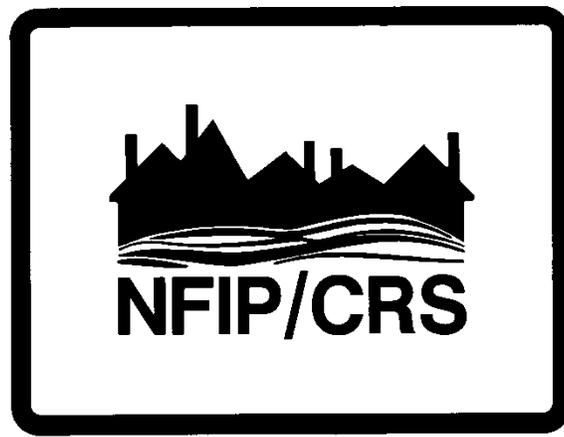


Chehalis River Basin Community Rating System Program Review



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Community Rating System Program Review

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Executive Summary

There are 12 communities participating in the Chehalis River Basin Flood Authority: Aberdeen, Bucoda, Centralia, Chehalis, Cosmopolis, Montesano, Napavine, Oakville, Pe Ell, and Grays Harbor, Lewis, and Thurston counties. As part of its assessment of these communities' floodplain management programs, French & Associates was tasked to review how they would benefit from the Community Rating System (CRS). This report is a summary of that review.

The CRS recognizes activities that exceed the minimum requirements of the National Flood Insurance Program (NFIP

) by providing a flood insurance premium discount for policy holders in a community. The discount can be as high as 45%. The program has been shown to be effective in improving local floodplain management activities and helping them continue to be implemented during dry years.

CRS credit is provided for up to 19 creditable activities, organized under four series:

- 300 Public Information
- 400 Mapping and Regulations
- 500 Flood Damage Reduction
- 600 Warning and Response

Each activity has one or more elements. In all there are 94 elements. The report discusses each activity and element and has a series of tables showing which communities should get which elements' credits.

Centralia, Chehalis, and Lewis and Thurston Counties have been in the CRS for some time and have very good classifications. All communities in the Chehalis River Basin can benefit from participating in the CRS. The direct dollar benefits are shown in the tables in Appendix 1. Policy holders in the floodplain would save \$50 - \$90 on their annual premiums for each CRS class. If every community became a Class 5, over \$1 million would be saved throughout the Basin every year

Recommendations:

1. The Flood Authority should sponsor a meeting of interested staff and elected officials from the communities in the CRS and those not yet in. At that meeting, the details of the program, credit criteria for likely activities, and the changes in the 2013 *CRS Coordinator's Manual* would be reviewed.
2. After the interested communities have received the additional information, they should decide if the benefits of the program are worth their participation.
3. If several communities (CRS and non-CRS) are interested in doing something together or have a common concern, the Flood Authority should provide technical assistance to support or help coordinate their efforts.

100 Introduction

There are 12 communities participating in the Chehalis River Basin Flood Authority: Aberdeen, Bucoda, Centralia, Chehalis, Cosmopolis, Montesano, Napavine, Oakville, Pe Ell, and Grays Harbor, Lewis, and Thurston counties. As part of its assessment of these communities' floodplain management programs, French & Associates was tasked to review how they would benefit from the Community Rating System (CRS). This report is a summary of that review.

The CRS

The Community Rating System (CRS) was created in 1990. It is designed to recognize floodplain management activities that are above and beyond the National Flood Insurance Program's (NFIP's) minimum requirements and that work toward the program's three goals:

1. Reduce and avoid flood damage to insurable property
2. Strengthen and support the insurance aspects of the NFIP
3. Foster comprehensive floodplain management

If a community implements activities and submits the appropriate documentation to the Federal Emergency Management Agency (FEMA), then its residents can qualify for a flood insurance premium rate reduction. A "community" is a city, county, or tribal government with land use management authority.

A community receives a CRS classification based upon the total score for its floodplain management activities. There are ten CRS classes: Class 1 requires the most credit points and gives the greatest premium reduction (45%) for flood insurance policies on properties in the floodplain mapped by FEMA (the Special Flood Hazard Area or "SFHA"). A Class 10 community receives no premium reduction. A community that does not apply for the CRS, or does not obtain the minimum number of credit points, is a Class 10 community.

Community participation in the CRS is voluntary. Any community in full compliance with the rules and regulations of the NFIP may apply for a CRS classification better than Class 10. The applicant community submits documentation that shows that it is implementing the activities for which credit is requested. All CRS credit is verified during a verification visit conducted by the Insurance Services Office (ISO), which administers the CRS for FEMA.

Class	Premium Discount		
	Points	SFHA	Non-SFHA
1	4,500	45%	10%
2	4,000	40%	10%
3	3,500	35%	10%
4	3,000	30%	10%
5	2,500	25%	10%
6	2,000	20%	10%
7	1,500	15%	5%
8	1,000	10%	5%
9	500	5%	5%
10		0	0

Non-SFHA premium reductions apply to B, C, D and X Zones.

There is no CRS premium reduction for Preferred Risk Policies (policies for properties outside the SFHA with no significant history of flood claims).

Each community designates its CRS Coordinator, a staff member who coordinates with ISO and FEMA and assembles the needed explanatory materials from the community's departments. The credit, documentation, and scoring criteria are spelled out in the *CRS Coordinator's Manual*. The program rules and procedures changed substantially with the publication of the 2013 *CRS Coordinator's Manual*. The *Manual* and other CRS reference materials can be downloaded at www.CRSResources.org.

CRS credit is provided for up to 19 creditable activities, organized under four series:

- 301 Public Information
- 400 Mapping and Regulations
- 500 Flood Damage Reduction
- 600 Warning and Response

A number of CRS activities may be implemented by a private, state or regional agency rather than at the city level. What counts is that the activity is being implemented within the community or has an impact on flood losses in the community. Therefore, a city can receive credit for work that benefits local properties implemented by the State, the county, or even by private organizations. With a few exceptions, FEMA does not provide credit for activities implemented by other Federal agencies.

If a community is not properly or fully implementing the credited activities, its credit points, and possibly its CRS classification, is revised. A community may request a change to its classification at any time by submitting a modification.

The CRS in the Chehalis River Basin

There are 22,000 communities in the NFIP. Of these, 1,313 are in the CRS. There are 34 Washington cities and counties in the program. Their class distribution is shown in the table to the right. Four of the 34 Washington cities and counties are in the Chehalis River Basin. Their classes and the dates of their next cycle verification visit (when the 2013 *CRS Coordinator's Manual* takes effect for their programs) are listed here:

Chehalis Basin CRS Communities			
Community	Class	Savings	Next Visit
Centralia	5	25%	2017
Chehalis	6	20%	2017
Lewis County	7	15%	2018
Thurston County	4	30%	2015

CRS Terminology

CRS: the Community Rating System

CRS Coordinator's Manual: the basic guidebook for the CRS. Unless otherwise noted, all references are to the 2013 edition.

Cycle visit: a verification visit conducted every five years for most communities. The cycle is every three years for higher scoring communities.

ISO/CRS Specialist: ISO's field person for an area.

ISO: The Insurance Services Office, Inc., FEMA's CRS contractor.

Modification: A submittal by the community to improve its CRS class.

Recertification: Documentation submitted to the ISO/CRS Specialist every year.

Verification visit: a visit by the ISO/CRS Specialist to verify the community's CRS credit. A verification visit is conducted upon receipt of an application and during cycle visits.

CRS Classifications		
Class	WA	US
1		1
2	2	3
3		1
4	3	7
5	11	93
6	9	219
7	5	309
8	4	471
9		209
As of October 1, 2014		

This report reviews the activities credited by the CRS and identifies how communities in the basin have or could receive those credits. Section numbers in this report coincide with the section numbers in the other CRS publications.

115 Costs and Benefits

Costs

There are three components of the cost of participating in the CRS:

1. The cost of starting up a new activity, such as legal costs in drafting an ordinance,
2. The cost of implementing the activity, and
3. Direct CRS costs, such as collecting documentation and similar work, that is not considered a normal part of implementing an activity.

The dollar value of these costs depends on local staff salaries and is not calculated in this report. While the costs to implement activities that a community was implementing before it joined the CRS should not be considered a CRS cost, there is a cost to document or revise the activity in order to meet CRS credit criteria. This can be onerous when the CRS revises its credit criteria and the community must revise its activities if it wants to keep the credit.

Benefits

The flood insurance premium discount is only one of the benefits of participating in the CRS, but it is the one most often queried. The current and potential discounts for each community in the Basin is shown in the tables in Appendix 1. These tables show the total discount for the community for classes 4 – 9 and the average discounts for policy holders in the SFHA and outside the SFHA. The current discounts for the four communities in the CRS are highlighted.

In addition to the direct financial reward for participating in the Community Rating System, there are other reasons to join the CRS. As FEMA and ISO staff often say, “if you are only interested in saving premium dollars, you’re in the CRS for the wrong reason.” The other benefits are more difficult to measure in dollars. They include:

1. The credited activities provide flood loss reduction, flood safety, and protection of natural floodplain functions benefits.
2. Credited activities that used to be done on an ad hoc basis are better organized.
3. There is an incentive to keep implementing flood protection activities during dry years.
4. The community can evaluate the effectiveness of its flood program against nationally recognized benchmarks.
5. Technical assistance is available from ISO at no cost to the community.
6. The public information activities help build a knowledgeable constituency interested in supporting and improving flood protection measures.
7. Every time residents pay their insurance premiums, they are reminded that their community is working to protect them from flood losses.

200 Procedures

210 Prerequisites

211.a Class 9 Prerequisites

There are five prerequisites for a riverine community to be a Class 9 CRS community, i.e., to become and stay a CRS participant:

1. The community must have been in the Regular Phase of the National Flood Insurance Program for at least one year. All but Napavine meet this prerequisite.
2. A community must have a Community Assistance Visit or CAV conducted by FEMA Region X or the Department of Ecology in order to confirm that it is in full compliance with the minimum requirements of the NFIP. CAVs are also conducted periodically for participating communities. If a CRS community is determined at any time to not be in full compliance, it will revert to a Class 10.

This CAV requirement has proven to be the single most important factor that delays community entry into the CRS. It is an extensive review of the community's maps, regulations, procedures, and permit records conducted in more detail than the recent visits done for this floodplain management assessment project. FEMA or state staff can be in the community for one or two full days. Most communities need to provide follow-up materials to clarify or correct something found.

There is a checklist of things that are looked for. The reviews of the maps and regulations were conducted as part of this project and each community has a report with recommendations. It is recommended that the Flood Authority help communities prepare for a CAV by providing a technical review of their procedures and permit records.

3. The community must maintain FEMA Elevation Certificates on all new buildings and substantial improvements constructed in the SFHA after the community applies for CRS credit. This is explained in Activity 310 (Elevation Certificates).
4. If there are one or more repetitive loss properties in the community, the community must take certain public information and planning actions. This applies to all Basin communities except Cosmopolis, Pe Ell, and Napavine. More information on this prerequisite is in a separate "Repetitive Flood Loss Strategy" report for the Flood Authority.
5. The National Flood Insurance Act requires "the purchase of flood insurance by property owners who are being assisted by Federal programs or by Federally supervised, regulated or insured agencies or institutions in the acquisition or improvement of land or facilities located or to be located in identified areas having special flood hazards."

As a property owner, a community is subject to this law. If a community received Federal financial assistance for a community-owned building in the floodplain, it is required to maintain flood insurance on that building. Examples of Federal financial assistance that may

have been received include USEPA grants for improvements to wastewater treatment plans and FEMA disaster assistance for flooded public buildings.

At the verification visit, the mayor or board of county commissioners chairman must certify that the city or county has all the flood insurance policies that it has been required to have. The CRS is not concerned with past lapses in flood insurance coverage. What counts is that NFIP insurance is in effect when the community applies to the CRS and is kept in the future.

211.b. Class 6 Prerequisite

Improving from a Class 9 to a class 8 or 7 only requires additional points. However, In order to be a Class 6 or better, a community must demonstrate that it has at least 2,000 points and that it has received and continue to maintain a classification of 5/5 or better under the Building Code Effectiveness Grading Schedule (BCEGS). Both BCEGS classifications (residential and commercial) must be a Class 5 or better.

All of the Basin communities except Aberdeen meet this prerequisite. Aberdeen does not have a BCEGS classification. The communities’ classifications are listed on page 24.

CRS Program Data Table

Beginning with the first cycle verification visit after the 2013 *CRS Coordinator’s Manual* took effect (see table, page 2), CRS communities will be required to complete lines 6 and 13 of a new Program Data Table. Starting with the first annual recertification after the next cycle visit, CRS communities will need to complete the rest of the table and keep it updated each year.

Each community will need to calculate these figures for the first visit. It will then need to keep track of floodplain permits, annexations, and FIRM revisions to keep the table updated. County GIS staff should be able to help provide the data needed for the initial requirement.

CRS Program Data	A. In the SFHA	B. In a regulated floodplain outside the SFHA	C. In the rest of the community
1. Last report’s number of buildings in the SFHA (bSF) (line 6, last report)			
2. Number of new buildings constructed since last report	+		
3. Number of buildings removed/demolished since last report	-		
4. Number of buildings affected by map revisions since last report (+ or -)			
5. Number of buildings affected by corporate limits changes (+ or -)			
6. Current total number of buildings in the SFHA (bSF) (total lines 1-5)			
7. Number of substantial improvement/damage projects since last report			
8. Number of repetitive loss properties mitigated since last report			
9. Number of LOMRs and map revisions (not LOMAs) since last report			
10. Acreage of the SFHA (aSFHA) as of the last report (line 13, last report)			
11. Acreage of area(s) affected by map revisions since last report (+ or -)			
12. Acreage of area(s) affected by corporate limits changes (+ or -)			
13. Current acreage of the SFHA (aSFHA) (total lines 10-12)			
14. Primary source for building data:			
15. Primary source for area data:			
16. Period covered:		Current FIRM date:	
<i>If available, the following data would be useful:</i>			
17. Number of new manufactured homes installed since last report			
18. Number of other new 1 - 4 family buildings constructed since last report			
19. Number of all other buildings constructed/installed since last report			
Notes: Lines 1-8 deal with "buildings." Section 301 has more information about what qualifies as "buildings" and how they are counted for CRS purposes. Numbers in column A are for the Special Flood Hazard Area. If the community also regulates floodplain development outside the SFHA, Column B is completed (and the community may deserve credit under Activity 410 (Floodplain Mapping)). The data in Column C help relate what happens in the floodplain to what is happening in the rest of the community.			

220 Credit Calculation

Activities: There are 19 activities that are credited by the CRS. The activities are organized under four series and numbered according to their sections in the CRS Coordinator's Manual.

The credit points for the 400 Mapping and Regulation series of activities are increased in growing communities, where mapping and regulations will be most effective in reducing future flood damage. This is presented in Section 710.

Elements: Within the activities, there are one or more elements. These are discrete pieces of a community's floodplain management program, and each receives a certain number of credit points. The bulk of this report reviews how the Basin's communities would score under each relevant activity and element.

Credit criteria: Each element has certain prerequisites that must be met to qualify for the credit. In some cases, there are activity credit criteria that apply to all the elements. Each community interested in CRS credit needs to review these criteria and determine if they can be met before it assumes it would receive the credit for that element.

Impact adjustment: The impact adjustment is a computation that modifies an element's points to reflect how much of its flood problem is affected by the activity. For example, a community that has preserved large portions of its floodplain as open space should receive more credit than one that has most of its floodplain developed. Accordingly, the points are adjusted to reflect the percentage of their floodplains that is kept in open space.

Several activities have no impact adjustment because the type of activity is assumed to cover the entire floodplain or the entire community. For example, public information programs are expected to reach and benefit all residents in the community.

Community credits: At the end of the discussion of each activity is a table that lists the elements appropriate for the area and the maximum possible points.

- For communities in the CRS: A check (“✓”) indicates it is currently receiving the credit under the 2007 *CRS Coordinator's Manual*. It is assumed that the community would meet the credit criteria in the new 2013 *Manual*.
- For communities not in the CRS: A check (“✓”) indicates it is currently implementing the element and it could receive the credit if it met the element's credit criteria.

It must be noted that communities do not receive the maximum possible points for most elements. Therefore, there is a column with the points used in the CRS Quick Check. The Quick Check provides conservative numbers to help communities estimate their scores before applying to join the program. The Quick Check only includes the more commonly credited elements. The tables have blanks for the other, less used, elements.

The fact that a community does not have a “✓” for an element does not mean it could not receive that credit. It means the community is not currently implementing that element. Even with a “✓” the community may need to modify its program or record system to meet the credit criteria.

300 Public Information Activities

310 Elevation Certificates

312.a. Maintaining Elevation Certificates (EC)

This element is mandatory for continued participation in the CRS.

For this credit, the community must collect and maintain a FEMA Elevation Certificate (FEMA Form 81-31) for all new and substantially improved buildings constructed in the SFHA. If a nonresidential building is floodproofed, a FEMA Floodproofing Certificate (FEMA Form 086-0-34) is needed. A V Zone certificate is needed for all new buildings constructed in a V Zone.

While prepared by a professional land surveyor, the certificates must be reviewed by a community official. Each form must have all the items on the CRS checklist complete and correct. Elevations that may be in different datums (i.e., NGVD and NAVD) must be correctly recorded. The checklists can be found on the CRS website, www.CRSResources.org/300.

During the cycle verification visit, the ISO/CRS Specialist will review the community’s certificates using the checklist. The Specialist will provide the community with a summary of the review. To maintain the community’s eligibility to stay in the CRS, at least 90% of the certificates must have no problems.

The certificates can be provided in paper or digital format. Certificates on detached garages and non-substantial improvements are not needed for this activity’s credit.

312.b. Maintaining Elevation Certificates for post-FIRM buildings (ECPO)

312.c. Maintaining Elevation Certificates for pre-FIRM buildings (ECPR)

These two additional elements provide credit for having Elevation Certificates for buildings constructed before the community’s entry into the CRS. None of the communities are known to have Elevation Certificates for their pre-FIRM buildings (i.e., built in the 1970’s and early 1980’s).

Communities that are not currently maintaining Elevation Certificates would have to start the practice if they wanted to join the CRS.

Expected CRS Credits – Activity 310 (Elevation Certificates)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
EC – Elevation Certificates	38	38		✓	✓	✓		✓	✓	✓		✓		✓
ECPO – Post-FIRM ECs	48	12		✓				✓	✓	✓		✓		
ECPR – Pre-FIRM ECs	30	30												

320 Map Information Service

This activity credits reading Flood Insurance Rate Maps (FIRMs) and other maps in response to requests from the public.

For this credit, the community's program must do ALL of the following:

- (1) MI1, providing information from the FIRM needed to write a flood insurance policy, is a prerequisite to receiving other credit under this activity.
- (2) The map information service must be able to locate a property based on a street address.
- (3) The information must be volunteered when there is an inquiry. For example, an inquirer about a property that is located in a Special Flood Hazard Area (SFHA) needs to be told about the mandatory flood insurance purchase requirement.
- (4) The service must include an opportunity for personal contact.
- (5) The inquiry must be responded to within a reasonable amount of time.
- (6) The service must be publicized at least once a year. There are three publicity options:
 - (a) An annual notice that reaches everyone in the community, such as an article in a newsletter or a stuffer in a utility bill that goes to all properties;
 - (b) An annual notice directed to the most common users of the service: lenders (banks, credit unions, etc.), insurance agents, and real estate agents; or
 - (c) An annual outreach project developed as part of a Program for Public Information (PPI).
- (7) The maps used for MI1 and MI2 must be kept updated at least annually to reflect new studies, subdivisions, annexations, flood insurance restudies, map revisions, and map amendments.
- (8) The community must maintain copies of earlier FIRMs that have been in effect since 1999. It is recommended that the community keep a copy of every FIRM that has been published (credit for this is available under Activity 440 (Flood Data Maintenance)).
- (9) Records of the service must be kept and provided for credit documentation. Normally this is done with a log or a form letter that is completed when the information is provided.

322.a. Basic FIRM information (MI1)

MI1 credits providing basic information found on a FIRM that is needed to accurately rate a flood insurance policy. If the property is in an SFHA, the community must inform the inquirer of the mandatory flood insurance purchase requirement, as appropriate. This may be done by advising the inquirer that flood insurance may be required because of the property's location or by providing a written summary of the requirement.

322.b. Additional FIRM information (MI2)

MI2 credit is for providing information that is shown on the community's FIRM that is not needed for insurance rating. The only such feature on riverine FIRMs is the floodway. Communities without a mapped floodway cannot receive this credit. This includes Aberdeen, Cosmopolis, and Montesano.

322.c. Other flood problems not shown on the FIRM (MI3)

MI3 credit is for providing information about flood problems other than those shown on the FIRM. Note that providing information about historical flooding is credited under MI6.

322.d. Flood depth data (MI4)

MI4 credit is for providing information about how deep flood waters can be anticipated to be in given areas of the community. The depth of expected flooding gives the inquirer a better concept of the flood hazard than does the base flood elevation alone.

322.e. Special flood-related hazards (MI5)

MI5 credit is for providing information about special flood-related hazards in the community. Thurston County could receive this credit for its maps of high groundwater floodplains.

322.f. Historical flood information (MI6)

MI6 credits providing information about past floods that have occurred at or near the site in question. This could include mapped repetitive loss areas and high water records of past floods.

322.g. Natural floodplain functions (MI7)

MI7 credit is for providing information about areas that should be protected because of their natural floodplain functions.

Because all communities except Napavine help their residents read and understand their FIRMs, it is assumed that they would be able to meet the credit criteria and obtain credit for MI1 and MI2. Napavine does not have a FIRM at this time, so it would not receive 320 credit.

Under the 2007 *CRS Coordinator's Manual*, Activity 320 was worth up to 140 points. Under the 2013 *Manual*, the maximum has been reduced to 90 points. MI1 and MI2 are the only credits in 320 that have been kept in the 2013 *CRS Coordinator's Manual* from the earlier *Manual*. Therefore, the four communities currently in the CRS will lose points for 320 at their next verification.

Expected CRS Credits – Activity 320 (Map Information Service)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
MI1 – Reading the FIRM	30	30	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
MI2 – Reading the floodway	20	20		✓	✓	✓		✓	✓			✓	✓	✓
MI3 – Other flooding	20	20												
MI4 – Flood depth	20	20												
MI5 – Flood-related hazards	20	20												
MI6 – Historical info	20	20	✓	✓	✓	✓		✓	✓			✓		✓
MI7 – Natural areas	20	20												✓
<i>The credit is capped at 90 points</i>														
<i>MI6 credit assumes disclosure of repetitive loss areas</i>														

330 Outreach Projects

Credit is provided for advising people every year of the flood hazard, the availability of flood insurance, and/or flood protection methods.

332.a. Outreach projects (OP)

To receive credit, projects must be disseminated at least annually. At least one project must convey a message on the topic of flood insurance. Note that there is additional credit for outreach projects that promote flood insurance under Activity 370 (Flood Insurance Promotion).

The maximum credit for this element is 200 points. If the community has a Program for Public Information (PPI) that discusses preparation and implementation of the project, it can receive up to 80 extra points. If the project is delivered by a stakeholder (STK), it can receive up to 50 extra points.

Points are based on the type of project and the messages covered. Messages are scored under six general topics:

Topics	Example Messages
1. Know your flood hazard	Your property is subject to flooding
2. Insure your property for your flood hazard	Take advantage of a low-cost Preferred Risk Policy
3. Protect people from the hazard	Turn around, don't drown
4. Protect your property from the hazard	We can help you get a grant to elevate your home. Call us at
5. Build responsibly	Before you build, get a permit from ...
6. Protect natural floodplain functions	Report broken silt fences: they help keep our streams clean

332.b. Flood response preparations (FRP)

FRP credits developing a pre-flood plan for public information projects that will be implemented during and after a flood. An FRP package is a collection of outreach projects prepared in advance, but not delivered until a flood occurs. These materials may include templates and masters of handouts, mailers, press releases, etc., that cover key messages that need to be disseminated before, during, and after a flood. The package must include both the materials that will be needed and the procedures for how they will be used.

This is a new element in the 2013 *CRS Coordinator's Manual*, so no communities currently receive this credit. FRP projects are scored in the same manner as OP projects.

332.c. Program for Public Information (PPI)

The PPI is an ongoing public information effort to design and transmit the messages that the community determines are most important to its flood safety and the protection of its flood-plains' natural functions. It is started with preparation of the program following a seven step planning process, with support from a committee of local staff, stakeholders, and members of the public.

This element is a 40% multiplier that increases the points for each OP and FRP project that is covered in the PPI. The maximum extra credit for this element is 80 points.

Note that a PPI can help design an entire public information program, not just outreach projects. A PPI that covers other types of public information endeavors, such as a website and technical assistance, can result in increased credit under other activities.

332.d. Stakeholder delivery (STK)

Research has shown that the credibility and visibility of outreach messages are enhanced if they are sent by numerous sources. Since most messages tend to come from the local government, extra credit is provided for messages that are clearly from stakeholders—someone or some group concerned with the community, but not a part of the local government, such as the State, the Red Cross, a newspaper, or a utility company.

A prerequisite for this credit is that a community must have a PPI that identifies which projects are being disseminated by stakeholder organizations. STK is a 30% multiplier that increases the points for each project credited under OP that is delivered or otherwise endorsed by one or more stakeholder organizations. The maximum extra credit for STK is 50 points for outreach projects (OP). STK points do not apply to FRP projects.

Expected CRS Credits – Activity 330 (Outreach Projects)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
OP – Outreach projects	200	50			✓	✓			✓					✓
FRP – Flood response projects	50	20												
PPI – Program for Public Information	80													
STK – Stakeholders	20													
<i>The credit is capped at 350 points</i>														

340 Hazard Disclosure

Various ways of informing residents that a property is in a floodplain are credited under this activity. The credit is available only if the hazard is disclosed to people when they are looking to buy or rent a property. No credit is given for the mortgage lender notification required by Federal law.

There are four elements that can be credited. Currently, area communities are receiving credit only for the second one, and that is based on a state regulation.

342.a. Disclosure of the flood hazard (DFH)

Credit for DFH relies on real estate agents to inform a potential purchaser whether a property is in a Special Flood Hazard Area. This is not commonly done in Washington State. No communities are receiving this credit in Washington.

342.b. Other disclosure requirements (ODR)

This element credits up to five state or local laws or ordinances that require disclosure of a property’s exposure to flooding or related hazard. Washington communities receive 10 points for two requirements: that sellers disclose whether the property is in a flood plain or wetland and whether the property has ever flooded. These requirements can be found in Washington Revised Code 64.06.015 at <http://apps.leg.wa.gov/RCW/default.aspx?cite=64.06&full=true#64.06.020>.

Communities can consider enacting additional disclosure requirements, but coordination with the real estate industry is advised first. Chehalis and Thurston County receive credit for an additional local disclosure requirement.

342.c. Real estate agents’ brochure (REB)

REB credit is provided if real estate agents give a brochure to all clients that are looking to purchase a property. The brochure does not need to identify which properties are floodprone, but it must advise the reader to check to see if a property is in a floodplain or has a history of flooding.

342.d. Disclosure of other hazards (DOH)

DFH credit is a prerequisite for this element, which is credit for providing information to inquirers about other flood-related hazards. Potential property purchasers should be advised of other hazards that have been identified for specific sites.

Expected CRS Credits – Activity 340 (Hazard Disclosure)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
DFH – Real estate agents disclosure	35	25												
ODR – Other disclosure requirements	25	15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
REB – Real estate brochure	12	8												
DOH – Disclosure of other hazards	8	8												

350 Flood Protection Information

This activity’s credit points are provided if the local library maintains documents about flood insurance, flood protection, floodplain management, and natural and beneficial functions of floodplains. Additional credit is provided if similar information is available on the community’s website.

352.a. Flood protection library (LIB)

LIB credit is provided for having the latest versions of nine specific FEMA publications cataloged and available in the community’s library. All of the publications are available free, singly or in quantity. All of them could be obtained and cataloged by the county library systems and all communities in the systems would receive this credit.

352.b. Locally pertinent documents (LPD)

LPD credit is provided for having documents in the community’s local public library that cover flood hazards, flood protection, and natural floodplain functions and also are keyed to local conditions. These can include the community’s FIRM, flood hazard area regulations, mitigation plan, and the Flood Authority’s reports.

This credit is checked in the table on the next page because it is assumed that each community would provide such materials to their local branch library. All four CRS communities are getting this credit.

352.c. Flood protection website (WEB)

WEB credit is for providing flood protection information via the community’s website. Much of the credit can be obtained through links to other sites, such as the County’s emergency manage-

ment pages. Additional points are provided if the website is included in the Program for Public Information (PPI) document, which is explained in Activity 330.

Every community in the Basin, except Pe Ell, has a website, so the table assumes that each would include some flood protection information. This would be facilitated if the Flood Authority or other organization provided a website with creditable information that the communities could link to.

Expected CRS Credits – Activity 350 (Flood Protection Information)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
LIB – Library	10	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
LPD – Locally pertinent documents	10	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WEB – Website	105	15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓

360 Flood Protection Assistance

The objective of this activity is to provide general property protection information directly to interested property owners. Providing construction plans or specifications that should be prepared by an architect or engineer is not necessary.

362.a. Property protection advice (PPA)

This is the basic credit for providing one-on-one advice about property protection (such as retrofitting techniques and drainage improvements).

Most communities do not provide this service on a regular or official basis. However, several have staff that currently provide assistance very much like what is credited here. With proper publicity and documentation of providing the service, credit would not be hard to get.

362.b. Protection advice provided after a site visit (PPV)

Additional points are added if the property protection advisor makes a site visit before providing the advice.

362.c. Financial assistance advice (FAA)

Credit is for providing advice on financial assistance programs that may be available. This is a new element in the 2013 *CRS Coordinator’s Manual*.

362.d. Advisor training (TNG)

Up to 10 points is provided if the person giving the advice has graduated from qualifying courses on retrofitting or grants programs.

Expected CRS Credits – Activity 360 (Flood Protection Assistance)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
PPA – Property protection assistance	40	25			✓				✓					✓
PPV – Assistance provided after a visit	45	5			✓				✓					✓
FAA – Financial assistance advice	15													
TNG – Advisor training	10													

370 Flood Insurance Promotion

The objective of this activity is to improve flood insurance coverage in the community.

This is a new activity in the 2013 *CRS Coordinator's Manual*, so no communities are currently receiving this credit.

Activity 370 provides credit for a three-step process that allows communities to assess their own flood insurance needs and receive credit for improving their coverage:

Step 1: Flood insurance coverage assessment (FIA). This credit is provided for assessing the community's current level of coverage and identifying shortcomings.

Step 2: Coverage improvement plan (CP). The plan is prepared by a committee that has representation from local insurance agents and lenders.

Step 3: Implementation of the coverage improvement plan (CPI). The plan's projects are implemented.

Credit for the three steps or elements is provided incrementally. That is, a community may prepare an assessment (FIA) and circulate it for review before it decides whether to proceed with a coverage improvement plan (CP). Credit is provided for a coverage improvement plan even if it is not implemented (CPI).

The three steps match the steps followed to prepare a Program for Public Information, credited in Activity 330 (Outreach Projects). It is recommended that Activity 370 be attempted only as a part of preparing a Program for Public Information.

Credit is also available in this activity for **Technical Assistance (TA)**, i.e., providing advice about flood insurance similar to the flood protection assistance service credited in Activity 360 (Flood Protection Assistance). Because of the technical expertise needed, it is not recommended

that a Basin community pursue the TA technical assistance credit, although such a person might be justifiable at the County or Basin level, serving all communities.

Expected CRS Credits – Activity 370 (Flood Insurance Promotion)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
FIA – Flood insurance assessment	15	15												
CP – Coverage improvement plan	15	15												
CPI – Plan implementation	60													
TA – Technical assistance	20													

400 Mapping and Regulations

403 Impact Adjustment Map

An impact adjustment map is needed for Activities 410, 420, 430, 440, 450, 620, and 630 to show the community's floodplains and the areas where each element in these activities is effective.

The Thurston and Lewis County GIS offices have the capability to provide the data and base map needed. The information would also be used for Line 13 in the Program Data Table shown on page 5. An example impact adjustment map that would be used for Activity 420 (Open Space Preservation) is shown to the right.



410 Floodplain Mapping

This activity credits regulating areas based on flood data not provided with the community's FIRM or in a flood study conducted to a higher standard than FEMA's flood insurance study criteria. Credit is also provided if the community shared in the cost of a flood insurance study and/or is willing to be a Cooperating Technical Partner with FEMA.

There are seven elements where credit could be provided.

412.a. New study (NS)

Credit is for flood studies that produce base flood elevations and/or floodways where such data are not provided on the community's Flood Insurance Rate Map or a community contributes to FEMA's mapping effort. Three of the four CRS communities are receiving this credit because they provided data for FEMA's flood insurance studies.

412.b. Leverage (LEV)

The points for NS are multiplied by a ratio that reflects how much of the study was financed by non-FEMA funds. Chehalis' and Thurston County's study support had no FEMA funding. Centralia's credit is based on contributing to a FEMA funded study.

412.c. State review (SR)

This is for a state program that reviews flood studies, including FEMA Flood Insurance Studies. Washington does not have a program that meets the credit criteria.

412.d. Higher study standards (HSS)

HSS is for studies done to one or more standards higher than the FEMA mapping criteria. The most common higher standard is using a topographic base map with a smaller contour interval than US Geological Survey quadrangle maps. Chehalis receives credit for a higher standard.

412.e. More restrictive floodway standard (FWS)

This credit is for delineating the floodway using a lower encroachment threshold than FEMA’s one foot criterion. None of the area’s floodway studies have varied from the national one foot standard.

412.f. Floodplain mapping of special flood-related hazards (MAPSH)

MAPSH credit is provided for mapping and regulating any of the special flood-related hazards recognized by the CRS. For the Chehalis River Basin, these would include alluvial fans and migrating channels. Thurston County currently receives this credit, but it is the only Basin community known to have the prerequisite regulations.

412.g. Cooperating Technical Partner (CTP)

There are two credits here. CTP1 is for a community being a Cooperating Technical Partner or being within an area covered by a Cooperating Technical Partner agreement. There is an agreement between FEMA and the Department of Ecology that Centralia, Chehalis, and Thurston County are receiving. Lewis County should receive this credit at its next cycle verification visit.

CTP2 provides an 18% bonus to the NS new study score for the maps in the CTP agreement, after they are completed and adopted for regulatory purposes. That credit is calculated when the study is completed, published, and adopted.

Expected CRS Credits – Activity 410 (Floodplain Mapping)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
NS – New study	290	50			✓	✓			✓					✓
LEV – Leverage	N/A				✓	✓			✓					✓
SR – State review	60													
HSS – Higher study standard	160					✓								
FWS – Floodway standard	110													
MAPSH – Special hazard mapping	50													✓
CTP – Cooperating Technical Partner	132				✓	✓			✓					✓
<i>It is assumed that Lewis County would receive the same credits as the cities at its next verification visit.</i>														

420 Open Space Preservation

This activity credits preserving vacant land in the floodplain as open space, i.e., as areas where there will be no buildings and no filling. The areas must be preserved as open space either through public ownership or by development regulations that prohibit buildings and filling. The areas can be public parks, private preserves, playing fields, golf courses, or other uses, provided that the owner documents that the land will stay as open space.

The open space must not be Federal land and it should not include large bodies of water. There must be no buildings on the land, although parcels larger than ten acres may have one small building that is a necessary appurtenance to open space use, such as a restroom facility or ranger's cabin. Paved areas, such as parking lots, are not counted.

422.a. Open space preservation (OSP)

OSP credits preserved open space in the floodplain. Because preserving open space is the best way to prevent flood damage, this element receives up to 1,450 points. Basin communities can receive credit for three types of preserved open space:

- Public parks in the floodplain that are intended to remain public parks.
- Parcels purchased with FEMA mitigation grants, which have deed restrictions to remain open as a condition of the grants
- Vacant areas subject to local critical areas or shoreline management regulations that require no-build buffers along the rivers.

The floodplain management analysis could not find qualifying lands in Aberdeen, Cosmopolis, Napavine, or Pe Ell.

422.b. Deed restrictions (DR)

Credit is provided if the credited open space properties have deed restrictions that prohibit future owners from building or filling on the property. Properties purchased with FEMA mitigation funds qualify for this credit. All four CRS communities have such properties.

422.c. Natural functions open space (NFOS)

NFOS credits areas preserved as open space (OSP) where the natural floodplain functions are also preserved or restored. NFOS credit is in addition to OSP. The following types of open space in a community's regulatory floodplain can receive NFOS credit.

- Areas in their undeveloped natural state (i.e., areas that have not been built on, graded, or farmed).
- Areas that have been farmed or otherwise developed but have been restored to a state approximating their natural, pre-development conditions. This would include forests managed with sustainable forestry practices that preserve natural functions, but not areas where unrestricted commercial clear cutting is allowed.

- Areas designated as worthy of preservation for their natural functions by a federal, state, or nationally recognized private program. Examples of such programs include, but are not limited to the U.S. Fish and Wildlife Service’s Threatened and Endangered Species’ Critical Habitat Designations.

There are five sub elements that can receive NFOS credit:

- NFOS1: parcels that qualify as OSP in or restored to their undeveloped natural state
- NFOS2: parcels designated in a natural floodplain functions protection plan
- NFOS3: parcels designated as critical habitat for threatened or endangered species
- NFOS4: parcels in a designated open space corridor
- NFOS5: parcels with educational material on the sites’ natural functions

All parcels must meet the credit criteria for NFOS1. Centralia, Chehalis, and Thurston County have been receiving credit equivalent to NFOS1 under the old *CRS Coordinator’s Manual*. Other communities, especially Lewis and Grays Harbor Counties, likely have qualifying open space lands that provide natural floodplain functions.

422.d. Special flood-related hazards open space (SHOS)

This credit is provided for having open space in an area subject to one of the CRS special flood-related hazards. The area must also have special flood-related hazard regulations covering the area. No area communities are receiving this credit at this time.

422.e. Open space incentives (OSI)

OSI credits requirements and incentives to keep floodprone portions of new developments open. Under the impact adjustment, areas that qualify for OSP credit are not eligible for OSI credit – i.e., there is no credit for encouraging open space preservation in areas that are already preserved as open space. Credited regulations include:

- OSI1: regulations that set aside all of the regulatory floodplain in a subdivision as open space
- OSI2: regulations that require each lot in a new subdivision to provide a building site that is on natural high ground, out of the regulatory floodplain
- OSI3: regulations that require that, to the extent possible, each lot in a new subdivision provide a building site that is on natural high ground, out of the regulatory floodplain,
- OSI4: regulations that provide for transfers of development rights or density bonuses to encourage staying out of the regulatory floodplain.
- OSI5: regulations that allow cluster development through PUDs or other means
- OSI6: a program that provides tax incentives to keep land open
- OSI7: the community’s land use plan recommends open space use or low-density development of flood-prone areas

Several communities could receive some of these credits, as noted in the table on the next page.

422.f. Low-density zoning (LZ)

“Low density” zoning means having areas in the SFHA where the minimum lot size allowed by the zoning district is five acres. As with OSI, LZ credit is mutually exclusive from OSP. Most counties usually receive some credit here.

422.g. Natural shoreline protection (NSP)

This element is new in the 2013 *CRS Coordinator’s Manual*. It credits programs that protect channels and shorelines in their natural state. The credit is only available for channels or shorelines that are currently in their approximate natural state, i.e., there is no concrete, rip rap, levees, armoring, dams, or other human intervention that constrains the natural processes of the shoreline of the river or stream.

Two types of protection programs are credited:

- Regulations that govern development and construction, such as an ordinance or regulation that governs public and private construction activities; and
- Local policies followed on public lands, such as a written community policy that covers shorelines in city parks.

Areas with undisturbed banks that are protected as buffers in a critical areas regulation should qualify.

Expected CRS Credits – Activity 420 (Open Space Preservation)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
OSP – Preserved open space	1,450			✓	✓	✓			✓	✓		✓		✓
DR – Deed restrictions	50	15			✓	✓			✓					✓
NFOS – Natural functions	170				✓	✓								✓
SHOS – Special hazards	50													
OSI1-5 – Regulatory incentives	250	15												✓
OSI6 – Tax incentives	25							✓	✓					✓
OSI7 – Plan recommendation	10		✓	✓	✓	✓			✓			✓		✓
LZ – Low density zoning	600							✓	✓					✓
NSP – Shoreline protection	120					✓		✓	✓	✓	✓	✓		✓

430 Higher Regulatory Standards

This activity provides credit for regulations that require new development to be protected to one or more standards stricter than the NFIP's minimum floodplain management requirements. This activity has the largest number of individual elements.

432.a. Development Limitations (DL)

Credit is for prohibiting fill, buildings, and/or storage of materials in the SFHA. Credit can be prorated for requiring compensatory storage or prohibiting different types of buildings.

If a regulation prohibits fill, buildings, and storage of materials, the open area affected would qualify as preserved open space (OSP). Therefore, the buffers protected by critical areas regulations are credited in Activity 420, not here.

There is a state requirement that new residential buildings are to be prohibited in floodways. Those communities that have designated floodways and have this requirement in their ordinance are eligible for up to 500 points. The credit is based on the relative size of the floodway and how much of it is zoned for residential use.

432.b. Freeboard (FRB)

A freeboard requirement adds height above the NFIP's base flood elevation to provide an extra margin of protection to account for waves, debris, miscalculations, or lack of data.

Nine communities require at least one foot of freeboard for elevated buildings (which includes all new residential buildings). Of the other three communities, two say they require it, even though the language is not in their ordinances. Bucoda, Napavine, and Pe Ell's regulations also require one foot of freeboard for floodproofed buildings.

432.c. Foundation Protection (FDN)

FDN credits engineered foundations. It provides up to 35 points for requiring buildings to be

- (a) constructed on properly designed and compacted fill (e.g., fill that meets the criteria of (1) Section 1803.5.8 and Section 1804.4 of the International Building Code, (2) Section 2.4 of ASCE 24, or (3) their equivalent), and
- (b) Must be on fill that has appropriate protection from erosion and scour.

Every community enforcing the International Building Code can receive this credit. However, they must keep records that they have inspected and verified that the fill meets the Codes' standards. Most communities do not keep such records so most do not get this credit. The table at the end of this activity lists all the communities as potentially eligible.

432.d. Cumulative Substantial Improvements (CSI)

The NFIP allows improvements valued at up to 50% of the building's pre-improvement value to be permitted without meeting the flood protection requirements for buildings located in the SFHA. Over the years, a community may issue a succession of permits for different repairs or

improvements to the same structure, each valued at less than 50%. This can greatly increase the overall flood damage potential to that building.

CSI provides credit to a community that ensures that the total value of all improvements or repairs permitted over time does not exceed 50% of the value of the structure. When the total value does exceed 50%, the original building must be protected according to the ordinance requirements for new buildings. Credit can be provided for counting improvements cumulatively, damage cumulatively, or both.

432.e. Lower substantial improvements (LSI)

This element credits having a substantial improvement threshold lower than 50%. None of the Basin communities' ordinances have this higher standard.

432.f. Protection of critical facilities (PCF)

There are usually two kinds of critical facilities that a community should address:

- Facilities that are vital to flood response activities or critical to the health and safety of the public before, during, and after a flood, such as a hospital, emergency operations center, electric substation, police station, fire station, nursing home, school, vehicle and equipment storage facility, or shelter.
- Facilities that, if flooded, would make the flood problem and its impacts much worse, such as a hazardous materials facility, power generation facility, water utility, or wastewater treatment plant.

Full credit is for a prohibition of new critical facilities in the 500-year floodplain. Five communities prohibit them from the SFHA, so they would get an adjusted credit.

Partial credit is provided for regulations that set higher standards for protecting critical facilities from flood damage. Two communities would get partial credit for requiring critical facilities to be protected to the 500-year flood level.

432.g. Enclosure limits (ENL)

Regulations to limit enclosures below the base flood elevation have two objectives. First, the regulations protect the structural integrity of the building from hydrodynamic and hydrostatic pressure.

Second, the regulations discourage property owners from finishing the area below the base flood elevation and storing valuable or hazardous items in that area (over time there is a tendency on the part of property owners to enclose the lower areas and convert them to bedrooms, family rooms, or other finished areas, in violation of floodplain management regulations).

ENL credits regulatory standards that prohibit the enclosure of the building's area that lies below the base flood elevation. Credit is also available for communities that execute nonconversion agreements, whereby owners agree not to modify the enclosed area to make it more susceptible to flood damage.

432.h. Building code (BC)

There are two parts to this credit. BC1 credits adopting and enforcing the current International Code Series.

BC2 credit is based on a community's Building Code Effectiveness Grading Schedule classification. This program is explained in the individual community floodplain management reports. Like the CRS, BCEGS classifications range from 10 (the lowest) to 1 (the best). A classification of 5/5 is the national average. Ten CRS points are provided for every BCEGS class of 5/5 or better. Eleven of the twelve communities in the Basin fare well here. Aberdeen does not have a BCEGS classification.

Pe Ell does not have a building code or BCEGS classification, because Lewis County administers the building code in the Town. Because of the arrangement, Pe Ell would receive CRS credit for the County's program.

BCEGS Classifications	
Aberdeen	N/A
Bucoda	3/3
Centralia	2/2
Chehalis	3/3
Cosmopolis	4/4
Grays Harbor County	4/4
Lewis County	4/3
Montesano	4/4
Napavine	3/3
Oakville	5/5
Pe Ell	4/3
Thurston County	4/3

432.i. Local drainage protection (LDP)

LDP credit is for ensuring that new buildings are well above the street level or otherwise protected from shallow drainage flooding. The regulatory language is usually found in the International Building Code, rather than in the floodplain or stormwater management regulations. Sections 1803.3 and 1805 of the International Building Code, for example, have a positive-drainage requirement that would receive some credit.

As with the foundation protection credit (FDN), every community enforcing the International Building Code can receive this credit. However, they must keep records that they have inspected and verified that the site plan meets the Code's standards. Most communities do not keep such records so most do not get this credit. The table at the end of this activity lists all the communities as potentially eligible.

432.j. Manufactured home parks (MHP)

This credit relates to regulations in manufactured home parks developed before the initial date of the community's Flood Insurance Rate Map. The NFIP regulations allow manufactured homes to be elevated below the base flood elevation in these parks.

While many Basin communities do not differentiate between manufactured home standards in or out of a park, the community would have to have an older manufactured home park that meets the element's criteria to receive this credit.

432.k. Coastal A Zones (CAZ)

This credit relates to coastal flooding with wave heights greater than 1.5 feet. Other than portions of Grays Harbor County outside the Chehalis River Basin, none of the communities have the type of coastal flood hazard that this credit applies to.

432.i. Special flood-related hazards regulations (SHR)

SHR is for enforcing appropriate construction standards in areas subject to a special flood-related hazard recognized by the CRS. For Chehalis River Basin, special hazards would include alluvial fans and migrating channels. Thurston County would receive this credit.

432.m. Other higher standard (OHS)

This is a catch-all element that credits higher regulatory standards that are not explicitly credited elsewhere. An example is Bucoda's requirement that new streets must be elevated to the base flood elevation.

432.n. State-mandated regulatory standards (SMS)

Up to 20 bonus points are provided if a regulatory standard is required by the state. The SMS credit is a 10% increase in the points for the required regulatory standard(s).

Because the International Building Codes are mandated by the State of Washington, all credits that a community receives for its building code would get the 10% bonus. Those include:

Foundation protection (FDN)	10 points
Building code (BC)	45 points
Local drainage protection (LDP)	<u>10 points</u>
	65 points

In theory, every community would receive 10% of 65, or 6.5, points under SMS. However, as noted in the earlier discussions, the community must show inspection documentation to receive FDN and LDP credit. If it doesn't get the credit for enforcing the state mandate, it won't get the state mandate bonus.

432.o. Regulations administration (RA)

There are five ways to receive this element's credit points.

1. Points for each CFM[®] or graduate of an approved EMI class in a regulatory position
2. If the community's building department has been accredited by the International Accreditation Service
3. If the community conducts three inspections during construction that check for specific items.
4. If the community conducts reinspections of buildings to ensure that they still comply with the floodplain management requirements of their earlier permits
5. For storing key floodplain management permit records at a safe and secure site

Several communities would get the staffing credit. All reported that they conduct at least three inspections during code enforcement, but they may not include all of the required checks.

Expected CRS Credits – Activity 430 (Higher Regulatory Standards)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
DL1 – Prohibit fill	280	100		✓										✓
DL2 – Prohibit buildings	1,000	100	✓	✓	✓	✓		✓	✓		✓		✓	✓
DL3 – Prohibit hazardous materials	50	10												✓
FRB – Freeboard	500	80		✓	✓	✓	✓	✓	✓		✓		✓	✓
FDN – Foundation protection	80	30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSI – Cumulative improvements	90	40							✓					✓
LSI – Lower threshold	20													
PCF – Critical facilities	80	20		✓	✓	✓	✓		✓		✓			✓
ENL – Enclosure limitations	240	30												
BC1 – International Building Codes	50	45	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BC2 – BCEGS Class	50	10		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
LDP – Local drainage protection	120	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MHP – Manufactured home parks	15	15												
CAZ – Coastal A Zones	650													✓
SHR – Special hazard regs	100													✓
OHS – Other higher standards	100	10		✓										✓
SMS – State mandates	20		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RA – Regulation administration	67	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

440 Flood Data Maintenance

The objective of this activity is to make community floodplain data more accurate, accessible, useful, and/or up to date so that the information contributes to the improvement of local regulations, insurance rating, planning, disclosure, and property appraisals. This activity has four elements.

442.a. Additional map data (AMD)

This credit is for having FIRM and other flood data in an accessible geographic information system (GIS) or similar format. Credit can be for a hard copy GIS product or direct access to the GIS. The product can be prepared by the city's or county's GIS office provided it is used regularly by the community's regulatory staff, such as checking the FIRM zone and base flood elevation for a property and answering map information inquiries.

There are 13 ways to get points. The more items in the GIS, the more points provided. Here are the GIS layers that are credited:

1. SFHA boundaries, corporate limits, streets, and parcel or lot boundaries (this is a prerequisite for the rest of the credits)
2. Buildings, building outlines, or building footprints
3. Floodways and coastal high hazard areas, i.e., the V Zone

4. Base flood elevations
5. FIRM zone attributes (e.g., AE, X, etc.)
6. 500-year floodplain elevations or boundaries
7. Areas of the community subject to other natural hazards, such as channel migration
8. Topographic contour lines at a smaller contour interval than that provided on available U.S. Geological Survey digital orthophoto quarter quads
9. Including updated floodplain data in the tax assessment data base
10. All FIRMs in effect after the date of the community's application to the CRS
11. Data bases used for regulation or mitigation programs, such as zoning districts
12. Areas with natural floodplain functions (e.g., wetlands)
13. Building elevation data (i.e., from Elevation Certificates) in digital format

Centralia, Chehalis, and the three counties have their own GIS offices, so these are checked in the table at the end of this activity. If the county offices are willing to prepare maps for their cities, the cities could receive this credit.

442.b. FIRM maintenance (FM)

This credit is for maintaining copies of all Flood Insurance Rate Maps (FIRMs), Flood Insurance Studies, and Flood Boundary Floodway Maps that have been issued for the community. The documents must be readily available and the community must allow inquirers access to them.

Chehalis and Lewis and Thurston Counties are receiving this credit at this time. It is not easy to find all the old documents, but sometimes FEMA's Map Service Center has copies that can be provided.

442.c. Benchmark maintenance (BMM)

Credit is provided if the community maintains benchmarks so surveyors can find them and can depend on them to be accurate. The element only credits benchmarks that meet the following five criteria:

1. They must be in the National Spatial Reference System (NSRS) database or otherwise qualify as permanent monuments;
2. They must have been recovered within the last five years;
3. They must be first- or second-order vertical control benchmarks;
4. They must have a stability rating of A or B; and
5. They must be within one mile of some part of the community's SFHA.

The benchmarks and their key data must be posted in a reference system readily available to local surveyors, such as the community's website.

Only Thurston County is receiving this credit at this time. If there is no active surveying support for the community, it could be difficult to obtain this credit.

442.d. Erosion data maintenance (EDM)

This credit relates to coastal erosion, which would only affect Grays Harbor County, and not in the Chehalis Basin part of the County. There is discussion that this might be extended to riverine erosion in a future edition of the *CRS Coordinator's Manual*.

Expected CRS Credits – Activity 440 (Flood Data Maintenance)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
AMD – Additional map data	160	50			✓	✓		✓	✓					✓
FM – FIRM maintenance	15	10				✓								✓
BMM – Benchmark maintenance	27	5												✓
EDM – Erosion data maintenance	20													

450 Stormwater Management

This activity credits regulating new development in the watershed (not just the floodplain) to minimize the adverse impacts of stormwater runoff on downstream flooding and water quality.

452.a. Stormwater management regulations (SMR)

SMR credits the regulations used to manage runoff from future development in the watershed. SMR credit is provided if new development is required to prevent or reduce the increase in runoff that results from urbanization.

Credit is the sum of four subelements:

- Size of development regulated (more points for regulating smaller developments)
- Design storms used in regulations (more points for managing larger storms)
- Low-impact development
- Public maintenance of required facilities

All four CRS communities are receiving SMR credit. Some of the rest of the communities have a stormwater management ordinance on the books, but several have not adopted the latest (2012) version of the *Stormwater Management Manual for Western Washington*, which would receive the most points.

452.b. Watershed master plan (WMP)

WMP credit is provided if the community has adopted a master plan for a watershed that sets stormwater regulatory criteria for new development in that watershed. The master plan usually includes a hydrologic and hydraulic study of the watershed and a study of the ability of the drainage system to handle current and future flows.

The *Stormwater Management Manual for Western Washington* has been accepted for the watershed master plan credit because it has standards based on watershed master plans in the area. Communities that adopt the 2012 version could receive this credit.

452.c. Erosion and sedimentation control regulations (ESC)

ESC credit is provided if the community requires that erosion and sediment control measures be taken on land that is disturbed during development. ESC credit is based upon the size of the areas subject to the regulation. Drainage systems cannot perform to their design standards if they are choked with eroded soil that has been captured in stormwater. Sedimentation has been called the largest source of water pollution in the country.

All communities that have adopted a version of the *Stormwater Management Manual for Western Washington* should receive this credit, provided the *Manual's* standards are enforced.

452.d. Water quality regulations (WQ)

Stormwater runoff picks up dirt, road oil, chemicals, and other substances. Unlike sewage, stormwater is not treated before it enters rivers, lakes, estuaries, and other receiving bodies of water. WQ credit is provided for requiring developers to incorporate best management practices to protect water quality in their stormwater management facilities.

All communities that have adopted a version of the *Stormwater Management Manual for Western Washington* should receive this credit, provided the *Manual's* standards are enforced.

Expected CRS Credits – Activity 450 (Stormwater Management)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
SMR – Stormwater mgmt regs	380	30	✓		✓	✓	✓	✓	✓	✓				✓
WMP – Watershed master plan	315		✓		✓				✓	✓				✓
ESC – Erosion/sed'mt. control regs	40	10			✓	✓		✓	✓					✓
WQ – Water quality regulations	20	20	✓		✓	✓	✓	✓	✓	✓		✓		✓

500 Flood Damage Reduction Activities

510 Floodplain Management Planning

The objective of this activity is to credit the production of an overall strategy of programs, projects, and measures that will reduce the adverse impact of the hazard on the community and help meet other community needs. There are three elements in Activity 510.

512.a. Floodplain management planning (FMP)

FMP credit is provided for a community-wide floodplain management plan that was prepared by following a standard ten step planning process. To receive any credit under this activity, the planning process must receive some credit under each of ten specified planning steps.

Qualifying plans include a separate floodplain management plan or a multi-hazard mitigation plan. These can be a single community plan or cities can participate in county-wide plans.

All of the Basin communities except for Aberdeen and Montesano have their own plans or are part of a county-wide plan. Several of these plans are being updated now or are due for an update in 2015.

At the next verification visit (see table, page 2), the plans for the four communities in the CRS will be reviewed according to the criteria in the 2013 *CRS Coordinator's Manual*. This will likely result in a different score.

512.b. Repetitive loss area analysis (RLAA)

A repetitive loss area analysis is a detailed mitigation plan for a repetitive loss area. It provides more specific guidance on how to reduce damage from repetitive flooding than a community-wide floodplain management or hazard mitigation plan.

As with a floodplain management plan, CRS credit is dependent upon the community following a step-by-step planning process. The five steps for an area analysis are less involved than the 10-step floodplain management planning process, but the analysis must evaluate each building in the repetitive loss area(s).

No communities have repetitive loss area analysis, but preparing one is recommended in the separate "Repetitive Flood Loss Strategy" for the Basin.

512.c. Natural floodplain functions plan (NFP)

NFP credit is provided for adopting plans that protect one or more natural functions within the community's floodplain. Examples include a habitat conservation plan, a salmon restoration plan, or a section of a comprehensive plan that includes an inventory of the ecological attributes of the floodplain and recommends appropriate actions for protecting them.

No communities reported having a document that would qualify as a natural floodplain functions plan.

Expected CRS Credits – Activity 510 (Floodplain Management Planning)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
FMP –Floodplain mgt plan	382	50		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
RLAA – Rep loss area analyses	140													
NFP – Natural functions plan	100	15												

520 Acquisition and Relocation

Credit is provided for acquiring, relocating, or otherwise clearing buildings out of the floodplain. Extra credit is provided if the buildings are also on FEMA’s repetitive loss property list or are critical facilities. This activity provides more points than any other. However, to receive the maximum credit, a community would have to clear out almost all of its buildings from the SFHA.

All four CRS communities are receiving some 520 credit. Credit is provided even if the projects were funded by FEMA or another Federal agency.

Expected CRS Credits – Activity 520 (Acquisition and Relocation)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
bAR – buildings acq'd or relocated	2,250				✓	✓			✓					✓

530 Flood Protection

Credit is provided for two ways of protecting floodprone buildings:

- Retrofitting the buildings through floodproofing, elevation, or other modification and
- Small flood control projects, such as storage basins and channel improvements.

It must be noted that elevating a substantially damaged or substantially improved residential building is a minimum requirement of the NFIP and is not credited under this activity. However, projects that are funded by FEMA can be eligible, provided they are not the result of a substantial damage or substantial improvement requirement.

As with Activity 520, to receive the maximum credit, a community would have to retrofit or otherwise protect almost all of its buildings in the SFHA.

All four CRS communities have managed elevation projects with Federal grants. Other communities reported that some buildings have been retrofitted voluntarily at the owner's expense.

Expected CRS Credits – Activity 530 (Flood Protection)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
Flood protection	1,600		✓	✓	✓	✓		✓	✓	✓		✓		✓

540 Drainage System Maintenance

This activity credits a program that inspects the drainage system and removes debris. For the purposes of this activity, a community's drainage system consists of all natural and manmade watercourses, open conduits, and storage basins that must be maintained in order to prevent flood damage to insurable buildings from smaller, more frequent storms.

542.a. Channel debris removal (CDR)

Credit for this element is dependent upon annual inspection and regular maintenance of the channels and associated conveyance facilities. The community must have a program to inspect its drainage facilities annually, upon receiving a complaint, and after each major storm. The community must remove debris as needed after each inspection in accordance with a written maintenance plan.

While responding to complaints and performing inspections after storm events are required to obtain credit, a program that only responds to complaints or inspects after storms is not eligible for this credit. To receive full credit for this activity, the community must have written procedures and records that it annually inspects and maintains public and private components in the developed portion of the surface conveyance system, not just channels in the mapped SFHA.

While every community does some drainage maintenance, only the four CRS communities have the written procedures to qualify for this credit. It would not be difficult for the other communities that currently inspect and maintain their drainage systems to formalize their programs with written procedures and records. Those that have done this report improvements by having a more organized and dependable program.

542.b. Problem site maintenance (PSM)

This credit is provided if the community's channel debris removal program (credited under CDR) identifies components that are "choke points," chronic dumping sites, obstructions to flows, or sites with erosion or sedimentation problems, that are inspected and maintained differently or more frequently than other parts of the system. CDR credit is a prerequisite.

542.c. Capital improvement program (CIP)

CIP credit recognizes the implementation of a capital improvement plan and a capital improvement program that make permanent, structural changes within the drainage system to reduce flood problems or maintenance problems. This credit is not for a program of continuous maintenance, such as cleaning or repairing inlets and culverts.

Creditable examples would be ongoing programs to enlarge culvert and bridge openings to eliminate bottlenecks and convert problem channels into “low-maintenance” channels. CDR credit is a prerequisite.

542.d. Stream dumping regulations (SDR)

SDR credits adopting and enforcing regulations that prohibit the dumping or disposal of debris in the community’s drainage system. Many local flood problems are caused when shopping carts, yard waste, or other debris is dumped into channels. This debris can clog culverts, divert flows, and reduce the conveyance capacity of channels. Regulations that prohibit the disposal of all debris within a channel help reduce this problem. CDR credit is a prerequisite.

542.e. Stage basin maintenance (SBM)

SBM credit is dependent upon annual inspections and regular maintenance of retention, detention, infiltration, and other types of storage basins. It is like CDR in that the community must have a program to regularly inspect public and private storage basins and remove debris.

This is a new element in the 2013 *CRS Coordinator’s Manual*. Based on their current credits, only Centralia and Thurston County meet the new credit criteria.

542.f. Coastal erosion protection maintenance (EPM)

This credit relates to coastal erosion, which would only affect areas in Grays Harbor County outside the Chehalis Basin part of the County.

Expected CRS Credits – Activity 540 (Drainage System Maintenance)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
CDR – Channel debris removal	200	40			✓	✓			✓					✓
PSM – Problem site maintenance	50				✓									✓
CIP – Capital Improvement prog.	70	30			✓									✓
SDR – Stream dumping regs	30	15			✓	✓								✓
SBM – Storage basin maintenance	120	25			✓									✓
EPM – Coastal erosion maint.	100													

600 Warning and Response Activities

610 Flood Warning and Response

The objective of this activity is to encourage communities to ensure timely identification of impending flood threats, disseminate warnings to appropriate floodplain occupants, and coordinate flood response activities to reduce the threat to life and property.

A community must receive some credit under each of the first four elements in order to receive any of those credits. This is a change in the 2013 *CRS Coordinator's Manual*. To date, the four CRS communities received some credit under two or three of them, but none received credit under all four. However, it should not take much work to provide what is needed.

612.a. Flood threat recognition system (FTR)

A flood threat recognition system provides the community with the earliest possible notification that a flood is imminent. FTR credit is based on the level of service provided by the community's flood threat recognition system. Level 1 is a manual flood threat recognition system, Level 2 is an automated alarm flood threat recognition, and Level 3 is an automated flood threat warning system.

It is expected that all Basin communities could benefit from the new Level 3 flood threat recognition system established by the Flood Authority, but it will take further review of the counties' flood response programs to see if they warrant all four credits.

612.b. Emergency warning dissemination (EWD)

Once the flood threat recognition system tells local emergency managers what will be flooded and when, warnings should be issued to the affected populations. The messages that need to be conveyed and the appropriate times to deliver them should be thought out in advance, as part of the flood warning and response plan. EWD credit is provided for those emergency warning alerts and messages.

612.c. Flood response operations (FRO)

FRO credit is based on the extent of coverage and level of detail that the community's flood warning and response plan provides for the flood response operations. Using information from the flood inundation maps, the plan should cover what areas will be affected, when they will be affected, and appropriate actions to be implemented at different flood levels.

612.d. Critical facilities planning (CFP)

Critical facilities are discussed in Activity 430 on page 23. CFP credit is provided for coordinating the community's warning and response program with its critical facilities. Doing this will allow more timely and effective protection of them and faster community recovery.

612.e. StormReady community (SRC)

StormReady is a nationwide community preparedness program to help communities develop plans to handle all types of severe weather. It is administered by the National Weather Service.

SRC is a separately applied credit that is provided if the National Weather Service has recognized the community as being StormReady and if the community receives credit for the first four elements in 610.

Aberdeen, Grays Harbor County, and Thurston County are StormReady communities. They would get SRC credit if they also receive credit for the first four elements in Activity 610. Cities in StormReady counties do not automatically get their county's credit.

612.f. TsunamiReady community (TRC)

The TsunamiReady program is the counterpart to StormReady for communities that are exposed to a tsunami hazard. Like StormReady, the TsunamiReady designation is bestowed by the National Weather Service.

Grays Harbor County and Aberdeen are TsunamiReady communities. They would also need credit for the first four elements in 610 and some credit for a tsunami hazard mapping and management program.

Expected CRS Credits – Activity 610 (Flood Warning and Response)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
FTR – Flood threat recognition	75	25	*	*	✓	✓	*	*	✓	*	*	*	*	✓
EWD – Warning dissemination	75	25			✓	✓			✓					✓
FRO – Flood response opns	115	25			✓	✓			✓					✓
CFP – Critical facilities planning	75	25			✓	✓			✓					✓
SRC – StormReady community	25	25	*					*						✓
TRC – TsunamiReady community	30	30	*					*						
* These credits would be provided if the county's flood warning and response program qualified for all four of the first four elements. Credit for FTR, EWD, FRO, <u>and</u> CFP is a prerequisite for any of these credits.														

620 Levees

This activity credits the coordinated maintenance of levees combined with a flood response plan for the hazard of a levee failure flood. The levee system must be operated and maintained by a public agency.

There are not many levees in the Chehalis River Basin. Perhaps the only ones that would qualify for recognition under Activity 620 are the Centralia-Chehalis Airport Levee, and the South Aberdeen Levee. Therefore, the elements under this activity are summarized briefly.

622.a. Levee maintenance (LM)

This credit is provided if the levee system is maintained and operated according to a written maintenance plan. This work is usually done by the agency that owns and maintains the levee. This element is a prerequisite for any credit under this activity.

622.b. Levee failure threat recognition system (LFR)

This credits a system to advise the emergency manager when there is a threat that a levee may fail or overtop. It is similar to FTR in Activity 610.

622.c. Levee failure warning (LFW)

Credit is for disseminating the warning to the public. It is similar to EWD in Activity 610.

622.d. Levee failure response operations (LFO)

LFO is similar to FRO in Activity 610. Both credit an advance plan of actions to be undertaken to reduce or prevent threats to health, safety, and property.

622.e. Levee failure critical facilities planning (LCF)

Like CFP in Activity 610, LCF credits coordination of actions with operators of critical facilities that would be affected by a levee failure.

Expected CRS Credits – Activity 620 (Levees)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
LM – Levee maintenance	95													
LFR – Threat recognition system	30													
LFW – Levee failure warning	50													
LFO – Response operations	30													
LCF – Critical facilities coord.	30													

630 Dams

To receive any credit under this activity, a community must document that it would be affected by a failure of an upstream dam. While there are no published dam failure inundation maps there are dams throughout the three counties. “Inventory of Dams in the State of Washington,” Department of Ecology, June 11, 2014, identifies those dams with a downstream hazard class of 1 (7 or more lives at risk) and 2 (1 – 7 lives at risk).

The data for the three counties are summed in the table on the next page. The report does not identify which cities in those counties are at risk. While the counties would certainly qualify as

being affected by a dam failure, each city would need to contact the county emergency manager or the Department of Ecology to obtain documentation that it would be affected by the failure of one of these dams.

Hazardous Dam Counts by County		
	Class 1 Hazard Dams (7+ lives at risk)	Class 2 Hazard Dams (1 – 7 lives at risk)
Grays Harbor County	5	4
Lewis County	3	10
Thurston County	3	2

632.a. State dam safety program (SDS)

The state’s dam safety program credit is provided for a community that would be affected by the failure of an upstream high hazard potential dam. With the appropriate documentation, each community would receive the state’s score, which is 45 points, the maximum possible.

The rest of the elements under this activity are similar to their four counterparts in Activities 610 and 620.

632.b. Dam failure threat recognition system (DFR)

This credits a system to advise the emergency manager when there is a threat that a dam may fail. It is similar to FTR in Activity 610.

632.c. Dam failure warning (DFW)

Credit is for disseminating the warning to the public. It is similar to EWD in Activity 610.

632.d. Dam failure response operations (DFO)

DFO is similar to FRO in Activity 610. Both credit an advance plan of actions to be undertaken to reduce or prevent threats to health, safety, and property.

632.e. Dam failure critical facilities planning (DCF)

Like CFP in Activity 610, DCF credits coordination of actions with operators of critical facilities that would be affected by a dam failure.

Expected CRS Credits – Activity 630 (Dams)														
Elements	Max Points	Quick Check	Aberdeen	Bucoda	Centralia	Chehalis	Cosmopolis	Grays Harbor	Lewis Co.	Montesano	Napavine	Oakville	Pe Ell	Thurston Co.
SDS – State dam safety score	45	45	?	?	?	?	?	✓	✓	?	?	?	?	✓
DFR – Threat recognition	30													
DFW – Dam failure warning	35													
DFO – Response operations	30													
DCF – Critical facilities coord.	20													

700 Community Classification Calculations

710 County Growth Adjustment

Flood loss prevention activities have a greater impact in growing areas than in communities with little or no pressure for future development in their floodplains. Therefore, the credit points provided for activities in the 400 series (Mapping and Regulations) are adjusted to reflect the growth rate of the county in which a community is located. The county growth adjustment (CGA) is applied by multiplying the number of points for the activity by the growth rate.

CGA is the average of the estimated number of dwelling units in the county five years ago, as reported by the U.S. Bureau of the Census, and the estimated number of dwelling units in the county five years from now, as projected by a FEMA demographic contractor, Applied Geographic Solutions, Inc.

The three counties' growth adjustments are

Grays Harbor County: 1.07

Lewis County: 1.13

Thurston County: 1.17

This means that scores for the 400 series activities are increased by 7%, 13%, and 17%, respectively.

This factor is recalculated every year and may change by the time of a community's next cycle verification visit.

720 Community Total Points

At this step, the activity scores are added (including the growth adjusted scores for the 400 series) and the community's CRS class is determined.

It should be noted that the class is based on the points verified by the ISO/CRS Specialist after the verification visit.

Summary and Recommendations

Summary

1. All communities in the Chehalis River Basin can benefit from participating in the CRS. The direct dollar benefits are shown in the tables in Appendix 1. Each community's potential savings is different because of different levels of insurance coverage, but policy holders in the floodplain would save \$50 - \$90 on their annual premiums for each CRS class.

For example, a floodplain policy holder in Aberdeen would save \$64 every year if the City were a Class 9, \$128 every year if a Class 8, etc. If every community became a Class 5, over \$1 million would be saved throughout the Basin every year

2. There are additional benefits that cannot be quantified that each community should consider. In many cases, they are more important than the direct dollar benefit to policy holders.
3. There are six participation prerequisites. Most communities will be able to meet most of these based on their current programs. The following will be more difficult:
 - Napavine will have to join the National Flood Insurance Program and be in it for at least one year before it can apply.
 - Each new community will need a Community Assistance Visit and will need to be recognized by FEMA as in full compliance with the minimum requirements of the NFIP.
 - The nine repetitive loss communities (all but Cosmopolis, Pe Ell, and Napavine) will have to do some additional work as explained in the separate “Repetitive Flood Loss Strategy.”
4. Each community could qualify for a Class 9 or better based on its current programs. At the end of the sections on each activity are tables that identify the elements that the twelve Basin communities are likely to get credit for. Most communities would receive credit for the following:
 - 310 EC – maintaining FEMA Elevation Certificates on all new construction in the floodplain (minimum requirement for participation in the CRS)
 - 320 MI1, MI2, MI6 – providing floodplain map information to inquirers
 - 340 ODR – credit for state hazard disclosure laws
 - 350 LIB, LPD, WEB – providing flood protection information in the local library and on the community's website (or links on the community's website)
 - 420 OSP, OSI7 – preserving areas of floodplain open space and having plans or programs to encourage maintaining floodplain open space
 - 430 DL2, FRB – having higher regulatory standards in the flood hazard area regulations
 - 430 FDN, BC, LDP, SMS, RA – having higher regulatory standards and procedures mandated under the state building code
 - 450 SMR, ESC, WQ – for stormwater management requirements
 - 510 FMP – credit for adopting a hazard mitigation or floodplain management plan

- 530 – having buildings that have been retrofitted to flood protection standards
 - 610 – it is likely that all communities can qualify for credit for the Basin’s new flood warning and response system, but more research would be necessary to document this
 - 630 – it is likely that all counties and some cities can qualify for credit for the State’s dam safety program, but more research would be necessary to document the cities’ credits
5. Because of the extensive changes to the program brought about by the 2013 *CRS Coordinator’s Manual*, communities currently in the CRS can be expected to have different scores for the same activities they have been implementing. Therefore, both new communities and current CRS communities could use technical assistance on various CRS topics.

Recommendations

1. The Flood Authority should sponsor a meeting of interested staff and elected officials from the communities in the CRS and those not yet in. At that meeting, the details of the program, credit criteria for likely activities, and the changes in the 2013 *CRS Coordinator’s Manual* would be reviewed. CRS coordinators from one or more of the four CRS communities should discuss their experiences and recommendations.
2. After the interested communities have received the additional information, they should decide if the benefits of the program are worth their participation.
3. If several communities (CRS and non-CRS) are interested in doing something together or have a common concern, the Flood Authority should provide technical assistance to support or help coordinate their efforts. Likely areas of assistance include:
 - Explaining the program to city councils or boards of county commissioners
 - Helping non-participating communities with the application paperwork
 - Helping any community prepare for a Community Assistance Visit
 - Providing models or templates for publicity and record keeping requirements (Activities 320 (Map Information Service), 330 (Outreach Projects), and 360 (Flood Protection Assistance)).
 - Developing a Basin-wide webpage that all communities could link to for credit under Activity 350 (Flood Protection Information).
 - Helping with impact adjustments (Section 403) and other calculations
 - Providing example records for some of the building code requirements that are usually not documented (Activity 430 (Higher Regulatory Standards))
 - Providing model drainage system maintenance procedures and records so current ad hoc local programs can be formalized and made creditable under Activity 540 (Drainage System Maintenance)
 - Working with county emergency managers to qualify their programs for credit for Activity 610 (Flood Warning and Response)
 - Working with the Department of Ecology to document credit for the State dam safety program (Activity 630)

Appendix 1. Premium Savings Tables

Aberdeen		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	921	878	6	37
	PREMIUM	\$1,143,994	\$1,120,825	\$6,507	\$16,662
	AVERAGE PREMIUM	\$1,242	\$1,277	\$1,084	\$450
CRS Class					
09	Per Policy	\$61	\$64	\$54	\$0
	Per Community	\$56,367	\$56,042	\$325	\$0
08	Per Policy	\$122	\$128	\$54	\$0
	Per Community	\$112,408	\$112,083	\$325	\$0
07	Per Policy	\$183	\$191	\$54	\$0
	Per Community	\$168,450	\$168,125	\$325	\$0
06	Per Policy	\$244	\$255	\$108	\$0
	Per Community	\$224,816	\$224,166	\$651	\$0
05	Per Policy	\$305	\$319	\$108	\$0
	Per Community	\$280,858	\$280,208	\$651	\$0
04	Per Policy	\$366	\$383	\$108	\$0
	Per Community	\$336,899	\$336,249	\$651	\$0

* SFHA = Special Flood Hazard Area. ** X Zone = outside SFHA *** PRP = Preferred Risk Policy

Bucoda		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	67	57	2	8
	PREMIUM	\$62,504	\$57,766	\$1,704	\$3,034
	AVERAGE PREMIUM	\$933	\$1,013	\$852	\$379
CRS Class					
09	Per Policy	\$44	\$51	\$43	\$0
	Per Community	\$2,974	\$2,888	\$85	\$0
08	Per Policy	\$87	\$101	\$43	\$0
	Per Community	\$5,862	\$5,777	\$85	\$0
07	Per Policy	\$131	\$152	\$43	\$0
	Per Community	\$8,750	\$8,665	\$85	\$0
06	Per Policy	\$175	\$203	\$85	\$0
	Per Community	\$11,724	\$11,553	\$170	\$0
05	Per Policy	\$218	\$253	\$85	\$0
	Per Community	\$14,612	\$14,442	\$170	\$0
04	Per Policy	\$261	\$304	\$85	\$0
	Per Community	\$17,500	\$17,330	\$170	\$0

Centralia		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	900	553	23	324
	PREMIUM	\$668,062	\$494,855	\$34,276	\$138,931
	AVERAGE PREMIUM	\$742	\$895	\$1,490	\$429
CRS Class					
09	Per Policy	\$39	\$60	\$83	\$0
	Per Community	\$34,895	\$32,990	\$1,904	\$0
08	Per Policy	\$75	\$119	\$83	\$0
	Per Community	\$67,885	\$65,981	\$1,904	\$0
07	Per Policy	\$112	\$179	\$83	\$0
	Per Community	\$100,876	\$98,972	\$1,904	\$0
06	Per Policy	\$151	\$239	\$166	\$0
	Per Community	\$135,770	\$131,962	\$3,808	\$0
05	Per Policy	\$188	\$298	\$166	\$0
	Per Community	\$168,761	\$164,953	\$3,808	\$0
04	Per Policy	\$224	\$358	\$166	\$0
	Per Community	\$201,751	\$197,943	\$3,808	\$0

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Chehalis		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	253	213	8	32
	PREMIUM	\$336,479	\$309,402	\$12,242	\$14,835
	AVERAGE PREMIUM	\$1,330	\$1,453	\$1,530	\$464
CRS Class					
09	Per Policy	\$79	\$91	\$85	\$0
	Per Community	\$20,018	\$19,338	\$680	\$0
08	Per Policy	\$156	\$182	\$85	\$0
	Per Community	\$39,355	\$38,675	\$680	\$0
07	Per Policy	\$232	\$272	\$85	\$0
	Per Community	\$58,693	\$58,013	\$680	\$0
06	Per Policy	\$311	\$363	\$170	\$0
	Per Community	\$78,711	\$77,351	\$1,360	\$0
05	Per Policy	\$388	\$454	\$170	\$0
	Per Community	\$98,048	\$96,688	\$1,360	\$0
04	Per Policy	\$464	\$545	\$170	\$0
	Per Community	\$117,386	\$116,026	\$1,360	\$0

Cosmopolis		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	15	8	0	7
	PREMIUM	\$11,927	\$8,038	\$0	\$3,889
	AVERAGE PREMIUM	\$795	\$1,005	\$0	\$556

CRS Class					
09	Per Policy	\$27	\$50	\$0	\$0
	Per Community	\$402	\$402	\$0	\$0
08	Per Policy	\$54	\$100	\$0	\$0
	Per Community	\$804	\$804	\$0	\$0
07	Per Policy	\$80	\$151	\$0	\$0
	Per Community	\$1,206	\$1,206	\$0	\$0
06	Per Policy	\$107	\$201	\$0	\$0
	Per Community	\$1,608	\$1,608	\$0	\$0
05	Per Policy	\$134	\$251	\$0	\$0
	Per Community	\$2,010	\$2,010	\$0	\$0
04	Per Policy	\$161	\$301	\$0	\$0
	Per Community	\$2,411	\$2,411	\$0	\$0

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Grays Harbor County		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	548	279	99	170
	PREMIUM	\$538,626	\$390,338	\$77,077	\$71,211
	AVERAGE PREMIUM	\$983	\$1,399	\$779	\$419

CRS Class					
09	Per Policy	\$43	\$70	\$39	\$0
	Per Community	\$23,371	\$19,517	\$3,854	\$0
08	Per Policy	\$78	\$140	\$39	\$0
	Per Community	\$42,888	\$39,034	\$3,854	\$0
07	Per Policy	\$114	\$210	\$39	\$0
	Per Community	\$62,405	\$58,551	\$3,854	\$0
06	Per Policy	\$157	\$280	\$78	\$0
	Per Community	\$85,775	\$78,068	\$7,708	\$0
05	Per Policy	\$192	\$350	\$78	\$0
	Per Community	\$105,292	\$97,584	\$7,708	\$0
04	Per Policy	\$228	\$420	\$78	\$0
	Per Community	\$124,809	\$117,101	\$7,708	\$0

Lewis County		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	1,231	631	47	553
	PREMIUM	\$816,869	\$527,069	\$50,604	\$239,196
	AVERAGE PREMIUM	\$664	\$835	\$1,077	\$433
CRS Class					
09	Per Policy	\$27	\$49	\$57	\$0
	Per Community	\$33,668	\$31,004	\$2,663	\$0
08	Per Policy	\$53	\$98	\$57	\$0
	Per Community	\$64,671	\$62,008	\$2,663	\$0
07	Per Policy	\$78	\$147	\$57	\$0
	Per Community	\$95,675	\$93,012	\$2,663	\$0
06	Per Policy	\$105	\$197	\$113	\$0
	Per Community	\$129,343	\$124,016	\$5,327	\$0
05	Per Policy	\$130	\$246	\$113	\$0
	Per Community	\$160,347	\$155,020	\$5,327	\$0
04	Per Policy	\$155	\$295	\$113	\$0
	Per Community	\$191,351	\$186,024	\$5,327	\$0

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Montesano		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	8	7	0	1
	PREMIUM	\$11,475	\$11,061	\$0	\$414
	AVERAGE PREMIUM	\$1,434	\$1,580	\$0	\$414
CRS Class					
09	Per Policy	\$69	\$79	\$0	\$0
	Per Community	\$553	\$553	\$0	\$0
08	Per Policy	\$138	\$158	\$0	\$0
	Per Community	\$1,106	\$1,106	\$0	\$0
07	Per Policy	\$207	\$237	\$0	\$0
	Per Community	\$1,659	\$1,659	\$0	\$0
06	Per Policy	\$277	\$316	\$0	\$0
	Per Community	\$2,212	\$2,212	\$0	\$0
05	Per Policy	\$346	\$395	\$0	\$0
	Per Community	\$2,765	\$2,765	\$0	\$0
04	Per Policy	\$415	\$474	\$0	\$0
	Per Community	\$3,318	\$3,318	\$0	\$0

Napavine

There is no table for Napavine because the City is not in the National Flood Insurance Program.

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Oakville		TOTAL	SFHA *	X- STD/AR/A99 **	PRP ***
	PIF	10	0	2	8
	PREMIUM	\$5,383	\$0	\$2,690	\$2,693
	AVERAGE PREMIUM	\$538	\$0	\$1,345	\$337
CRS Class					
09	Per Policy	\$13	\$0	\$67	\$0
	Per Community	\$134	\$0	\$134	\$0
08	Per Policy	\$13	\$0	\$67	\$0
	Per Community	\$134	\$0	\$134	\$0
07	Per Policy	\$13	\$0	\$67	\$0
	Per Community	\$134	\$0	\$134	\$0
06	Per Policy	\$27	\$0	\$134	\$0
	Per Community	\$269	\$0	\$269	\$0
05	Per Policy	\$27	\$0	\$134	\$0
	Per Community	\$269	\$0	\$269	\$0
04	Per Policy	\$27	\$0	\$134	\$0
	Per Community	\$269	\$0	\$269	\$0

Pe Ell		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	6	1	0	5
	PREMIUM	\$4,412	\$2,472	\$0	\$1,940
	AVERAGE PREMIUM	\$735	\$2,472	\$0	\$388
CRS Class					
09	Per Policy	\$21	\$124	\$0	\$0
	Per Community	\$124	\$124	\$0	\$0
08	Per Policy	\$41	\$247	\$0	\$0
	Per Community	\$247	\$247	\$0	\$0
07	Per Policy	\$62	\$371	\$0	\$0
	Per Community	\$371	\$371	\$0	\$0
06	Per Policy	\$82	\$494	\$0	\$0
	Per Community	\$494	\$494	\$0	\$0
05	Per Policy	\$103	\$618	\$0	\$0
	Per Community	\$618	\$618	\$0	\$0
04	Per Policy	\$124	\$742	\$0	\$0
	Per Community	\$742	\$742	\$0	\$0

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Thurston County		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	802	306	43	453
	PREMIUM	\$460,288	\$240,471	\$32,645	\$187,172
	AVERAGE PREMIUM	\$574	\$786	\$759	\$413
CRS Class					
09	Per Policy	\$24	\$56	\$42	\$0
	Per Community	\$18,990	\$17,176	\$1,814	\$0
08	Per Policy	\$45	\$112	\$42	\$0
	Per Community	\$36,166	\$34,353	\$1,814	\$0
07	Per Policy	\$67	\$168	\$42	\$0
	Per Community	\$53,343	\$51,529	\$1,814	\$0
06	Per Policy	\$90	\$225	\$84	\$0
	Per Community	\$72,333	\$68,706	\$3,627	\$0
05	Per Policy	\$112	\$281	\$84	\$0
	Per Community	\$89,509	\$85,882	\$3,627	\$0
04	Per Policy	\$133	\$337	\$84	\$0
	Per Community	\$106,686	\$103,059	\$3,627	\$0

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