

The Origins and Purpose Iowa Homeland Security and Emergency Management (HSEMD) identified mitigation elements from the Federal Emergency Management Agency (FEMA) Local Mitigation Plan [Regulation Checklist](#) that are important for flood mitigation planning [1]. There is a section for each flood mitigation element with name and number, which can be referenced in Table 8. These elements are required in local hazard mitigation plans. However, there has also been interest in addressing these elements in HUC 8 Watershed Plans. This would allow counties that intersect the watershed boundary to connect and redirect readers of their hazard mitigation plans to the Watershed Plan. The Upper Wapsipinicon River watershed communities can use the information in this flood mitigation planning section to identify action items to reduce flooding, improve soil health and water quality, and increase flood resilience.

Previous Occurrences and Impacts of Floods (B2) High winds, severe thunderstorms, hail, heavy rains, and flash flooding caused significant damage to the communities within the Upper Wapsipinicon River watershed in the spring of 2013, resulting in a Presidential Disaster Declaration (DR-4135). Parts of the northern watershed received up to six inches of rain overnight; by morning, residents of Independence, the largest community in the watershed, were sandbagging around businesses and homes.

The spring of 2013 impacts were severe and created significant runoff. The storms resulted in runoff from agricultural fields and urban infrastructure into streams and rivers that were already flowing high. In Buchanan County, the Iowa Individual Assistance Grant Program made 50 awards (less than \$5K each) totaling over \$40,000 for personal property and home repair assistance. Environmental degradation has also occurred in distressed regions of the watershed. The Iowa Department of Agriculture and Land Stewardship estimated it would cost \$9,228,674 to repair this damage.

During the past decade, flooding has significantly impacted counties in the Upper Wapsipinicon River watershed. Flood damage has affected businesses, parks, utilities, and residential properties. Furthermore, flooding has many longer term indirect impacts including alternate travel routes; closed schools and unanticipated childcare needs; and missed workdays due to closure or recovery activities. These impacts cause an increased burden on all residents in a community [3].

Integration of Flood Mitigation Action Guide and Local Planning (C6) The Upper Wapsipinicon River Watershed Management Authority (WMA) is a participant in the Iowa Watershed Approach, which supports watersheds to develop a plan that identifies goals and actions to reduce flooding, improve soil health and water quality, and increase flood resilience over the next decade(s). The boundaries of the Upper Wapsipinicon River WMA encompass about 1600 square miles from southeast Minnesota into and through Eastern Iowa, 99% spanning portions of 11 Iowa Counties (Mitchell, Howard, Floyd, Chickasaw, Bremer, Fayette, Blackhawk, Buchanan, Linn, Jones and Delaware), and 1% of the upper portions of the watershed spanning one Minnesota county (Mower). Each Iowa county has a local hazard mitigation plan, with updates currently in progress for Mitchell county. The Upper Wapsipinicon River watershed plan will include all information related to flooding disasters in these counties. The local county hazard mitigation plans may incorporate components of the Upper Wapsipinicon River watershed plan, including goals and actions, during future updates (which occur on a 5-year cycle).

Integrating local planning efforts allows for more cohesive and comprehensive goals and actions for mitigating flood disaster impacts. This also enhances the competitiveness of watershed communities for being awarded Hazard Mitigation Assistance (HMA) and other potential funding sources. Further information about the HMA grant programs is listed in Table 1 [4].

Table 1: FEMA Hazard Mitigation Assistance Grant Programs

Grant Program	Community Eligibility	Award Cycle
Hazard Mitigation Grant Program (HMGP)	Statewide availability post-disaster declaration to all communities with a FEMA-approved hazard mitigation plan and active participation in the NFIP for SFHA areas	Only active post-presidential disaster declaration
Pre-Disaster Mitigation Program (PDM)	All states, U.S. territories, and federally-recognized tribes, and local communities with a FEMA-approved hazard mitigation plan active participation in the NFIP for SFHA areas	Annual basis
Flood Mitigation Assistance (FMA)	All states, U.S. territories, and federally-recognized tribes, and local communities with a FEMA-approved hazard mitigation plan and active participation in the NFIP	Annual basis

\*Funding under the HMA programs is subject to availability of annual appropriations, and awarded to eligible states, tribes, and territories (applicant). The applicant distributes sub-grants to local governments and communities (sub-applicant). The applicant selects and prioritizes sub-applications developed and submitted to them to submit to FEMA for funding consideration. Prospective sub-applicants should consult the office designated as their applicant for further information regarding specific program and application requirements.

Location and Extent of Flooding and Future Probability (B1, B2) Information on the probability, location, and extent of future floods and their impacts on populations and built environments are available on the Iowa Watershed Approach Information System (IWAIS). Researchers from Iowa Department of Natural Resources, Iowa Flood Center, and U.S. Army Corp of Engineers have modeled inundation depths for the 1% annual chance flood (also known as the “100-year” flood), as well as for flood events with an annual chance of 50% (2-year), 20% (5-year), 10% (10-year), 4% (25-year), 2% (50-year), 0.5% (200-year), and 0.2% (500-year) for the state of Iowa (Figure 1). For select Iowa towns, IWAIS community scenario maps have multiple features, including detailed river stage for every 0.5-foot, annual chance flood event, flow discharge, and water depth (Figure 2). These inundation maps are valuable tools to illustrate the extent and depth of flood risks, and can be accessed at [iwa.iwais.org](http://iwa.iwais.org) [5].

Communities that can be impacted by high inundation of flood waters in the Upper Wapsipinicon River watershed may include, but are not limited to: Frederika, Tripoli, Dunkerton, Littleton, Independence, Quasqueton, Troy Mills, Central City, Anamosa, Coggon, Oelwein, Fairbank, Sumner, Tripoli, Fredericksburg, New Hampton, and Elma. Areas of flood risk within the Upper Wapsipinicon River Watershed are illustrated on the mapping application at [http://iwa.iowawis.org/app/#upper\\_wapsi](http://iwa.iowawis.org/app/#upper_wapsi).

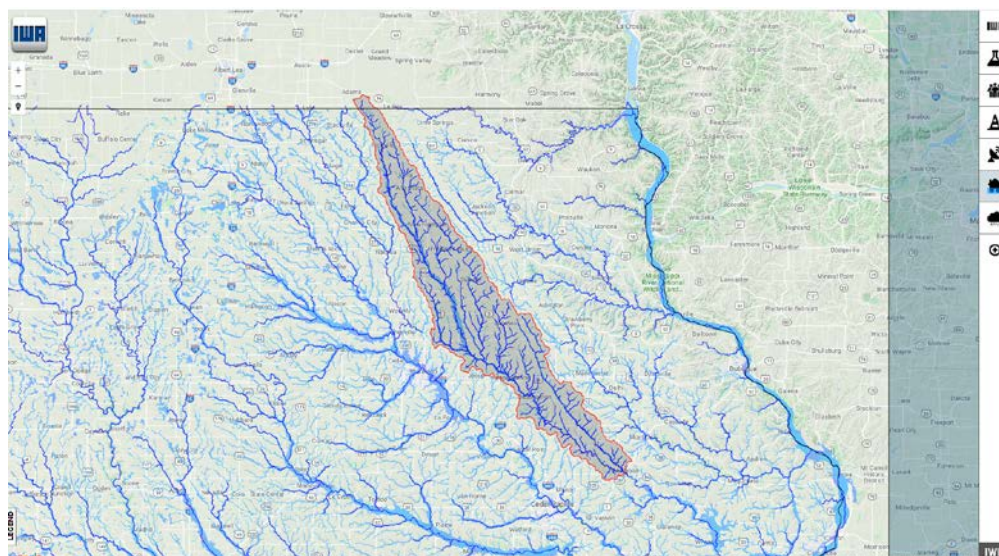


Figure 1: Upper Wapsipinicon River watershed - 0.2% flood risk from statewide inundation maps

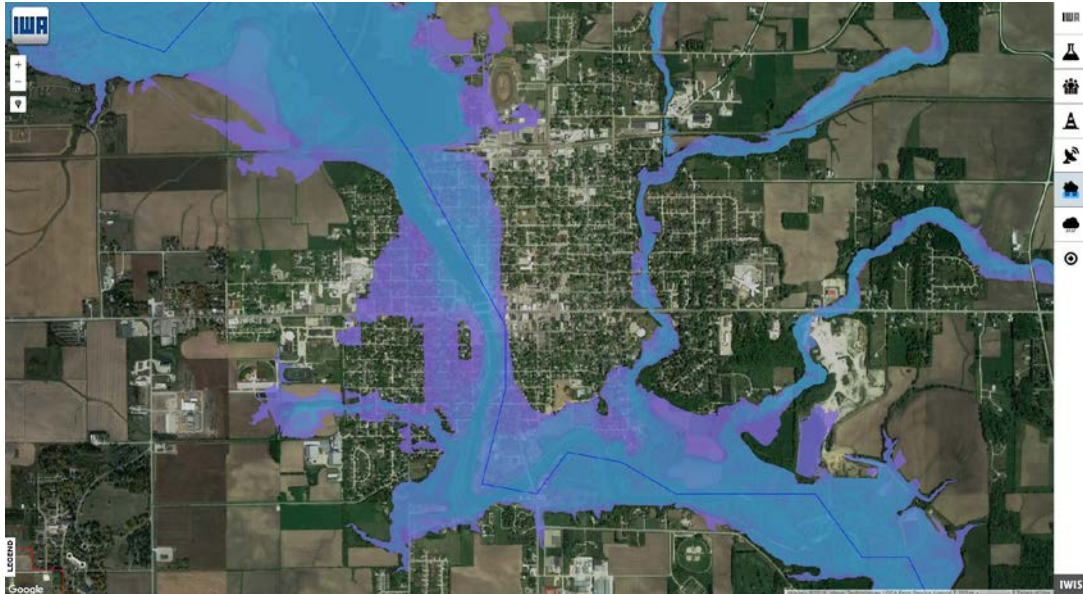


Figure 2: City of Independence – satellite view of 0.2% flood risk from statewide inundation maps

The flood maps can be layered with other data features that identify potential flood outcomes in their communities. This includes population vulnerability and the percentage of individuals impacted by floods. (Figure 3).

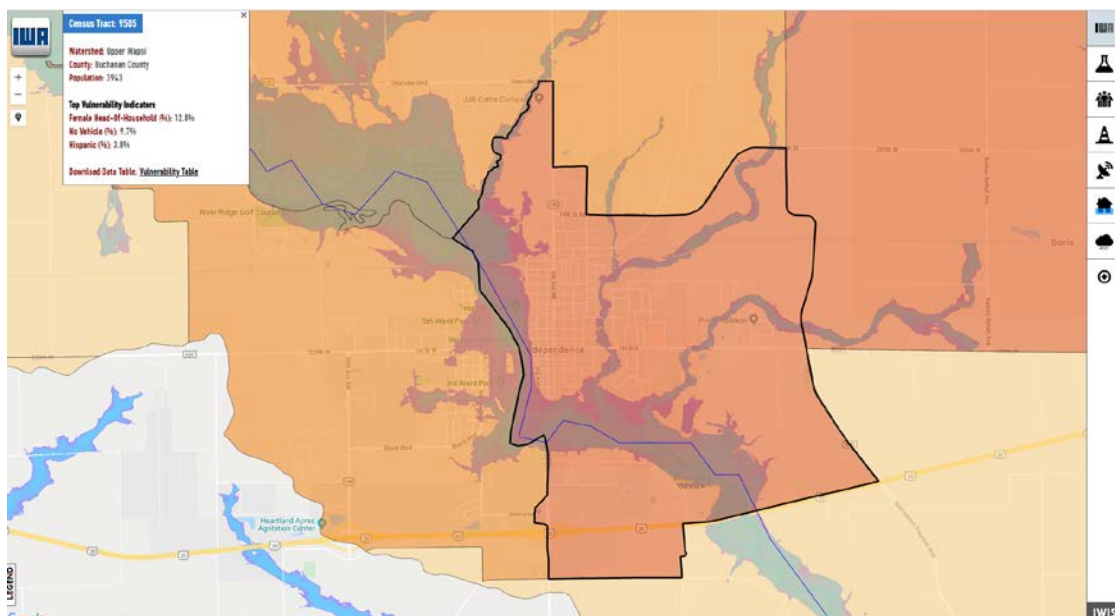


Figure 3: Statewide inundation map for city of Independence at 0.2% and census tract 9505

Potential Impacts of Flooding on Communities (B3) Parcel level data for each of the counties in the Upper Wapsipinicon River watershed was obtained to identify the number of structures and associated value costs that are at risk of flooding. The parcel data was inputted into HAZUS (which stands for Hazards US) to identify potential flood loss estimations on an annual basis for the 1% annual chance (100-year flood) and 0.2% annual chance (500-year flood). The results are listed by county in Tables 2, 3, and 4. Floyd County was not included in the tables below because no damages occurred in that watershed area of the county.



Table 2: Average Annual Flood Loss Vulnerability by County

County	Average Annual Loss Vulnerability					
	Structures	Estimated Building Cost	Estimated Content Cost	Estimated Building Damage	Estimated Content Damage	Combined Estimated Loss
Mitchell	2	\$81,780.00	\$40,890.00	\$175.06	\$73.91	\$248.98
Howard	52	\$2,687,760.00	\$1,426,065.00	\$37,019.26	\$17,222.32	\$54,241.58
Chickasaw	53	\$3,955,161.79	\$2,028,050.00	\$17,912.82	\$7,185.38	\$25,098.19
Bremer	95	\$6,965,050.00	\$3,761,730.00	\$46,849.41	\$28,404.69	\$75,254.10
Fayette	30	\$3,597,860.00	\$1,878,090.00	\$77,624.58	\$38,625.42	\$116,250.00
Black Hawk	116	\$9,199,250.00	\$5,091,255.00	\$101,581.05	\$55,891.51	\$157,472.56
Buchanan	149	\$11,926,261.00	\$6,580,310.50	\$78,972.69	\$38,741.02	\$117,713.72
Delaware	5	\$794,800.00	\$397,400.00	\$4,021.16	\$1,908.10	\$5,929.26
Linn	6	\$627,507.00	\$313,753.50	\$3,055.33	\$1,361.82	\$4,417.15
Jones	62	\$4,459,730.00	\$2,685,375.00	\$25,648.85	\$15,406.38	\$41,055.23
<b>Total</b>	<b>570</b>	<b>\$44,295,159.79</b>	<b>\$24,202,919.00</b>	<b>\$392,860.21</b>	<b>\$204,820.55</b>	<b>\$597,680.76</b>

Table 3: Average Flood Loss Vulnerability for 1% chance (100-Year Flood)

County	100yr Loss Vulnerability					
	Structures	Estimated Building Cost	Estimated Content Cost	Estimated Building Damage	Estimated Content Damage	Combined Estimated Loss
Mitchell	1	\$37,390.00	\$18,695.00	\$4,368.15	\$1,878.48	\$6,246.63
Howard	41	\$2,286,730.00	\$1,225,550.00	\$483,377.91	\$228,722.76	\$712,100.67
Chickasaw	25	\$1,597,698.70	\$841,900.00	\$240,901.39	\$101,538.11	\$342,439.51
Bremer	49	\$3,252,120.00	\$1,758,145.00	\$689,643.59	\$402,880.77	\$1,092,524.36
Fayette	27	\$3,345,990.00	\$1,730,640.00	\$940,921.23	\$479,919.37	\$1,420,840.59
Black Hawk	104	\$8,120,000.00	\$4,551,630.00	\$1,765,743.12	\$1,067,799.21	\$2,833,542.34
Buchanan	62	\$4,946,640.00	\$2,631,630.00	\$1,153,916.73	\$565,053.33	\$1,718,970.06
Delaware	4	\$518,500.00	\$259,250.00	\$108,399.23	\$49,088.48	\$157,487.71
Linn	5	\$559,607.00	\$279,803.50	\$108,304.88	\$42,776.12	\$151,080.99
Jones	40	\$3,122,820.00	\$1,820,340.00	\$582,405.15	\$365,458.27	\$947,863.42
<b>Total</b>	<b>358</b>	<b>\$27,787,495.70</b>	<b>\$15,117,583.50</b>	<b>\$6,077,981.38</b>	<b>\$3,305,114.89</b>	<b>\$9,383,096.28</b>

Table 4: Average Flood Loss Vulnerability for 0.2% annual chance (500-Year Flood)

County	500yr Loss Vulnerability					
	Structures	Estimated Building Cost	Estimated Content Cost	Estimated Building Damage	Estimated Content Damage	Combined Estimated Loss
<b>Mitchell</b>	2	\$81,780.00	\$40,890.00	\$11,746.94	\$4,951.37	\$16,698.31
<b>Howard</b>	49	\$2,423,130.00	\$1,211,565.00	\$558,689.08	\$257,411.07	\$816,100.15
<b>Chickasaw</b>	49	\$3,506,461.79	\$1,803,700.00	\$570,293.62	\$255,758.72	\$826,052.34
<b>Bremer</b>	93	\$6,622,410.00	\$3,590,410.00	\$1,323,838.75	\$726,775.97	\$2,050,614.72
<b>Fayette</b>	26	\$3,158,670.00	\$1,658,495.00	\$980,351.96	\$508,154.90	\$1,488,506.85
<b>Black Hawk</b>	115	\$9,144,750.00	\$5,064,005.00	\$2,263,658.33	\$1,454,168.71	\$3,717,827.04
<b>Buchanan</b>	144	\$11,471,731.00	\$6,322,685.50	\$2,937,871.23	\$1,727,026.75	\$4,664,897.97
<b>Delaware</b>	5	\$794,800.00	\$397,400.00	\$208,465.19	\$91,183.46	\$299,648.65
<b>Linn</b>	6	\$627,507.00	\$313,753.50	\$154,219.28	\$68,009.65	\$222,228.93
<b>Jones</b>	60	\$4,297,120.00	\$2,567,445.00	\$1,090,108.25	\$683,437.69	\$1,773,545.94
<b>Total</b>	<b>549</b>	<b>\$42,128,359.79</b>	<b>\$22,970,349.00</b>	<b>\$10,099,242.61</b>	<b>\$5,776,878.28</b>	<b>\$15,876,120.89</b>

National Flood Insurance Program and Community Rating System Participating Communities (C2) The FEMA National Flood Insurance Program (NFIP) provides insurance to property owners, renters, and businesses in flood hazard areas. It encourages communities to participate by adopting and enforcing floodplain management regulations in flood hazard areas. In order to receive most state and federal financial assistance, communities must participate in NFIP. The NFIP Community Rating System (CRS) is a preventive and incentivizing action program to reduce flood risks by implementing local mitigation, floodplain management, and outreach activities that exceed NFIP requirements. There are nine class levels in the CRS program, with Class 1 being the highest amount of credits and incentives possible. For CRS participating communities, flood insurance premium rates are discounted in increments of 5%; reductions range from 0–45% for special flood hazard areas (SFHA) and 0–10% for non-special flood hazard areas (NSFHA). To participate in CRS, communities must be a member of the NFIP. Contact the [Iowa Department of Natural Resources](#) or browse the [Flooding in Iowa Project Desk Reference](#) to learn more about these programs and flood risks in Iowa [6].

Communities that participate in NFIP must keep their floodplain ordinances current or update them when new maps become available. They must also enforce compliance with the ordinances during development projects. All communities in the Upper Wapsipinicon River watershed with active NFIP participation status are compliant with the ordinance requirement. Communities that are not participating in NFIP have access to limited resources to maintain program participation, perceive minimal or no risk of flood damage to their communities, or are not interested. CRS communities are implementing mitigation and other actions to reduce their flood risk. More information about CRS activities is available through the [CRS Coordinator's Manual 2017 Edition](#) [7]. See Table 5 for communities participating in the NFIP [8] and CRS [9]. Currently the Upper Wapsipinicon River Watershed has no communities participating in CRS.

Table 5: NFIP (as of November 2019) and CRS Communities (as of October 2019)

<b>NFIP Participant</b>	<b>CRS Class</b>
Mitchell County	-
City of McIntire	-
City of Elma	-
Howard County	-
City of Riceville	-
Floyd County	-
City of Alta Vista	-
Chickasaw County	-
City of Fredericksburg	-
City of New Hampton	-
City of North Washington	-
City of Readlyn	-
City of Sumner	-
City of Tripoli	-
Bremer County	-
City of Frederika	-
City of Fairbank	-
Fayette County	-
City of Maynard	-
City of Oelwein	-
City of Westgate	-
Black Hawk County	-
City of Dunkerton	-
City of Aurora	-
Buchanan County	-
City of Fairbank	-
City of Hazleton	-
City of Independence	-
City of Quasqueton	-
Delaware County	-
Linn County	-
City of Central City	-
City of Coggon	-
City of Anamosa	-
Jones County	-

Repetitive Loss and Severe Repetitive Loss Properties (B4) In the Upper Wapsipinicon River watershed, 278 properties have endured Repetitive Loss (RL). Each property has experienced damages of \$1,000 or more at least twice in the past 10 years. These properties are classified as single family residential, multiplex residential, or businesses, and are located in Black Hawk, Bremer, Buchanan, Chickasaw, Fayette, Floyd, Jones, Linn, and Mitchell counties. The sum total of losses to the buildings and their contents was over \$4.3 million. See Table 6 for more information about RL structures in this watershed. The RL information is current as of December 2018. Eight properties in the Upper Wapsipinicon River Watershed have experienced Severe Repetitive Loss (SRL), which is defined as each property has experienced damages of \$5,000 or more at least four times in the past 10 years. For present-day information, contact the [Iowa Department of Natural Resources](#).

Table 6: Repetitive Loss Properties in the Upper Wapsipinicon River Watershed

City/County	Total Buildings	Commercial	Residential	Total Building Payments	Total Contents Payment	Total Payments
Black Hawk Co.	71	4	67	\$1,733,729.56	\$110,718.77	\$1,844,448.33
City of Dunkerton	14	2	12	\$169,425.57	\$12,176.22	\$181,601.79
Bremer Co.	15	-	15	\$324,304.51	\$17,408.91	\$341,713.42
City of Sumner	9	5	7	\$143,020.58	\$6,743.92	\$149,764.50
City of Tripoli	2	-	2	\$40,926.91	-	\$40,926.91
Buchanan Co.	25	-	25	\$304,415.07	\$29,663.96	\$334,079.03
City of Fairbank	2	-	2	\$42,139.91	\$2,362.53	\$44,502.44
City of Independence	70	21	49	\$586,643.12	\$93,736.89	\$680,380.01
City of Quasqueton	2	-	2	\$22,584.81	\$2,786.01	\$25,370.82
Chickasaw Co.	2	-	2	\$4,411.61	-	\$4,411.61
Fayette County	2	-	2	\$27,650.87	\$21,160.12	\$48,810.99
City of Oelwein	19	5	14	\$61,446.81	\$11,834.85	\$73,281.66
Floyd County	6	2	4	\$112,511.03	\$18,746.78	\$131,257.81
City of Anamosa	4	-	4	\$33,143.68	-	\$33,143.68
Jones Co.	6	2	4	\$114,069.01	\$1,255.00	\$115,324.01
City of Central City	8	-	8	\$121,105.61	\$515.15	\$121,620.76
City of Coggon	2	-	2	\$9,362.80	-	\$9,362.80
Linn Co.	13	-	13	\$131,230.66	\$2,255.00	\$133,485.66
Mitchell Co.	6	2	4	\$33,846.93	\$12,597.52	\$46,444.45
<b>Total</b>	<b>278</b>	<b>43</b>	<b>235</b>	<b>\$4,015,969.05</b>	<b>\$343,961.63</b>	<b>\$4,359,930.68</b>

*Table 7: Severe Repetitive Loss Properties in the Upper Wapsipinicon River Watershed*

<b>City/County</b>	<b>Total Buildings</b>	<b>Commercial</b>	<b>Residential</b>	<b>Total Building Payments</b>	<b>Total Contents Payment</b>	<b>Total Payments</b>
Black Hawk Co.	4	-	4	\$143,522.85	-	\$143,522.85
City of Independence	4	-	4	\$40,984.60	\$11,426.26	\$52,410.86
<b>Total</b>	<b>8</b>	<b>-</b>	<b>8</b>	<b>\$43,403.68</b>	<b>\$12,597.52</b>	<b>\$56,001.20</b>

*Data current as of December 2018*

\*Commercial represents businesses and other non-residential buildings

\*\*Residential represents single and 2-4 family households



Table 8: Flood Mitigation Elements from the FEMA Local Mitigation Plan Regulation Checklist

Element from FEMA's Local Mitigation Plan Review Guide and Code Reference		Specific Requirements of Element
B1	<p><b>Does the Plan include a description of the type, location, and extent of flooding hazards that can affect each jurisdiction?</b> 44 CFR 201.6(c)(2)(i) and 44 CFR 201.6(c)(2)(iii)</p> <p><i>Location</i> means the geographic areas in the planning area that are affected by the hazard.</p> <p><i>Extent</i> means the strength or magnitude of the hazard.</p>	<p><b>Must include a description of how River Flooding can affect the jurisdictions in the planning area and include information on:</b></p>
		<p><b>1. Location</b></p>
		<p><b>2. Extent</b> (Like Co. Engr severity of damage)</p>
		<p><b>3. Previous occurrences*</b></p>
	<p><b>4. Future probability*</b></p> <p><i>*Requirements 3 and 4 are addressed in Element B2</i></p>	
B2	<p><b>Does the Plan include info on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction?</b> 44 CFR 201.6(c)(2)(i) -- <i>must be quantifiable</i></p>	<p><b>Must include the history of previous floods, including events since last plan.</b></p> <p><b>Must include the probability of future floods</b></p> <p><i>Probability calculated based on county data. Source of probability identified (for example, flood insurance study, NOAA, state or federal agency, hazard study, calculated based on historical data, etc.)</i></p>
	<p><b>Calculating probability based on historical data.</b> To calculate the probability using historical data divide the number of events by the number of years. 10 events in a 30 year period would equal 33% chance of occurring in any given year.</p>	<p><i>Define general descriptors such as highly likely, likely, unlikely). For example: likely = history of events is at least 15% but less than or equal to 33% likely in any given year.</i></p>
B3	<p><b>Is there a description of flooding's impact on each community as well as an overall summary of each community's vulnerability?</b> 44 CFR 201.6(c)(2)(ii)</p> <p><i>Impact</i> means the consequence or effect of the hazard on the community and its assets.</p> <p><i>Assets</i> determined by community and = people, structures, facilities, systems, capabilities, and/or activities that have value to the community.</p>	<p><b>For each participating jurisdiction, must describe potential impacts of flooding on community.</b></p> <p><b>Must Provide an overall summary of each jurisdiction's vulnerability to flooding.</b></p> <p><i>Overall summary identifies structures, systems, populations or other community assets defined by the community that are susceptible to damage and loss from flooding. Overall summary addressed below - see <b>Vulnerability Assessment</b> information.</i></p>
	<p><i>Overall summary addressed by meeting requirements 44 CFR 201.6(c)(2)(ii)(A-C) below ---Vulnerability Assessment</i></p>	
	<p><b>In the flood hazard areas, identify the types and numbers of existing and future:</b></p>	
	44 CFR 201.6(c)(2)(ii)(A)	<p><b>1. Buildings</b></p> <p><b>2. Infrastructure</b></p> <p><b>3. Critical facilities</b></p>
	<p><b>Estimate of the potential dollar losses to identified vulnerable structures:</b></p>	
	44 CFR 201.6(c)(2)(ii)(B)	<p><b>1. Buildings</b></p> <p><b>2. Infrastructure</b></p> <p><b>3. Critical facilities</b></p>
	<p><b>Describe methodology used to prepare the estimate.</b></p>	
	<p><b>Description of land uses and development trends within the community. Include:</b></p>	
	44 CFR 201.6(c)(2)(ii)(C)	<p><b>1. Development that has occurred since the last plan was approved.</b></p>

		<b>2. Future development</b>		
		<b>Describe the potential impact of:</b>		
		<b>1. Residential</b>		
		<b>2. Commercial</b>		
		<b>3. Industrial</b>		
		<b>to the community's vulnerability to flooding.</b>		
<b>B4</b>	Does the Plan address NFIP insured structures within each jurisdiction that have been repetitively damaged by floods? 44 CFR 201.6(c)(2)(ii)	Describe the types of repetitive loss properties: <b>1. Residential</b> <b>2. Commercial</b> <b>3. Institutional</b>		
	<p><b>Repetitive loss;</b></p> <ul style="list-style-type: none"> <li>• 2 or more losses</li> <li>• at least \$1,000</li> <li>• within any 10-year period since 1978</li> </ul> <p><b>Severe Repetitive loss:</b></p> <ul style="list-style-type: none"> <li>• at least 4 NFIP payments over \$5,000 each &amp;</li> <li>• cumulative amount exceeds \$20,000</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• at least 2 separate payments</li> <li>• cumulative amount exceeds market value of building</li> </ul>	Estimate the numbers of repetitive loss properties. <b>1. Residential</b> <b>2. Commercial</b> <b>3. Institutional</b>		
		Describe the types of severe repetitive loss properties: <b>1. Residential</b> <b>2. Commercial</b> <b>3. Institutional</b>		
		Estimate the numbers of severe repetitive loss properties. <b>1. Residential</b> <b>2. Commercial</b> <b>3. Institutional</b>		
		<p>Does the plan document each jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR 201.6(c)(3)</p>	Describe each jurisdiction's existing authorities, policies, programs and resources available to accomplish flood mitigation, including: <b>1. Staff involved in local planning activities, public works, and emergency management.</b> <b>2. Funding through taxing authority and annual budgets</b> <b>3. Regulatory authorities for comprehensive planning, building codes, and ordinances.</b>	
			<p>Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR 201.6(c)(3)(ii)</p> <p style="text-align: center;"><u><a href="#">NFIP Status may be found in the Community NFIP Status Book</a></u></p> <p><i>If the community name does not appear in the status book, it has not been mapped, or, if mapped, has no special flood hazard areas (NSFHA).</i></p>	Describe each jurisdiction's participation in the NFIP and their floodplain management program for continued compliance. Stating "the community will continue to comply with NFIP" will not meet this requirement.
				For non-participating communities, describe the reasons why the community does not participate.
	Does the Plan include goals to reduce/avoid long- term vulnerabilities to the identified hazards? 44 CFR 201.6(c)(3)(i)	Identify goals that represent what the jurisdictions seek to accomplish through mitigation plan implementation		
	Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction	Include a mitigation strategy that:		

	<p>being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? 44 CFR 201.6(c)(3)(ii) and 44 CFR 201.6(c)(3)(iv)</p>	<p>1. Analyzes actions and/or projects the jurisdiction considered to reduce the impacts of flooding</p> <p>2. Identify actions and or projects the jurisdiction intends to implement</p> <p>a. Include at least one mitigation action for each jurisdiction that has a high flood risk and vulnerability.</p> <p>b. Identify actions that reduce risk to existing buildings and infrastructure.</p> <p>c. Identify actions that limit risk to new development and redevelopment.</p> <p>d. Include different mitigation alternatives that address the vulnerabilities to floods that the jurisdictions determine are most important (comprehensive range of alternatives)</p>
	<p><i>Non-mitigation actions, such as actions that are emergency response or operational preparedness in nature, will not be accepted as hazard mitigation actions</i></p>	
<p>C5</p>	<p>Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? 44 CFR 201.6(c)(3)(iii) and 44 CFR (c)(3)(iv)</p>	<p>Describe the criteria used for prioritizing implementation of the actions.</p> <p>Demonstrate the jurisdictions' prioritization system considered the benefits of the actions versus the cost of the actions.</p> <p>A summary of the economic considerations as part of the community's analysis meets this requirement.</p> <p>For each action, by jurisdiction:</p> <p>1. Identify the position, office, department or agency responsible for implementing the action</p> <p>2. Identify potential funding sources</p> <p>3. Identify expected timeframe for completion</p>
<p>C6</p>	<p>Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? 44 CFR 201.6(c)(4)(ii)</p> <p><i>Planning mechanisms means governance structures used to manage local land use development and community decision making, such as comprehensive plans, capital improvement plans, and other long-range plans.</i></p>	<p>Describe how the various participating communities would integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms.</p> <p>Identify the local planning mechanisms where hazard mitigation information and/or actions may be incorporated.</p> <p>For future local hazard mitigation plan UPDATES: Explain how jurisdictions would incorporate watershed plan components, and in particular specific goals and actions into the local mitigation plan(s) when updated.</p>

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## References

1. Federal Emergency Management Agency, *Local Mitigation Plan Review Guide*.
2. State of Iowa Office of the Governor, *Governor's Proclamation: Request for Presidential Declaration (RPD)*. 2016.
3. Federal Emergency Management Agency, *Hazard Mitigation Assistance Guidance*.
4. Iowa Flood Center. *Iowa Watershed Approach Information System*. [cited 2018; Available from: <http://iwa.iowawis.org/>].
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6. Federal Emergency Management Agency, *National Flood Insurance Program Community Rating System Coordinator's Manual*.
7. Federal Emergency Management Agency, *Community Status Book Report: Communities Participating in the National Flood Program*.
9. Federal Emergency Management Agency, *Community Rating System*. Full list of CRS communities updated October 1, 2019. [https://crsresources.org/files/100/maps/states/iowa\\_crs\\_map\\_october\\_2019.pdf](https://crsresources.org/files/100/maps/states/iowa_crs_map_october_2019.pdf)