the ground outreach and education but also uses academic publications to share information on CRS
        - Coastal Watershed Program helped Sea Grant and other partners with the City of Aransas Pass Coastal Resilience Plan
            - Used the Sea Grant developed Coastal Resilience Index

- Coastal Watershed Program plus AgriLife Extension Service and Sea Grant host workshops and meetings on resilience topics like stormwater management
- Highfield and Brody (2017) Determining the effects of the FEMA Community Rating System Program on flood losses in the United States
    - Overview of the paper is found here for those without journal access - link
    - Study quantitatively evaluates the difference in flood losses experienced by CRS-participating communities
    - Results found that the CRS program has a statistically significant effect on reducing the amount of insured flood losses incurred by communities across the US
    - CRS communities also experiences a 41.6% overall average reduction in flood claims compared to similar communities that did not participate
    - Study suggests that more communities participate in the CRS program to increase the overall amount of flood mitigation occurring nationwide
    - Authors see a role of CRS as a more holistic measure of a community's true flood risk - moving from flood maps to a comprehensive rating system that balances flood risk with flood mitigation
- Another study published by authors from the university, Brody et al. (2009) - Policy Learning for flood mitigation: a longitudinal assessment of the community rating system in Florida - see citation in Florida section

Non-Profit:

- Mission-Aransas National Estuarine Research
    - NOAA funded program committed to developing and facilitating partnerships that enhance coastal decision making through research and education
    - Promotes public appreciation of coastal resources
    - Works with partners and chiefly does education and outreach work, like through their newsletter

Education/Outreach:

- With little oversight capabilities, outreach and education is the main way that the State of Texas can contribute to the CRS program. Still, most of the outreach and education work is being done on a regional or local level, like the
    - Sea Grant Community Engagement and Risk Communication workshops
    - Houston Program for Public Information (PPI)
    - StormSmartCoasts

Organization:

- Again, organization is typically on the regional or local level with many partners within and outside of government working together
    - Houston PPI membership has a diverse mix of stakeholders to emphasize wide on the ground communication
    - Typically no full time CRS person on staff, hence the benefit of a partner or regional approach and User Groups to share knoweldge

Policy:

- Policy is left up to the individual communities, many of whom have or are crafting management plans or working with code amendments to prioritize CRS centered policies
    - Rockport State of the Community Report and Alternative Scenarios Report
    - Multi-Jurisdictional Floodplain Management Plan in the State

Technology:

- Texas Natural Resources Information System provides GIS information to localities throughout the state - see link above
- StormSmartCoasts website links to many tools that regions in and out of Texas would find valuable

Funding sources:

- See links above
    - TX General Land Office
        - TX Water Development Board
        - Administers Fund Development Program

Contact Information:

- flood@twdb.texas.gov - StormSmartCoasts contact
- Mike Howard, CFM Texas Natural Resources Conservation, (512) 239-6155

UTAH

State Level:

- NFIP Coordinated by the Utah Department of Public Safety
    - Held a legal workshop in coordination with the Natural Hazards Mitigation Association
        - CRS was a topic of a breakout session
        - Published information for localities about the CRS

Education/Outreach:

- Department of Public Safety
    - Published information about CRS for localities

Organization:

- Usual hierarchical structure

Policy:

- Department of Public Safety provides legal workshops

GIS tech:

- Flood maps found on Utah Automated Geographic Reference Center website

Funding sources:

- Mainly at the State and Local level

Contact Information:

- Judy Watanabe, CFM Utah Emergency Management, (801) 538-3750, judywatanabe@utah.gov

VERMONT

State Level:

- Department of Environmental Conservation
  - Have contact information of regional floodplain managers on their website
  - Lists examples of model regulations communities can adopt that meet or exceed NFIP requirements
  - Also have a Vermont flood management blog with regular updates

- Run the Flood Ready State of Vermont website (refer to technology section below)

- Resilient Vermont
  - Collaborative statewide project to make VT more resilient providing educational information on flood safety and hazard mitigation
  - Coordinated by the Institute for Sustainable Communities
    - Vermont's Roadmap to Resilience
  - 2015 launched the Resilient VT Network- collaboration of state agencies and organizations

Regional/Local Level:

- Colchester
  - accepted into the CRS in May 2016
    - Acceptance letter; CRS Verification Report

- Central Vermont Regional Planning Commission
  - Website has general information about CRS and offer trainings
    - Provide examples of publications, forms, and resources for activities that can earn CRS points localities can mirror for use

Technology:

- Flood Ready State of Vermont
  - State run website promotes early action to reduce flooding risk
  - Website contains detailed information locating funding sources to reduce and recover from flood damage, community risk, flood resilience checklist, and more

Funding sources:

- FEMA funds
- State funds

Contact Information:

- Margaret Torizzo Vermont Agency of Natural Resources, (802) 241-3759, margaret.torizzo@state.vt.us
- Regional Floodplain Managers
    - Sacha Pealer, CFM Northeast Region, (802) 490-6162, sacha.pealer@vermont.gov
    - Rebecca Pfeiffer, CFM Northwest Region, (802) 490-6157, rebecca.pfeiffer@vermont.gov
    - Ned Swanberg, CFM Central Region, (802) 490-6160, ned.swanberg@vermont.gov
    - David Rosa, CFM Western Region, (802) 490-6154, david.rosa@vermont.gov
    - John Broker-Campbell, CFM Southern Region, (802) 490-6196, john.broker-campbell@vermont.gov

VIRGINIA

State Level:

- NFIP coordinated by the Virginia Department of Conservation and Recreation
  - Provide training and information to communities and regions about CRS
  - Coordinate with VA's ISO rep and FEMA
  - Have had a CRS Coordinator Position for about 3 years
  - Work with Virginia Institute of Marine Science (VIMS) to create Virginia Flood Risk Information System
    - helps communities, real estate agents, property buyers and property owners discern an area's flood risk
    - Website provides ability to download flood insurance studies and flood risk reports

Regional/Local Level:

- Gloucester, VA
  - Have a Coastal Floodplain Management Plan
  - Provide several quick links on flood safety information

- Fairfax County, VA
  - Provide a flood protection information newsletter
  - Have a detailed floodplain FAQ

Sea Grant/Academic Partnerships:

- Virginia Sea Grant
  - Works with seven partner universities but is based at VIMS
  - Working with Wetlands Watch,and the Green Building Council, Hampton Roads Chapter to create a resilience research and design collaborative (link)
    - Linking VA universities with local governments to help increase resiliency

- College of William & Mary/ VIMS- Center for Coastal Resources Management- Comprehensive Coastal Resource Management Portals (CCRMPs)
  - Information on VA's tidal shoreline laws and policies- contains current and historic shoreline management info by locality

Non-Profit:

- Wetlands Watch

    - Nonprofit provides assistance to localities to integrate community resilience with CRS focusing on point activities that align with their mission
        - Activity 420: Open space, Activity 530 & 540: Acquisition & Relocation, Activity 430: Higher standards, Activity 330: Outreach
    - Website is full of helpful documents, tools, and resources

- Virginia Floodplain Management Association (VFMA)
    - Co-sponsors Annual Virginia Water Conference
    - Provide regular workshops that include information on CRS

Organization:
- Each county has their own Emergency Management Department/ local coordinator of CRS in participating communities
- Wetlands Watch performs at a regional capacity assisting localities with CRS

Outreach:
- CRS User Groups
    - Have separate ones for Northern Virginia and Coastal Virginia
    - Coastal VA CRS User Group (link)
        - Provide lists of members, meetings and locality contacts
        - Have 'Workgroup News Blasts' that they release every month

Policy:
- Localities can receive CRS credit for Chesapeake Bay Preservation Areas required by the Chesapeake Bay Preservation Act (link)

GIS tech:
- Provided on the local level on each county's website
- Wetlands Watch's SLR Phone app (link)
- ADAPTVA- resources to inform how to engage in climate adaptation (link)
    - Focuses on physical and social vulnerabilities- science, mapping, legal, and planning resources

Funding sources:
- Department of Conservation and Recreation- Dam Safety, Flood Prevention and Protection Assistance Fund
- FEMA funds
- Local funds

- Appendix B & C of Flood Protection Pay-Offs A Local Government Guide to the Community Rating System by Wetlands Watch (2015) highlight many different state, local, and federal funding mechanisms for CRS

Contact Information:

- Mary-Carson Stiff, Policy Director, Wetlands Watch, 757-376-1364, mc.stiff@wetlandswatch.org
- David Gunn, CFM Virginia Dept. of Conservation, (804) 786-1369, david.gunn@dcr.virginia.gov
- Kyle Kling, Northern VA CRS User Group, kkling@fallschurchva.gov
- VA Dept. of Conservation & Recreation Website list of contacts

WASHINGTON

State Level:

- NFIP Coordinated by the Washington Department of Ecology
  - Created the Flood Control Assistance Account Program (FCAAP)
    - Biannually funded financial program to provide grant assistance to local authorities for flood mitigation activities and planning

Regional/Local Level:

- Centralia, Washington
  - Developed a comprehensive program to exceed NFIP requirements
    - Used Federal Emergency Management Agency mitigation grants and state mitigation funds to help it purchase frequently flooded homes and move them out of the floodplain
  - U.S. Department of Transportation filled in part of the city's floodplain area as part of an interstate highway project
    - Centralia was paid $500,000 in compensation
    - Used those funds to purchase some upstream property and create a multi partner flood storage system that helps alleviate flows

Sea Grant/Academic Partnerships:

- Washington Sea Grant
  - Lots of outreach and education work especially in coastal areas

Education/Outreach:

- Skagit, WS
  - Uses public works radio station to provide real time flood information and warnings
- Pierce
  - Puts flood information in telephone book for easier access
  - Also have a warning system
- King County
  - Have a public information campaign and a flood warning system

Organization:

- Robust state involvement in comparison to the rest of the country

Policy:

- Centralia has stormwater and drainage policies

GIS tech:

- Floodplain maps can be found on the local level
    - Washington State University also provides access to flood maps

Funding sources:

- WSU Dept. of Ecology Flood Control Assistance Account Program
    - $4 million every two years for local flood mitigation projects
- Centralia
    - Used money from USDOT to fund CRS projects

Contact Information:

- Daniel Sokol, Washington Department of Ecology, (360) 407-6796, dsok461@ecy.wa.gov
- pcwater@co.pierce.wa.us

WEST VIRGINIA

State Level:

- Coordinated by the WV Division of Homeland Security & Emergency Management
  - Website has list of local floodplain managers and all regulations and code related to floodplain management
  - Provide resources for local floodplain managers and individual homeowners including flood mapping tool
- State assembled a Floodplain Management Task Force who assembled the state's first Statewide Flood Protection Plan (assembled in 2004) recommended that
  - The Management staff in the WV Office of Emergency Services be increased to support local floodplain managers - shows need for inter-government communication on flooding issues
  - The State should assists local jurisdictions by assuming responsibility for CRS activities in all localities
    - Along these lines, the state should
      - Provide monetary incentives to encourage communities to participate
      - Amend legislation to allow counties to conduct activities that exceed the minimum requirements to participation in NFIP so they can participate in CRS
      - Suggest a consistent policy for flood policy issues including
        - Areas outside the State's boundaries that affect flooding events in West Virginia
        - Islands with residences or industry located entirely within the floodplain
        - Recreational areas in the floodplain
        - Structures in West Virginia like pools and dams - recommend asking for the help of the Dam Safety Program within the Department of Environmental Protection Division of Water and Waste Management
  - Despite these calls, no action has been taken on the report since it was suggested in 2004

Regional/Local Level:

- Limited involvement of localities

Sea Grant/Academic Partnerships:

- West Virginia does not have a Sea Grant Program or any Academic Partnerships

Non-Profit:

- West Virginia Rivers Coalition
    - Provide some floodplain information
    - Do education and outreach programs on rivers and watersheds

Education/Outreach:

- WV Management Task Force suggestions on outreach and regional initiatives - none have been implemented

Organization:

- Mostly at the State level due to the lack of communities involved

Technology:

- Provided at state level
    - Resources for locals, reg and code, floodplain mapping tool - see above

Contact Information:

- Robert Perry - WV State Floodplain Management Coordinator - robert.l.perry@wv.gov, 30-957-257

WISCONSIN

State Level:

- Department of Natural Resources
  - Floodplain zoning, management and grant opportunities for local communities
- Bureau of Watershed Management
  - Since 1994 provides a website that highlights updates to state and federal floodplain and shoreline policies

Regional/Local Level:

- Elm Grove
  - Used extensive community outreach to successfully implement a property buyout program to reduce future flood losses along and in the Underwood Creek and Dousman Ditch floodway
  - Built flood water storage facilities on some of the acquired properties
    - Had a full time staff person devoted to the buyout program
  - Highlighted on the CRS for Community Resilience webpage
  - See use of funds in the funding section below

- Kenosha County
  - Fox River Flood Mitigation Program
    - Initiated in 1994- County acquires and demolishes residential structures in Fox River's 100-year floodplain to reduce flood damage and injury
- Jefferson County
  - Highlighted in The Economist
    - After a 2008 flood, floodplain ordinance was updated to require properties with 50% damage must be acquired by the county
      - Was then able to use grant funding to acquire 100 homes

Sea Grant/Academic Partnerships:

- Wisconsin Sea Grant
  - Great Lakes Coastal Community Planning Resource
    - Contains coastal planning guide, local planning examples, applicable laws and regulations, and GIS resources

Non-Profit:

- PEW Charitable Trust- published a state fact sheet

- Contains state specific statistics

Policy:

- State requires sellers to disclose if a property is in a floodplain, wetland, or shoreland zoning area and whether there has been past flooding

Funding sources:

- Elm Grove buyout project
  - Used village funds in addition to Hazard Mitigation Grant Program, Wisconsin DNR, Milwaukee Metropolitan Sewerage District, Tax Incremental Financing, and stormwater utility funds
- FEMA funds

Contact Information:

- Michelle Staff, DNR Floodplain Policy Coordinator, (608)-266-3093, Michelle.Staff@Wisconsin.gov
- Roxanne Gray, State Hazard Mitigation Officer, (608)-242-3211, roxanne.gray@dma.state.wi.us,
- Kenosha County Fox River Buy-Out Information, Kenosha County Housing Authority, (262)-857-1843

WYOMING

State Level:

- NFIP Coordinated by the Wyoming Office of Homeland Security

Regional/Local Level:

- City of Cheyenne and Laramie County
  - Laramie County Website provides quick links to local and FEMA flood information
  - Flood maps and flood protection references are available at the public library
  - Coordinating stormwater management
- National Regional Geospatial Cooperative
  - GIS mapping for community includes flood zone layers

Sea Grant/Academic Partnerships:

- Wyoming does not have a Sea Grant Program or any Academic Partnerships

Education/Outreach:

- Gene McDonald
  - Helps with CRS participation
- Lots of public information available on flood management

Organization:

- Hierarchical Structure

GIS tech:

- National Regional Geospatial Cooperative

Funding sources:

- State Level

Contact Information:

- Kim Johnson WY Office of Homeland Security, (307) 777-4910, jcase@state.wy.us