




## Community Rating System Webinars

420 Open Space Preservation  
Natural Floodplain Functions

- ✓ Call in number: (213) 493-0700
- ✓ Access Code: 194037#

Sponsored by the California  
Department of Water Resources





## Community Rating System Webinars

420 Open Space Preservation  
Natural Floodplain Functions

- ✓ Mute phones - \*6
- ✓ Unmute for questions (\*6)
- ✓ 1 CFM CEC –  
➤ e-mail us if you want it






Page 420-2

National Flood Insurance Program  
Community Rating System

## Coordinator's Manual

April 6, 2013 DRAFT







OMB No. 1660-0022  
Expires: September 1, 2013

National Flood Insurance Program  
Community Rating System

## Coordinator's





## Goals of the CRS

Page 110-1

### New Goals

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




Manual




### 420 Open Space Preservation—Summary

Maximum credit: 2,800 points  
Note that 116 and 12 are not counted toward the maximum credit because their base elements and 050 are mutually exclusive.

#### 422 Elements

- a. **Open space preservation (OSP)**: Up to 1,450 points for keeping land vacant through ownership or regulations.
- b. **Deed restrictions (DR)**: Up to 50 points extra credit for legal restrictions that ensure that parcels credited for OPS will never be developed.
- c. **Natural functions open space (NFOS)**: Up to 350 points extra credit for OPS-credited parcels that are preserved in or restored to their natural state.
- d. **Special flood-related hazards open space (SHOS)**: Up to 50 points if the OPS-credited parcels are subject to one of the special flood-related hazards or if areas of special flood-related hazard are covered by low-density zoning regulations.
- e. **Open space incentives (OSI)**: Up to 250 points for local requirements and incentives that keep flood-prone portions of new development open.
- f. **Low-density zoning (LZ)**: Up to 600 points for zoning districts that require lot sizes of 5 acres or larger.
- g. **Natural shoreline protection (NSP)**: Up to 120 points for programs that protect natural channels and shorelines.

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**NFIP/CRS** 420 Open Space Preservation  Page 420-2

**Objectives:**

- (1) Prevent flood damage by keeping floodprone lands free of development, and
- (2) Protect and enhance the natural functions of floodplains.



**NFIP/CRS** 420 Open Space Preservation  Page 420-4

422.a Open space preservation (OSP)  
Credit criteria

- (1) Parcel must be in the regulatory floodplain  
SFHA + areas regulated in the X Zone



**NFIP/CRS** 420 Open Space Preservation  Page 420-4

- (2) Parcel must be “open space”  
“Open space” = no buildings, storage, or filling



**NFIP/CRS** 420 Open Space Preservation  Page 420-4

“Open space” does not include

- (a) Parcels not counted in the impact adjustment map (open bodies of water, federal land, etc.)



**NFIP/CRS** 420 Open Space Preservation  Page 400-8 - 9

403.b. Mapping aSFHA  
Exclude areas not part of impact adjustment

- 1. Open water > 10 acres
- 2. Federal land > 10 acres
- 3. Optional: areas exempt from local regulations
  - Owned by another community
  - State property
  - Indian lands

**NFIP/CRS** 420 Open Space Preservation  Page 420-4

“Open space” does not include

- (b) Areas with impervious surfaces



**NFIP/CRS** 420 Open Space Preservation   
Page 420-4

“Open space” does not include  
(c) Areas with buildings on them



**NFIP/CRS** 420 Open Space Preservation   
Page 420-5

“Open space” does not include  
(d) Where fill, storage, or other encroachments are allowed



**NFIP/CRS** 420 Open Space Preservation   
Page 420-5

“Open space” does not include  
(e) Streets, railroad, levee, linear rights of way, etc.



**NFIP/CRS** 420 Open Space Preservation   
Page 420-5

“Open space” does not include  
(e) Streets, railroad, levee, linear rights of way, etc.  
Including ditch or channel rights of way



**NFIP/CRS** 420 Open Space Preservation   
Page 420-5

“Open space” does not include  
(e) Streets, railroad, levee, linear rights of way, etc.  
Exception: waterside greenways



**NFIP/CRS** 420 Open Space Preservation   
Page 420-5

“Open space” does not include  
(f) Land not intended to be preserved as open space



**NFIP/CRS** **420 Open Space Preservation**  **Page 420-5**

(3) Parcel must be preserved as “open space”

(a) Publicly owned land, city park, beach, school field, etc.



**NFIP/CRS** **420 Open Space Preservation**  **Page 420-6**

(3) Parcel must be preserved as “open space”

(b) Private wildlife or nature preserve, church camp, scout camp, hunting club, non-profit golf course



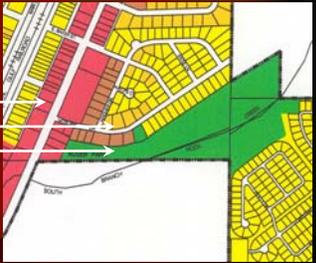
**NFIP/CRS** **420 Open Space Preservation**  **Page 420-6**

(3) Parcel must be preserved as “open space”

(c) Prohibitory development regulations (no buildings, filling or storage)

**Zoning Districts**

- Commercial
- Single Family Res.
- Conservation



**NFIP/CRS** **420 Open Space Preservation**  **Page 420-8**

**Credit Points**

OSP = 1,450 points, based on the amount of the SFHA that is preserved as open space

**Impact Adjustment**

OSP credit is adjusted based on the ratio of preserved open space areas in the regulatory floodplain to the area of the SFHA. Section 403 has additional information on impact adjustments for areas. The areas qualifying for OSP need to be marked on an impact adjustment map.

$$rOSP = \frac{aOSP}{aSFHA}$$

where

- aOSP = the size of the area(s) preserved as open space (OSP) in the regulatory floodplain, and
- aSFHA = the size of the community's SFHA shown on its FIRM

**NFIP/CRS** **400 Impact Adjustment**  **Page 400-5**

Impact adjustment: how much of the flood problem is covered by the activity?

- 400 Series: How much of the SFHA is affected?
- Need an impact adjustment ratio: percentage of the SFHA affected by the activity

$$rOSP = \frac{aOSP}{aSFHA}$$

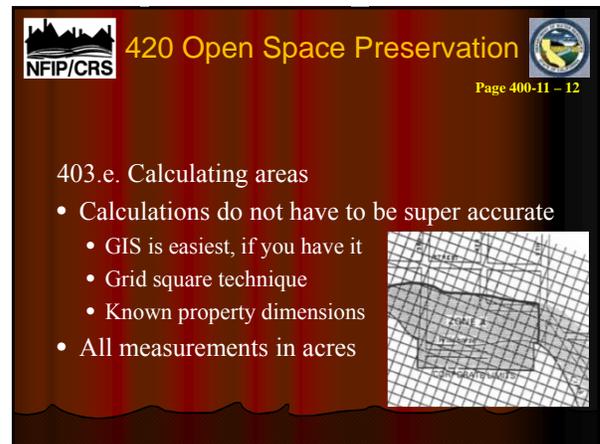
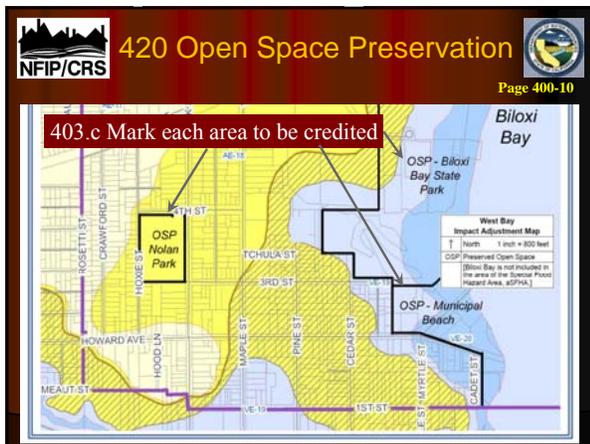
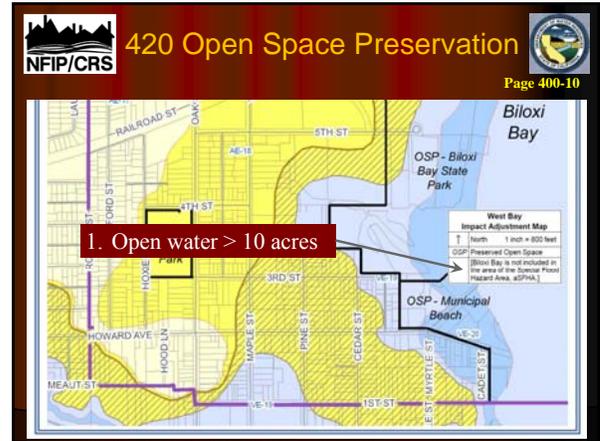
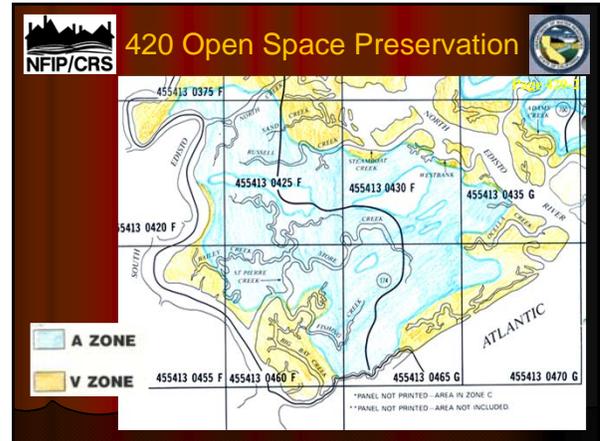
- Need an Impact Adjustment Map

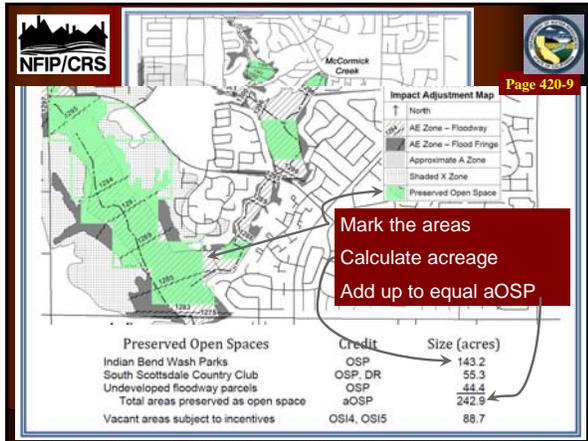
**NFIP/CRS** **420 Open Space Preservation**  **Page 420-7**

Credit points x impact adjustment

1,450 max points times the impact adjustment

$$cOSP = 1,450 \times rOSP = 1,450 \times \frac{aOSP}{aSFHA}$$



**420 Open Space Preservation** Page 400-6

Table 402-1. Impact Adjustments for Areas

Activity	Affected Elements	Denominator	Optional Minimum
320 (Map Information Service)	MI 3 - MI 7	aSFHA	0.10
410 (Floodplain Mapping)	NS, SR, HSS, FWS	aSFT	0.10
	OSP, DR, NFOS, LZ	aSFHA	None
420 (Open Space Preservation)	OSI	aSFHA	0.10
	NSP	total length of shoreline	0.10
430 (Higher Regulatory Standards)	DL, FRB, FDN, CSI, LSI, PCF, ENL	aSFHA	0.10
	CAZ	aSFHA	0.5/0.1
440 (Flood Data Maintenance)	AMD	aSFHA	0.10
450 (Stormwater Management)	SMR, WMP	area of the watershed	0.15
540 (Drainage System Maintenance)	CDR, PSM, CiP	number of drainage components	0.10
	SBM	number of storage basins	0.10

aSFT is the area of the SFHA for the community at the time of adoption of a study. Elements not listed do not have an impact adjustment calculation.

**420 Open Space Preservation** Page 420-10

Documentation

- Master list of all parcels to be credited
- Documentation that each parcel will be preserved
- If credit for prohibitory regulations – the regulations
- If outside the SFHA – the regulations for the area
- Impact adjustment map

**420 Open Space Preservation** Page 420-11

422.b Deed restrictions (DR)  
Extra credit to guarantee parcel stays open

DEED  
This Deed is made on June 22, 1933  
G21AGA  
BETWEEN TOWNSHIP OF WAYNE, IN THE COUNTY OF PASSAIC, a municipal corporation of the State of New Jersey,  
whose post office address is 475 Valley Road, Wayne, New Jersey, referred to as the Grantor.  
AND ALGIRDAS BREIMER and IRMGARD BREIMER, his wife,  
whose address is 78 Hobson Avenue, Wayne, New Jersey, referred to as the Grantee,  
Transfer of Ownership. The Grantor grants and conveys (transfers ownership of) the property described below to the Grantee. This transfer is made for the sum of TWO THOUSAND ONE HUNDRED DOLLARS (\$2,100.00). The Grantor acknowledges receipt of this money.  
Tax Map Reference. (N.J.S.A. 46:15-2.1) Municipality of Wayne  
Block No. 19  
Lot No. 34  
Account No.

**420 Open Space Preservation** Page 420-11

422.b Deed restrictions (DR)

- Parcel must qualify for OSP
- Deed restriction must cover:
  - No new buildings may be allowed on the property,
  - The restriction runs with the land, and
  - The restriction cannot be changed by a future owner

This conveyance is conditioned upon the acquisition by an adjoining property owner so as to preclude the creation of a non-conforming lot, and this parcel shall become part and parcel of said adjoining lot. The acquisition of this lot is not to be utilized in conjunction with a subdivision, and no building will be constructed on said lot. Said restrictions shall be deemed to run with the land.

This conveyance is subject to all restrictions, terms, conditions and facts as of record.

Promises by Grantor. The Grantor promises that the Grantor has done no act to encumber the property. This promise is called a "covenant as to grantor's

**420 Open Space Preservation** Page 420-11

All FEMA grants require a deed restriction  
Many park and conservation grants require one

Hillery Park  
Playground  
Renovation  
PARKS - WATER BOND - 2000  
STATE OF CALIFORNIA  
DEPARTMENT OF PARKS AND RECREATION  
Beth Coleman, Director, California Department of Parks and Recreation  
Mile Christmas, Secretary for Recreation  
Arnold Schwarzenegger, Governor  
Funded by the 2000 Parks Bond Act

**NFIP/CRS** **420 Open Space Preservation**  Page 420-13

422.c Natural functions open space (NFOS)

Open space in its natural state provides more benefits:

- Flood storage
- Reduced sedimentation
- Water quality
- Aquifer recharge
- Richer soils
- Biodiversity
- Habitat



**NFIP/CRS** **420 Open Space Preservation**  Page 420-14

422.c Natural functions open space (NFOS)

Credit criteria:

1. All NFOS(1 – 5)
  - (a) OSP credit
  - (b) NFOS1 is a pre-requisite for the others
  - (c) Is managed to stay in its natural state
  - (d) Plot on impact adjustment map



**NFIP/CRS** **420 Open Space Preservation**  Page 420-14

NFOS1 Parcel in its natural state

Examples:

- Areas not built on
- Restored to natural state
- Designated by recognized program

Not credited:

- Scenic designation
- Recreational areas
- Clear cutting allowed
- Dune/beach nourishment



**NFIP/CRS** **420 Open Space Preservation**  Page 420-15

NFOS2 – Parcel in a natural functions protection plan

NFOS3 – Parcel is critical habitat

**HABITAT CONSERVATION PLAN**  
A PLAN FOR THE PROTECTION OF SEA TURTLES AND ANASTASIA ISLAND BEACH MICE ON THE BEACHES OF ST. JOHNS COUNTY, FLORIDA



Prepared for:  
U.S. FISH AND WILDLIFE SERVICE

**SALMON HABITAT PROTECTION AND RESTORATION STRATEGY**



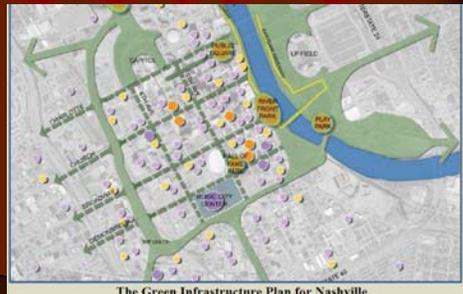
WRUA-10  
Puyallup Watershed

WRUA-12  
Chambers/Clover Creek Watershed

March, 2008

**NFIP/CRS** **420 Open Space Preservation**  Page 420-15

NFOS4 – Parcel in a designated open space corridor



**The Green Infrastructure Plan for Nashville**

**NFIP/CRS** **420 Open Space Preservation**  Page 420-15

NFOS5 – Parcel has educational materials



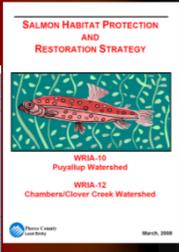
**NFIP/CRS 420 Open Space Preservation**  Page 420-16 – 17

NFOS Documentation

(1) Report or  
(2) Letter or form signed by a professional







**NFIP/CRS 420 Open Space Preservation**  Page 420-17

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

Separate credit described in special hazard supplements

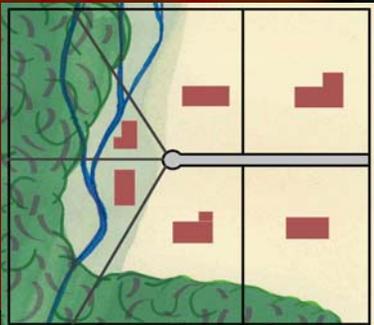
- ✓ Uncertain flow paths
- ✓ Closed basin lakes
- ✓ Land subsidence
- ✓ Tsunamis




**NFIP/CRS 420 Open Space Preservation**  Page 420-18 – 22

Conventional Subdivision

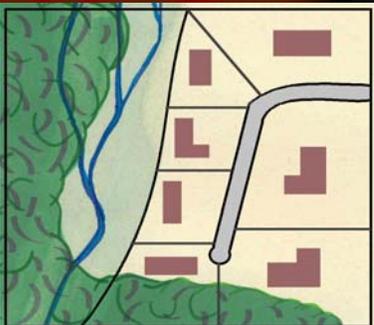
6 – 1 acre lots  
2 w/buildings  
in floodplain



**NFIP/CRS 420 Open Space Preservation**  Page 420-18 – 22

Thoughtful Subdivision

7 – ½ acre lots  
All buildings out  
Open Space Incentives (OSI)



**NFIP/CRS 420 Open Space Preservation**  Page 420-19

OSI credit criteria

OSI 1	Set aside all of the floodplain as open space	250
OSI 2	Provide a building site for each lot on high ground	150
OSI 3	Do OSI 2 "to the extent possible"	65
OSI 4	TDRs, etc. to encourage staying out of the floodplain	70
OSI 5	Allow cluster development through PUDs	25
OSI 6	Tax incentives to keep land open	25
OSI 7	Land use plan recommends open space	10

**NFIP/CRS 420 Open Space Preservation**  Page 420-24

OSI documentation

- ✓ Ordinance language
- ✓ Site plans/final plats

11.179 (b) In addition to approved Plan, Special Conditions, or Conditional Use Map Development Schedule, the applicant shall submit the following information to the Department of Planning and Community Development:

**CONDOMINIUMS**

11.180 Definition: A condominium is a building, or group of buildings, which are individually owned, and the structure, common areas and facilities are owned by all of the unit owners on a proportional, undivided basis.

11.190 (b) (1) A proposed plan for new construction of a condominium is reviewed through the planned development process. A proposed plan for the conversion of existing units into condominiums is reviewed through the planned development process. The proposed plan shall include the following information:

**CLUSTER DEVELOPMENT**

11.191 (b) (1) A proposed plan for new construction of a cluster development is reviewed through the planned development process. A proposed plan for the conversion of existing units into cluster development is reviewed through the planned development process. The proposed plan shall include the following information:



**NFIP/CRS** 420 Open Space Preservation  Page 420-24

422.f Low density zoning (LZ)

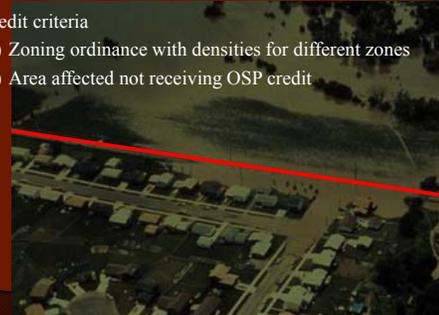


**NFIP/CRS** 420 Open Space Preservation  Page 420-25

422.f Low density zoning (LZ)

Credit criteria

- (1) Zoning ordinance with densities for different zones
- (2) Area affected not receiving OSP credit



**NFIP/CRS** 420 Open Space Preservation  Page 420-25

422.f Low density zoning (LZ)

Credit points

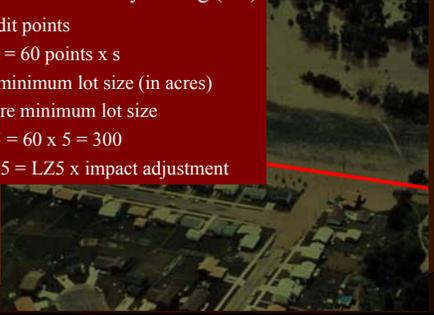
$LZs = 60 \text{ points} \times s$

$s = \text{minimum lot size (in acres)}$

5 acre minimum lot size

$LZ5 = 60 \times 5 = 300$

$eLZ5 = LZ5 \times \text{impact adjustment}$



**NFIP/CRS** 420 Open Space Preservation  Page 420-27



**NFIP/CRS** 420 Open Space Preservation  Page 420-27

422.g Natural shoreline protection (NSP)

- ✓ Regulations on private property
- ✓ Policy for public lands
- ✓ Programs that restore channels or shorelines



**NFIP/CRS** 420 Open Space Preservation  Page 420-27

422.g Natural shoreline protection (NSP)

Credit criteria

- Channels: no rip rap, dredging, filling, removal of vegetation
- Ocean shores: no dune alterations, beach nourishment, seawalls, jetties



**NFIP/CRS** **420 Open Space Preservation**

Cumulative credit  
OSP + DR + NFOS + SHOS + NSP

**NFIP/CRS** **420 Open Space Preservation** Page 420-28

**423 Credit Calculation**

$$c420 = (OSP \times rOSP) + (DR \times rDR) + cNFOS + cSHOS + cOSI + cLZ + (NSP \times rNSP), \text{ where}$$

$$cNFOS = (NFOS 1 \times rNFOS 1) + (NFOS 2 \times rNFOS 2) + (NFOS 3 \times rNFOS 3) + (NFOS 4 \times rNFOS 4) + (NFOS 5 \times rNFOS 5), \text{ and}$$

$$cOSI = (OSI 1 \times rOSI 1) + (OSI 2 \times rOSI 2) + (OSI 3 \times rOSI 3) + (OSI 4 \times rOSI 4) + (OSI 5 \times rOSI 5) + (OSI 6 \times rOSI 6) + OSI 7, \text{ and}$$

$$cLZ = \sum(LZ s \times rLZ s)$$

(Let ISO do it)

**NFIP/CRS** **420 Open Space Preservation**

Verification

Office review

10 largest sites + sample

- ✓ Documentation from owner
- ✓ NFOS documentation
- ✓ Regulations: permits

Field check of sites

- ✓ Check of aerial photos

**NFIP/CRS** **EHP (Appendix F)** Page 500-14

Environmental and Historic Preservation (EHP)

New rules for four activities

- Activity 520 (Acquisition and Relocation)
- Activity 530 (Flood Protection)
- Activity 540 (Drainage System Maintenance)
- Activity 620 (Levees)

- ✓ New EHP certifications signed off by a local official
- ✓ In Appendix F of the 2013 Coordinator's Manual
- ✓ They treat Federally-funded projects differently because more EHP regulations apply to Federal actions

**NFIP/CRS** **EHP (Appendix F)** Appendix F

Activity 520 (Acquisition and Relocation)

- ✓ EHP rules *only* affect projects implemented after the date of the 2013 Manual
- ✓ Was it an historic building?
- ✓ If the project included relocation, was the new site properly developed?

**NFIP/CRS** **EHP (Appendix F)** Appendix F

**Certification Statement for Acquisition and Relocation Projects**

Federal Funding	No Federal Funding	
		All properties marked "FEMA Funded" on AW-520-1(EHP) were included in the above description of the FEMA-funded project.
		State and local requirements: In addition to federal laws, implementing regulations, and executive orders, this project took into consideration the requirements of all state and local environmental and historic preservation laws, regulations, and permits that apply to this type of project. EHP rules only affect projects after the date of the 2013 Manual.
		National Historic Preservation Act: If any acquired or relocated structure affected by this project was 50 years of age or older at the time of the acquisition, communication with the State Historic Preservation Officer or Tribal Historic Preservation Officer (if on tribal land or reservation) took place to determine if the structure was either on or eligible for the National Register of Historic Places (historic property) and to resolve any adverse effect(s) to the historic property.

**NFIP/CRS** **EHP (Appendix F)** **Appendix F**

**Activity 530 (Flood Protection)**

- ✓ EHP rules only affect projects implemented after the date of the 2013 Manual
- ✓ Was it an historic building?
- ✓ If a flood control project, lots of questions

**NFIP/CRS** **EHP (Appendix F)** **Appendix F**

**Activity 540 (Drainage System Maintenance)**

- ✓ Does the program have all state and local permits?
- ✓ Consistent with the Endangered Species Act?
- ✓ Have all required 404 permits?
- ✓ For ongoing programs
- ✓ Certification needed at cycle visit

**NFIP/CRS** **EHP (Appendix F)** **Appendix F**

**540 (Drainage System Maintenance)**

**Compliance with Environmental and Historic Preservation Requirements**  
(see Section 541.04) in the CRS Coordinator's Manual.

*(On right side of the table below, initial to signify that the described steps were (or are) taken. Sign at the end of the certification. More information on these programs can be found in Figure 500-5 in the Coordinator's Manual.)*

**NOTE:** To receive credit under Activity 540, the part-certification of compliance with environmental and historical preservation requirements incorporated in this certification must be submitted with a CRS application, a modification, or a cycle verification.

All Projects	Certification Statement for Drainage System Maintenance
	<p><b>State and local requirements:</b> In addition to federal laws, implementing regulations, and executive orders, are drainage maintenance activities take into consideration the applicable requirements of all state and local environmental and historic preservation laws, ordinances, and permits.</p> <p><b>Protection of threatened and endangered species (Endangered Species Act):</b> Consideration is given to the protection and preservation of threatened and/or endangered species (including plants and animals and their habitat) whose protection may be threatened by the maintenance activities. Consultation takes place with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service if activity is in a coastal area and the applicable state agencies for state-protected species and/or their habitat. Any recommendations made by the federal or state agencies are carried out.</p> <p><b>Drudge and fill materials (Clean Water Act, Section 402):</b> Consideration is given to all permit requirements for discharging drudge and fill material into waters of the United States, including wetlands, and consultation with the U.S. Army Corps of Engineers when place. Any recommendations made by the Corps are carried out.</p> <p><b>For all activities that involve heavy equipment and result in the disturbance and release of sediment, such as dredging, channel alterations, bank stabilization, dune removal, and other activities, consultation is given to any permit requirements under the Clean Water Act, Section 404. Consultation with the U.S. Army Corps of Engineers when place. Any recommendations made by the Corps are carried out.</b></p>

I certify that the items initialed above are correct to the best of my knowledge.

Name (printed): \_\_\_\_\_  
 Name (printed): \_\_\_\_\_  
 Title: \_\_\_\_\_ Date: \_\_\_\_\_

**NFIP/CRS** **EHP (Appendix F)** **Appendix F**

**Activity 620 (Levees)**

- ✓ Does the program have all state and local permits?
- ✓ Consistent with the Endangered Species Act?
- ✓ Have all required 404 permits?
- ✓ For ongoing programs
- ✓ Certification needed at cycle visit

**NFIP/CRS** **Other Credits** **Appendix F**

**Other Natural Floodplain Functions Credits**

- ✓ Activity 320 (Map Information Service)
- ✓ Activity 330 (Outreach Projects)
- ✓ Activity 350 (Flood Protection Information)
- ✓ Activity 430 (Higher Regulatory Standards)
- ✓ Activity 440 (Flood Data Maintenance)
- ✓ Activity 450 (Stormwater Management)
- ✓ Activity 510 (Floodplain Management Planning)

**NFIP/CRS** **Other Credits** **Appendix F**

Activity 320 (Map Information Service)	Max Credit
MI 1 - Read the FIRM for inquirers	30
MI 2 - LIMWA/floodway info/CBRS area	20
MI 3 - Other flood problems not shown on FIRM	20
MI 4 - Flood depth data (formerly in Activity 360)	20
MI 5 - Special flood-related hazards	20
MI 6 - Historical flood information/repetitive flood losses	20
MI 7 - Natural floodplain functions	20
<b>Activity max</b>	<b>90</b>

**Activity 320 (Map Information Service)**



**Other Credits**




**HABITAT CONSERVATION PLAN**  
 A PLAN FOR THE PROTECTION OF SEA TURTLES  
 AND ANASTASIA ISLAND BEACH MICE ON THE  
 BEACHES OF ST. JOHNS COUNTY, FLORIDA



Activity 510 (Floodplain Management Planning)

*Prepared for:*  
 U.S. FISH AND WILDLIFE SERVICE

**SALMON HABITAT PROTECTION  
 AND  
 RESTORATION STRATEGY**



WRIA-10  
 Puyallup Watershed

WRIA-12  
 Chambers/Clover Creek Watershed

Pierce County  
 Land Bank

March, 2008

**Other Credits**




211.c. Class 4 Prerequisites

(4) 100 points for natural floodplain functions

- ✓ 420 – Natural functions open space (NFOS)
- ✓ 420 – Natural shoreline protection (NSP)
- ✓ 430 – Prohibition of fill (DL1)
- ✓ 440 – Additional map data (AMD12)
- ✓ 450 – Managing the volume of stormwater runoff (SMR)
- ✓ 450 – Low impact development (LID)
- ✓ 450 – Watershed management plan (WMP) items 3, 5, 6, 7
- ✓ 450 – Erosion and Sediment Control (ESC)
- ✓ 450 – Water Quality (WQ)
- ✓ 510 – Natural floodplain functions plan (NFP)

211.d. Class 1 Prerequisites: 150 points

**Questions?  
 More Webinars?**





**SALMON HABITAT PROTECTION  
 AND  
 RESTORATION STRATEGY**



WRIA-10  
 Puyallup Watershed

WRIA-12  
 Chambers/Clover Creek Watershed

Pierce County  
 Land Bank

March, 2008

**Hilliers Park  
 Playground  
 Renovation**



Back to Nature  
 Natural Features  
 and Landmarks

Wash. State Dept. of Ecology  
 2008