



# Floodplain Management Assessment

Chehalis River Basin Flood Authority

## Floodplain Management Assessment

# Floodplain Management Assessment

## **Objective:**

1. Assess the status of floodplain management in the Basin.
2. Recommend community and Basin-level efforts.
3. Focus on flood loss prevention and reduction rather than protecting natural floodplain functions.

## Project Timetable

March – May	Research
June	Community visits
August	Draft reports: <ul style="list-style-type: none"><li>→ Community reports</li><li>→ Repetitive loss report</li><li>→ CRS report</li><li>→ Basin-wide report</li></ul>
September	Report feedback, revised drafts
October	Final reports
October –	Technical assistance



# Floodplain Management Assessment

DRAFT

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## Floodplain Mapping

6 – Corporate limits not up to date

7 – Old data, should be restudied (primarily Grays Harbor County)

### Recommendations

→ Pursue new maps as noted in the community reports

→ Regulate to the flood of record where  $>$  BFE

→ Flood Authority should provide assistance to these efforts



## Floodplain Development



## Floodplain Development

Floodplain varies from 5% to 75% of the community

6 – Floodplains have significant open areas that could be developed

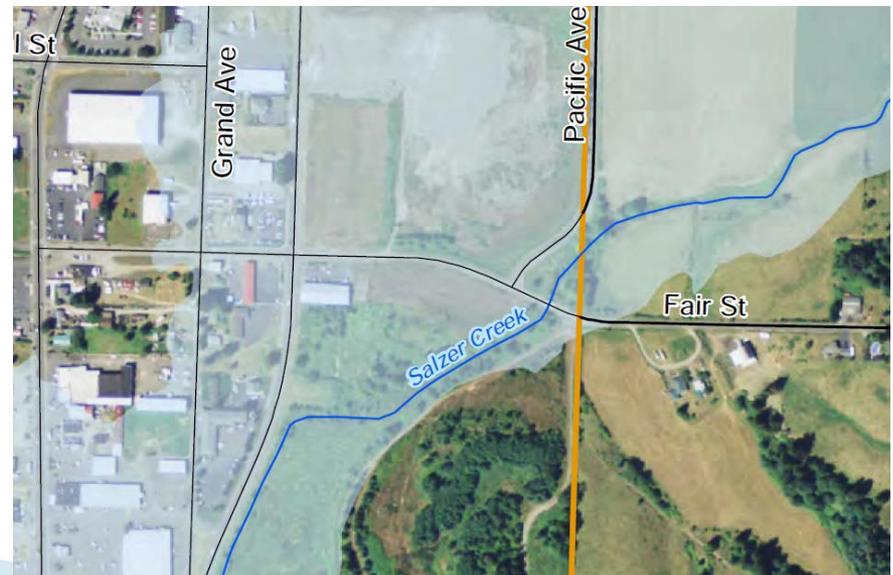
7 – Comprehensive plans do not address floodplain development

5 – Zoning ordinances do not have floodplain or low density uses

5 cities' urban growth areas are mostly out of floodplain

But: GMA does not encourage  
low density development

Expect continued growth



## Floodplain Development

### Recommendations: three part approach

1. Preserve areas as open space using public ownership, tax incentives, regulations, and other means
2. When plans and zoning ordinances are up for revision, add criteria to guide damage-prone development away from the floodplain
3. Set effective flood protection standards for new construction in the floodplain



## Flood Hazard Area Regulations

A community's floodplain construction regulations can be found in its

- Flood hazard area ordinance
- Building code
- Critical areas ordinance
- Shoreline management regulations

12 – Standards differ in the different ordinances

6 – Regulations do not meet all current NFIP requirements

11 – Regulatory provisions above NFIP criteria



## Flood Hazard Area Regulations

NFIP: lowest common denominator for the nation

Higher standards are recommended

Freeboard example:

- NFIP standard: build to the base flood elevation (BFE)
- 2007 or 2009 floods were up to 2 feet above the BFE in some places
- Freeboard: build higher for better protection
- Insurance premium reduction



## Flood Hazard Area Regulations

### PREMIUM AT BASE FLOOD ELEVATION

\$1,410/year  
**\$14,100 / 10 years**

### PREMIUM AT 3 FEET ABOVE BASE FLOOD ELEVATION

\$427/year  
**\$4,270 / 10 years**

- 
- 
- 3 communities have no freeboard
  - 7 communities have 1 foot of freeboard for residences
  - 2 communities have 2 feet of freeboard for residences
  - 0 communities have 3 feet of freeboard for residences
  - 6 communities have different freeboards for commercial buildings and critical facilities

## Flood Hazard Area Regulations

### Recommendations

#### → Flood Authority:

- Sponsor a meeting to review appropriate standards
- Develop example ordinance language

#### → Communities:

- Bring ordinances up to NFIP requirements
- Add appropriate higher standards
- Get all regulations to be consistent



# Floodplain Management Assessment



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## Regulations Administration

Regulatory staff ranges from 1 part time to 4 full time

Smaller communities issue few floodplain permits

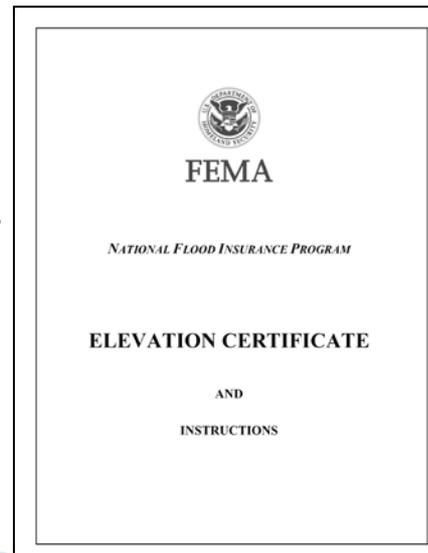
2 Communities' staff have been to floodplain management training

2 Certified Floodplain Managers (CFM)

Lowest BCEGS staffing, training scores: 16% - 70%

## Recommendations

- Use procedures and checklists
- Maintain Elevation Certificates
- Go to training
- On call assistance



U.S. DEPARTMENT OF HOUSING & URBAN DEVELOPMENT FEDERAL EMERGENCY MANAGEMENT AGENCY National Flood Insurance Program		ELEVATION CERTIFICATE		OMB No. 2560-0008 Expiration Date: July 31, 2015
SECTION A - PROPERTY INFORMATION		FBI INSURANCE COMPANY USE		
A1. Building Owner's Name	A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No. 1 or RC, Room and Box No.)		FBI Insurer	
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)	City		Contractor Name (optional)	
A4. Building Use (e.g., Residential, Commercial, Industrial, Address, Accessory, etc.)		A5. Latitude/Longitude, Lat. _____ Long. _____		Insured Date: <input type="checkbox"/> NAD 1983 <input type="checkbox"/> NAD 1983
A6. Method of Measuring Elevation (see instructions for details)		A7. Building Elevation (feet)		AP Code
SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION				
B1. MFP Community Name & Community Number	B2. County Name	B3. State		
B4. Map/Firm Number	B5. Section	B6. Flood Zone	B7. Flood Zone	B8. Flood Zone
SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)				
C1. Building Information as Reported: <input type="checkbox"/> Construction, <input type="checkbox"/> Existing, <input type="checkbox"/> Other/Structure				
C2. Elevation: Zone A1-A30, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, A16, A17, A18, A19, A20, A21, A22, A23, A24, A25, A26, A27, A28, A29, A30, A31, A32, A33, A34, A35, A36, A37, A38, A39, A40, A41, A42, A43, A44, A45, A46, A47, A48, A49, A50, A51, A52, A53, A54, A55, A56, A57, A58, A59, A60, A61, A62, A63, A64, A65, A66, A67, A68, A69, A70, A71, A72, A73, A74, A75, A76, A77, A78, A79, A80, A81, A82, A83, A84, A85, A86, A87, A88, A89, A90, A91, A92, A93, A94, A95, A96, A97, A98, A99, A100, A101, A102, A103, A104, A105, A106, A107, A108, A109, A110, A111, A112, A113, A114, A115, A116, A117, A118, A119, A120, A121, A122, A123, A124, A125, A126, A127, A128, A129, A130, A131, A132, A133, A134, A135, A136, A137, A138, A139, A140, A141, A142, A143, A144, A145, A146, A147, A148, A149, A150, A151, A152, A153, A154, A155, A156, A157, A158, A159, A160, A161, A162, A163, A164, A165, A166, A167, A168, A169, A170, A171, A172, A173, A174, A175, A176, A177, A178, A179, A180, A181, A182, 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A2012, A2013, A2014, A2015, A2016, A2017, A2018, A2019, A2020, A2021, A2022, A2023, A2024, A2025, A2026, A202				

## Flood Insurance

4,788 flood insurance policies in the 12 communities

\$4,074,345 total annual premium

\$985,958,300 total coverage

2,148 total paid claims

\$82,254,992 amount of paid claims

→ Flood insurance policies listed under the wrong community

→ Many areas still under insured

## Recommendations

→ Communities: Inform residents about flood insurance

→ Flood Authority: Prepare example public information materials

- Coordinated effort to educate insurance agents

## Flood Hazard Mitigation

- 10 communities have mitigation plans
- 6 communities have FCAAP plans
- Lots of retrofitting

### Recommendations

- Update plans
- Inform residents
- Flood Authority:
  - Model mitigation procedures
  - Prepare example public information materials

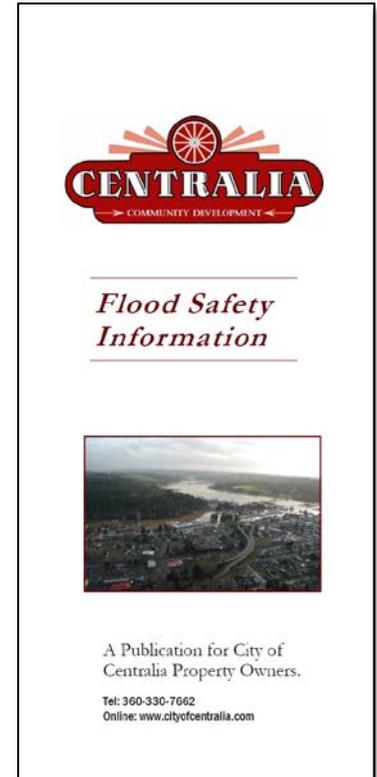


## Public Information Activities

- Lots of potential to get property owners to protect themselves
- 4 communities have ongoing programs

## Recommendations

- Inform residents about the local flood hazard, regulations, flood insurance, and retrofitting
- Flood Authority:
  - Prepare example public information materials
  - Develop a central website all can link to



## **Chehalis River Basin Repetitive Flood Loss Strategy**

**September 16, 2014 DRAFT**



**French & Associates, LTD.**  
2601 Havelock Court  
Steilacoom, WA 98388

## **Introduction**

### **The problem:**

**Repetitive Loss Data**

**Repetitive Loss Areas**

### **The tools:**

**Regulatory Tools**

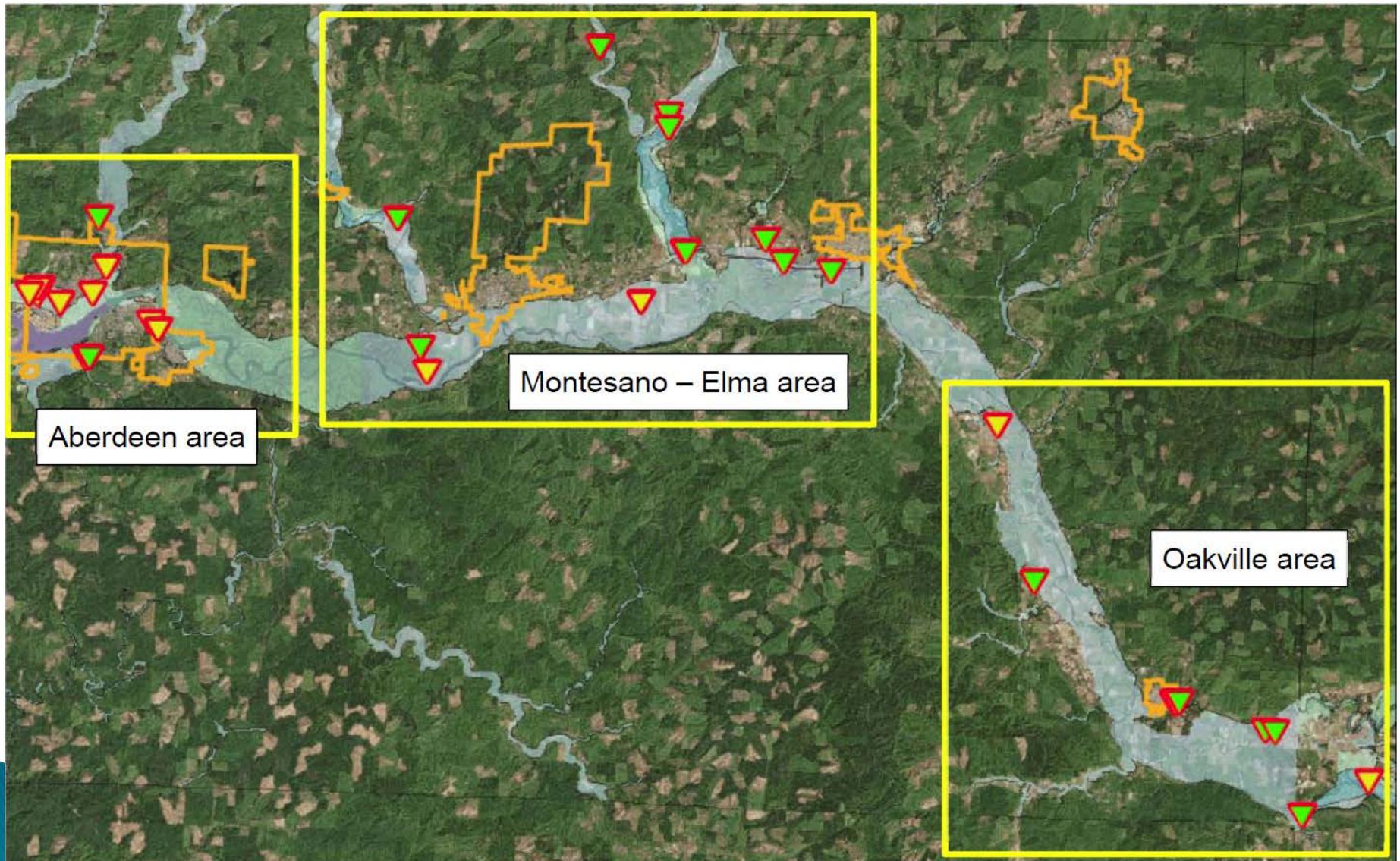
**Flood Control Measures**

**Retrofitting**

**Public Information**

## **Recommendations**

# Floodplain Management Assessment



## Findings

- 55 repetitive flood loss areas in the Chehalis Basin
- In cities and rural areas
- 90% are subject to overbank flooding by a large river or creek
- Approximately 1,850 buildings
  - Most of the buildings are single family homes
  - Most are on crawlspace or elevated foundations
  - 82% are considered in “good” or “fair” condition
  - 55% of the areas already have some mitigated buildings
- These factors make elevation and retrofitting viable solutions

## Recommendations for Communities

→ Use all the tools:

- Regulations
- Flood control
- Retrofitting
- Public information

→ Prepare repetitive loss area analyses

→ Maximize owner involvement and self-help

→ Coordinate with CRS activities

→ Coordinate with outside funding support

## Recommendations for the Flood Authority

The Authority has \$1.5 million to address flood losses

→ Devote \$1.4 million to projects on a 75-25 cost share

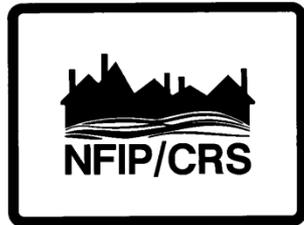
- Prerequisite: community prepares an area analysis
- Funding criteria should be consistent with other programs

→ Devote \$100,000 to technical assistance:

- Public information materials
- Support community staff who help interested property owners
- Guidance on repetitive loss area analyses
- Work with State and FEMA staff to improve their grant programs

# Floodplain Management Assessment

## **Chehalis River Basin Community Rating System Program Review**



**September 16, 2014 DRAFT**



**French & Associates, LTD.**  
2601 Havelock Court  
Steilacoom, WA 98388

- 100 Introduction
- 200 Procedures
- 300 Public Information Activities
- 400 Mapping and Regulations
- 500 Flood Damage Reduction
- 600 Flood Warning and Response
- 700 Community Classification
- Summary and Recommendations

# Floodplain Management Assessment

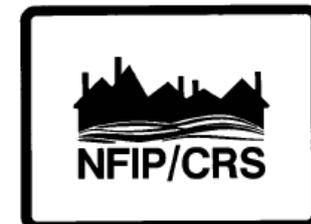
- Starting new activity
- Implementing the activity
- CRS documentation

## Costs



- Direct dollar savings

## Benefits



# Floodplain Management Assessment

## 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			\$54	\$0
	Per Community			\$325	\$0
07	Per Policy			\$108	\$0
	Per Community			\$651	\$0
06	Per Policy			\$108	\$0
	Per Community			\$651	\$0
05	Per Policy			\$108	\$0
	Per Community			\$651	\$0
04	Per Policy			\$108	\$0
	Per Community	\$336,899	\$336,249	\$651	\$0

Each class = \$50 - \$90 per SFHA policy

If every community became a Class 5:

> \$1 million saved each year in reduced flood insurance premiums

Lewis County: Class 7

Chehalis: Class 6

Centralia: Class 5

Thurston County: Class 4

# Floodplain Management Assessment

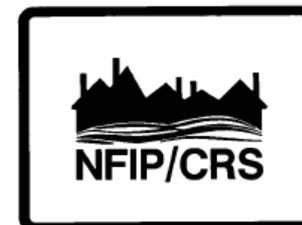
## Costs

- Starting new activity
- Implementing the activity
- CRS documentation



## Benefits

- Direct dollar savings
- Better organized programs
- New programs, especially public information
- Reason to keep implementing good programs



# Floodplain Management Assessment

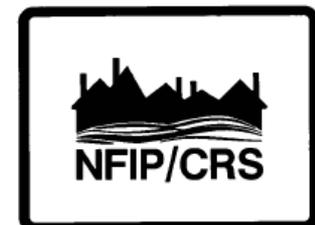
## 94 Credited Elements Reviewed

### Estimated 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 – 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					✓		✓	✓	✓	✓	✓		✓

## Findings

- All communities can benefit from participating
  - Direct savings in flood insurance premiums
  - Better organized and managed programs
- All can participate (Napavine must be in NFIP > 1 year)
- All could be a Class 9 or better based on existing activities
- Will need a Community Assistance Visit
- Repetitive loss communities have additional work
- 4 communities in CRS can expect changes with the 2013 *Manual*
- Everyone could use some help



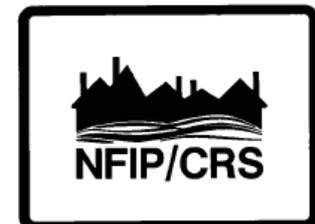
## Recommendations

### → Flood Authority:

- Sponsor a meeting of interested officials
- Prepare model materials that can receive credit
- Provide technical assistance

### → Communities:

- Learn more about the CRS
- Consider the non-quantifiable benefits
- Then decide



## What is the Status of Floodplain Management?

Doing well, but improvements would help:

- All communities have the basic framework
- Different levels of map quality
- Different levels of staff expertise
- Need to upgrade regulations and make them consistent
- Doing various activities that exceed national norms
- Property owners are mitigating, but more could be done
- Repetitive loss areas should be a mitigation priority
- The NFIP and the CRS provide incentives to improve things

# Floodplain Management Assessment

Recommendations	Community Assessments	Rep Loss Strategy	CRS Review
Host meetings for communities			
On regulatory standards	✓	✓	✓
On the Community Rating System			✓
Sponsor training on administering floodplain management regulations	✓	✓	✓
Prepare templates, models, and examples			
Regulatory language for consistency and for higher standards	✓	✓	✓
Regulatory procedures and records	✓		✓
Permit review and inspection checklists	✓		✓
Drainage maintenance and other mitigation programs		✓	✓
Public information materials	✓	✓	✓
Budget \$1,500,000 to mitigate flood losses			
Develop criteria to fund \$1,400,000 to retrofit repetitive loss properties		✓	
Provide technical assistance to repetitive loss communities		✓	✓
Develop a central website that all communities can link to	✓	✓	✓
Provide on call technical assistance to community staff			
On regulatory issues, such as permit review and records	✓		✓
On advising interested repetitive loss property owners	✓	✓	✓

## Overall Recommendations

### Communities:

- Fix the maps or regulate to the flood of record
- Address new development with locally appropriate regulatory standards and plans that guide development to safer areas
- Educate, involve, and assist property owners

### Flood Authority:

- Provide technical assistance:
  - Training, templates, checklists, on-call help
- Provide financial support to reduce repetitive losses
- Coordinate and support Basin-wide efforts

Both: Use the CRS to support these efforts