



FEMA Request for Information: Community Rating System

Docket ID: FEMA-2021-0021

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[Wetlands Watch](#) is a 501(c)(3) non-profit organization based in Norfolk, Virginia working state-wide to protect wetlands through sea level rise adaptation planning and advocacy. Our program operation includes a floodplain management focus, with particular attention to the Community Rating System. As part of this work, Wetlands Watch staff serves as Chair of the [Coastal Virginia CRS Workgroup](#), a CRS User Group that provides a community of practice for floodplain management and flood risk reduction best practices. We respectfully submit these comments, responding to the questions included in the request for information, on behalf of our organization and its role in promoting CRS Program participation and success across the Commonwealth of Virginia.

(1) What are the strengths of the current CRS program? What components of the program are currently working well and why?

- A) The CRS Program provides a significant number of points for activities that offer the greatest flood loss reduction: open space preservation and acquisition. Open Space Preservation (OSP) (Activity 420), in particular, is a high credit earning activity. Prohibiting development in high flood risk areas protects the insurance base from losses, while offering a myriad of unrelated benefits to the community and ecosystem. Although a similarly high number of credits are available in Acquisition and Relocation (Activity 520), the manner in which credits are calculated limits a communities' ability to earn as many of the available credits, which is an issue that is addressed in a Wetlands Watch [publication](#) appended to this comment letter. Maintaining a high number of credits for these two activities in CRS Next should be prioritized.
- B) The CRS Program also provides a significant number of points for Higher Regulatory Standards (Activity 430). Currently, in many of the elements in 430, the more strict a community's regulation, the more points it receives for the action. For example, if a community adopts 3 feet of Freeboard (FRB) it earns more points than it would if the community only adopted 2 feet. This tiered number of points available encourages CRS communities to "go higher" with their standards, thereby improving flood risk into the future. Our region benefits from an emerging healthy competition among nearby CRS communities as a result of this crediting approach. Maintaining both a high number of credits for this activity, and the ability to incrementally earn more credits for stricter standards, should be prioritized in CRS Next.
- C) Past updates to the CRS Program increased the credits available for Public Information (300 series). Communicating about flood risk and reaching a diverse number of stakeholders with risk messaging is essential to increasing the safety of people and property. One specific way that Activity 330 (Outreach Projects) could be improved is to allow a Program for Public

Information (PPI) to exceed the capped amount of points, if the PPI earns each elemental multiplier credit. Maintaining a high number of credits for this activity in CRS Next should be prioritized.

(2) What are the challenges with the current CRS program that need to be addressed and why? How can the CRS program be modified, expanded, or streamlined to better address or resolve these challenges?

- A) Wetlands Watch interviewed CRS Coordinators and other stakeholders engaged in CRS work on the east, gulf, and west coasts, as well as the Great Lakes region, Alaska, and Hawaii to determine if other coastal communities shared similar obstacles to success in the CRS Program as those identified by CRS stakeholders in Virginia. During these interviews, CRS Coordinators and stakeholders were asked to share recommendations for how the CRS Program could be modified to help coastal communities better prepare for current and future flooding and improve their class ratings in the CRS Program. The recommendations and related discussion were compiled, and organized by CRS activity, in the following report, which is also appended to these comments, [Improving the CRS Program: Recommendations from Coastal CRS Communities & Stakeholders](#) (2018).
- B) In addition to the suggestions included in the 2018 Wetlands Watch report referenced above, the following are recurring suggestions and recommendations made by Virginia CRS communities:
- a) The CRS Program is too complex and must be simplified. CRS Coordinators spend an enormous amount of staff time maintaining participation and succeeding in the Program. In fact, CRS Coordinators make difficult decisions about whether to submit documentation for creditable activities they are already executing in the community because of the onerous documentation requirements. See our response to question 3 for more on this issue.
 - b) The wait time between cycle visits can be far longer than advertised in the CRS Manual. One Virginia community waited over 30 months from the date of their CRS Cycle Visit to receive the discounted premiums earned by a class increase. Then, this delayed time frame was not reflected in the next cycle visit, which occurred less than 4 years later. This unpredictability is not helpful and can be harmful when trying to gain new CRS Program participation.
 - c) CRS Coordinators do not have access to the detailed score sheets used by ISO representatives, therefore they cannot track their progress in each element or activity to know what is approved or not for credits. If a CRS Coordinator could have access to the score sheet, and if an online portal was made available, they could submit documentation throughout the cycle visit process and receive “live” updates on what was approved or not approved.
 - d) Under Activity 420, Open Space Preservation (OSP), communities cannot receive credit under the Deed Restrictions (DR) element if conservation easements allow any development on a property under the easement restriction. It is common practice in the land conservation community to allow a very limited amount of development on large parcels. In one particular CRS community, some parcels under conservation easement

allow densities from 1 unit per 150 acres, or even 1 per 400 acres. According to this community, there should be a way to capture these examples in the CRS Program that is currently not credited under the Deed Restriction or Low Density Zoning elements.

(3) While the CRS program is technically available to all compliant NFIP communities, is access to the CRS program equitable for all communities? If not, what changes to the CRS program could make it more equitable for all communities? How could the CRS program provide better outreach to disadvantaged communities to encourage participation? How could the CRS program provide better outreach to households in disadvantaged communities to encourage participation in the NFIP?

- A) Access to the CRS Program is not equitable for all eligible NFIP compliant communities. The level of work required to participate and succeed in the CRS Program far exceeds the staff capacity in most small communities. The CRS Program and ISO staff seem to significantly underestimate the amount of time and energy required to participate in the CRS Program. Wetlands Watch's Virginia [survey](#) of CRS Coordinators reported local government staff spend far more time than the estimated CRS burden included in the CRS Manual and copied below. In fact, in 2018, Virginia's CRS Coordinators reported the percentage of their staff time spent each year on the CRS Program ranged from 1%-100%, with the median reporting 13% annually.

Burden Disclosure

Public reporting burden for this application is estimated to average 45 hours per response for the application process, 1.6 hours for the environmental and historic preservation certifications, and 4 hours for annual recertification. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and submitting the application and/or forms. This collection of information is voluntary. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing the burden to Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street., S.W., Washington, D.C. 20472, Paperwork Reduction Project (1660-0022).

NOTE: Do not send your completed form to this address.

A national assessment of CRS Coordinators' time spent on participation and improvement in the CRS Program is critical to fully understand the burden on local government staff. Furthermore, much of the CRS credit documentation requires GIS expertise, which is not readily available in many communities. One CRS community [interviewed](#) by Wetlands Watch staff dropped out of the CRS Program due to a \$10,000 contract to complete CRS documentation. The following changes could be made to the CRS Program under CRS Next to improve access: (a) simplify the reporting and documentation requirements of the Program and (b) offer technical support to communities with limited staff resources.

(4) How could the CRS program better promote and/or incentivize improved reduction of future conditions and risks such as climate change, sea-level rise, urban flooding, and future development?

- A) If the CRS Program wants to promote and incentivize communities to adopt plans, policies, and regulations related to climate change impacts, the Program should create a separate “Future Conditions” activity that awards points that are not impact adjusted against other activities or elements. Although requiring that communities adopt specific future condition scenarios may be a helpful incentive to bring communities along faster, it would likely be more advantageous to provide baseline credit for using any future scenario, then allow CRS communities to increase the number of points earned based on higher-risk scenarios adopted.
- B) If a community adopts a program or policy that prohibits future development outright, such as not allowing properties to be rebuilt after they suffer 50% or more damage, the community should receive significant CRS points for the program or policy itself, then points for the execution of the program: e.g. structural demolition (acquisition) and the acreage of undeveloped land (open space preservation) that remains. These are the types of climate change adaptation policies that are most politically difficult to adopt and enforce and will have the greatest flood risk reduction benefits and should be rewarded with commensurate CRS credits. Additionally, this activity should have specific examples of actions that could earn credits, but CRS communities should be encouraged to propose actions that are not contemplated in the CRS Manual for ISO review.

(5) How could the CRS program better address the mitigation of repetitive loss/severe repetitive loss properties and how could FEMA further leverage the CRS program to achieve mitigation of repetitive loss/severe repetitive loss properties?

- A) The greatest barrier to CRS communities working to address repetitive loss and severe repetitive loss properties is the lack of access to the RL and SRL lists. Misinformation about how to receive these lists has circulated for years without resolution. Clear and concise direction for CRS communities on where they can reliably access this data is paramount. One suggestion is to allow ISO representatives to distribute the lists to CRS communities (possibly at the time of recertification) directly.

(6) How can the CRS program be modified, expanded, or streamlined to best incentivize participation by communities and flood insurance policyholders to become more resilient and lower their vulnerability to flood risk?

- A) This question is more specifically answered in our response to question #2, but very briefly, the CRS Program must be simplified to incentivize participation by communities. If the goal is to increase participation during the rollout of Risk Rating 2.0, the CRS Program will need to improve its outreach and messaging related to the rate increases and ability to apply CRS program discounts to those increasing premiums. Confusion around the CRS Next update occurring at a similar time as the Risk Rating 2.0 update could deter existing CRS communities

to continue their participation in the CRS Program. If existing participation is not retained, the CRS Program will have an even harder time gaining new participating communities.

(7) How can the CRS program better incentivize floodplain management, risk management, and/or risk reduction efforts for communities through CRS discounts, grants, trainings, technical assistance or other means? Which efforts are most critical for the CRS program to support?

- A) The CRS Program's free webinar series is a great resource, but it might be helpful to ask CRS communities to present on their experience earning credits under specific activities and elements so they can provide information most helpful for other local government staff who may have similar challenges or questions related to documentation and CRS Program administration. Offering grants for CRS community staff to attend CRS specific training would be an excellent way to build expertise in additional staff in the same community, so all the CRS knowledge does not reside with just one staff person. Similarly, if a CRS Coordinator position changes in a community, knowledge of resources available to send a new staff to receive training would likely provide a much stable transition in CRS Program administration in the community. One of the biggest challenges with maintaining CRS class ratings and improving in the CRS program is staff retention and knowledge leaving the community when staff leave their positions. Furthermore, the more support for training, the less likely a CRS community would be to hire outside consultants to accomplish specific tasks related to their administration of the CRS program. Keeping expertise on staff may be a long term cost and time saving choice, when compared to hiring consultants to complete the work.

(8) What existing sources of data can FEMA leverage to better assist communities to assess, communicate, and drive the reduction of current and future flood risk? Can FEMA leverage new technologies to modify or streamline the CRS program? If so, what are they and how can FEMA use new technologies to achieve the statutory objectives of the program?

- A) The CRS Program could request an update to FEMA's National Flood Hazard Layer mapping tool that includes additional data that may assist communities with limited GIS capabilities to earn credits they would otherwise not receive. If these layers could also receive pre-approval by ISO as acceptable documentation, that would be extremely helpful to those same communities. If FEMA could streamline data or technology to help reduce the documentation and administrative time burden on CRS communities, CRS Coordinators would appreciate the assistance.

(9) The CRS program provides credits for flood risk reduction activities. Are there flood risk reduction activities that are not currently given credit within the CRS program that should be? If so, what are they and why? Are there flood risk reduction activities that are currently given excessive credit within the CRS program than they should be given?

If so, what are they and why? Should the CRS program provide a list of optional risk reduction activities for communities to choose from or a list of required risk reduction activities, and why?

- A) In 2015 Wetlands Watch submitted a white paper to the CRS Task Force in which we requested that the CRS Program consider crediting voluntary parcel level nature-based flood reduction and stormwater management activities. This white paper titled, [Needed Reform: The CRS Program & Nature-Based Flood Reduction Activities](#), is included as an addendum to these comments.
- B) There are many structural mitigation measures underway in many coastal communities facing increased flood insurance premiums and flooding due to sea level rise. Many of these mitigation actions are not clearly credited under Activity 530, Flood Protection. Simplifying this section and allowing for more flexibility in submitting alternative actions not included in the manual would make the credit more approachable. In addition, these mitigation actions are not always tracked by the local government. Many CRS communities are simply submitting their home elevations because those activities are tracked by the local government. Perhaps incentivizing better coordination between the flood mitigation business community and local government floodplain staff could address this disconnect.
- C) Expanding this credit to the 500-year floodplain, in general, could incentivize communities to encourage structural mitigation in the “future floodplain,” which is particularly important in coastal communities facing the impacts of sea level rise.

(10) What successful approaches have been taken by State, local, Tribal, and Territorial governments that the CRS program could leverage to better support community participation in the CRS program? In what ways could the CRS program better support States, Tribes, Territories and Regions, and flood control and water management districts to improve community participation in the program? What innovative changes could the CRS program make to be simpler for communities to join and maintain participation?

- A) The use of a Regional CRS Coordinator position, as piloted in Barnstable County, MA, offers an excellent example of how cost-sharing a staff position can reduce the burden of staff time on participating CRS communities. The existence and success of cost-sharing CRS positions like this should be shared nationally, with specific steps and tips to aid regions in creating a similar position. Needs assessments for this type of position can help introduce the concept to a region or state, while surveying whether communities are ready to buy-in to the position structure. Wetlands Watch conducted a [needs assessment](#) in 2018 of this type of position in Virginia, which helped determine the level of interest in a regional or cost-share position in our various coastal regions in the state.

(11A) How could the CRS program provide better outreach to disadvantaged communities to encourage participation? How could the CRS program provide better outreach to households in disadvantaged communities to encourage participation in the NFIP?

- A) The CRS Program could conduct outreach to disadvantaged communities, but without simplifying the Program or offering technical assistance, most underserved communities will not have the capacity to participate in the CRS Program. Conducting outreach to households may apply pressure to staff and leadership at the local government, but participation may not be possible because of the aforementioned capacity challenges, and could result in false hope for policyholders struggling to pay flood insurance premiums. In addition to the potential false hope generated by conducting outreach, the information could be more confusing than it is helpful. Explaining how the National Flood Insurance Program works at the local government level is difficult enough, but when you add in the mix that there is a possibility of the community joining a program that offers flood insurance discounts, the messages become easily convoluted.

(11B) In what ways could the CRS program facilitate collaboration across jurisdictional boundaries to support a community's ability to reduce flood risk? How could the CRS program be modified, expanded, or streamlined to allow for multi-jurisdictional collaboration efforts to receive credit under the CRS program?

- A) Supporting efforts to establish regional or cost-share CRS Coordinator positions, as outlined in our response to question #10, would help facilitate collaboration across jurisdictional boundaries.
- B) Many communities receive credits for activities that occur at the regional level, but often these regional credits are not shared through outreach to other CRS communities so they are aware that such collaboration for credits is possible. Increasing outreach and sharing of these types of regional credit successes would help.

(12) What opportunities exist for the CRS program to better integrate with other entities and/or programs? For example, in what specific ways could the CRS program better work and integrate with State, local, Tribal, and Territorial programs, including but not limited to, floodplain management, emergency services, land use planning and building code administration capital improvement, transportation, redevelopment, pre- and post-disaster recovery, climate adaptation, hazard mitigation planning, watershed management, and/or wetlands, riparian, or environmental management programs? In what specific ways could the CRS program better work and integrate with Federal disaster assistance programs or Federal mitigation programs?

- A) Alerting state agencies that credits are available for activities that those agencies might have dominion over would greatly improve the CRS Program. Examples of this include state shoreline management regulations related to development restrictions in waterbody buffers,

setbacks, etc. Statewide mapping of such regulated areas could be pre-submitted for documentation and credit review by ISO and localities could thereafter submit limited information to receive the corresponding credits.

- B) Communities could receive credit for flood mitigation strategies or policies employed by the community that offer particularly strong flood risk reduction. For example, some communities only use FEMA hazard mitigation grant dollars to execute property acquisitions, while others exclusively execute structural elevations. The community that only acquires properties as a policy should receive credit for electing the longer term flood mitigation and risk reduction strategy.
- C) Communities that offer unique planning solutions or strategies to address the impacts of flooding should also be eligible for credits. An example of this would be a transfer of development rights program that focuses on disincentivizing development to high flood risk areas, while incentivizing development in low flood risk areas.
- D) Communities that invest in flood mitigation strategies should be eligible for credits. For example, a community that passes a large bond referendum, or creates a special tax district to fund flood mitigation projects, should receive credits for the significant financial investment in flood risk reduction.

Appended Wetlands Watch Reports/White Papers (formatting of some reports altered):

[Improving the CRS Program: Recommendations from Coastal CRS Communities & Stakeholders](#) (2018)

[Capacity Building in the NFIP CRS: Viability of Regional CRS Support Positions in Virginia](#) (2018)

[The Costs & Benefits of the CRS Program in Virginia](#) (2017)

[Needed Reform: The CRS Program & Nature Based Flood Reduction Activities](#) (2015)

October 2018

IMPROVING THE COMMUNITY RATING SYSTEM (CRS) PROGRAM

Recommendations from Coastal CRS
Communities & Stakeholders



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Virginia Coastal Zone
MANAGEMENT PROGRAM



Thank you to the list of interviewed CRS stakeholders included on page 19. Special thanks to Wetlands Watch staff, Ross Weaver, Skip Stiles, and Shereen Hughes and Wetlands Watch Intern, Jennifer Seay.

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

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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.

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CRS PROGRAM RECOMMENDATIONS TO BENEFIT COASTAL COMMUNITIES

CRS Program: A Resilience Building Tool

Growing interest in the National Flood Insurance Program's Community Rating System (CRS) Program in Virginia, particularly from coastal communities, will bring economic relief to high-risk policyholders in the form of discounted flood insurance premiums and less flood damage. This relief will hopefully offer some support to uncertain coastal real estate economies, while most importantly, encouraging higher floodplain management standards to protect against future flood losses in vulnerable communities. Many organizations, such as Wetlands Watch and the funder of this project, the Virginia Coastal Zone Management Program, promote the CRS Program as a tool to build communities resilient to both physical and economic risks of sea level rise and flooding events.

Although an imperfect policy vehicle, the CRS Program incentivizes many planning and implementation strategies congruent with

US Coastal CRS Coordinators Survey

Wetlands Watch interviewed coastal CRS communities in Virginia and throughout the country seeking to identify CRS Program recommendations to assist coastal communities' success in the CRS. In coastal Virginia, many CRS communities expressed concern regarding the CRS Program. Comments referenced administrative burdens of the CRS as a major barrier to success and participation. These concerns are not singular to Virginia's coastal communities, but shared by many US coastal CRS communities interviewed, as the recommendations included in this document will validate. Other comments were activity specific, several noting that the CRS favors riverine and undeveloped communities, making it difficult for coastal communities, particularly urban coastal communities, to advance into higher CRS rating classes. Earning credits in

those encouraged for sea level rise adaptation. In coastal Virginia, where land elevations loom near sea level, the flood zone lines of today mirror the coastline of the future. Decisions made for sea level rise planning purposes are made in our floodplains. The CRS Program's highest credit-earning activities, Open Space Preservation (420), Acquisition & Relocation (520), Higher Regulatory Standards (430), and Flood Protection (530), are among many of the strongest sea level rise adaptation tools. The CRS Program prioritizes these activities by awarding a large amount of CRS credit points for their completion, which will result in a higher CRS class rating and a higher flood insurance premium discount for communities. Encouraging participation and success in the CRS Program opens the door to prioritize these credit-earning activities in communities resistant to adaptation planning.

the highest-earning CRS activities, such as 420, 430, 520, and 530, is difficult for coastal and urban communities because the credit calculations include various forms of impact adjustments that penalize communities with large percentages of their land area in the floodplain (coastal), built out floodplains (urban), or a large number of structures in the floodplain (both coastal and urban). Why is this significant? Many would argue that coastal and urban CRS communities can earn points in other activities - the 2017 CRS Manual includes a total of 17,052 available points. Communities can earn points in the other activities, however, the highest-earning activities account for 54% of the total available points in the CRS Program (see chart). This point structure puts coastal communities at a disadvantage.

CRS Activity	Available Points (Pre-Impact Adjustment)
Open Space Preservation, Activity 420	2,870
Higher Regulatory Standards, Activity 430	2,462
Acquisition & Relocation, Activity 520	2,250
Flood Protection, Activity 530	1,600
TOTAL POINTS	9,182
TOTAL POINTS	17,052

The CRS is a national program, standardized to meet the needs of vastly different communities from across the country with varied flood risks and can never be individualized to a level that accommodates all community differences. However, when over half the points in a program come from only 4 of the 19 CRS point earning activities, adjustments may be helpful to remedy this weighted discrepancy. The nuances of this issue extend beyond the scope of this project; however, it is important to note that the highest credit-earning activities are those that offer undeniable protection against flood damage. Coastal and urban communities present a greater risk to the NFIP than rural non-coastal communities because coastal/urban communities have more insured structures in high-risk zones. Wetlands Watch does not suggest the CRS should reward communities that are more at-risk with higher CRS scores simply because they are at a disadvantage, but perhaps reevaluate how coastal or urban communities can prove they are successfully protecting their communities from flood risks and reward them with alternative CRS points commensurate to the protection values achieved. In other words, rather than rating all types of communities (rural, urban, coastal, riverine) with the same scoring system, develop and utilize alternative systems for coastal and urban communities that better reflect their challenges and obstacles and that accurately and fairly rate their communities.

CRS Recommendations Scope: United States Coastal CRS Communities

While several concerns noted above refer to Virginia coastal communities, the project scope extends to any coastal CRS community in the United States. Wetlands Watch staff interviewed CRS Coordinators and other stakeholders engaged in CRS work on the east, gulf, and west coasts, as well as the Great Lakes region, Alaska, and Hawaii to determine if other coastal communities shared similar obstacles to success in the CRS Program as those identified by CRS stakeholders in Virginia. During these interviews, CRS Coordinators and stakeholders were asked to share recommendations for how the CRS Program could be modified to help coastal communities better prepare for current and future flooding and improve their class ratings in the CRS Program. The recommendations and related discussion included in this document capture the feedback received from these interviews.

Document Format

The following recommendations are organized based on the CRS activity series for which they currently receive credit or could potentially receive credit. Those recommendations that do not clearly fit within the current CRS activities are included in a separate section at the end of the series list. Many of the recommendations are not specifically coastal, however, they were included. A list of interviewees is included on page 19.

300 Series: Public Information Activities

Elevation Certificate (EC) (310) Recommendations

- A. Improve consistency regarding EC requirements: FEMA and ISO require conflicting EC documentation leaving floodplain administrators stuck in the middle. The FEMA form was approved by Congress, but ISO has a different set of standards.
- B. Offer electronic EC files to communities that provide paper ECs to ISO for CRS credit: Digitalization helps communities and stakeholders improve data collection for planning.
- C. Update the FEMA document “Surveyors Guide to the Elevation Certificate:” Communities reportedly directed surveyors to the document for information on how to complete the Elevation Certificate forms. Communities reported errors made on Elevation Certificates and feel an updated guide, including frequently made errors, would be helpful. Additionally, a guide with clearer instructions would also be of assistance.

Outreach Projects (330) Recommendations

- A. Increase points for communication and outreach.
- B. Increase points for bigger communities: Outreach for larger communities is a greater investment as it may require more time to reach everyone and may require more monetary resources if outreach is in the form of flyers, letters, personal phone calls, etc.
- C. Expand outreach projects messages to include community specific risks: A coastal community should receive points for hurricane outreach – these additional topics are currently limited to a community that employs a Program for Public Information (PPI).
- D. Modify points that assume staff have ready access to politicians: Larger communities cannot easily communicate with local politicians, putting these communities at a disadvantage.
- E. De-emphasize educational components of the CRS at the lower levels of the program: This allows communities to join the CRS without doing too much to warrant reduced premiums for NFIP policyholders. Localities can check a box rather than ensuring a real effort is made to get communities to better understand the need to act.
- F. Clarify credits for electronic communications: Communities are communicating more electronically with residents via television, Twitter, Facebook, social media, etc. The CRS should clarify exactly how electronic outreach is credited under Activity 330 to reflect current ways of communicating.
- G. Simplify the explanation and documentation requirements for Programs for Public Information (PPI): Communities find it very difficult to follow all the required steps even with strong PPI organization.

400 Series: Mapping and Regulations

Floodplain Mapping (410) and Mapping and Regulations (440) Recommendations

- A. Offer community GIS assistance or training: CRS documentation is mapping and GIS intensive, requiring the creation of countless maps. The assumption that communities have GIS capacity is wrong and limits CRS participation - some communities lack websites or email addresses. Communities that are understaffed may not have personnel with GIS capabilities, and those that lack sufficient funding cannot afford to outsource GIS work. For example, one community dropped out of the CRS due to a \$10,000 GIS contract to complete CRS documentation. Therefore, if the CRS Program offered free or reduced fee GIS assistance or training, more communities may participate and others may not drop out of the CRS.
- B. Award more credit for enhanced mapping: Other activities that are not as substantial get more credit. Additional credit would incentivize more communities to perform enhanced mapping.
- C. Offer more credit for independent mapping: Outdated FEMA mapping restricts localities' ability to adopt higher standards. Provide credit for including SLR and precipitation in predictive flood mapping. Communities should be rewarded for taking additional measures to protect their citizens.
- D. Clarify Floodplain Mapping Special Hazards Mapping (MAPSH) credit: Communities do not understand how to get the layers and whether or not they can adopt pre-made layers.
- E. Help push for better FEMA mapping: There is a disconnect between FEMA mapping and actual flood risk in communities, where some properties that experience flooding are not located in FEMA's regulatory floodplains. However, there is no political will to challenge FEMA's maps to map additional properties in FIRMs, not to mention include future conditions, such as sea level rise and current & projected precipitation rates. Maps that take these factors into account would likely place more properties in high-risk zones, leading to more property-owners purchasing flood insurance policies. Improved maps may also lead to communities performing mitigation activities to better protect these properties, thereby reducing flood insurance claims and subsequent NFIP payouts. (Not a CRS Program specific recommendation)

Open Space Preservation (420) Recommendations

- A. Award more credit for open space in urban communities: Credits weighted highly in 420 are only reasonably appropriate in the rural communities due to the political difficulty of preserving land in urban communities with limited or no undeveloped land. Weighting credits differently, rather than awarding more credits is also an option.
- B. Award more credit for open space in coastal communities: Floodplains typically encompass a larger percentage of land area in coastal communities – earning credit with a large denominator is difficult. Weighting credits differently, rather than

awarding more credits is also an option.

C. Alter the way credit is awarded for Natural Shoreline Protection (NSP): Instead of measuring the shoreline length, communities recommend crediting based on parcel land area. Localities report the calculation is complicated and the impact adjustment significantly reduces the number of points.

D. Simplify the Coastal Erosion Open Space (CEOS) credit: This section is too confusing to comprehend. Requiring credit in multiple other sections with specific caveats both intimidates and frustrates CRS Coordinators. The time required to understand the activity is not worth the points earned. Additionally, communities that have coastal erosion protections in place for the purpose of water quality cannot earn credits because the program does not fit into the CRS box perfectly.

E. Provide open space credit for non-regulated land outside of the floodplain: Higher elevation areas are best for recharge and runoff from those areas is a source of downstream rain/flood water.

F. Increase the credits available for Natural Functions Open Space (NFOS): A limited 350 extra credit points are currently available. Furthermore, the point calculation is based on an impact adjustment factor that, in larger communities particularly, undercuts the points significantly.

G. Expand credits for low-density zoning (LZ) to reflect development stresses in urban communities: Include credit for variable lot sizes in dense communities, not just credit for 5 acres or more.

Higher Regulatory Standards (430) Recommendations

A. Increase credits for Higher Study Standards (HSS): Currently, a community can receive more credit for freeboard than for adopting and regulating to aggressive sea level rise estimates through incorporating sea level rise in HSS.

B. Offer credit for imposing alternative standards in height restrictions: Communities can measure height from the first floor of a structure, as opposed to the ground.

C. Freeboard (FRB) Recommendations

a. Increase credits for freeboard: Freeboard could be its own credit activity because of the significant benefit it offers in terms of flood damage reduction.

b. Award credit for incentivizing and encouraging builders to increase freeboard.

D. Increase credits for additional regulations pertaining to the LiMWA.

E. Increase credits for sea level rise & other coastal resilience planning and regulations: Many coastal communities are adopting extensive sea level rise studies that currently do not receive credit in the CRS Program, and it's unclear whether these studies can meet watershed master plan credits or floodplain management planning credit.

F. Offer more credits for creative local zoning that offers flood resilience: One

example includes the creation of zoning regulations for areas where specific higher standards go into effect at a specific trigger event or future date in time (“rolling regulations”).

G. Allow more flexibility in Coastal Erosion Hazard Regulations (CER): Many communities enforce shoreline buffers for the purpose of water quality that may also overlay with a high erosion rate, but because the principal purpose is water quality and not erosion, it does not qualify for credit.

H. Credit actions that help citizens: Localities have noted that the current way the CRS Program credits activities for 430 doesn’t show emphasis for actions that really protect against flood damage.

I. Accommodate issues related to Building Code Effectiveness Classifications Grading Schedule: BCEGS ratings limit advancement into higher classes. Many localities located in Dillon Rule states cannot control whether the state adopts building code standards strict enough to earn a higher rating, yet these localities are penalized by preventing their advancement beyond specific class ratings. Also, communities struggling financially are cutting back on building inspectors, which impacts BCEGS rating.

J. Increase the credits for higher regulatory standards adoption/implementation: The cost of implementing regulations and higher standards are significant.

K. Allow Coastal A Zone Regulations (CAZ) credit for coastal communities without LiMWA lines: Topographic conditions in coastal communities in the US vary tremendously. Many communities work to mitigate erosion from bluffs and cliffs along their communities’ coasts. These communities do not have LiMWA lines due to higher elevations from cliffs, but they still have coastal zones where efforts to mitigate erosion are underway. The types of mitigation are not currently credited in the CRS Program.

Stormwater Management (450) Recommendations

A. Make Stormwater Management Regulations credits less complicated and less prescriptive: Provide a better description of what is required in the elements and as documentation.

B. Provide credit for tree planting, tree canopy requirements, etc.: Trees serve a tremendous stormwater function, especially in urban communities.

C. Offer alternatives for Watershed Management Plans (WMP) requirements: WMPs are a class 4 prerequisite, but they are difficult to conduct on barrier islands or small communities with limited resources, and this precludes them from conducting advanced hydrologic modeling required in the plans. Allow the towns to develop a “watershed management plan” for lands and water bodies within their jurisdictional boundary, and then apply the impact adjustment based on the size (%) of the overall watershed in which the community is located or allow alternative risk management plans to earn WMP credits. An additional complicating factor - the EPA has 9 elements for a WMP that do not match the CRS elements – this disparity impacts grant applications.

D. Offer prorated points for varying levels of storm protection, instead of crediting according to a range of protection levels: A community receives the same number of points for adopting protection to a 11-year storm as they would a 25-year storm. Offering more points for the stronger storm levels incentivizes stricter standards.

E. Adjust stormwater credit for coastal communities: Stormwater CRS credit is based on water moving fast as opposed to slow, but this is not helpful to coastal communities that have slower moving water. Recommendation: base the discharge at a historic rate, not at a predevelopment rate.

500 Series: Flood Damage Reduction Activities

Floodplain Management Planning (510) Recommendations

- A. Provide credits for plans that evaluate risk at the watershed and sub-watershed levels.
- B. Offer credit for communities that do not have repetitive loss properties.
- C. Offer credit for repetitive loss analysis: Currently repetitive loss analyses are required for CRS participation, but some communities invest in advanced analyses, which should be awarded credit.
- D. Incorporate affordable housing and economically vulnerable populations into floodplain planning.
- E. Award credit to communities that adopt an integrated approach to floodplain management: Programs that link capital improvement plan expenditures with codes and enforcement should be rewarded.
- F. Award more credit for comprehensive vulnerability assessments: Plans that clearly outline the consequences of not meeting higher regulatory standards, identify the losses, and plan for managing them are comprehensive in nature and should be rewarded with more credit points. The assessment should also identify vulnerable populations in the community and plan for protection.
- G. Recommendations for incorporating sea level rise in floodplain planning
 - a. Strengthen credits and incentives for future condition planning: Credit stormwater, precipitation, and sea level rise studies that are forward-facing with long-term benefits.
 - b. Offer more sea level rise credits in general.
 - c. Reduce the complexity of the SLR multiplier, which is designed to help coastal communities: The NOAA/USACE calculator is too complicated to explain to a local CRS Coordinator. There should be someone in house, clearly listed, that local government staff can call to ask for their localized SLR curve to reduce confusion.
 - d. Clarify how to get SLR credit: Communities reported that there is SLR credit available, but they are not going to attempt to earn this credit because it is not clear what activities will earn or how to get credit.

H. Reward communities for making difficult decisions that impact their tax base: Coastal communities cannot relocate their entire risk because of the economic impacts. For example, if a community acquires properties and relocates the residents, their tax base may change, and they may suffer losses in tax revenue. For coastal communities, many more properties are at-risk than there are in non-coastal communities, so relocating the same number of properties as a non-coastal community will earn them less credit points because their denominator will be much larger. If these coastal areas were to relocate a large number of their at-risk properties to earn a substantial amount of credit points, they would suffer a large decrease in tax revenue, which will likely not be worth the credit points earned. Therefore, coastal communities should be awarded points differently, by using a formula that considers the feasibility of relocating all at-risk properties.

Acquisition and Relocation (520) Recommendations

A. Award more credit for acquisition in urban communities: Credits weighted highly in 520 are only reasonably appropriate in the rural communities due to the political difficulty to acquire land in urban communities where neighborhoods contribute greatly to the tax base. Urban communities are not engaged in large scale acquisition, because (1) they are built out and (2) repetitively flooded structures don't line up perfectly in a row on a street – a repetitively flooded structure may be located next to a structure that's never flooded before. The credit calculation methodology is severely limited: option 1 will mostly likely be the credit calculation selected, which is capped at 190 points, but option 2 earns up to 2,250 credits. An option in the middle would be helpful. Weighting credits differently, rather than awarding more credits is also an option.

B. Award more credit for acquisition in coastal communities: Low-lying coastal communities may have a larger percentage of their land included in the floodplain, making it extremely difficult to earn points in acquisition and relocation. Reliance on structures in the community generating a strong tax base is a limiting factor and because of the large number of structures located in the floodplain, accumulating credit is difficult. The credit calculation methodology is severely limited: option 1 will mostly likely be the credit calculation selected, which is capped at 190 points, but option 2 earns up to 2,250 credits. An option in the middle would be helpful. More credit should be awarded to reflect the political difficulty of accomplishing acquisition in these types of communities as well. Weighting credits differently, rather than awarding more credits is also an option.

C. Modify acquisition and relocation credit: (1) Award more credits for larger scale acquisition projects to incentivize neighborhood or street-scale flood reduction projects; (2) Increase points in acquisition and mitigation - newer manuals have cut back points on these areas while increasing points available for open space, which is difficult for communities that are built out; (3) Adjust the reward for acquisition and relocation so that the CRS benefit outweighs the loss in property tax revenue; (4) Alter the bonus points requirements - they disincentivize the group it should be seeking to incentivize, those communities with a significant number of properties in the floodplain; (5) Remove the impact adjustment component of the credit calculation options for activities 520 and 530 – it puts communities

with more floodplain policies at a disadvantage – if two communities both acquire 20 properties, but one has 100 SFHA properties and the other has 1,000, the community with a lower number of SFHA properties, and perhaps the less at risk community, receives more credit.

D. Weight credit to reflect the difficulty of mitigation projections: Public information activities receive more credit than one acquisition project, which does not accurately reflect the risk-reduction achieved.

E. Suggest and credit alternative retrofitting strategies for communities unable to acquire at-risk properties.

F. Provide credit for restoration and stormwater management planning and installations on FEMA acquired open space parcels: Encourage communities to use open space parcels for additional flood reduction benefits and promote contiguous acquisition and restoration projects.

Flood Protection (530) Recommendations

A. Credit calculations for flood protection are too narrow and restrict coastal and urban communities' success: Offering only two options for calculating credit is limiting. Option 1 is capped at 160 points, while Option 2 is capped at 1,600 points. Offering a middle course of credits would help communities.

B. Increase credit points for Activity 530.

C. Recommendations related to natural shoreline protection

- a. Provide credit for voluntary flood control practices, specifically Natural and Nature Based Features (NNBF), such as living shorelines, wetlands restoration, oyster reef installations, etc.: These practices are often used in coastal areas for both flood reduction and stormwater management. These practices reduce localized flooding and protect insurable buildings from small scale floods. Currently, credits are not awarded for individual features because FEMA requires communities to provide metrics proving NNBF will reduce risk, which is difficult to measure because features vary on a case-by-case basis. Communities cannot afford to perform hydrologic studies for each installation. Recommendation: award credit points based on the length and/or width of protection.
- b. Award credits for dune creation and modification: Communities create dunes along the coastline to provide a similar protection as a flood wall or levee. Given that dunes offer protection and their function is similar to that of flood walls and levees, which are awarded credit, they should also receive credit.
- c. Award credits for beach nourishment: Communities use beach nourishment as a flood mitigation strategy to protect against structural flood damage.
- d. Provide explicit credit for stream restoration, stream daylighting, etc. to encourage nature-based solutions to flooding and water management.
- e. Award credit for voluntary shoreline protection projects along higher elevation coastlines to protect against erosion along bluffs.

- D. Clarify how policyholders benefit from huge tide gate projects and other large investments in flood mitigation and adaptation.
- E. The CRS Program should require prohibition of fill in the floodplain as a higher-class prerequisite.
- F. Modify fill restrictions to reflect coastal risk: Filling in coastal floodplains is vastly different than filling in riverine floodplains. Discussions about development in the floodplain displacing risk in the floodplain is not helpful in coastal communities – it was reported that filling an entire coastal community floodplain will not displace water from coastal inundation. A shed located in the floodplain will not displace coastal flooding water. These issues are not reflected in the CRS Program. Recommendation: involve more coastal people in the CRS Task Force.
- G. Do not reduce credit awarded for FEMA financed projects: These projects may not be possible without FEMA funding. Although FEMA is helping finance these projects, they will benefit in that the projects may reduce flood insurance claims and future payouts by an amount larger than the cost of financing the project.
- H. Offer credit for alternative measures that offer flood protection: A community reported they installed flood gates at a stormwater outfall, but received no CRS credit. Another community mentioned one backflow preventer valve protects several houses during storm events, but this activity received no CRS credit. Another community reported elevating roads for flooding mitigation, which does not receive CRS credit. Additionally, a community cannot afford to conduct hydrologic studies for each installed valve or small scale installation - this requirement should be removed.
- I. Offer case studies for retrofitting older structures without proper flood openings or vents.

Drainage System Maintenance (540) Recommendations

- A. Improve credits to reflect the realities of urban and larger communities:
(1) Provide credit for inspecting the drainage system before storms, not just after storms; (2) Provide credit for underground storm drain maintenance and inspections; (3) Award credit for maintaining made-made canals - urban communities rely on stormwater conveyance systems that extend beyond natural channels/ditches.
- B. Revise points awarded for stormwater management: Localities with large systems will never get as many points because it is impossible to inspect 2,000+ miles of stormwater system – they only receive the minimum amount of points for inspecting half of the system, which would be 1,000 miles. Recommendation: if you have a certain number of miles, you only have to inspect every other year instead of every year.

600 Series: Warning and Response

Flood Warning and Response (610) Recommendations

- A. Allow prorated credit in Flood Warning and Response (FWR): The all or nothing approach may discourage a community from adopting a few new policies where they have none in place - they will not receive credit for the few they do adopt.
- B. Award Storm Ready 610 credit: It was once an automatic 25 points, but is only credited if a community receives points in other 610 activities, which does not reflect the burdensome process to receive Storm Ready status.
- C. Strengthen points for pre-disaster planning.
- D. Require stronger post-disaster planning: Require communities to analyze damage assessment rates and the cost of disasters. Offer extra points for an abandonment plan that identifies zones that will not be rebuilt if destroyed in a storm.
- E. Award points for improving the damage assessment processes: This will help communities justify the investment.

Recommendations Related to Administration of the CRS Program

Local Administration of the CRS Program Recommendations

- A. Make the program less complicated and clearer: The more complicated the program, the fewer communities will want to participate. Provide clearer information about what the program is and how communities can join, such as informational videos, documents, guides, etc., that provide step-by-step instructions and information on how to successfully join. These resources are available on crsresources.org; however, the resources are not always clear enough. Streamline the process to join the program. Reduce the amount of work and paperwork associated with the CRS – many communities are considering dropping out because they cannot keep up with the paperwork.
- B. CRS Coordinator staff burden underrealized: Coordinator reportedly spends 1 day each week (416 hours a year) administering the CRS Program, which is far more than the 24 hours a year staff burden referenced in the CRS Manual.
- C. Need to educate communities and convince them that they could do better in the CRS Program: Provide a “How to Optimize Your CRS Score” guide.
- D. Regionalize CRS Programs
 - a. Encourage Regional Coordinators: This position makes a lot of sense to help overcome the documentation and time burden. A Regional Coordinator would be a “hub” of CRS knowledge for the region and would reduce the need for each individual locality to have staff highly knowledgeable about the CRS, making it

easier and more feasible for more localities to join.

b. Allow the CRS program to be adopted regionally or at a larger geographic level: Smaller communities that are unable to participate on their own could ride on the coattails of larger communities.

E. Market the CRS Program as a way to decrease flood risk and mitigate damages from flooding, not just as a way to save policyholders money: Currently, localities see little benefit to them, given the way the program is marketed. The locality invests in the projects, allocates staff time and resources to administer of the program, yet it seems that the benefit goes all to the policyholders. Localities bear a large cost burden, but do not receive a direct benefit. If the program was marketed as a way to decrease flood risk and mitigate damages, the locality may see the benefit to the entire community and may be more likely to participate.

F. Emphasize the benefit of centralized knowledge: Require communities to establish an inter-departmental CRS team to ensure responsibilities of the CRS Program are shared among staff. This will also help with institutional knowledge gaps during staff transitions, as multiple staff members will be knowledgeable about the CRS, rather than just one person.

ISO/FEMA Administration of the CRS Program Recommendations

A. Improve consistency in ISO credit approvals across reviewer: One reviewer should not award credit differently than another reviewer.

B. Improve transparency between ISO and CRS Coordinators: (1) Provide localities with a post-verification feedback report with a breakdown of elements and points, explaining why they earned some points and why they did not earn others and include whether there was a retention or loss of points under manual updates; (2) Allow CRS Coordinators access to the ISO CRS Manual to better understand how their CRS points are really being awarded; (3) Create one manual, not two, to clarify discrepancies.

C. Increase ISO staff: Reviews take too much time and do not match the timing delineated in the CRS Manual. When reviews take too long, localities do not receive the class increase they earned, meaning policyholders do not receive an increased discount. This delay may result in hesitation from localities to work to increase their class if the benefits are not realized quickly.

D. Increase coordination and communication between NFIP, ISO, CRS Coordinator, Insurance Agents, etc.: It is difficult for communities to know where to look for certain information.

E. Allow access to CRS Program data: Historic CRS data is privacy protected, making research and analysis of the CRS program difficult. Researchers attempting to analyze which factors in a community impact CRS score lack the important data to understand community participation and determine what could be done to help increase CRS participation.

F. CRS Manual Recommendations

- a. **Make less frequent changes to the CRS Manual:** Communities reported that every time they go through a cycle visit, they are two manuals behind. Frequent updates place a burden on Coordinators to keep up with changes. The constant learning curve and need to remain updated may deter participation.
- b. **Offer flex credits:** The CRS Manual indicates credits are available for activities that do not fit in the Manual, but ISO agents reportedly push back on submittals for these credits. Additionally, it may help to establish more guidelines for both communities and ISO agents regarding these flex credits.
- c. **Provide communities with more examples of documentation and best practices:** Communities new to the CRS and/or lacking staff experienced in the CRS would greatly benefit from examples of proper documentation. The availability of examples would likely entice communities to participate that are hesitant to join due to the overwhelming documentation requirements.
- d. **Simplify CRS credit calculations:** Many calculations are time consuming and intimidating - if you have to do multiple calculations to determine which credit scenario will apply, CRS Coordinators may not pursue the credit.
- e. **Maintain state-based credits to help save CRS Coordinators time.**
- f. **Do not require communities to cycle under CRS Manuals directly after the new Manual is released:** CRS Coordinators need more time to learn the changes.

E. CRS Activity Ratings Calculation Recommendations

- a. **Allow communities to earn discounts beyond those provided in five percentage point discount intervals:** Localities noted they developed ideas for actions that would earn points, but because of the need to earn 500 points to move up a class, they decided that the cost of the activity was not worth it. **Recommendation:** Restructure the point system to make it a linear incentive system. Currently, it is a non-linear incentive structure that, in some cases, performing more activities increases the discount, but in other cases, it does not. Instead of increasing the discount at every class, base the discount off of the number of points a community earns. One way would be to divide the total number of points by 100, and add a percentage sign. For example, if a community has 800 points, rather than still getting only a 5% discount, give an 8% discount. It is unfair that a locality that has amassed more points than the minimum required for a Class 9 community, but not enough to earn a Class 8 designation, is not rewarded at all for improving. This restructuring of the point system would incentivize more activities that will earn a locality credit.
- b. **Offer larger marginal increases in the discount received:** It is much easier to improve from a Class 9 to an 8, but much harder to improve from a Class 5 to a 4, for example, because the “low-hanging fruit” activities, those that are cheaper and require less resources and time, have likely already been performed by the time a community earns a Class 5. Therefore, the locality will have to perform more expensive, time-consuming activities to improve classes, costing a community more to improve to a Class 4 than a Class 8. Therefore, the marginal benefit of improving classes, the increased flood insurance premium

discount, such as going from a 5% discount to a 10% discount, (as demonstrated in the left-hand side of the tables below), should be increasing as class ratings increase to reflect the cost of improving classes. Recommendation: Rather than consistently offering only a 5% increase in the discount, offer a marginal increase in each class percentage. For example, as a community jumps from a 7 to a 6, rather than only increasing the discount from 15% to 20%, increase the discount from 15% to 21% or 22%. The tables below illustrate examples of how this could be structured. Additionally, the increases do not have to be by 1%, it could be more moderate, such as by offering half percentage increases instead of full percentages. This would encourage localities to improve their ratings more than the current system does because the increased discount would be higher than it was at a previous class.

Scenario 1

CRS Class	Current Discount	Marginal Increase	Revised Discount	New Marginal Increase
1	45%	5%	54%	7%
2	40%	5%	47%	7%
3	35%	5%	40%	7%
4	30%	5%	33%	6%
5	25%	5%	27%	6%
6	20%	5%	21%	6%
7	15%	5%	15%	5%
8	10%	5%	10%	5%
9	5%	5%	5%	5%
10	0%	-	-	-

Scenario 2

CRS Class	Current Discount	Marginal Increase	Revised Discount	New Marginal Increase
1	45%	5%	51%	6.5%
2	40%	5%	44.5%	6.5%
3	35%	5%	38%	6%
4	30%	5%	32%	6%
5	25%	5%	26%	5.5%
6	20%	5%	20.5%	5.5%
7	15%	5%	15%	5%
8	10%	5%	10%	5%
9	5%	5%	5%	5%
10	0%	-	-	-

Scenario 1

CRS Class	Current Discount	Marginal Increase	Revised Discount	New Marginal Increase
1	45%	5%	52%	7%
2	40%	5%	45%	7%
3	35%	5%	38%	7%
4	30%	5%	32%	6%
5	25%	5%	26%	6%
6	20%	5%	20%	5%
7	15%	5%	15%	5%
8	10%	5%	10%	5%
9	5%	5%	5%	5%
10	0%	-	-	-

c. Increase the discount for lower class ratings: As it stands, a Class 9 community only receives a 5% discount, meaning the discount policyholders receive is minimal and likely not even noticeable.

d. Provide mitigation money to communities at higher class levels: Example 1: Policy premium discounts could be capped for the property owner at a class 5 or class 6 (25%-20%), but communities that achieve class 4 status would receive the remaining 5% to be used for mitigation. Example 2: A portion of the funds (up to 10%) could be used for administration costs and the remaining 90% used for mitigation. If CRS communities could be rewarded with funding, there might be an extra incentive to improve class ratings.

F. Help the CRS Program recognize how local governments actually work: Much of the program is structured in a way that is not practical given the way local governments function. A better understanding of local government operations could lead to changes in the program that make it more feasible for localities to join and succeed, thereby increasing participation.

G. Provide a CRS snapshot from specific types of areas or communities: Provide snapshots from coastal communities, urban communities, rural communities, etc., to help localities that similarly identify better understand how to participate and succeed in the CRS.

H. Rethink class pre-requisites: Encourage working smarter, not harder. If a community can't advance a class due to pre-requisites, they do not see the needle moving, so they may put less effort in to improve programs they can improve.

I. Increase the program's flexibility

a. Offer a coastal and riverine set of standards because a one size fits all approach is limiting: Ex: "If you're a coastal community, you get credit this way..."

b. Offer a set of standards based on size of the community: Give more points for larger populations when their size limits point availability in other sections, while also rewarding more points in sections critical to larger communities, such as in floodplain management planning, drainage system maintenance,

flood protection, and flood warning and response. Larger communities have a difficult time earning points in categories that offer large points such as Acquisition and Relocation (if they are 100% built out, there is nowhere to relocate to), Open Space Preservation (too built out), etc. Credit caveats for unique community character, such as high percentage of mobile homes and other low-income housing, in a community would be helpful – these types of structures are extremely difficult and expensive to mitigate.

c. Tailor the program to a community's capabilities and goals for resilience: One-size fits all national programs like the CRS are very difficult, especially for localities that do not have regulatory power. For such localities, because they do not have more power to adopt regulations that can earn credit, it is challenging to meet even the minimum requirements of the NFIP. Need flexibility for resilience points: expand the CRS Program's understanding of what builds resilience in coastal communities. Currently, communities are performing activities that improve resiliency, yet are not receiving credit for them - increased flexibility would help communities deservedly improve their CRS Class Rating and would likely encourage innovation. Credit the use/ collection of data most related to a community's specific risk: Coastal flooding risk relies upon storm surge and rainfall data, which is not a perfect match with the CRS Manual. Possession of this data will help a coastal community improve their resiliency, and the use and collection of such data should be encouraged by awarding credit.

d. Pro-rate more activity credits: The CRS needs to recognize that some communities cannot perform the activity in its entirety and get all the points for that activity. Recommendation: give a percentage of total points possible for each activity - need a good compromise between CRS being too flexible and not flexible enough. Example: award some points for drainage system maintenance, where it is not possible for some localities to inspect their entire system.

J. Create low-earning attaboy credits for actions that support comprehensive floodplain management, but may not fit within the CRS Program existing activities: Examples include beach nourishment, green infrastructure, voluntary BMPs, and other specific actions, such as relocating a parking lot away from a beach and building a man-made dune in front to protect the access.

K. Alter the benefits/incentives: (1) Award sufficient points for activities and projects – one community notes that the CRS is the only incentive for some activities and projects (i.e., the community only performs activities because they will receive CRS points) – having fewer points allocated to certain activities disincentivizes performance of such activities and makes it difficult to join and participate in the CRS; (2) Increase credit for activities that are very time intensive – one community reported that the credits applied may not justify the time required to complete the task; (3) Tie credits scoring with incentives - flood damage reduction in a flood-planned community is different than a flood-reactive community

L. Award more minimum credits in activities.

M. Strengthen pre-requisites for community classes: Require freeboard for classes

lower than Class 6. Require all communities with 5 or more severe repetitive loss properties to develop a plan to address repetitive loss.

N. Provide points for communities that have rainy day funding for unforeseen flooding issues.

Expanding the Flood Insurance Discounts Outside SFHA

A. Provide benefits to preferred risk policies (PRP): (1) New FIRMs map structures out of the floodplain, reducing the CRS benefit to communities, which can cause localities to leave the CRS Program because the benefit is reduced, leaving policyholders that relied on the benefit without a discount and with the same level of risk; (2) The benefits of the CRS go to the most vulnerable properties, who are at times the wealthiest due to the properties' locations, such as being on the waterfront (note: not all vulnerable properties are owned by wealthy). These people are likely not the policyholders who need a discount; (3) Providing a better discount to more people would increase the overall benefits of program participation, which would likely lead to more CRS participation; (4) Encourage the purchase of flood insurance policies in the lower risk zones (because the discount would reduce the price of the premium) that still experience risk in coastal communities due to rainfall or inaccurate FIRMs, while helping FEMA achieve the Moonshot goal; (5) PRP policies could be the high-risk policies of the future.

B. Provide a financial benefit for local governments administering the CRS: The lack of financial benefit to local governments can act as a disincentive to participation in the program, as they are bearing the burden of participation (cost of staff, time, CRS projects, etc.). Recommendation: (1) Offer a 10% allotment of the total value of the discounts awarded to a CRS Community, which could help fund the CRS Coordinator salary; (2) Offer funding or grants for achieving a certain class, which could fund the CRS Coordinator salary.

Is the CRS Program a Tool for Building Resilience in Coastal Communities?

There is disagreement among some coastal stakeholders as to whether the CRS Program is a strong tool to promote resilience in coastal communities. Most stakeholders regard the CRS as a tool that promotes strategies to increase community resilience; however, some stakeholders reported a waning interest in encouraging participation in the CRS Program. The criticism: the most financial benefits go to communities most at-risk because they have the most policies, not to those communities that are doing their best to remove people from risk (if people are removed, there are less policies to receive a discount, and therefore less monetary benefit). Communities that fall into the latter category may actually do more to mitigate flood damage, yet may receive less financial benefit, which could disincentivize participation. Others noted that the CRS should not be used as a resilience tool because it is an insurance tool first and foremost that works to reduce flood damages to insured structures, but does not work to reduce damages to people with low-risk policies. Additionally, the CRS, like the NFIP, incentivizes development in the SFHA, offering discounts to policyholders exclusively in these areas.

Support for using the CRS Program as a tool to build resilience in coastal communities included comments that the CRS is encouraging communities to adopt adaptation programs and policies and strengthening a community's bargaining power to enforce such policies. Another comment in support of CRS participation noted that if your community does not participate in the CRS Program, the community is leaving money on the table that another could use to reduce costs to their residents and businesses – participating is the smart choice.

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Lisa Ledet, Terrebonne Parish, LA

Pam Lightfoot, City of Baton Rouge, LA

Julie Lomax, Village of Downers Grove, IL

Pam Mason, VA Institute of Marine Science at the College of William & Mary, VA

Ben McFarlane, Hampton Roads Planning District Commission, VA

Stuart McKenzie, Northumberland County, VA

Whitney McNamara, City of Virginia Beach, VA

Dale Medearis, Northern VA Planning District Commission, VA

Shari Mendrick, Town of Hilton Head, SC

Cory Miles, Northern VA Planning District Commission, VA

Molly Mitchell, VA Institute of Marine Science at the College of William & Mary, VA

Monmouth County CRS Users Group, NJ

Dennis Morris, Crater Planning District Commission, VA

Randy Mundt, North Carolina Department of Public Safety, NC

Tess Nguyen, City of Huntington Beach, CA

Ocean County CRS Users Group, NJ

Maggie Olivier, Jefferson Parish, LA

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Mitch Paine, King County, WA

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The Pew Charitable Trusts' Flood-Prepared Communities Project, DC

Scott Pippin, University of Georgia, GA

Meg Pittenger, City of Portsmouth, VA

Stephanie Presley, Kenai Peninsula Borough, AK

Thomas Ruppert, Florida Sea Grant, FL

Gary Saldana, Maui County, HI

Jennifer Seay, Old Dominion University, VA

Vince Seijas, Miami-Dade County, FL

Curt Smith, Accomack-Northampton Planning District Commission, VA

E. deEtte Smythe, St. Tammany Parish, LA

Jacqueline Solomon, City of Mountain View, CA

Emily Steinhilber, Old Dominion University, VA

Sarah Stewart, Richmond Regional Planning District Commission, VA

Marilyn Sucoe, Illinois Office of Water Resources, IL

Robert Tajan, City of Norfolk, VA

Noah Taylor, City of St. Petersburg, FL

Jayne Breschard Thomann, Genesee Finger Lakes Regional Planning Council, NY

Debbie Vascik, Cahoon Consulting, TX

Mark Villinger, Ocean County, NJ

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November 2018

CAPACITY BUILDING IN THE NFIP COMMUNITY RATING SYSTEM

Viability of Regional CRS Support Positions in Virginia



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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.

Pages 6-17

(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.

This item was excluded from the FEMA Request for Information Comment submission due to its large size. See Wetlands Watch's website for the full report.

ACKNOWLEDGMENTS

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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

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Please cite content from the student report independently.

www.wetlandswatch.org

Cover Photo: Mary-Carson Stiff

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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.



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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 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	<i>CRS and Virginia: Applicability of Outreach, Funding and Organizational Strategies from Around the USA</i> 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	<i>Costs and Benefits of CRS program and services in Virginia</i> Mary Carson Stiff, Wetlands Watch Skip Stiles, Wetlands Watch
11:00am	<i>Q&A from Panel and Open Discussion</i> Stephanie Davis, Virginia Tech Carol Rosenfeld, UNC Chapel Hill Mark White, University of Virginia
12noon	<i>Gather Lunch and Thoughts</i>
12:30pm	<i>Working Lunch</i> – Open Discussion, Q&A, Brainstorming strategies for Virginia
1:30pm	<i>Preliminary Suggestions, Ideas and Recommendations from the Panel</i> Stephanie Davis, Virginia Tech Carol Rosenfeld, UNC Chapel Hill Mark White, University of Virginia
2:30pm	<i>Q&A on Panel's Suggestions and Summary of Promising Ideas</i> Group discussion
3:00pm	<i>Wrap up and Next Steps</i> 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 Rosenfeld, 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

October 2017

THE COSTS & BENEFITS OF THE CRS PROGRAM IN VIRGINIA



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WETLANDS WATCH

Protecting and Conserving Wetlands

EXECUTIVE SUMMARY

Interest in the National Flood Insurance Program's (NFIP) Community Rating System (CRS) is growing in Virginia, as flood insurance policy premiums continue increasing, but information gaps may prohibit or slow program participation and success. The costs of joining the CRS and maintaining participation in the program were previously unknown, leaving local governments in the dark when weighing the decision to join the program. This report aims to fill some of the information gaps related to the costs and benefits of

the CRS program in Virginia by analyzing information reported during interviews with staff from localities across Virginia in various stages of involvement in the CRS: localities enrolled, joining, and interested in learning more information. Results from these interviews, both data points and anecdotal comments, inform this analysis. Barriers to joining and succeeding in the CRS and potential methods for overcoming the barriers are identified and included in the report.

THE COSTS

Staff time is the primary cost for joining and maintaining participation in the CRS program. Interviews with localities reveal how the costs influence decisions to join or succeeding in the CRS program.



When asked to estimate the percentage of time spent on the CRS each year, 84% of the CRS Coordinators in Virginia reported percentages ranging from 1% FTE to 100%. The median is 13% FTE spent on the CRS each year.



An estimated CRS Coordinator salary of \$89,000 was used to calculate the correlative cost of staff time spent on the CRS each year. Using the 13% median percentage of staff time, CRS Coordinators spend \$11,570 each year working on the CRS.

THE BENEFITS

The primary benefit of the CRS program is the flood insurance premium discount for policyholders in high-risk flood zones.



Benefit cost ratios (BCR) are calculated for all CRS localities in Virginia, measuring the cost of staff time against the benefit of flood insurance premium discounts for each community. The costs were generated by using the actual percentages of staff time provided by localities that granted permission to use reported time and using the 13% median staff time for the remaining localities. The largest BCR is 68:1 (Norfolk, VA) and the median BCR is 8:1. Only two of the twenty-five localities measured negative BCRs; one of the two would turn positive with permission to use the actual percentage of time instead of the 13% median. The second negative BCR also used the median percentage, however an actual percentage was never reported for the locality.

The secondary benefits of the CRS program are difficult to monetize, however, this report outlines those benefits, as determined by CRS Coordinators. Coordinators weigh in on which benefits are most important to the locality and whether they sway increased staff time and attention to joining or succeeding in the CRS program.

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Virginia Coastal Zone
MANAGEMENT PROGRAM



Thank you to the following people for their support, input, and contributions: VA CRS Coordinators, members of the Coastal VA CRS Workgroup, retired CRS Coordinators from the Cities of Chesapeake and Hampton, locality staff in VA, staff at the Middle Peninsula Planning District Commission and the Northern Neck Planning District Commission, Kristin Owen at the VA Department of Conservation and Recreation, Professors Highfield and Brody from Texas A&M, Christina Groves with Insurance Services Office, and CRS Coordinators: Shannon Jarbeau (Barnstable County, MA), Noah Taylor (St. Petersburg, FL), and Danny Hinson (FL Division of Emergency Management). Special thanks to Wetlands Watch staff, Ross Weaver, Skip Stiles, and Shereen Hughes.

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. 2017

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COVER PHOTO Mary-Carson Stiff

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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.



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INTRODUCTION: THE COSTS AND BENEFITS OF THE CRS PROGRAM IN VIRGINIA

Interest in the National Flood Insurance Program's (NFIP) Community Rating System (CRS) is growing in Virginia, but information gaps may prohibit or slow program participation and success. Non-participating localities want to know more about the requirements for joining the CRS, participating localities want to know the costs required for class improvements, policyholders want better discounts as their flood insurance premiums continue rising, and Wetlands Watch wants to know how to market the CRS as a tool for building resilience to the impacts of sea level rise in the Commonwealth. Significant data gaps related to the costs of enrolling and maintaining participation in the CRS Program, as well as limited marketing of the Program in general, likely contribute to a low state CRS participation rate of 9%. Wetlands Watch received a grant from the Virginia Coastal Zone Management Program (CZM) to fill some of the CRS data gaps in Virginia by analyzing the costs and benefits of participating in the CRS. The data was collected through interviews with staff at localities in various stages of involvement in the CRS: localities enrolled, joining, and interested in learning more information about the Program. The interviews revealed information related to the amount of staff time spent both joining the CRS

and maintaining enrollment in the Program. After monetizing staff time/effort through an estimated average CRS Coordinator salary for Virginia (\$89,000), the costs of running a CRS program were weighed against the benefit of premium discounts earned by each locality,¹ thereby generating a benefit-cost ratio for CRS localities that participated in the project. Other costs, outside those related to CRS Coordinator staff time, were discussed in the interviews, as was how Coordinators weigh the costs and benefit of pursuing higher class ratings or specific CRS activity credit. The interviews revealed which secondary benefits (or benefits in addition to the premium discounts) of enrollment in the CRS are most important to CRS localities. This report summarizes the content of the interviews and identifies potential barriers to CRS participation, while proposing strategies for overcoming these barriers. Many coastal CRS localities link the CRS with resilience initiatives, but not all CRS communities make this connection. This paper will include feedback from localities about how they market the CRS as a tool for resilience and offer suggestions for how other localities could similarly market their program to grow CRS participation and build resilience in Virginia and beyond.

¹ Although the localities earn the discounts, flood insurance policyholders in high risk flood zones receive the discount.

CRS: UNDERUTILIZED PROGRAM, UNTAPPED SAVINGS

The CRS is a voluntary incentive-based program that rewards actions taken by localities to reduce flooding and flood damage with lower flood insurance premiums for high risk policyholders. As of May 1, 2017, only 25 of the 290 eligible localities in Virginia participate in the CRS (9%).² Out of the 50 Virginia localities with the largest number of flood insurance policies in force, only 20 participate in the CRS, signifying an opportunity to save more Virginia policyholders money, while also improving floodplain management across the state.³ Virginia's participation rate, although

low, is reflective of nationwide participation, which as of May 1, 2017 is 6% (1,444 out of the eligible 22,273 NFIP localities); this suggests the CRS is an underutilized program across the country.⁴ Interest in the CRS is growing as flood insurance premiums increase due to Congressional reforms to stabilize the NFIP's debt.⁵ In the last two years, 128 localities joined the CRS and the number of CRS Class 5 communities increased by 31%, exhibiting a growing interest in joining the CRS and improving class rating in the Program.⁶ This

² CRS Virginia Participation Map, http://crsresources.org/files/100/maps/states/virginia_crs_map_may_2017.pdf

³ Id.

⁴ FEMA, CRS Fact Sheet, June 2017. https://www.fema.gov/media-library-data/1507029324530-082938e6607d4d9eba4004890dbad39c/NFIP_CRS_Fact_Sheet_2017_508OK.pdf

⁵ FEMA, Flood Insurance Reform, <https://www.fema.gov/flood-insurance-reform>

⁶ NFIP/CRS Update Newsletter, December 2016/January 2017, <https://www.>

interest translates to substantial savings; in 2016 the CRS Program awarded over \$355 million in premium discounts.⁷ To provide local context, 7 localities are pursuing participation in the CRS, and policyholders in Virginia saved \$4.8 million in 2017.⁸

Figure 1⁹

CRS Savings for Localities in Virginia (Oct. 2017)		
Virginia NFIP Policies in Force	Total NFIP Premium	CRS Savings
59,980	\$44,834,268	\$4,863,880




CRS COSTS AND BENEFITS DATA: OVERVIEW OF THE RESEARCH

Calculating the costs of enrolling in and managing the CRS program presents the greatest data gap, which this report aims to address, however, several studies quantify the flood loss reduction benefits of CRS participation. The following is an overview of relevant studies. Most studies compare CRS success with flood damage loss avoidance.

CRS Localities Experience Less Flood Damage

- CRS communities experienced ~38% less insured flood damage in the *Special Flood Hazard Area (high risk flood zones)* compared to non-CRS communities¹⁰
- CRS communities experienced ~36% less insured flood damage *outside the Special Flood Hazard Area (high risk flood zones)* compared to non-CRS communities¹¹

CRS Activity Points = Flood Loss Savings¹²

-  1 CRS Point for Freeboard (activity 430) = **\$8,289** flood loss savings/year
-  1 CRS point for Open Space (activity 420) = **\$3,532** flood loss savings/year
-  1 CRS point for Flood Protection (activity 530) = **\$4,175** flood loss savings/year

Higher CRS Classes = More Savings

A Florida study found that class 5 localities had “lower claim amounts” as compared to localities rated classes 6 through 9.¹³

CRS Mitigation = Flood Damage Reduction

After the 1997 flood in Fort Collins, Colorado, “[M]itigation as a result of CRS led to between \$2.8 and \$5.5 million [estimated] of flood damage reduction.”¹⁴

CRS Savings Reinvested in Locality

When considering joining the CRS, the City of Virginia Beach, Virginia (not yet joined) analyzed how the premium savings from a hypothetical class 8 rating (\$853,813) would circulate back into the local economy. The City determined that of the \$853,813 saved, \$362,666 (roughly 43%) would be spent directly in the City. Of the \$362,666 spent

fema.gov/media-library-data/1485176263796-fd50f1151a318b16336892a89ff3da81/Dec_2016_Jan_2017_Update_508.pdf

7 Id.

8 Analysis from the Virginia Department of Conservation and Recreation, October 1, 2018 data.

9 Id.

10 Highfield, W. E., & Brody, S. D. (2017). Determining the effects of the FEMA Community Rating System program on flood losses in the United States. *International Journal of Disaster Risk Reduction*, 21, 396-404.

11 Id.

12 Highfield, W. E., & Brody, S. D. (2013). Evaluating the Effectiveness of Local Mitigation Activities in Reducing Flood Losses. *Natural Hazards Review*, 14, 229-236.

13 Michel-Kerjan, E., and Kousky, C. (2010). “Come rain or shine: Evidence on flood insurance purchases in Florida.” *J. Risk Insur.*, 77(2), 369–397.

14 Grigg, N., et al. (1999). “Fort Collins flood 1997: Comprehensive view of an extreme event.” *J. Water Resour. Plann. Manage.*, 125(5), 255–262.

directly, \$145,831 would also be spent in the City by the business recipients of the direct spending.¹⁵

Valuation of Open Space Preservation (activity 420) Points in Virginia¹⁶

Open space in floodplains helps reduce flooding to nearby infrastructure, which is of particular benefit to low-lying urban localities where high-risk flood zones account for significant percentages of total area. The value of this flood reduction is difficult to monetize precisely, but the CRS Program attaches a tangible fiscal value to open space features like wetlands, open lots, and vegetated shorelines. Two Virginia localities score very high in Open Space Preservation (activity 420); Stafford County (class 7) and Fairfax County (class 6), earning more than 1,000 credit points, which equals two full class ratings (500 points per class increase). Stafford County earned 1,065 open space points, roughly translating to premium savings of \$26,533 and Fairfax County earned 1,064 points, roughly translating to \$216,412 in premium savings. Figure 2 delineates the Open Space points for each locality, showing the vastly different impact virtually identical numbers of points have in one locality versus another.

Closer analysis of this data reveals different impacts of importance to showcase the value of this CRS action. Fairfax County, with 3,021 more policies than Stafford County, receives greater overall savings. However, because Stafford County's average NFIP premium is \$179 greater than Fairfax County, the individual benefit to policyholders is \$12 greater. Analysis like this is important in revealing ways to reinforce CRS actions with the public.

Note: A significant portion of Stafford County's Open Space credits were awarded for Chesapeake Bay Resource Protection Area (RPA) buffers. Few Virginia localities receive 420 credit for the RPA, but if other localities submit their buffer areas for credit they earn an automatic bargaining chip against unwanted exemption proposals that may appear before the locality decision making board.

Figure 2¹⁷

Valuation of Open Space Preservation Points (Activity 420): VA Locality Examples							
Locality	Open Space Preservation (420) Points	Total Premium Savings from Open Space Points (estimate)	Value of 1 Open Space Point (estimate)	Eligible Policies for Premium Savings	Premium Savings Per Policy for total Open Space Points (estimate)	Percentage of Total CRS Points from Open Space Preservation	Percentage of SFHA in open space
Stafford County (Class 7)	1,065	\$26,533	\$25	179	\$44	75%	68%
Fairfax County (Class 6)	1,064	\$216,412	\$203	3,200	\$32	44%	63%

¹⁵ Email from City of Virginia Beach staff, July 20, 2017. Analysis reported in 2015.

¹⁶ This analysis is not from a report, but a part of this white paper and derived from current CRS score break downs.

¹⁷ This chart would benefit from including the total acreage of the SFHA and total acreage of open space land in the SFHA. Credit for Open Space Preservation (420) is calculated by dividing the acres of open space land by the total acres in the special flood hazard area. Localities submit the total acreage of the special flood hazard area to ISO via the "Program Data Table." Program data tables were not provided by the localities and the SFHA acreage was therefore not included in this analysis.

CRS Benefit Cost Ratio: Barnstable County, Massachusetts



There is one full-time regional CRS Coordinator in the United States who works for Barnstable County, Massachusetts. Funded through a cost share with Massachusetts Woods Hole Sea Grant and the County, this first of its kind position received an award from the national Association of State Floodplain Managers (ASFPM) in 2017. The regional CRS Coordinator provides technical assistance to the 15 incorporated towns, saving the town designated CRS Coordinators an estimated 75% of time spent on enrolling in the CRS and maintaining CRS ratings.¹⁸ As of October 2017, the benefit-cost ratio of the regional CRS Coordinator position is 3:1, with 8 towns enrolled. Once the “reasonable goal” of enrolling all 15 towns at a class 7 is achieved, the benefit cost ratio will be 20:1, with a total of \$2 million in premium savings.¹⁹

VIRGINIA CRS COST BENEFIT ANALYSIS

The Costs: Virginia CRS Coordinators Discuss Program Costs

As localities consider joining the CRS Program, locality staff need to know how much time they should expect to spend enrolling in the Program and in each consecutive year thereafter, but this data is unknown. Locality staff in non-participating localities report that the CRS has a reputation of being a time and documentation-intensive program, which could account for the low participation rate, but until this data is collected localities cannot budget time or resources accordingly.

The CRS Program Guidance Misses the Mark

The CRS Coordinator’s Manual, the “bible” of the Program, offers an estimated “burden disclosure” for joining and maintaining participation each year, but according to Virginia CRS Coordinators, the suggested hours are extremely under estimated.

See Figure 3 for an analysis of the burden hours included on page 2 in the most recent versions of the CRS Manuals (2007-2017).²⁰ It is not likely that the manual guidance is impacting CRS Coordinators or localities interested in joining as no staff interviewed knew the manual included an estimated burden rate.

¹⁸ Information obtained through a phone conversation with Shannon Jarbeau, CRS & Floodplain Coordinator Barnstable County/Cape Cod Cooperative Extension & Woods Hole Sea Grant

¹⁹ This benefit cost ratio analysis included fringe and benefits, whereas the benefit cost ratio calculations for VA localities does not include any benefits.

²⁰ National Flood Insurance Program Community Rating System Coordinator’s Manual, FIA-15/2017, <http://crsresources.org/manual/>

Figure 3

CRS Coordinator’s Manual Burden Disclosure Analysis		
CRS Coordinator’s Manual Version	Application Process Hours (Joining the CRS)	Annual Recertification Hours (Maintaining CRS Rating)
2007	31 hours (1% FTE)	4 hours (manual error, should report 24 hours) (<1% FTE, but the correct percentage is 1%)
2013	46.6 hours (includes completing environmental & historic preservation certifications) (2% FTE)	4 hours (some manual versions report 4, some report 24, but should report 24 hours) (<1% FTE, but the correct percentage is 1%)
2017	46.6 hours (includes completing environmental & historic preservation certifications) (2% FTE)	4 hours (manual error, should report 24 hours) (<1% FTE, but the correct percentage is 1%)

Note: Most manuals contained an error for the annual recertification hours – the correct number of hours is 24, not 4.

CRS Application Process Hours: Virginia Locality Perspectives

Although the CRS Manual’s burden disclosure suggests the application process will consume 46.6 hours of time, Virginia localities report a different experience. In contrast, the following information came from Virginia localities that joined (or started the process of joining) the CRS within the past year. A CRS Coordinator from a locality that recently joined reportedly spent 80-120 hours on the application process, over double the time estimated in the Manual. *“There was information that wasn’t in a form that FEMA [ISO] could accept. I had to create it. I spent a lot of time creating documentation.”* When asked about whether the Manual’s estimated 45 hours was reasonable the Coordinator responded no, *“unless it’s looking at 2-3 people that each spend 45 hours on the application.”* The two localities engaged in the process of joining the CRS vary tremendously in size and staff capacity and their approach to joining the

Program similarly varies. The smaller locality formed a committee of department heads to discuss submitting a letter of interest and filled out the required preliminary form (CRS Quick Check) over the course of an afternoon. The larger locality hired a part time intern who has worked for 1 year thus far to manage the process of joining the CRS, through nearly monthly meetings of a CRS Committee similarly comprised of department heads. The intern is paid \$10/hour, works 20 hours each week, and spends roughly 70% of the time on CRS specific activities, with the remainder spent on general floodplain management. Over the past year the intern worked an estimated 728 hours on the CRS, costing the locality \$7,280 this year. To make the case for this intern in the locality budget, the locality staff created cost savings graphics (Appendix, Figures A & B) to justify the costs and illustrate the benefit of the intern position.

CRS Annual Recertification and 5-Year Cycle Visit Hours: Virginia Locality Perspective

When discussing the time required for annual recertification, one CRS Coordinator stated there are *“time costs above and beyond to assembling the report.”* The Coordinator commented that even though all the files are digitally assembled, a *“solid week of work”* is needed to double check and ensure all files and documentation are submitted.²¹ Time spent preparing for 5-year cycle visits is not included in the Manual’s burden estimate, but feedback from one CRS Coordinator

²¹ Not all Virginia CRS Coordinators were interviewed about this specific time burden; gathering additional CRS Coordinators’ perspectives would be helpful in the future.

who experienced a cycle visit within the last 2 years (under a substantively different Manual version) suggests it should be considered. The new manual (2013 version) created a “*more complex program*” that requires a “*massive amount of effort.*” This specific locality created a new position after their 5-year cycle visit under the new manual that expressly states the staff position devotes 49% on CRS and 51% on stormwater management.

CRS Annual Management: Virginia Locality Perspectives – “There is never enough time”

The CRS Manual burden estimates do not include hours for general management of the CRS Program, although they are presumably categorized in the Annual Recertification hour calculation. The bulk of this project assessed and monetized the percentage of time CRS Coordinators spend on the CRS each year.

Finding an accurate estimate for staff burden time in an average year proved problematic for a number of reasons: high locality staff turnover and shifting CRS responsibility across departments results in limited knowledge about the time when the locality joined the Program and an increased learning curve for staff new to the CRS to come up to speed that would otherwise not exist in localities where the same department or same staff managed the program. Locality departmental

complications aside, those staff serving as long-term CRS Coordinators indicated estimating a percentage of time or number of hours spent solely on the CRS during an period of time would be “*really so difficult to pin down.*” CRS Coordinators in Virginia, much like the rest of the country, wear a number of different hats; managing the CRS is just one of their many different responsibilities, therefore accounting for the time spent on the CRS exclusively is difficult. In localities where multiple staff in different departments share the burden of the CRS program, calculating CRS time was also reportedly difficult. According to one CRS Coordinator, and reiterated by all interviewees, “*no one is tracking the number of hours spent on CRS.*” Therefore, all percentages of staff time cited in this report are estimates.

CRS Coordinators’ Other Responsibilities Influence Management Time

CRS Coordinator job descriptions impacted their ability to easily provide an amount of time spent on the CRS. Coordinators carry many different job titles, some of which include, environmental planner, emergency manager, and stormwater engineer. The other duties for which Coordinators serve directly impacts CRS staff time and possibly even CRS ratings. A stormwater engineer serving as CRS Coordinator mentioned “*when we look at flood crossing points we always look at drainage to see where improvements can be made.*” A stormwater engineer in charge of this locality’s CRS program may result in a higher score for Drainage System Maintenance (activity 540), whereas another locality where a Building Official serves as CRS Coordinator may score higher in Elevation Certificates (activity 310) or the many activities under Higher Regulatory Standards (activity 430) that require a strong knowledge of building code requirements. When explaining the difficulty in identifying a percentage of time spent on the CRS a Building Official CRS Coordinator reported the “*CRS is always in the back of my mind*” because “*everything I do on the building inspection side is always CRS & floodplain management.*” In contrast, an Environmental Specialist CRS Coordinator reported his time was less difficult to estimate because his daily duties intersected less frequently with activities credited by the CRS.

Virginia CRS Coordinators: Percentage of Time Spent on the CRS

CRS Coordinators from 21 of the 25 CRS localities reported the amount of time spent on the CRS program each year (84% participation). The percentages reported reflect the time for one full time employee (FTE) working 2,080 hours each year. Percentages exclude general floodplain management work, while capturing a higher percentage of time spent during 5-year cycle visits. The percentage does not capture time spent by localities that “shop out” duties to

another locality. For example, some small CRS towns may contract with a County to inspect their drainage system or perform building inspections. These percentages do not capture the time spent by County staff for the benefit of the Town. Reported percentages ranged from 1% FTE to 100% FTE. The locality reporting 100% FTE employs two staff who share the responsibilities of CRS Coordinator; this locality is rated a class 6. At the outset of this project, the average percentage of staff time was intended to generate benefit cost ratios. However, given the extreme range in percentages, the median percentage was determined the more accurate option, as the 100% response proved to be an outlier.

This analysis uses the percentage of time from staff contributing the majority of CRS work, however it is important to note that all but 3 of 17 interviewed localities reported additional staff support throughout the year. The average number of support staff positions is 4.5, with ranges from 1 to 8. When asked whether localities had administrative support to help stuff envelopes, make copies, etc., 11 of 17 CRS localities responded no. One small locality does not hire any full-time employees, but the percentage of time for the Coordinator is included in the median calculation.²²

²² The Town of Wachapreague's CRS Coordinator does not work full time for the Town and expressed interest in knowing the CRS savings per the cost of an hourly wage. This per hour measurement is helpful in a work share scenario or for localities that hire part time employees who work by the hour. This feedback will be the basis of future work.

The median estimated percentage of time CRS Coordinators in Virginia spend on the CRS Program each year is **13%**



Virginia Estimated CRS Coordinator Salary and Time Valuation

An estimated median Virginia CRS Coordinator salary of \$89,000 monetized the percentage of staff time for the benefit cost ratios. The salary is an average of yearly median wages for 5 different occupation categories, including emergency management directors, engineers of varying levels, and planners; these categories align most closely with CRS Coordinator positions. This salary estimate intends to capture a variable cost of living in different regions of the Commonwealth, as well as differences in salary for senior and junior career positions. Estimated wage information does not include benefits and was obtained through Virginia Labor Market Information.²³

		
13%	x \$89,000	= \$11,570
average time spent on CRS	estimated CRS coordinator salary	estimated cost to locality

Virginia CRS Benefit Cost Ratios: Methodology & Results

The benefit cost ratios (BCR) generated in this report were calculated through responses from 21 of the 25 CRS Coordinators. Benefit cost ratios (BCR) were calculated for all CRS localities in Virginia, measuring the cost of staff time against the benefit of flood insurance premium discounts for each community. As stated above, during initial stages of the project, the average median percentage of staff time was intended to generate BCRs, however, if 13% of time is used to calculate each locality's BCR, the ratio is skewed for those localities that reported spending 1% FTE in localities with low premium savings. Spending 1% FTE in localities with low savings corresponds to a positive benefit cost ratio, whereas devoting 13% of time would turn the positive ratio to negative. This disparity led to the decision to ask each individual CRS Coordinator permission to use the actual percentage of time in the BCR calculation. Most localities, 17 of the

²³ Virginia Labor Market Information, <https://data.virginialmi.com/vosnet/lmi/default.aspx?pu=1&plang=E>.

21, granted permission to use the actual percentage reported during their interviews, which will reflect a more accurate ratio. The Virginia median percentage of time (13%) was used to calculate the BCRs for the remaining 4 localities.²⁴ BCRs compare the monetized average staff time spent yearly on the CRS Program against the total CRS premium reductions earned by the locality. The CRS premium savings were collected from FEMA’s database through the creation of “What-Ifs,” which were acquired by Wetlands Watch from the Virginia Department of Conservation and Recreation on September 13, 2017. Results from the analysis are displayed in Figure 4.

Figure 4

Virginia CRS Benefit Cost Ratios				
CRS Locality	CRS Rating	Locality Wide Savings	Total Eligible Policies	Benefit Cost Ratio (Average Year)
Accomack County	8	\$142,454	1,524	18:1
Alexandria, City of	6	\$224,740	998	7:1
Arlington County	8	\$16,916	482	4:1
Ashland, Town of	9	\$1,197	27	1:1
Bridgewater, Town of	8	\$7,126	45	1:1*
Cape Charles, Town of	9	\$1,063	34	0.1:1*
Chesapeake, City of	8	\$431,296	5,113	19:1
Chincoteague, Town of	8	\$140,530	1,202	12:1*
Fairfax County	6	\$432,822	3,200	37:1*
Falls Church, City of	6	\$36,341	176	1:1
Gloucester County	6	\$287,084	1,200	25:1
Hampton, City of	8	\$867,643	8,456	49:1
James City County	7	\$65,910	420	9:1
Norfolk, City of	8	\$789,211	8,314	68:1
Poquoson, City of	8	\$304,420	2,925	9:1
Portsmouth, City of	7	\$355,453	2,862	31:1
Prince William County	8	\$53,077	340	5:1*
Richmond, City of	8	\$40,198	274	6:1
Roanoke County	8	\$43,226	290	2:1
Roanoke, City of	7	\$196,898	516	22:1
Stafford County	7	\$39,187	179	3:1*
Vienna, Town of	8	\$4,316	35	0.4:1*

* Median Percentage of Time (13%) Used to Calculate Benefit Cost Ratio
Town of Vinton joined within the past year, so did not provide an annual percentage



Average Benefit Cost Ratio for 21 participating CRS localities = 15:1
Median Benefit Cost Ratio for 21 participating CRS localities = 8:1
Highest Benefit Cost Ratio = 68:1 (City of Norfolk)

CRS Direct and Indirect Costs in Virginia: A Closer Look

CRS Coordinator interviews revealed costs of administering the CRS program that may fall outside the yearly staff time devoted to managing the Program.

²⁴ One locality requested to use the average, while the other 3 localities did not respond to permission requests.

Direct Costs

The most obvious direct cost is staff time, the principal focus of this analysis, but additional costs may include the following, depending on pursuit of specific activity credit:

- Costs to produce, print, and mail materials for credit under Outreach Projects (activity 330). Examples: advertisements in newspapers or locality publications, swag for events, air time on local access television channels, high water mark initiatives, etc. (Outreach to repetitive loss areas/properties may be required for participation in the CRS. *See CRS Manual page 500-8 for more information.*)
- GIS or online mapping support, if no GIS staff within the locality, helps earn credit in many CRS activities as a form of credit itself or as documentation required for credit consideration. Comments like “*GIS is integral to reporting data*” were echoed by many CRS Coordinators interviewed. Rural localities may incur costs associated with online hosting fees if mapping is shopped outside the locality.
- Acquisition requires a one-time cost to the locality, but subsequent costs could include mowing and clearing of debris or trash (activity 520).
- Structural elevations, or other mitigation strategies, if financed in part or whole by a locality, also requires a one-time cost (activity 530).

Indirect Costs

CRS Coordinator interviews identified the following indirect costs of participating in the CRS Program:

- CRS and floodplain management training (examples: FEMA L-273 & E-278 courses)
- Maintenance of Certified Floodplain Manager (CFM) designation & membership in the Association of State Floodplain Managers (ASFPM)
- Membership in the Virginia Association of State Floodplain Managers (VFMA)
- Attendance at Conference and CRS Workgroup meetings (mileage, registration, accommodations, etc.)

THE BENEFITS: VIRGINIA CRS COORDINATORS DISCUSS PRIMARY AND SECONDARY BENEFITS

Primary Benefit – Flood Insurance Premium Discounts

The primary benefit of participation in the CRS is the savings earned for policyholders with policies in high-risk flood zones. According to one Coordinator, the benefit has a “*shocking impact.*” When the Coordinator reported in a public meeting that the CRS saves policyholders over \$300,000 a year, the Mayor asked the Coordinator to repeat the savings, at which point the Coordinator was met with applause, an unusual response for the typically formal meetings. In the face of increasing flood insurance premiums, this reduction proves critical. Staff in another locality unsuccessfully approached their Town Council to join several years ago and were told “*so few people would benefit*” at the expense of “*so much staff time.*” Staff approached the Council after recent NFIP Congressional

reforms and were asked to proceed with joining because citizens began complaining about increasing flood insurance premiums. One Coordinator remarked, “*As the premiums increase, the savings will also increase, even if people can’t see the deductions, the savings are there.*” During discussions about the various secondary benefits of enrollment in the CRS program several Coordinators responded that the secondary benefits do not factor into any decision making at the locality level because they are difficult to measure, while the premium discounts are easily measured and therefore the main focus on their program. Enrollment in the CRS is described as a “*no-brainer*” by some Coordinators and another said it is only one way to affect insurance rates in a “*concrete, proved way.*”

Public Awareness of Premium Discounts

CRS Coordinators were asked whether the citizens knew the locality participates in the program and were aware of their savings. Two coordinators were not confident the CRS savings were included on flood insurance bills, which proposes a significant problem when considering how to raise awareness or market the CRS program to increase participation. A northern Virginia locality reported that citizens are likely unaware of their savings for two reasons, most residents are affluent so the increases may have a smaller impact and the premiums are significantly lower than those in coastal communities, where media focuses attention on premium increases. Responses from other Coordinators varied, but most seemed somewhat confident their residents knew of their savings. No localities survey their residents’ awareness.

Secondary Benefits – Virginia CRS Coordinator Responses

CRS Coordinators interviewed (17 of the 25 CRS localities) were asked to reply yes or no to a list of secondary benefits of the CRS Program. Benefits listed were derived from conversations with CRS Coordinators prior to formal interviews. Responses are illustrated in Figure 5. Coordinators were prompted to provide any additional secondary benefits; these additional benefits are discussed below.

Figure 5

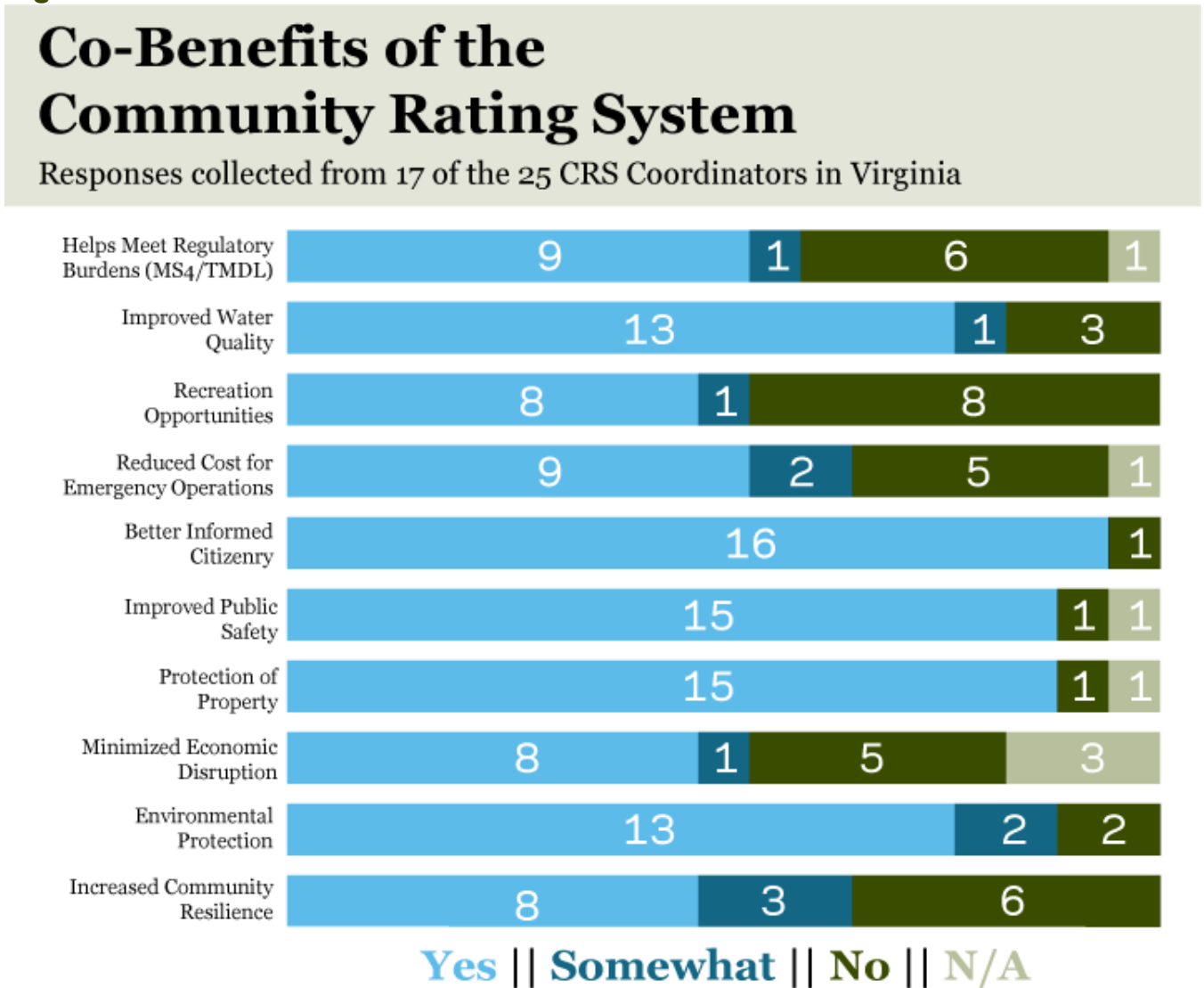
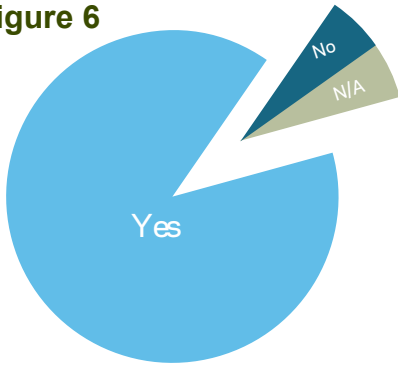


Figure 6



94% of localities interviewed agree the CRS program helps improve public safety

Coordinators were divided into different geographical²⁵ and capacity categories to offer prospective on responses. Categories included: Urban Well-Staffed Tidewater, Rural Well-Staffed Tidewater, Rural Limited Staff Tidewater, and Urban/Rural Limited Staff Mountain. Responses, grouped by category, are listed below:

Figure 7

Urban Well-Staffed Tidewater Communities (8 Interviewed)				
CRS Co-Benefit	Yes	Somewhat	No	N/A
Helps Meet Regulatory Burdens (MS4/TMDL)	6		2	
Improved Water Quality	7		1	
Recreational Opportunities	5	1	2	
Reduced Costs for Emergency Response Operations	4	2	1	1
Better Informed Citizenry	7		1	
Improved Public Safety	8			
Protection of Property	8			
Minimized Economic Disruption	4		3	1
Environmental Protection	8			
Increased Community Resilience	4	1	3	

Figure 8

Rural Well-Staffed Tidewater Communities (3 Interviewed)				
CRS Co-Benefit	Yes	Somewhat	No	N/A
Helps Meet Regulatory Burdens (MS4/TMDL)			3	
Improved Water Quality	1	1	1	
Recreational Opportunities			3	
Reduced Costs for Emergency Response Operations	1		2	
Better Informed Citizenry	3			
Improved Public Safety	1		2	
Protection of Property	2		1	
Minimized Economic Disruption			2	1
Environmental Protection	1	1	1	
Increased Community Resilience		2	1	

²⁵ Tidewater communities include those located in “Virginia’s Coastal Zone,” as defined by the VA Coastal Zone Management Program. Designations of rural and urban communities were made using the Bureau of the Census definitions: urban = 1,000 people per square mile (including extended cities) and rural = less than 1,000 people per square mile. *The Urban & Rural Classifications*.

Figure 9

Rural Limited Staff Tidewater Communities (3 Interviewed)				
CRS Co-Benefit	Yes	Somewhat	No	N/A
Helps Meet Regulatory Burdens (MS4/TMDL)	1	1		1
Improved Water Quality	2		1	
Recreational Opportunities	1		2	
Reduced Costs for Emergency Response Operations	3			
Better Informed Citizenry	3			
Improved Public Safety	3			
Protection of Property	3			
Minimized Economic Disruption	2	1		
Environmental Protection	1	1	1	
Increased Community Resilience	3			

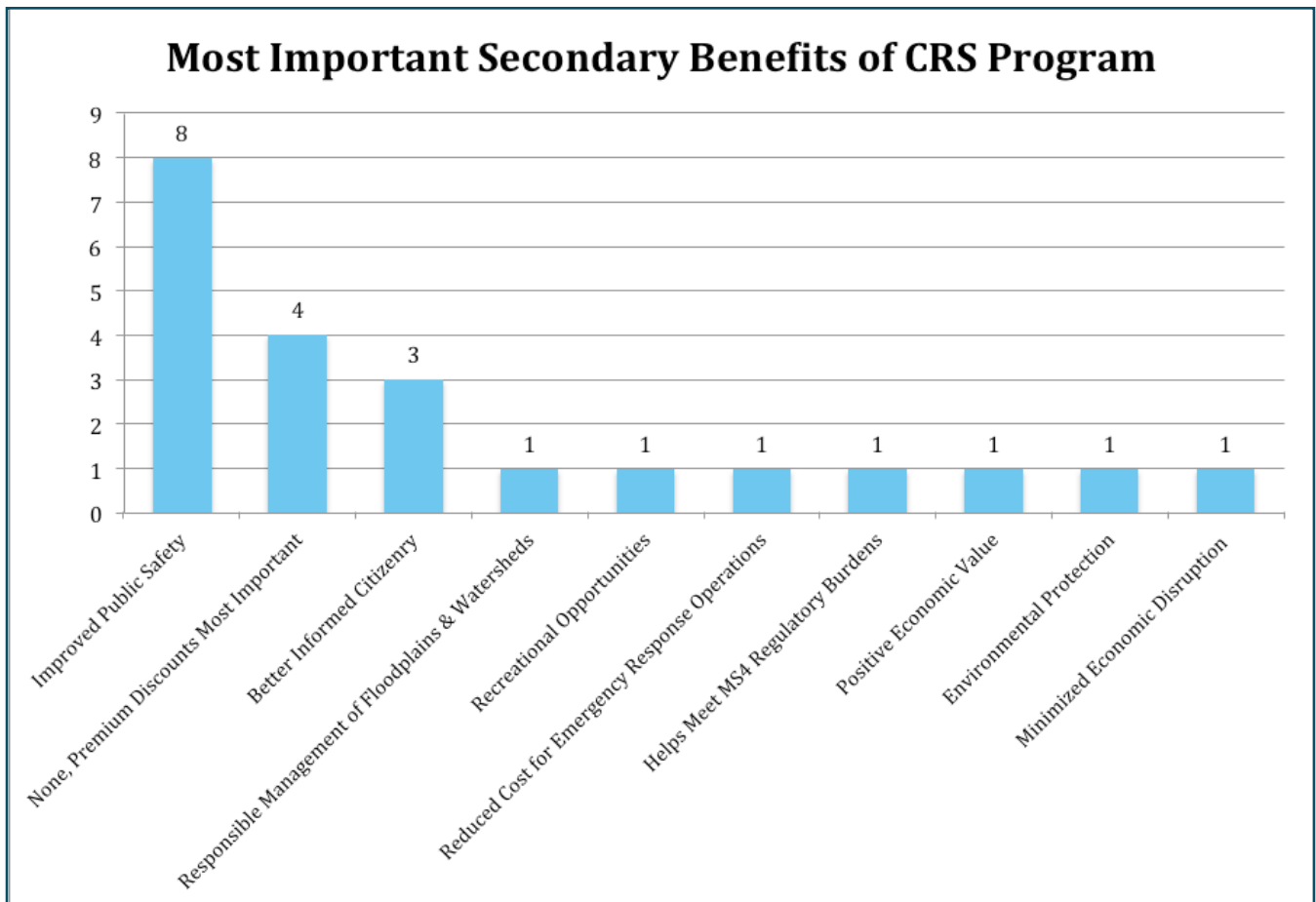
Figure 10

Urban/Rural Limited Staff Mountain Communities (3 Interviewed)				
CRS Co-Benefit	Yes	Somewhat	No	N/A
Helps Meet Regulatory Burdens (MS4/TMDL)	2		1	
Improved Water Quality	3			
Recreational Opportunities	2		1	
Reduced Costs for Emergency Response Operations			2	
Better Informed Citizenry	3			
Improved Public Safety	2			1
Protection of Property	2			1
Minimized Economic Disruption	2			1
Environmental Protection	3			
Increased Community Resilience	1		2	

Most Important Secondary Benefit – Virginia CRS Coordinator Responses

CRS Coordinators were asked which secondary benefit was most important to the locality. Responses are outlined in Figure 11 and include responses not necessarily included in the interview list. Several coordinators listed two secondary benefits as most important, accounting for the larger response size.

Figure 11



Additional Secondary Benefits – Virginia CRS Coordinator Responses

CRS Coordinators had the opportunity to include additional secondary benefits of enrollment in the CRS Program during the interviews. Their responses are listed below:

The CRS Program helps strengthen organization, coordination, and encourages the breakdown of silos across locality departments. One Coordinator formed a CRS team that meets every third week of the month for a half hour to discuss CRS action items. Another Coordinator stated they “see a benefit in the way the CRS dovetails with other programs” and it helps “a little less planning in a vacuum so if someone is looking at changing an ordinance they have to think about how the ripple effects may impact other programs.” One Coordinator referenced the use of a multi-departmental organizational chart made by Wetlands Watch for the Coastal Virginia CRS Workgroup and a file share web-based platform to organize who and what department is responsible for what documentation. According to another Coordinator, the CRS keeps many efforts “intertwined,” which “helps keep things going.” A barrier to success in the CRS was revealed by one Coordinator who indicated it can be difficult

to get all departments on board because many staff view the CRS as an “adjunct program to what they really do, which is a constant struggle to get people to realize it matters, it really matters.” A CRS program overcame this barrier by establishing a culture of support that came directly from department heads who told all relevant staff the “CRS is a group effort for all staff.” The Coordinator said this leadership directive allows each department to take ownership over the credit activities for which they are responsible and reduces the amount of workload the Coordinator contributes to the CRS each year. Locality size also contributes to whether departments coordinate well. A Coordinator reported their locality size is “a sweet spot, small enough that all the department heads know each other and work together a lot.” The same Coordinator noted that regional cooperation through the Coastal Virginia CRS Workgroup (started in 2008) was important.

The CRS Program helps minimize harmful impacts to the community.

The CRS Program helps promote shoreline protection.

Participation in the CRS Program provides positive economic value. For a locality with the majority of its population living in the floodplain, participation in the CRS is integral to economic development, reported a Coordinator. The Coordinator indicated the CRS helps increase the value of homes in the locality. Local realtors tell the CRS Coordinator the discounts earned through program “has had a direct impact on helping sell houses faster.” The locality therefore sees the CRS “as a marketing tool for economic development.”

The CRS Program helps build political support for CRS earning activities.

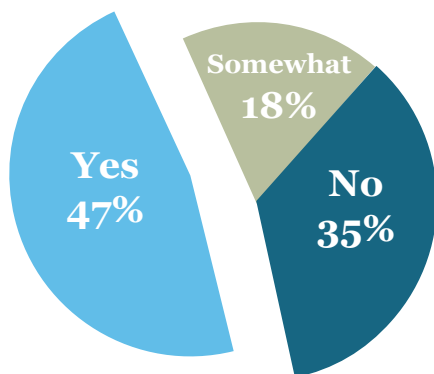
The CRS Program may help earn more grant funding. One locality recalled that enrollment in the CRS helped award them a higher percentage of FEMA grant funding to elevate structures after Hurricane Floyd. The oral

history amongst locality staff recounts a FEMA representative attributing this higher percentage to CRS participation.

The CRS Program helps save localities money. Most CRS localities self-insure the structures they own, although some localities take out NFIP policies on structures located in the floodplain. This information can be used as an incentive or persuasive tool to decision makers. One Coordinator includes the amount of money saved on these policies when reporting to the local board and finds the anecdote is “very helpful” to show the importance of the CRS in the community. A couple localities knew of structures in the floodplain owned by the locality, but were unaware of whether they were receiving a premium discount.

The CRS savings have a snowballing effect. One Coordinator said the CRS “has a snowballing effect in those savings. It’s savings in emergency management and response teams, damage assessment teams who don’t have to go over the structure because it’s basically intact. It saves resources across the board.”

The CRS Program and Resilience: Virginia Locality Perspectives



47% of localities interviewed are using the CRS as a tool for resilience

Wetlands Watch’s work with the CRS Program grew out of a realization that the CRS is the first and only method of monetizing natural infrastructure, like wetlands and vegetated shorelines, in a manner that affects the personal finances of ordinary citizens. Natural infrastructure offers important protection against damage from flooding. In addition to natural infrastructure, open space preservation in high-risk flood zones results in less flood damage, increasing the economic resiliency of our communities. Preserving open space in the floodplain (activity 420) is just one example of a resilience-building locality action that earns CRS credit. The following is a brief list of other resilience-building activities creditable through the CRS:

- Adopting higher building code standards, like freeboard enforcing V-Zone buildings standards in Coastal A-Zones, ensures houses flood less frequently and residents and businesses have a structure to which they can return after evacuation. (activity 430)
- Stormwater management regulations reducing flooding and working to enhance

water quality. (activity 450)

- Actions related to emergency response operations, such as alerts systems, awareness building, and response planning protects property and people during flood events. (activity 610)
- Offering additional information related to flooding, such as historical flooding and hot-spots, on locality maps helps decision makers and citizens stay informed about risk. (activity 320, 410)
- Making information available to the community about flood risk builds awareness and prevents future harm to structures and people. (activity 330)
- Removing structures from the floodplain replaces impervious land with pervious, offering floodwater an opportunity to be absorbed by land. (activity 520)
- Removing debris from streams and other channels not only enhances water quality, but it allows water channels to transfer rain and flood water without obstructions. (activity 540)

During the interviews, CRS Coordinators were asked about how the CRS intersects with resilience efforts in their locality. Interviews discussed whether Coordinators think the CRS helps build resilience, whether improved resilience is a secondary benefit of enrollment in the program, and whether localities are linking the CRS with resilience efforts to build awareness about the CRS or market success in the program. An overview of Coordinator responses is outlined below:

• “Most coastal communities are interested in coastal resilience and it’s one of many things that needs to be accomplished, but there are so many issues presented to local governments that money is a problem. The CRS program and the yardstick it uses and structure it provides puts money towards resiliency. I’m not saying coastal communities wouldn’t do all the things we do without the CRS, but the CRS is certainly a major driver to monetize the things we all think are important like higher standards.”

• The CRS “provides structure for a community’s resiliency efforts – we could be haphazard in trying to do a little of this and a little of that. The CRS helps us work through methodically – it helps provide that structure of our job of herding cats – at least we know a set of rules for herding cats – we may not like it, but at least it’s a system.”

• Interest in the CRS is “mostly complaint & dollar driven. People understand complaints & money, but they don’t understand resiliency.”

• “Our resiliency isn’t necessarily coastal, it’s just resilience in general,” it is more

related to how you can bounce back after an event.

• “To some extent, but not especially, most of the high risk area is historic, so property owners are left to their own devices to decide if they want to do anything.”

• “Primarily that linkage is through some of the sea level rise stuff with respect to doing work with the Planning District Commission to identify roads that could be flooded out in various scenarios of sea level rise. That started with one elected official asking the planning district commission about sea level rise impacts. There is the awareness piece ... this past week I can’t tell you how many phone calls I’ve received asking questions. Awareness of some people whether or not the community as a whole. Individual people will make that connection. Plenty of people work for volunteer rescue and fire and know they can’t drive down roads to provide service. Not at whole community level of focus.”

• Building resilience is the ultimate outcome of the CRS. “During the application process that was when we linked actions. The [CRS] Manual actually

helped facilitate those connections nicely.”

- *“Absolutely. There is more community resilience because of the CRS outreach program. You’re reinforcing these concepts that help people protect their property each year.”* The yearly requirement to *“continue with that messaging”* is helpful in a *“transient community like Hampton Roads”* with so many military families.
- *“Elevating houses is a short term resilience strategy.”* *“The primary benefit is reduction, but ultimately it [CRS] gets*

you improved public safety, property losses, and economic interruption. Downtown businesses have to be able to jump back. Minimized economic disruption is a big goal.”

- *“We don’t call anything ‘resilience’ by name. We’re still using the term ‘sustainability.’”*
- *“CRS is not driving any resilience programs, but we try to get CRS credit for any actions in programs that already exist.”*

Success in the CRS: What Drives Participation and Higher Ratings?

When asked this question during interviews, CRS Coordinators provided diverse responses, which are summarized below:

- Key to participation and seeking higher ratings was understanding and commitment from the elected and appointed leadership: city council/board of supervisors, mayor, city manager, county administrator. This came in some cases from the economic focus of the elected leadership, wanting to see a good bond rating, low CRS rating, and good economic development. A good understanding of both the investment in staff time and the multiple benefits, apart from premium savings was also cited as a reason for leadership commitment to the program.
- Citizen involvement and understanding was cited by many as a necessary condition for elected and appointed leadership support. One Coordinator observed that their City Council is listening to what people are saying. *“When 35% of your locality land is in the SFHA the stakes are high.”*
- The CRS Coordinator in one small locality speaks in the small community & surrounding region regularly, which may have an impact on the understanding of the public and the City leadership.
- In one case cited, *“a citizen found out [a nearby locality] went to a 6 and sent*

a message to County Administrator asking ‘if they can do it why can’t we?’” After receiving this message the County Administrator asked the CRS Coordinator what was needed to get their score up to a 6. The Coordinator then looked into their rating to see where holes could be filled. Another Coordinator shared a similar story noting that improving the locality’s CRS rating is driven by competition at the Board level. Board members received many complaints from residents about increasing insurance premiums and were aware of better CRS ratings in neighboring localities.

- One of the first localities to join the CRS in Virginia explained that participation was not a major focus for the City, but a side duty, until recently. Local government leadership requested an improved CRS rating in response to increased nation-wide attention to flooding and climate change. While the flooding and environmental concerns are main stream news issues influencing more attention at the local level, floodplain management is *“common to water quality & stormwater management in general, which is becoming very significant in urban areas.”* This growing attention in news media and simultaneously increasing

premiums grows support for the CRS.

- In some cases, improvement was driven by pressure to participate in the resilience movement.
- Many Coordinators indicated that locality staff are driving participation and improved ratings in the program.

- The comprehensive plans in multiple communities included the goal to join the CRS program. One locality included the goal in the plan to be “*progressive*” and “*proactive*” for the benefit of residents, not just for premium reductions, but for the other benefits, such as community education and public safety.

Suggestions for encouraging participation and higher ratings: Appear before City/Town Councils often about the potential cost savings and secondary benefits of enrollment and success in the CRS. Staff may need to speak to these decision makers multiple times before the message is heard and remembered. Educate relevant locality staff about the CRS so all staff can rely upon ‘talking points’ if citizens complain about increasing flood insurance premiums or the negative impacts of higher standards like freeboard. These talking points should articulate the primary benefit (insurance premium discount), but should also describe the secondary benefits of enrollment and success in the CRS. Most of the CRS activities that earn credit also build safer and more resilient communities; articulate this connection to the public so they know they get additional benefits from the program. “The CRS saves our residents money AND it will reduce flooding in the community.” The more staff representatives that know about the CRS the more citizens will learn about the program. Public outreach creates a multiplier effect in the community; residents share their knowledge with others at work, community, or other social events. Competition amongst localities is responsible for higher CRS ratings in the Commonwealth, but this competition will not grow in the locality if there is no awareness about the program.

Barriers to Earning Benefits in the CRS: Virginia Locality Perspectives

Success in the CRS: What are the Barriers to CRS Participation and Success?

CRS Coordinators and staff in non-participating localities were asked whether there are any barriers to maintaining their current class rating, earning a higher class rating, or joining the CRS program in general. Responses are listed below:

Limited staff time was referenced as a barrier to success by CRS Coordinators from every region. “*There is never enough time.*” A Coordinator explained, “*Every class you go up is more man hours required to run the program so someone will have to make the decision to devote more time to get to the higher rating.*” Another stated, “*If we ever improve a class they’re going to have someone else help out. To get to the 7 we would need some more help.*” The Coordinator from one of the first CRS localities to join in Virginia remarked, “*It’s been a challenge to keep it going.*” A Coordinator reported “*the minimal amount of time I was spending on the program would need to be increased significantly*” from “*5% to 20-25%*,” which would have a “*significant impact to the FTE and other duties required of that person.*” The staff costs of improving CRS ratings could be spent on flood control projects. A Coordinator explained that the locality’s interest in installing a flood control project brought up the debate over which is cheaper, an actual project or a better rating? The Staff time to increase ratings in the CRS weighed against the cost of installing a flood control project.

Suggestions for overcoming this barrier: Multiple Coordinators thought hiring a regional CRS Coordinator that works across jurisdictions through a locality cost-share presents *“the perfect solution,”* however this strategy may not work in every region. One Hampton Roads Coordinator said it would work in a perfect world, but not in Hampton Roads because the localities are too big and their organizational structures too diverse. One Coordinator thought hiring someone essentially full time may be a solution, stating *“A lot of duties and activities [in the CRS] overlap, so I do see a benefit for a community that wants to be successful in the CRS to hire a person whose job is almost full time on the program.”* Another recommendation comes from CRS Coordinators in localities where multiple staff share the burden of generating documentation required for CRS credit. To these Coordinators, CRS programs operating in silos do not always create a comprehensive approach to floodplain management in the community. Creating an interdepartmental team or committee to spread the workload across departments reduces the amount of stress and time spent by the CRS Coordinator to track down people and documents. CRS teams also need support and direction from the top. Encourage the top administrator to attend the inaugural team meeting and assign departments specific work. This approach will reduce the amount of time burden on the CRS Coordinator, while also helping ensure CRS credit points are earned from many different activities, not just the activity for which the Coordinator is responsible as Building Official, Stormwater Engineer, or Emergency Manager.

The CRS is too complex and documentation intensive. The complexity of the CRS *“gets in the way.”* Another Coordinator reported the CRS is *“a little too complex at times,”* with *“pretty technical math.”* To overcome this barrier, the Coordinator suggested to *“cut down the manual to 100 pages and make the scoring much simpler,”* which would *“cut down on the time it takes and the bureaucracy.”*

Suggestions for overcoming this barrier: *“I wish they would make it not so complicated”* and put more effort into facilitating a *“here’s an easy way to do this”* exchange of data for this *“overly complex”* program. One Coordinator thinks a 10-page quick start guide to joining the CRS that explains *“here are the simple steps to get you in. We have to make it less intimidating if you’re talking about just getting started. There aren’t enough resources anywhere.”* One Coordinator suggested it would be helpful to have someone on staff take the time and align the locality’s standard operating procedures with corresponding CRS checklists. This alignment would help guarantee CRS credit for activities the County already undertakes. Additionally, if someone could identify something that the locality could do slightly differently to get credit, then the locality would make the small adjustment to get those points. The Coordinator noted this process *“would be easy to start in a fresh locality joining the program. The CRS is heavy on reporting side & the manner in which reporting is done is specific, so having checklists is critical.”* Several stakeholders are working to address this issue. Wetlands Watch continually creates checklists, plug-and-play templates, and other documentation to help address this barrier, available for download at www.coastalvacrs.com. Additionally, the Virginia Department of Conservation and Recreation is looking at how to simplify the CRS by creating a packet for *“How to Join the CRS.”*

The costs of earning some CRS credits outweigh the points awarded. A Coordinator commented that localities *“don’t get enough points for acquisition.”* Another Coordinator explained that after attending a CRS course, they identified areas where the locality could earn credit, but these actions would not cumulatively earn enough points to advance one class, so the Coordinator decided the cost of staff time to complete the projects outweighed the benefit because a 5%

increase in savings would not be achieved.

Suggestions for overcoming this barrier: Issues with point ability is less easily overcome and would involve potential reforms to the CRS program at the national level. It may be worthwhile to look into acquisition scores in other Virginia localities for guidance on this issue.

The CRS only discounts policyholders in the floodplain. This barrier is one that surfaced only once in an interview with a CRS Coordinator, but repeatedly during interviews with staff from Virginia localities not enrolled in the CRS, but interested in learning more about the program. The feedback received from the locality enrolled in the CRS centered on the decision not to spend more staff hours to improve one class. To improve a class the Coordinator said they would have to take on additional projects, which *“would be hard to justify.”* An activity that benefits all locality residents, like open space through the park system, is easier to justify. Localities not enrolled in the CRS, but interested in learning more, found this barrier extremely difficult to overcome and indicated it was a direct barrier to joining the program. One locality staff said the issue *“hits the nail on the head”* for many small rural localities in Virginia’s coastal zone; *“decision makers don’t care if FEMA comes and presents to them about savings, they care more about what a local insurance agent has to say than a federal agency.”* According to one locality this inequity is compounded by the reality that in their community people who live on the water with flood insurance can afford to live in high valued real estate, *“so why should locality staff’s salaries go towards helping those more fortunate receive discounted premiums?”*

Suggestions for overcoming this barrier: Additional research into this issue would help better market the CRS to the localities resistant to join the program, however, a few examples from other localities may provide some guidance. Locality staff can look to the City of Virginia Beach economic study that showed direct reinvestment of 43% of CRS premium discounts. Focusing on credits for actions that all residents enjoy, like open space credits for locality owned parks or scenic shorelines may offer some assistance. Referencing those studies included in this report that quantify the flood loss avoidance from various CRS actions could also prove helpful, particularly the statistic: *“CRS communities experienced ~36% less insured flood damage outside the Special Flood Hazard Area (high risk flood zones) compared to non-CRS communities.”*²⁶ A Coordinator who receives comments regularly from citizens who think the locality’s floodplain management work does not impact them offers this advice: *“I ask them if they drive or rely on vehicular transportation daily.”* Most people say yes and the Coordinator explains that *“if a street is flooded it impacts you whether you live in a flood zone or not.”* Framing the CRS Program as something the locality is enrolled in because they are already doing all the things that earn credit and would continue doing them even if credit was not available: saying *“we are already doing it”* instead of *“we need to start this process.”* The locality is already working to reduce flooded streets and flood damage to structures, so why not earn some people discounts at the same time?

²⁶ Highfield, W. E., & Brody, S. D. (2017). Determining the effects of the FEMA Community Rating System program on flood losses in the United States. *International Journal of Disaster Risk Reduction*, 21, 396-404.

General CRS information is overwhelming and complicated. Staff from a locality not enrolled in the CRS, but interested in learning more about the program, said that when investigating the program requirements and enrollment process they found the amount of information available through the CRS website (CRSresources.org) overwhelming. Many resources, like webinars, jump directly into the details of various activities, which intimidates people unfamiliar with the program who may not know time-saving shortcuts. This staff said, *“it was way over my head.”* The CRS’s reputation as documentation and time intensive worries small localities who already struggle to manage the time burdens of existing locality programs.

Suggestions for overcoming this barrier: Provide Virginia localities with a packet of information that distills the critical information necessary to know before joining the CRS could eliminate the confusion locality staff experience after visiting websites intended for experienced Coordinators.

Enrolling in the CRS could expose the locality to liability. Staff from a locality not enrolled in the CRS, but interested in learning more about the program said the 5-year cycle visit requirement represents yet another agency coming into the community to review or audit locality managed programs; *“collectively, with other reviews it could be overwhelming.”* The time spent preparing for a review aside, one locality worried that *“the more information you provide on a program, the more exposure you have. If you’re opening the door to be reviewed, what is the potential harm to the citizens if those reviews are negative?”* A recent issue uncovered during a FEMA Community Assistance Visit (CAV) in the Hampton Roads region of Virginia *“opened a lot of eyes to the potential harm”* a locality could unintentionally do to NFIP status.

Suggestions for overcoming this barrier: Solutions to overcoming this barrier are not yet identified and present an opportunity for further research and discussion amongst CRS Coordinators.

CONCLUSION: A LOOK AT THE COSTS AND BENEFITS OF THE CRS PROGRAM IN VIRGINIA

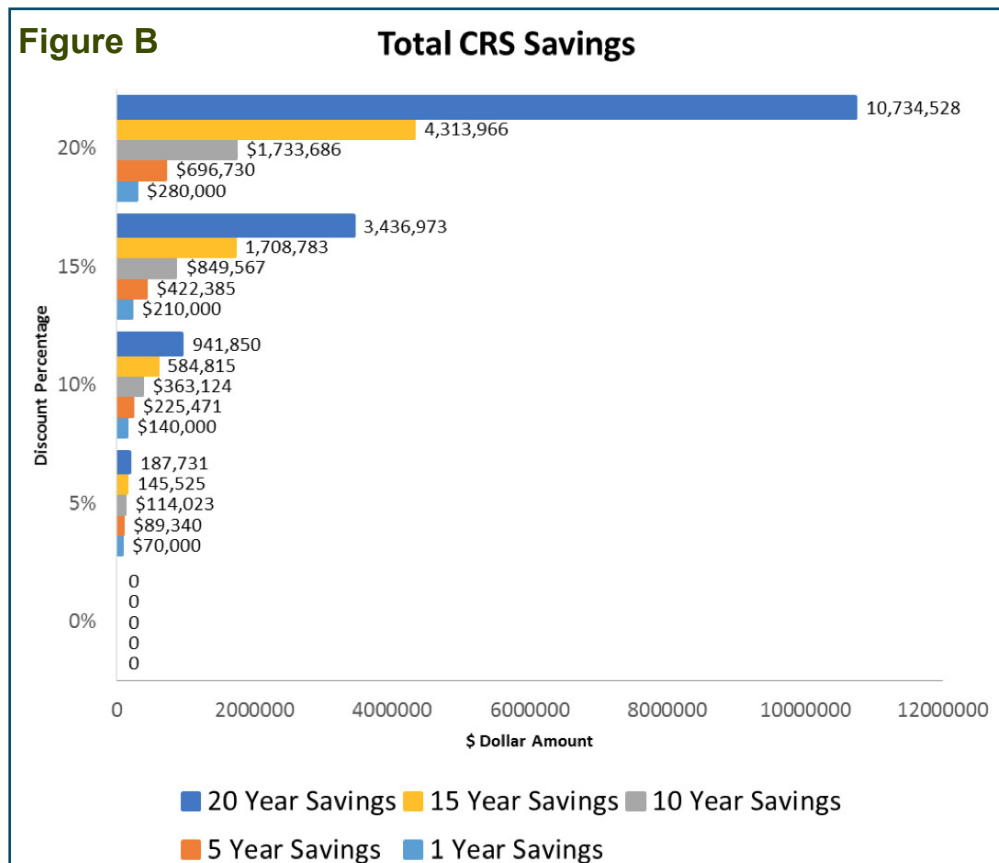
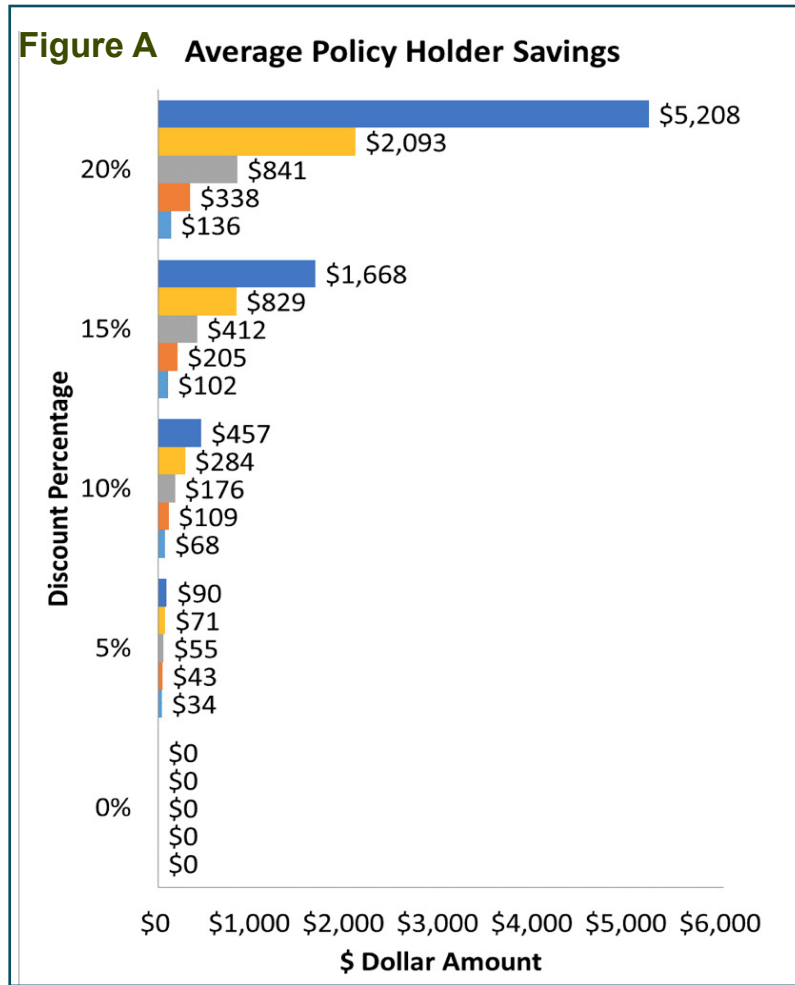
The benefits of the CRS program outweigh the costs in most Virginia localities, but barriers to enrolling and succeeding in the program reveal the need for improved marketing of the CRS as a program worthy of staff investment and locality resources. This cost benefit analysis found that 92% of CRS localities in Virginia experienced a positive benefit cost ratio for CRS Coordinator staff time investment for the premiums earned by CRS ratings. This ratio is based on a salary of \$89,000, which for many localities in Virginia may be a larger salary than that earned by the actual CRS Coordinator; in these localities the benefit cost ratio would more positive. Although the responses from CRS Coordinators on the secondary benefits of the CRS were varied, 94% agreed the CRS program helps build a better informed citizenry and 88% agreed improved public safety and the protection of property are secondary benefits of enrollment in the program. Wetlands Watch assumed most CRS localities were linking the CRS program with community resilience, however, interviews with CRS Coordinators indicated that only 47% are making the connection. Staff time devoted to the CRS varied tremendously in Virginia localities, ranging from 1% FTE to 100% FTE. This variability helps elucidate why many locality staff, whether or not enrolled in the CRS, expressed concerns over the burden of staff time to participate and succeed in the program. Other barriers to joining and succeeding in the CRS program disclosed during locality interviews suggest the current marketing of the CRS in Virginia is not effective, offering an opportunity to incorporate the results of this study and subsequent studies into a marketing strategy to build CRS participation and resilience in the Commonwealth.

DISCLAIMER

This report generates benefit cost ratios that do not capture the complete extent of the costs or benefits of participating in the CRS Program. When calculating the cost of the CRS, the ratios use an estimated salary that does not include a local government's additional costs associated with employee benefits (fringe, healthcare, workers compensation, etc.) and operational overhead (office space, supplies, etc.). Local governments relying on the benefit costs ratios reported herein should reflect this additional cost when reporting to stakeholder boards or calculating cost internally prior to joining the CRS Program. Similarly, the benefit cost ratios reflect a singular benefit, the total flood insurance premium reductions earned by a locality's CRS rating. Secondary benefits of participation in the CRS Program are disclosed in the report analysis, but calculating these co-benefits is difficult and outside the limited scope of this study, due to a small award size and lack of required economic expertise. Discussions around the benefits of the CRS Program should similarly take these uncalculated benefits into account. Future analysis to refine the benefit cost ratios could help present the most accurate representation of costs and benefits of participation in the CRS in Virginia.

APPENDIX

Figures A & B were created by staff at a locality joining the CRS as justification for the intern position.





WWW.WETLANDSWATCH.ORG

NEEDED REFORM: THE CRS PROGRAM & NATURE-BASED FLOOD REDUCTION ACTIVITIES

Overview: The National Flood Insurance Program's [Community Rating System](#) (CRS) offers a unique opportunity to incentivize local governments to adopt policies and practices that reduce flooding and promote natural functioning of floodplains, however, Wetlands Watch found the CRS does not always or easily credit a locality's or individual's voluntary use (non-regulatory) of green infrastructure projects that help reduce flooding. We believe this oversight may dis-incentivize locality adoption and promotion of these activities and reduce the likelihood of implementation. These projects help improve water quality, reduce the impacts of flooding, improve natural floodplain functions, and adapt to sea level rise. Wetlands Watch recommends that the CRS program credit these nature-based projects.

During a Norfolk, Virginia [neighborhood sea level rise adaptation design project](#) coordinated by Wetlands Watch, local undergraduate students proposed various storm and floodwater reduction designs, such as a living shoreline, bio-retention systems, pervious pavers, and ground level cisterns with plant beds. According to student research and modeling analyses using the [EPA Stormwater Management Model \(SWMM\)](#), implementing these small scale, and often parcel-level, nature based practices reduced neighborhood flooding by 90%, when modeling against a 2009 storm. Actions such as these, that provide a significant reduction in floodwater, should ostensibly receive credits under the CRS.

The CRS program currently does not easily credit best management practices (BMPs), or small-scale flood reduction activities, that manage stormwater runoff, control erosion, and reduce flooding. We believe the CRS should reexamine how it evaluates nature-based flood reduction activities. These projects present multiple benefits for localities; in addition to reducing flooding, many of these practices also improve water quality and earn credit towards localities' required nutrient and sediment reduction goals under the Chesapeake Bay Total Maximum Daily Load. These multiple benefits further incentivize local government use of these solutions in neighborhood and municipal planning, thereby creating localities resilient to the impacts of sea level rise.

Flood Reduction Value of Voluntary BMPs: Voluntary best management practices, also known as low impact development (LID) strategies, slow down, infiltrate, capture, and re-use stormwater on-site, thereby reducing runoff and subduing peak flows and associated flooding. Voluntary BMPs are those not required by regulatory programs. Examples may include downspout disconnections, rain gardens, bioswales, cisterns, permeable pavers, retention and detention storage, tree plantings, living shorelines, and conservation landscapes that replace turf or impervious surfaces with native plantings of trees, shrubs, and perennials. It is important to note that installation of voluntary BMPs requires periodic inspection to ensure proper functioning, which may result in an increased burden on locality staff; perhaps utilizing [local volunteer programs](#) could relieve any additional burden on local staff.

The Chesapeake Bay Program now identifies many of these voluntary initiatives as [“Residential Stewardship Practices.”](#) These practices provide a nature-based or green infrastructure approach to storm and floodwater reduction. Conservation landscaped shorelines, riparian buffers, and living shorelines offer an adaptive solution to flooding and shoreline erosion by allowing floodplains to perform their natural ecosystem services, allowing coastal land to flood and drain naturally with tides and storm surges. Living shorelines with shoreline buffers also allow the natural land-ward migration of wetlands, which will occur as sea levels continue rising.

Case Study: Norfolk, Virginia

The [Tidewater Rising Resiliency Design Challenge](#) found the implementation of multiple parcel and street-level practices could result in a greater than [90% reduction of floodwater volume](#) in a neighborhood, when using flood levels from the 2009 nor’easter, *Nor’Ida*, as a baseline model. If the CRS program considered crediting these voluntary conservation landscaping-type BMPs, the City of Norfolk may be more inclined to invest in installing these projects. The Elizabeth River Project, a local non-profit, already promotes and incentivizes the voluntary implementation of these BMPs through their River Star Homes Program with grant funding.

Case Study: Nashville, Tennessee

The City of Nashville’s [“Storm Busters”](#) program, run by the Mayor’s Office, organizes volunteers who plant trees, create rain gardens, clean waterways, and restore river and stream banks. Since 2010, the Storm Busters program is responsible for the citywide planting of [7,300 trees and 60 rain gardens](#). These green infrastructure and best management practices have the capacity to mitigate over [2.5 million gallons of stormwater](#).

Case Study: Milwaukee, Wisconsin

The City of Milwaukee credits a [14 million gallon stormwater capacity](#) to their use of green infrastructure in stormwater management. Practices used in Milwaukee include BaseTerns, green streets, bio-retention, green roofs, rain gardens, and much more.

Case Study: Washington, D.C.

The Department of Energy & Environment’s [RiverSmart programs](#) offer individuals, businesses, schools, and others funding to install voluntary green infrastructure practices, such as rain barrels, green roofs, rain gardens, permeable pavement, and trees. The program has treated [over 20 acres of land](#) with stormwater best management practices.

Case Study: Natural Shoreline Defenses

The National Wildlife Federation released a [report](#) arguing that natural infrastructure offers equal or better flood protection than traditional gray infrastructure.

Case Study: Systems Approach to Geomorphic Engineering (SAGE)

[SAGE](#) is a Community of Practice joining federal, state, and local agencies, non-profits, academic institutions, businesses, and engineers together to implement and encourage shoreline resilience through nature-based shoreline management projects. FEMA is an existing SAGE partner.

The Current CRS Treatment of Nature-Based Flood Reduction Activities

CRS Credit for Living Shorelines

Living shorelines are the [preferred method](#) of shoreline management and stabilization in Virginia and are a Chesapeake Bay Program approved nutrient/sediment reduction best management practice to meet TMDLs, however, qualification for CRS credit is difficult.¹ Credit is possible as open space; however, calculating very small parcels of shoreline land is an unlikely use of locality staff time. Credit is also possible if a local ordinance or policy requires implementation of living shorelines over hardened shorelines. This is not a realistic requirement; although local boards may prefer a softened shoreline, they remain unpopular. Credit for the second option requires that the living shoreline offer flood protection to at least the 25-year-flood level. This standard of protection is difficult to prove.

CRS Credit for Voluntary BMPs

Currently, the CRS does not credit the voluntary installation of BMPs on individual properties, however, the CRS offers minimal points if flood reduction practices are *mandatory* per local regulations. Providing credit for on-the-ground projects that reduce localized flooding would help incentivize the implementation of multi-benefit practices. Localities are encouraged to track these voluntary BMPs to get TMDL credit.

Wetlands Watch Recommendations: Wetlands Watch recommends that the CRS program provide credit for **voluntary** LID projects and other nature-based BMPs. This reform would provide communities with an opportunity to engage, educate, and reward individual property owners, neighborhoods, and even localities for their work to [reduce flood damage to insurable property, strengthen the NFIP by spreading knowledge of the program, and encourage a comprehensive approach to floodplain management.](#)

¹ [Flood Protection Pay-Offs: A Local Government Guide to the Community Rating System](#), page 79.