

Community Rating System Assessment - Plaquemines Parish

As part of LA SAFE’s comprehensive planning efforts, UNO-CHART assessed the participation of LA SAFE parishes in the National Flood Insurance Program (NFIP) Community Rating System (CRS), in order to make recommendations to improve participation in the program. Reports for each parish provide current CRS ratings, summaries of CRS activities, and recommendations for short and long term goals related to the implementation of the program. As Plaquemines Parish does not currently participate in the CRS, this report includes a summary of the parish’s NFIP data, recommendations for short and long term goals for future participation, and potential savings related to NFIP premiums.

Community Rating System (CRS)

The CRS is a voluntary program, which provides incentives for communities to implement floodplain management activities that exceed those required by the NFIP. The goals of the CRS are to (1) reduce flood damage to insurable property; (2) strengthen and support the insurance aspects of the NFIP; and (3) encourage a comprehensive approach to floodplain management.¹ An incentive for communities to participate in the CRS is discounts on flood insurance premiums for local policyholders. A community earns points for each CRS activity completed; the number of points determines the amount of the flood insurance premium discount. Premium discounts for policies on properties located within the Special Flood Hazard Area (SFHA) range from 5% for a Class 9 community, to 45% for a Class 1. See Table 1 for the number of points per class, along with corresponding premium discounts.

Credit Points	Class	Premium Reduction	Premium Reduction
		SFHA*	Non-SFHA**
4,500+	1	45%	10%
4,000 – 4,499	2	40%	10%
3,500 – 3,999	3	35%	10%
3,000 – 3,499	4	30%	10%
2,500 – 2,999	5	25%	10%
2,000 – 2,499	6	20%	10%
1,500 – 1,999	7	15%	5%
1,000 – 1,499	8	10%	5%
500 – 999	9	5%	5%
0 – 499	10	0	0

*Special Flood Hazard Area also known as the A and V Zones on a Flood Insurance Rate Map

**The Preferred Risk Policy does not receive premium rate credits under the CRS because it already has a lower premium than other policies

¹ https://www.fema.gov/media-library-data/1507029324530-082938e6607d4d9eba4004890dbad39c/NFIP_CRS_Fact_Sheet_2017_508OK.pdf

Plaquemines Parish & the NFIP/CRS at a Glance

- Plaquemines Parish does not currently participate in the CRS
- NFIP total number of policies: 5,365
- NFIP total number of premiums: \$4,108,854
- NFIP insurance in force: \$1,510,369,700
- Plaquemines Parish has 407 repetitive loss properties, 65 (19%) have been mitigated

Plaquemines Parish

Plaquemines Parish does not currently participate in the CRS. However, there are 5,314 policyholders in the parish – 25% of the policyholders are in the SFHA, 23% are not in the SFHA and have regular policies, and 52% are not in the SFHA, but have Preferred Risk Policies. As such, 48% of policyholders would receive discounts if the parish joined the CRS. However, the draft revised Flood Insurance Rate Map for the Parish shows a significant reduction in the amount of non-SFHA land. After the revision goes into effect, many Preferred Risk Policies that will be in newly mapped SFHAs will have to be converted to regular policies, and would benefit from the CRS discount². Additionally, the Plaquemines Parish 2015 Hazard Mitigation Update lists participating in the CRS as a planned action.³

Prerequisites and Application for Participation in the CRS

The first step to participating in the CRS is for the Plaquemines Parish President to submit a letter of interest to the FEMA Regional Office. FEMA then determines if the parish is meeting the minimum requirements of the National Flood Insurance Program. This usually requires a Community Assistance Visit. If Plaquemines Parish meets the minimum criteria, the ISO CRS specialist contacts the CRS Coordinator and schedules a community visit to verify the parish's programs. The Floodplain Management Program Coordinator housed in the Floodplain Management Section of the Louisiana Department of Transportation and Development can be an important resource for the parish in the application process.

During a CRS verification visit, the ISO CRS specialist will meet with the CRS Coordinator and other knowledgeable parties. The ISO specialist will review documentation such as the floodplain protection ordinance, elevation certificates, drainage infrastructure inspection reports, and outreach materials. The community must meet the following criteria to receive a Class 9 rating or above:

- Be in full compliance with the minimum requirements of the NFIP
- Maintain FEMA Elevation Certificates on all new and substantially improved buildings in the SFHA
- Take certain actions if there are one or more repetitive loss properties in the community
- Maintain all flood insurance policies on properties owned by the community that were required as a condition of Federal aid

² As of 2/3/2018, the Parish has not adopted the proposed FIRM.

³ <http://plaqueminesparish.com/wp/wp-content/uploads/2015/04/PPG-HMPU-2015-Adopted.pdf>

CRS Activity Breakdown

The table on the following page lists each of the activities available for credit under the Community Rating System. The activities are based on the 2017 CRS Coordinator's Manual. The manual is accessible online⁴.

The activities with blue highlighting in the short term column are elements the parish could receive credit for with a minimum amount of work. The elements with blue highlighting in the long term column are activities the parish could receive credit for with a moderate amount of work over a period of time. On some activities, there are elements that are both short and long term, i.e., some credit can be obtain relatively quickly, but more credit would take longer. In these activities, both columns are highlighted.

The state average column details the average points that CRS communities in the state of Louisiana receive in each activity, and the max column reflects the maximum amount of points a community can receive for each activity. Both of these calculations are based on the 2017 CRS Coordinator's Manual.

⁴ https://www.fema.gov/media-library-data/1493905477815-d794671adeed5beab6a6304d8ba0b207/633300_2017_CRS_Coordinators_Manual_508.pdf

Table 2 – CRS Activity Breakdown					
Activity/Element		Short Term	Long Term	State Avg.	Max
300 Series: Public Information Activities					
310 (Elevation Certificates)					
a	Elevation Certificates (after CRS application date)			31	38
b	Elevation Certificate on post-FIRM buildings			7	48
c	Elevation Certificate on pre-FIRM buildings			0	30
320 (Map Information Service)					
a	Providing insurance information from the FIRM			30	30
b	LiMWA/floodway info/CBRS area			20	20
c	Other flood problems not shown on FIRM			20	20
d	Flood depth data			20	20
e	Special flood-related hazards			20	20
f	Historical flood information/repetitive flooding			20	20
g	Natural floodplain functions			0	20
330 (Outreach Projects)					
a	Outreach projects			46	200
b	Flood response preparations			0	50
c	Program for Public Information bonus			0	80
d	Stakeholder bonus			0	20
340 (Hazard Disclosure)					
a	Real estate agent disclosure of SFHA			0	35
b	Other disclosure requirements			16	25
c	Real estate brochure			8	12
d	Disclosure of other hazards			0	8
350 (Flood Protection Information)					
a	Library			7	10
b	Locally pertinent documents in the library			2	10
c	Website			22	105
360 (Flood Protection Assistance)					
a	Property protection advice			25	40
b	Advice after a site visit			30	45
c	Financial assistance advice			0	15
d	Training			4	10
370 (Flood Insurance Promotion)					
a	Flood insurance assessment			15	15
b	Coverage plan			0	15
c	Plan implementation			0	60
d	Technical assistance			0	20

Activity/Element		Short Term	Long Term	State Avg.	Max
400 Series: Mapping and Regulations					
410 (Floodplain Mapping)					
a	New study			49	350
b	Leverage			N/A	N/A
c	State review			0	60
d	Higher study standards			0	200
e	Floodway standard			0	140
f	Special hazards mapping			0	100
420 (Open Space Preservation)					
a	Preserved open space			272	1,450
b	Deed restriction			0	50
c	Natural functions open space			42	170
d	Special hazards open space			0	50
e	Open space incentives			15	250
f	Low density zoning			0	600
g	Natural shoreline protection			0	120
430 (Higher Regulatory Standards)					
a	Development limitations			127	1,330
b	Freeboard			51	500
c	Foundation protection			0	80
d	Cumulative substantial improvements			60	90
e	Lower substantial improvements			20	20
f	Protection of critical facilities			0	80
g	Enclosure limitations			214	240
h	Building code			52	100
i	Local drainage protection			21	120
j	Manufactured home park			0	15
k	Coastal A Zone regulations			0	650
l	Special hazards regulations			0	100
m	Other higher standards			25	100
n	State mandated standards			0	20
o	Regulations Administration			12	67
440 (Flood Data Maintenance)					
a	Additional Map Data			96	160
b	FIRM maintenance			10	15
c	Benchmark maintenance			27	27

Activity/Element		Short Term	Long Term	State Avg.	Max
450 (Stormwater Management)					
a	Stormwater management regulations			51	380
b	Watershed master plan			0	315
c	Erosion and sedimentation control			12	40
d	Water quality regulations			20	20
500 Series: Flood Damage Reduction Activities					
510 (Floodplain Management Planning)					
a	Floodplain management planning			189	382
b	Repetitive loss area analyses			0	140
c	Natural floodplain functions plan			0	100
520 (Acquisition and Relocation)					
	Acquisition and relocation of buildings			78	2,250
530 (Flood Protection)					
	Retrofitted buildings			71	1,600
	Structural flood control and drainage projects			0	
540 (Drainage System Maintenance)					
a	Channel debris removal			171	200
b	Problem site maintenance			41	50
c	Capital improvements program			27	70
d	Stream dumping regulations			23	30
e	Storage basin maintenance			120	120
600 Series: Warning and Response					
610 (Flood Warning and Response)					
a	Flood threat recognition system			0	75
b	Emergency warning dissemination			0	75
c	Flood response operations plan			0	115
d	Critical facilities planning			0	75
e	StormReady community			0	25
f	TsunamiReady community			0	30
620 (Levees)					
a	Levee maintenance			0	95
b	Levee failure threat recognition system			0	30
c	Levee failure warning			0	50
d	Levee failure response operations			0	30
e	Levee failure critical facilities			0	30

Activity/Element		Short Term	Long Term	State Avg.	Max
630 (Dams)					
a	State dam safety program			45	45
b	Dam failure threat recognition system			0	30
c	Dam failure warning			0	35
d	Dam failure response operations			0	30
e	Dam failure critical facilities			0	20

Short and Long Term Goals

The CRS Activity Breakdown above shows the CRS activities and elements for which Plaquemines Parish could potentially receive credit, based on the 2017 CRS Coordinator’s Manual. CRS activities are numbered according to series 300 through 600. Each activity in the series lists elements for potential points. For example, 300 is the series for Public Information Activities, and 310 is the Elevation Certificate activity that has three elements: a, b, and c.

Plaquemines Parish may also use this as a reference for actionable short term and long term goals to earn CRS credit points. The highlighting in the short term column reflect activities that may require minimal resources to accomplish. Long term goals may require moderate to substantial resources for the parish to accomplish over time. Any recommendation that requires action by the Parish Council, such as an ordinance amendment, is treated as a long term goal. For some elements, such as 430 higher regulatory standards, some of the work may be done quickly by seeking credit for existing programs (short term), but other aspects of the activity may take more time (long term).

310: Elevation Certificates

This activity provides credits for communities to maintain elevation certificates on newly constructed buildings. The parish will receive credit for maintaining certificates for new buildings, because this is a minimum requirement of CRS participation.

Additional points may be available if the parish is able to provide documents on maintaining elevation certificates on buildings constructed before the parish applies to the CRS.

320: Map Information Service

This activity credits communities for providing information from the Flood Insurance Rate Map (FIRM). The 2017 CRS Coordinator’s Manual expanded this credit from simply reading the FIRM to residents, to providing additional flood-related information that might be on other maps. This additional information can include repetitive flood loss areas, wetlands, and natural functions.

Plaquemines Parish could receive credit by providing information from the FIRM, Coastal Barrier Resources System information, repetitive flood information, and information on natural floodplain functions.

330: Outreach Projects

This activity credits projects that provide information to the public. Parishes receive credit for outreach projects by distributing one or more messages, through one or more methods, at least once a year. For instance, parishes can provide information on flood hazards by placing a brochure in residents' water bills on an annual basis. Plaquemines Parish could also receive credit for an annual mailing to all repetitive loss properties, or providing flood risk and insurance information using social media.

Additionally, the parish could consider joining the CRS Users Group called FLOAT (Flood Loss Outreach and Awareness Taskforce), in which the City of Covington, the City of Mandeville, the City of New Orleans, the City of Slidell, Lafourche Parish, St. Charles Parish, St. John the Baptist Parish, St. Tammany Parish, Tangipahoa Parish, and Terrebonne Parish, meet monthly to work together to accomplish CRS goals. Through the Users Group, the communities substantially increased community outreach activities. For example, the communities share outreach brochures to educate the public around flood risk. FLOAT also recently developed a Program for Public Information (PPI), which increases the credits for outreach projects in participating communities.

340: Hazard Disclosure

This activity credits communities for advising people who may purchase property in the flood hazard area. All communities in Louisiana receive 15 points under other disclosure requirements for state laws that require sellers to disclose a property's hazard.

In the long term, the parish could get credit for other disclosure requirements, such as requiring real estate agents to tell buyers whether or not they are in the SFHA and to distribute a brochure that educates homebuyers about flood risk.

350: Flood Protection Information

The flood protection information activity provides credit to communities who share information about flood protection with the public. Plaquemines Parish could receive credit for providing flood information materials and locally pertinent documents in the public library. Some of these documents could include flood insurance information, flood protection information, general information about flood risk, and how to be prepared for future storms. The parish could also develop a flood help home page with links to more information on their website, such as Alert Plaquemines (flood warning), Evacuation Guidelines and more information at floodhelp.uno.edu.

360: Flood Protection Assistance

This activity credits communities that give one-on-one flood protection advice to residents. For credit, the parish could document the property protection advice given and site visits conducted by a local official. The parish could also create an outreach project advertising the property protection advice and advice after a site visit.

The parish could send one or more property protection advisors to FEMA classes on retrofitting. The parish can also enlist advisors to provide financial assistance advice on funding property protection measures.

370: Flood Insurance Promotion

Activity 370 encourages communities to analyze their level of flood insurance coverage and promote flood insurance where it is most needed. Plaquemines Parish could include the assessment and planning needed for this credit in a Program for Public Information (Activity 330).

420: Open Space Preservation

In this activity, parishes receive credit for keeping land vacant through ownership or regulations. Open space areas are areas such as public beaches, state parks, or school playing fields intended to be kept as an open space; private wildlife or nature preserves; or land where regulatory requirements effectively prohibit new development. Plaquemines Parish’s geography is advantageous for permanently preserving open spaces. According to GCR’s *Analysis of the Costs and Benefits of Participation in the National Flood Insurance Program’s Community Rating System*, a total of 200 square miles, which include the Pass-A-Loutre State Wildlife Management Area and CPRA projects, can receive preserved open space credit.

This report recommends that the parish investigate the following credits in Activity 420: natural functions open space, open space incentives, and low density zoning. The easiest place to start is to research vacant publicly owned land in the floodplain and obtain agreement from the owning agency to not develop it. The parish could also develop rules and regulations to keep and preserve areas of natural open space in a natural state. Another easy approach is to overlay low density zoning districts on the floodplain map and identify the floodprone areas covered by those districts.

430: Higher Regulatory Standards

This activity provides credits to communities that require higher standards of flood protection for new buildings. This activity has more elements than any other, but only the following apply to, or are recommended for, Plaquemines Parish as short and long term goals:

- a. Development limitations: Communities receive credit for prohibiting fill, development, and/or material storage in the floodplain.
- b. Freeboard: Communities receive credit for requiring new and substantially improved buildings to be elevated one foot or more above the base flood elevation (BFE). This requirement can greatly reduce flood insurance premiums, because buildings with freeboard receive less flood damage.

Table 3 to the right illustrates the direct financial benefits of freeboard. The bottom line shows that the owner of a new building constructed at the base flood elevation (the minimum level required by the NFIP) pays more than twice as much as for the same building with one foot of freeboard. A

Zone	Height	Premium
A	2 - 4 feet > grade	\$1,192
A	1 foot > grade	\$2,277
A w/BFE	2 or more feet > BFE	\$447
A w/BFE	0 - 1 foot > BFE	\$1,583
AE	3 feet > BFE	\$343
AE	2 feet > BFE	\$451
AE	1 feet > BFE	\$748
AE	At BFE	\$1,578

building three feet above the BFE has a premium that is less than 25% of the premium for a new building with no freeboard.

- c. Foundation protection: The parish must require an architect to sign off on building plans and account for subsidence to receive this credit.
- d. Cumulative substantial improvements: The parish could adopt a higher standard for substantial improvements that triggers the elevation requirement for repetitively flooded properties (and makes Increased Cost of Compliance financial assistance available for elevating substantially damaged buildings).
- f. Protection of critical facilities: Communities receive credit for protecting facilities such as hospitals, fire stations, drainage pumps, and other safety, health care, or utility facilities that are vital to the community. A long-standing federal recommendation advises communities to protect such facilities to the 500-year flood level.
- g. Enclosure limits: The parish could receive points for requiring nonconversion agreements for elevated buildings. The objective is to prevent future alterations that negate the flood protection provided by elevating damage prone areas above the flood level (for example: converting a part of the lower area into an improved living room).
- h. Building code: The parish could receive points for adopting the state building code and attaining a Class 5/5 or better under the Building Code Effectiveness Grading Schedule.
- i. Local drainage protection: The parish could receive points for requiring all new buildings to be elevated a certain distance above the centerline of the street.
- j. Regulations administration: The parish could receive 5 points for each staff person who attends certain training and/or is a Certified Floodplain Manager. That credit could increase over time as staff attend more training and/or become certified. This element also credits keeping records or files at a secure offsite storage facility, or backed up for security.

440: Flood Data Maintenance

The flood data maintenance activity offers credit for providing additional flood map data.

Plaquemines Parish could receive credit if certain flood map elements are maintained and used by the regulatory staff. There are thirteen such map data elements; the elements include but are not limited to parcels, building footprints, coastal high hazard areas, and 500-year floodplain boundaries. The parish could receive more credit by providing copies of all of their Flood Insurance Rate Maps, as well as a Flood Hazard Boundary Map. In the long term, the parish could seek credit for establishing benchmarks that meet specifications for areas subject to subsidence.

450: Stormwater Management

This activity includes managing stormwater in the community. Credits for this activity include four different approaches to managing new development in the watershed:

- a. Require larger new developments to construct on site retention or detention basins
- b. Develop and implement a watershed master plan that addresses existing and expected issues of drainage resulting from new or redevelopment
- c. Require erosion and sediment control measures on construction sites
- d. Require water quality measures in new drainage and stormwater facilities

In the long term, the parish could receive credit for requiring retention basins, and requiring erosion control measures. The parish could also receive points for a watershed master plan. If the parish wants to be a CRS Class 4 or better, a watershed master plan is a prerequisite. It is likely that the parish enforces the standard water quality provisions for new drainage and stormwater management facilities. This may be worth exploring as a long term project.

510: Floodplain Management Planning

The Floodplain Management Planning activity provides points to communities who create plans to manage their floodplains. Activity 510 provides points to communities that develop and adopt three types of these plans:

- a. A floodplain management or multi-hazard mitigation plan to provide overall guidance for preventing and reducing flood problems. This is a requirement for Plaquemines Parish because it is a Category C repetitive loss community, or one with 50 or more repetitive loss properties. The parish has a hazard mitigation plan that would provide some credit, and can update this plan over the long term for additional points.
- b. Area analyses for repetitive loss areas. A long term goal for the parish could be to prepare an area analysis, starting with the most severely affected repetitive loss area(s).
- c. Plans that protect natural floodplain functions. Typically, this credit is for existing plans, so an appropriate long term goal could be to research, locate, update, and adopt plans that would qualify for this credit.

520: Acquisition and Relocation

Under this activity, communities can receive credit for the removal, demolition, or relocation of a building from the regulatory floodplain. Points for this activity are based on the number of buildings cleared in proportion to the number of buildings that exist in the floodplain.

The parish can receive credit for this activity by removing buildings from the floodplain. Communities can receive even more points for clearing repetitive loss properties.

530: Flood Protection

Credit is available for flood protection projects such as elevating or retrofitting buildings, and constructing structural flood control and drainage projects. Points for this activity are based on the technique used and the number of buildings protected by the technique. For example, as the

most effective retrofitting technique, elevation projects receive the most points. As of September 2017, the parish reported 75 recent home elevations and 40 additional elevations in progress.

The parish could also track retrofitting projects through the permitting process to help with this credit.

540: Drainage System Maintenance

The drainage system maintenance activity provides credit based on the community's drainage inspection and maintenance program. Communities receive points by making annual inspections, and documenting the follow up maintenance.

The drainage system maintenance elements are listed as long term projects because they may require new record keeping and inspection procedures. The parish could receive credit for channel debris removal and stream dumping regulations. The parish could receive credit by documenting annual drainage inspections of catch basins, ditches, canals, pipes, roadways or road drainage either after a complaint, or after a major storm. The parish could receive more points by implementing a capital improvements program, and documenting storage basin maintenance.

610: Flood Warning and Response

Communities receive credit for four flood warning and response activities:

- a. Receiving advanced notification of an impending flood (threat recognition),
- b. Issuing warnings to the threatened population (warning dissemination),
- c. Taking steps to protect life and reduce losses during the flood (response operations), and
- d. Coordinating with critical facilities (critical facilities planning).

Under the 2017 CRS Coordinator's Manual, a community must receive some points under all four of these elements. Parish CRS/floodplain management staff could meet with the emergency manager to review the flood warning and response activities that could receive credit. The parish's reverse 911 notification system known as PPENs may help the parish to earn credit in this activity.

Once credit for all of the first four elements is verified, Plaquemines Parish could receive additional credit as a StormReady community.

620: Levees

Under this activity, communities receive points for levee maintenance and levee failure warning and response procedures. Very few communities (none in Louisiana) receive any credit for this activity.

The parish could receive points for this activity by reaching out to its levee districts, and documenting the levee maintenance program and the levee failure warning and response plan.

The parish could also get credit in Activity 330 for the prerequisite annual outreach project that advises residents that their area could flood if the levee overtopped.

630: Dams

Communities can also receive credit for dam failure warning and response programs. The 2017 CRS Coordinator's Manual limits credit to those communities that would flood due to a dam failure.

Because Plaquemines Parish is not vulnerable to a high hazard dam failure, it is not eligible for this credit.

Short Term Strategy Goals

The UNO-CHART team identified goals the parish could implement in the short term to earn CRS credit. The goals are elements the parish could receive credit for with a minimum amount of effort.

- **310: Elevation Certificates**
 - Agree to maintain elevation certificates from the date of the Parish's application to the CRS on
 - Provide copies of elevation certificates completed before applying to the CRS
- **320: Map Information Services**
 - Provide information from the FIRM, the CBRS area, repetitive flood information, and information on natural floodplain functions
- **330: Outreach Projects**
 - Submit existing outreach projects for credit
 - Develop procedures for and draft outreach projects to be disseminated before, during and after a flood
- **350: Flood Protection Information**
 - Place flood related documents in the library
 - Develop a flood help home page on the parish website and link it to other sources of flood protection and flood safety information
- **420: Open Space Preservation**
 - Develop rules and regulations to keep and preserve large areas of natural open space in a more natural state
- **430: Higher Regulatory Standards**
 - Require an architect to sign off on building plans and account for subsidence
 - Improve the parish's BCEGS class
 - Train staff and help them qualify as Certified Floodplain Managers
- **440: Flood Data Maintenance**
 - Add more flood-related layers to the parish's GIS
 - Collect and make available copies of all of the Flood Insurance Rate Maps that have been issued for the parish
- **450: Stormwater Management**
 - Require erosion and sediment control measures on construction sites
 - Investigate water quality measures in new drainage and stormwater facilities
- **510: Floodplain Management Planning**

- Update the hazard mitigation plan to receive more credit under CRS
- Research, locate, update, and adopt plans that would qualify for natural floodplain functions plan credit
- **530: Flood Protection**
 - Continue to complete flood protection measures, such as elevation of buildings
- **610: Flood Warning and Response**
 - Meet with the emergency manager to review the credit criteria and documentation requirements of this activity

Long Term Strategy Goals

The UNO-CHART team further identified goals the parish could implement in the long term to earn CRS credit. The goals are activities the parish could receive credit for with a moderate amount of work over a period of time.

- **330: Outreach Projects**
 - Develop a Program for Public Information
- **340: Hazard Disclosure**
 - Work with real estate agents to establish a program to advise prospective buyers of a property's flood hazard
 - Distribute a brochure to realtors that educates homebuyers about flood risk
- **360: Flood Protection Assistance**
 - Provide property protection advice to homeowners and document that advice
 - Provide advice to owners after a site visit and document that advice
 - Send property protection advisors to FEMA classes on retrofitting
 - Provide financial assistance advice on funding retrofitting measures
- **370: Flood Insurance Promotion**
 - Conduct and include a flood insurance assessment and outreach focused on flood insurance in the Program for Public Information in Activity 330 (Outreach Projects)
 - Provide technical assistance to residents regarding flood insurance
 -
- **420: Open Space Preservation**
 - Provide incentives for developers to preserve open space in rural areas
- **430: Higher Regulatory Standards**
 - Prohibit fill, development, and/or material storage in the floodplain
 - Require new and substantially improved buildings to elevate one foot or more above the base flood elevation.
 - Adopt a higher standard for substantial improvements
 - Protect critical facilities to the 500-year flood level
 - Require non-conversion agreements for new elevated buildings
- **440: Flood Data Maintenance**
 - Establish or document benchmarks that meet the specifications for areas subject to subsidence
- **450: Stormwater Management**
 - Improve regulations that require new developments to construct on site retention or detention basis

- Prepare and adopt a watershed master plan
- **510: Floodplain Management Planning**
 - Prepare and adopt new repetitive loss area analyses
- **520: Acquisition and Relocation**
 - Acquire and clear or relocate buildings out of the floodplain, particularly repetitive loss properties
- **530: Flood Protection**
 - Track retrofitting projects through the permitting process
- **540: Drainage System Maintenance**
 - Update record keeping and inspection procedures for channel debris removal
 - Update record keeping and inspection procedures for problem site maintenance
 - Prepare and adopt a capital improvements program
 - Update record keeping and inspection procedures for stream dumping regulations
 - Update record keeping and inspection procedures for storage basin maintenance
- **620: Levees**
 - Work with levee districts to document their maintenance programs
 - Develop levee failure warning and response plans for each major levee system
 - Advise residents in leveed areas that they could flood if the levee overtopped

Implementing the short and long term goals could help the parish gain credit in the CRS. The table below lists the potential dollars saved by communities in each CRS class.

Table 4 – NFIP Premium Dollars Saved by CRS Class				
Plaquemines Parish		Total	SFHA	X-STD/AR/A99
	PIF	5,365	1,550	966
	Premium	\$4,108,854	\$2,037,373	\$715,400
	Average Premium	\$1,314	\$1,314	\$741
CRS Class				
9	Per Policy	\$26	\$66	\$37
	Per Community	\$137,639	\$101,869	\$35,770
8	Per Policy	\$45	\$131	\$37
	Per Community	\$239,507	\$203,737	\$35,770
7	Per Policy	\$64	\$197	\$37
	Per Community	\$341,376	\$305,606	\$35,770
6	Per Policy	\$89	\$263	\$74
	Per Community	\$479,013	\$407,473	\$71,540
5	Per Policy	\$108	\$329	\$74
	Per Community	\$580,882	\$509,342	\$71,540
4	Per Policy	\$127	\$394	\$74
	Per Community	\$682,750	\$611,210	\$71,540
3	Per Policy	\$146	\$460	\$74
	Per Community	\$784,619	\$713,079	\$71,540
2	Per Policy	\$165	\$526	\$74
	Per Community	\$886,487	\$814,947	\$71,540
1	Per Policy	\$184	\$591	\$74
	Per Community	\$988,356	\$916,816	\$71,540

Data provided by ISO; 4/10/2018.

CRS Policy Recommendations

The recommendations below detail policies the parish could implement for additional CRS credit. The first four categories would entail additional language in a community’s floodplain management regulations, building code, or other ordinance.

1. Regulatory floodplain data

1.1. **Flood of record:** The highest flood of record is used to determine the extent of the regulatory floodplain and the regulatory flood elevation where there is no base flood elevation (BFE) shown on the Flood Insurance Rate Map (FIRM) or where the flood of record is higher than the BFE. (CRS credit: Activity 410 (Floodplain Mapping), NS New Study)

1.2. Best available data: Where there is no BFE shown on the FIRM, the BFEs in another acceptable study are adopted for regulatory purposes. (410, NS New Study)

1.3. No available flood data: Where there is no BFE shown on the FIRM and there is no available flood study, the BFE must be calculated by either the permit applicant or the community before a permit is issued for a new building or substantial improvement. (410, NS New Study)

2. Building protection

2.1. Freeboard: New buildings and substantial improvements of existing buildings will be protected to one foot above the base flood elevation. (430, FRB Freeboard)

2.3. Subdivision set asides: New subdivisions and other large developments that are both in and outside the floodplain are required to have all parcels with buildable sites on the higher ground outside the floodplain. (420, OSI Open Space Incentives)

2.5. Substantial improvement tracking: Improvements and repairs to existing buildings are tracked for five years or more. If during that time the total improvements exceed 50% of the value of the building, the building must be brought up to the flood protection standards for a new building. (430, CSI Cumulative Substantial Improvements)

2.6. Critical facilities: To the extent possible, new critical facilities are located outside the limits of the base floodplain. If they are in the base floodplain, they will be protected from damage and loss of access to the 500-year flood level or the base flood elevation plus three feet, whichever is higher. (430, PCF Protection of Critical Facilities)

3. Other floodplain development standards

3.1. Filling restrictions: In order to maintain the floodplain's capacity to store flood waters in riverine areas, any filling must be compensated by removal of an equal amount of fill. (430, DL1 Development limitations)

3.2. No adverse impact: In riverine areas where the FIRM does not have a floodway mapped, if a development will cause any increase in flood heights, the developer must document that the increase is acceptable to the affected property owners. This may require the developer to purchase a flowage easement or otherwise pay the affected owners for the adverse impact created by the development. (430, OHS Other Higher Standards)

3.3. Hazardous materials: Hazardous materials are prohibited from the regulatory floodplain. This does not apply to small quantities of these materials kept for normal household use or to the continued operations of existing facilities. (430, DL3 Development limitations)

4. Stormwater management

4.1. Manage the 100-year storm: Retention/detention basins in new developments must be designed and sized to ensure that the 100-year storm leaving the property is no greater than it was under pre-development conditions. (450, DS Design Storm)

4.2. Low impact development: The measures used to manage stormwater runoff and drainage are required to use or mimic natural processes that result in the infiltration, evapotranspiration, or other measures to protect water quality and associated aquatic habitat and to minimize adverse impacts downstream. (450, LID Low Impact Development)

5. Loss reduction measures

5.1. Property protection measures: Buildings are elevated, floodproofed, or otherwise retrofitted to protect against flood damage. The protection standard is the same as for new construction, preferably with several feet of freeboard above the BFE. (Activity 530 (Flood Protection))

5.2. Acquisition: Where retrofitting measures are not effective or feasible due to an extreme flood hazard or the buildings' conditions, the buildings are purchased and the sites are cleared. The properties are kept as open space or other use compatible with the hazard. (Activity 520 (Acquisition and Relocation))

5.3. Drainage maintenance: Local streams, and retention/detention basins are periodically inspected for obstructions to flow or loss of storage. When problems are found, they are quickly remediated so the channels and basins can continue to operate to their full capacity. (Activity 540 (Drainage System Maintenance))

5.4. Repetitive loss plans: Each of the community's repetitive loss areas are examined and a list of site-specific loss reduction measures are developed. (510, RLAA Repetitive Loss Area Analysis)

6. Support to individual protection measures

6.1. Outreach: Various measures are used to make people aware of the hazard they face, how they can protect themselves and their properties, and flood insurance. (330, OP Outreach Projects, PPI Program for Public Information)

6.2. Technical information: Detailed information and references are provided for those who want to know more than the simple outreach messages. The information would be provided through libraries and websites. (Activity 320 (Map Information Service) and Activity 350 (Flood Protection Information))

6.3. Technical assistance: Knowledgeable staff meet with interested property owners to help them determine the best approach to reduce their exposure to the danger and damage caused by storms and floods. (360, PPA Property Protection Advice, PPV Protection Advice provided after a site Visit)

6.4. Financial assistance: Owners are advised of outside sources of funding support for a retrofitting or other protection project. Where feasible, the community funds the project or manages a grant to help fund a project, usually cost-shared with the owner. (360, FAA Financial Assistance Advice, Activities 520 and 530).

Sources of Information for Assessment

Multiple sources of information were utilized in the development of these goals. For instance, GCR conducted a CRS Assessment for the parish in 2015. Although GCR's assessment used different research parameters,⁵ Mike Metcalf, the floodplain manager for Plaquemines Parish, shared the report with UNO-CHART to help with this analysis. Other parish officials provided some information via email. The project team gathered remaining information from public sources, such as the parish's website. The UNO-CHART team made multiple attempts to meet one-on-one with Plaquemines Parish to discuss current floodplain management activities but was unsuccessful.

⁵ GCR. (April 2015). *Analysis of the Costs and Benefits of Participation in the National Flood Insurance Program's Community Rating System*.