

**Chehalis Basin Strategy**  
**Local Actions Program Development**  
***Draft Local Flood Protection Actions Ranking***

1/5/2021

The *Local Flood Protection Action Options Memorandum* (Anchor QEA 2020) identified twelve example priority areas that could be considered for local structural flood protection actions or in combination with nonstructural actions such as structure relocations or floodproofing. These areas were initially identified because of their relatively high potential for flood damages and the relatively dense concentration of development (structures and infrastructure) that could potentially be protected with localized facilities. Based on input from the Technical Advisory Group, two additional areas located within the mainstem Chehalis 2-dimensional model domain were added to the list from the original memorandum – Bucoda and Grand Mound.

The following provides a draft approach for further evaluating some of the high-level technical considerations of these priority areas for local flood protection actions that could be included in a Local Actions Program for the Chehalis Basin Strategy.

The potential priority areas were evaluated individually based on answers to the following questions, and then preliminarily ranked relative to one another based on high, medium, and low rankings relative to the number of structures and infrastructure versus potential adverse impacts to structures or natural features.

1. How many structures could potentially be protected by a local facility?
2. Is there any major infrastructure or critical infrastructure present in the priority area?
3. What is the relative number of structures protected per mile of facility such as a levee?
4. What are the relative number of structures that might be negatively impacted by a local flood protection facility, and would they need floodproofing or relocation?
5. Is there a high likelihood of adverse direct impacts to wetlands, waterbodies or other natural habitats from a local facility (e.g., if filling in a wetland were required)?
6. What else could be affected upstream or downstream from actions taken in this reach?

**Questions for TAG:**

1. What technical questions/suggestions do you have for the ranking criteria?
2. From a technical perspective (e.g., design, engineering, hydrology and hydraulics) do you think the top five areas in Table 1 below (or additional areas) warrant further investigation for structural flood protection solutions?

Table 1 provides the preliminary ranking of the priority areas based on the above elements.

**Table 1**

LOCATION	NUMBER OF STRUCTURES IN SELECTED AREA <sup>1</sup>	MAJOR/CRITICAL INFRASTRUCTURE PRESENT IN MODELED 2080 FLOODPLAIN? <sup>2</sup>	STRUCTURES AFFECTED OUTSIDE PROTECTED AREA	IMPACTS TO NATURAL ENVIRONMENT	RELATIVE BENEFIT PER MILE OF FACILITY	RANK
1. Adna	83	High school Lewis County special education Highway 6	Low (~10)	Medium (Chehalis riparian)	Medium (~1.5 miles)	<b>8</b>
2. Lower Newaukum	20	None identified	Low (~10)	Low (agricultural, residential)	Low (~1 mile)	<b>12</b>
3. Airport Levee and Chehalis	215	I-5, airport Washington State Patrol	High (hundreds)	Medium (wetlands, Dillenbaugh Cr.)	High (~4 miles)	<b>4</b>
4. Centralia	5,527	Radio stations Valley View Health Center Washington Elementary School Centralia Community College Centralia Police Centralia City Light BPA Power Plant	High (hundreds)	High (wetlands, Skookumchuck and Salzer riparian)	High (~5 miles)	<b>5</b>
5. West Centralia	642	Centralia High School	Medium (dozens)	Low (agricultural, park)	High (~2 miles)	<b>2</b>
6. Military Road	34	Providence Centralia Hospital Valley View Health Center	Medium (dozens)	Low (residential)	Low (~2 miles)	<b>13</b>

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7. Galvin	87	None identified	Medium (dozens)	Low (agricultural, residential)	Medium (~1.5 miles)	<b>9</b>
8. Independence Road / north floodplain	306	Highway 12	High (100+)	High (wetlands, oxbows)	Low (3-4 miles)	<b>14</b>
9. Oakville	172	None identified	Low (10-20)	Low (residential)	Medium (~1 mile)	<b>6</b>
10. West Elma	148	Highway 8 Elma High School	Low (10-20)	Low (highway raise)	Medium (~2 miles)	<b>7</b>
11. South Aberdeen	1,203	Stevens Elementary School	Low	Low (existing levee raise, pump station)	High (~2 miles)	<b>1</b>
12. East Aberdeen	4	Highway 101	Low (<10)	Medium (Estuary shoreline)	Medium (~1 mile)	<b>10</b>
13. Bucoda	260	Water supply infrastructure	Low (<10)	Medium (Skookumchuck riparian)	High (~1 mile)	<b>3</b>
14. Grand Mound	168	None identified	Low	High (wetlands, oxbows)	Medium (~2 miles)	<b>11</b>

Notes:

1 – Structure information from Microsoft OpenStreetMap (2018). May include sheds and other outbuildings, so preliminary structure count is likely higher than “valuable structures.”

2 – The high climate change precipitation (50%) modeled floodplain.