

Appendix A

Article 6(c) stipulates that the allocation of costs or portions of costs providing disproportionate benefit to specific areas is to be negotiated based on a number of factors. For those expenses identified by the Board as providing proportionate benefits to all areas within the Authority, Article 6(b) defines the percentage share to be allocated to each Member (jurisdiction) for the purpose of determining their Budget Allocation. The derivation of those percentage shares is described below. It is a several-step process. The first step is an allocation between floodplain-related costs and contributing area (outside the floodplain and inside the Authority boundary) costs. [Together, the floodplain and the contributing area make up the total Chehalis River Basin to the extent it is included in the Authority boundary.] The next steps involve the allocation of costs to individual Members. The following information (2010) is used in the initial calculation:

	Grays Harbor			
	County	Thurston County	Lewis County	Total
Floodplain Area Direct Economic Value Added p/Day ^[1]	[A] \$ 1,950,898	[B] \$ 146,446	[C] \$ 2,036,831	[E] \$ 4,134,175
Floodplain Area Total (Dir. & Indir.) Benefit in Basin ^[2]	[F] \$ 2,844,161	[G] \$ 201,362	[H] \$ 2,761,940	[J] \$ 5,807,463
Floodplain Area Total Assessed Value ^[3]	[K] \$ 2,854,000,000	[L] \$ 688,000,000	[M] \$ 957,000,000	[O] \$ 4,499,000,000

NOTES:

- [1] Floodplain area direct economic value added per day is an estimate of net economic output, or gross domestic product, in the 100-year floodplain from economic activity located in the 100-year floodplain.
- [2] Floodplain area total (direct and indirect) benefit in the basin is an estimate of net economic output in the Chehalis River Basin from economic activity located in the 100-year floodplain.
- [3] Floodplain area total assessed value is the sum of taxable and non-taxable assessed value of land and improvements located in the 100-year floodplain.

It is expected that this information will be updated periodically using the IMPLAN model for economic inputs and County Assessor and Geographic Information System (GIS) data for assessed valuation inputs.

Step One: Allocation of Cost between the Floodplain and the Contributing Area

The budget item cost multiplied by Total (Basin-wide) Floodplain Area Direct Economic Value Added per Day as a percentage of Total Floodplain Area Direct and Indirect Basin-wide Benefit per Day is equal to the portion of the budget item cost that is associated with floodplain development. The remainder is equal to the portion of budget item cost associated with the contributing area.

% Applied to Estimate Floodplain Cost

% Applied to Estimate Contributing Area Cost

[E] / [J] 71.2%
1 - [E] / [J] 28.8%

Step Two: Allocation of Floodplain Costs to Members

The budget item cost portion associated with the floodplain is separated into two equal halves.

The first half multiplied by the total (taxable plus non-taxable) assessed value of land and improvements in the floodplain for each member as a percentage of the total (basin-wide) assessed value of land and improvements in the floodplain (the AV Factor) is equal to the first component of budget item cost to be recovered by each Member.

AV Factor	Grays Harbor			Total
	County	Thurston County	Lewis County	
	[K] / [O]	[L] / [O]	[M] / [O]	100%
	63.4%	15.3%	21.3%	

The second half multiplied by the Floodplain Area Direct Economic Value Added per Day for each Member as a percentage of the Total Floodplain Area Direct and Indirect Benefit per Day for each Member (the Floodplain Economic Factor) is equal to the second component of budget item cost to be recovered by each Member.

Floodplain Economic Factor	Grays Harbor			Total
	County	Thurston County	Lewis County	
	[A] / [E]	[B] / [E]	[C] / [E]	100%
	47.2%	3.5%	49.3%	

Step Three: Allocation of Contributing Area Costs to Members

The budget item cost portion associated with the contributing area multiplied by the Total Floodplain Area Direct and Indirect Benefit per Day for each Member as a percentage of the Total Floodplain Area Direct and Indirect Basin-wide Benefit per Day (the Total Economic Factor) is equal to the third component of budget item cost to be recovered by each Member.

Total Economic Factor	Grays Harbor			Total
	County	Thurston County	Lewis County	
	[F] / [J]	[G] / [J]	[H] / [J]	100%
	49.0%	3.5%	47.6%	

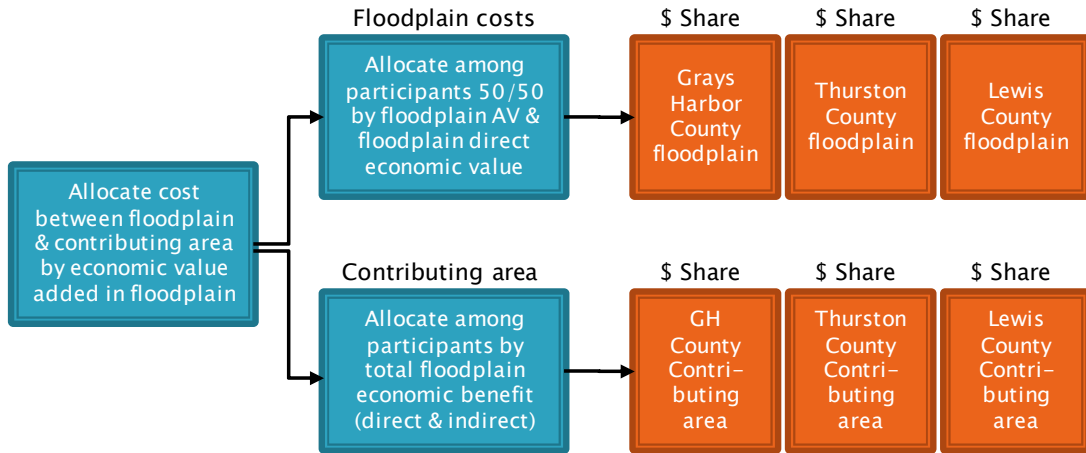
Step Four: Determination of Total Allocated Cost by Member

The weighted sum of the three components of budget item cost for each Member is equal to the budget item allocation for each Member.

Total Cost Allocation Factor	Grays Harbor			Total
	County	Thurston County	Lewis County	
	53.5%	7.7%	38.8%	100%

These percentages can be derived using the following formula: [% Applied to Estimate Floodplain Cost (from Step One) X 50% X AV Factor per Member (from Step Two)] + [% Applied to Estimate Floodplain Cost (from Step One) X 50% X Floodplain Economic Factor per Member (from Step Two)] + [% Applied to Estimate Contributing Area Cost (from Step One) X Total Economic Factor per Member (from Step Three)].

The following graphic illustrates the process to be used. The subsequent graphic shows the resulting cost shares for an example cost of \$1 million.



				Grays Harbor County	Thurston County	Lewis County	
Cost \$ 1,000,000	Floodplain 71.2% \$ 711,873	50%	\$ 355,936	63.4%	15.3%	21.3%	<i>by AV Factor</i>
		50%	\$ 355,936	\$ 225,793	\$ 54,431	\$ 75,713	<i>by Floodplain Economic Factor</i>
	Contributing Area 28.8% \$ 288,127	100%	\$ 288,127	47.2%	3.5%	49.3%	<i>by Total Economic Factor</i>
				\$ 167,965	\$ 12,608	\$ 175,363	
				49.0%	3.5%	47.6%	
				\$ 141,108	\$ 9,990	\$ 137,029	
				\$ 393,758	\$ 67,039	\$ 251,076	<i>Floodplain Costs</i>
				141,108	9,990	137,029	<i>Contributing Area Costs</i>
				\$ 534,866	\$ 77,029	\$ 388,105	<i>Total Costs</i>
				53.5%	7.7%	38.8%	