



**Executive Action, 11/01/2019:**

November 1, 2019

**TO:** Flood Authority Executive Committee Members

**FROM:** Scott Boettcher, Staff

**SUBJECT:** 2020 Flood Warning System Budget and County Shares

1. 2020 annual costs and reimbursement rates approved by Executive Committee (Commissioners Raines, Fund and Menser).

2. Lewis County, as Flood Authority fiscal agent, directed to begin collecting payments.

Purpose of this memo is to discuss and allocate 2020 Flood Warning System annual costs ([www.chehalisriverflood.com](http://www.chehalisriverflood.com)). This will be done via conference call this Friday, 11/01/2019, at 2:30. We walk through the following attachments to this memo:

- Attachment A – Breakdown and Comparison of Annual O & M Costs (2014 through 2023)
- Attachment B – Staff Recommendation
- Attachment C – Draft Outreach Content
- Attachment D – Flood Warning System Usage

Please feel free contact me with any questions (360/480-6600, [scottb@sbgh-partners.com](mailto:scottb@sbgh-partners.com)).

**Attachment A**  
**Breakdown and Comparison of Annual O & M Costs (2014 through 2023)**

ORIGINAL O&M (showing 2% annual WEST cost-increase starting 2018)							ADDITIONAL O&M (outlined in red)				
Breakdown of Annual O & M Costs		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
WEST Consultants	<i>Gage maintenance</i> -- 10 gages (including 2 stream gages) located across basin.	\$ 38,438	\$ 38,438	\$ 38,438	\$ 38,438	\$ 39,206.76	\$ 39,991	\$ 40,791	\$ 41,607	\$ 42,439	\$ 43,287
	<i>Gage maintenance</i> -- 2 additional stream gages.							\$ 5,600	\$ 11,424	\$ 11,652	\$ 11,886
WEST Consultants	<i>Operational support</i> -- On-going support for website monitoring and updates for both routine operations and during potential flood events.	\$ 11,336	\$ 11,336	\$ 11,336	\$ 11,336	\$ 11,563	\$ 11,794	\$ 12,030	\$ 12,270	\$ 12,516	\$ 12,766
WEST Consultants	<i>Spare parts inventory</i> -- Extra parts in event of broken or malfunctioning gages.	\$ -	\$ 6,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
	<i>Spare parts inventory</i> -- 2 additional stream gages.							\$ -	\$ 1,000	\$ 1,000	\$ 1,000
Blu Telecomm	<i>Webcam cell fees</i> -- 3 cell data plans (\$125/month).							\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500
OneRain	<i>Webcam subscription fees</i> -- 3 subscriptions (\$105/month).							\$ 1,260	\$ 1,260	\$ 1,260	\$ 1,260
OneRain	<i>Website</i> -- One-rain annual subscription (260 sensors in and near Chehalis Basin).	\$ 3,811	\$ 3,811	\$ 5,261	\$ 5,261	\$ 5,500	\$ 5,877	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000
WEST Consultants	<i>Removal</i> -- Removal of gage, webcam infrastructure TBD at time of request.							\$ -	\$ -	\$ -	\$ -
Lewis County	<i>Billing and processing.</i>	\$ -	\$ 900	\$ 900	\$ 900	\$ 900	\$ 900	\$ 900	\$ 900	\$ 900	\$ 900
Total --> (Existing)		\$ 53,585	\$ 60,485	\$ 57,935	\$ 57,935	\$ 59,169	\$ 60,562	\$ 61,721	\$ 62,777	\$ 63,855	\$ 64,954
							<b>Total --&gt; (New)</b>	<b>\$ 70,081</b>	<b>\$ 77,961</b>	<b>\$ 79,267</b>	<b>\$ 80,599</b>
							Difference (Additional)	\$ 8,360	\$ 15,184	\$ 15,412	\$ 15,646

**Note 1** -- ADDITIONAL O&M = 3 new webcams (2019), 2 new stream gages (2017).  
**Note 2** -- O&M projection for 2020 to 2023 based on 2 additional stream gages being installed summer 2017. State Capitol Budget pays for installation and calibration through June 2020. Flood Authority pays for O&M starting July 2020. 2020 cost will be for half the year. First full year of O&M for 2 additional stream gages will be 2021. See 2017 Flood Authority memo at following link:  
[https://www.ezview.wa.gov/Portals/1492/images/Staff%20memo%20-%20New%20gages%20%20-%203152017\(1\).pdf](https://www.ezview.wa.gov/Portals/1492/images/Staff%20memo%20-%20New%20gages%20%20-%203152017(1).pdf)

**Attachment B  
Staff Recommendation**

**I. Recap of 2014-2019 Allocation Approach**

Annual cost for 2014, 2015, 2016, 2017, 2018 and 2019 were allocated among Flood Authority counties as follows:

- o Grays Harbor County -- 22%.
- o Lewis County -- 64%.
- o Thurston County -- 14%.

The method behind this allocation was as follows:

- o 50% of the allocation was based on populations of communities prone to flooding.
- o 50% was based on historic FEMA flood insurance payments.

This allocation approach was unanimously supported by Flood Authority beginning in 2014 (see [here](#)).

**II. Staff Recommendation**

Flood Authority agrees to use the same allocation approach as last year (see [here](#)) on the basis that relatively not a lot has changed in the Basin in terms of population shifts and/or exposure to flood risk, i.e., Lewis County still has largest population and risk exposure in the Basin.

2020 annual costs are proposed in the same manner as 2019 with Grays Harbor County paying 22% of costs, Lewis County paying 64% of costs, and Thurston County paying 14% of costs. 2020 costs are:

	2019	2020	Difference (increase)
Grays Harbor County (22%)	\$13,323.73	<b>\$15,417.72</b>	\$2,093.99
Lewis County (64%)	\$38,759.94	<b>\$44,851.56</b>	\$6,091.62
Thurston County (14%)	\$8,478.74	<b>\$9,811.28</b>	\$1,332.54

Increased costs are due to increased O&M from recent Flood Authority approved expansions to Flood Warning System (new gages, new webcams). Costs are warranted, especially given consistently increasing usage of system (discussed further in Attachments C and D).

Staff and Lewis County (as fiscal agent) are directed to implement and prepare payment schedules (1<sup>st</sup> half due 3/31/2020; 2<sup>nd</sup> half due 7/31/2020).

**Note:** Lewis County, acting as fiscal agent for the Flood Authority, has historically handled billing and processing for payments associated with the Flood Warning System. It is assumed this practice will continue for 2020. It should be noted however that Lewis County's role could be modified/adjusted as further thought and consideration is put into ownership, operation and maintenance of the Flood Warning System in light of the Office of Chehalis Basin and Lewis County Flood Control Zone District assuming more prominent roles.

**Attachment C  
Draft Outreach Content**

**I. Flood Warning System Usage (1)**

Increasing annual O&M costs are warranted when Flood Warning System usage increases. One measure of usage is email gage alert sign-ups. As alert sign-ups increase, per capita costs decrease.

Flood Season	Gage Alert Sign-Ups	Annual O&M Cost	Per Sign-Up Cost
2013/14	n/a	\$ 53,585	
2014/15	379	\$ 60,485	\$ 159.59
2015/16	845	\$ 57,935	\$ 68.56
2016/17	951	\$ 57,935	\$ 60.92
2017/18	984	\$ 59,169	\$ 60.13
2018/19	1037	\$ 60,562	\$ 58.40
2019/20	1500	\$ 70,081	\$ 46.72
2020/21	1600	\$ 77,961	\$ 48.73
2021/22	1700	\$ 79,267	\$ 46.63
2022/23	1800	\$ 80,599	\$ 44.78

**II. Draft Outreach Content (for letter or email)**

To continue to increase gage alert sign-ups, as (1) an inexpensive way to keep citizens, businesses, first-responders, etc. informed of changing river conditions and (2) a way of continuing to lower per capita costs, a targeted outreach campaign for the month of November 2019 is planned. First on the order is outreach to churches and faith communities in the Basin to increase gage alert sign-ups.

DRAFT email outreach content . . .
<p>Dear <b>**name**</b>:</p> <p>My name is Scott Boettcher. I am staff to the Chehalis River Basin Flood Authority.</p> <p>I am contacting you to raise your awareness of the Chehalis River Basin Flood Warning System (<a href="http://www.chehalisriverflood.com">www.chehalisriverflood.com</a>) and would like to ask that you share the attached with your congregation.</p> <p>The Chehalis River Basin Flood Warning System provides an email alert flood notification program. The email alert flood notification program allows individuals and organizations to sign-up to receive automatic email alerts from select river gages once those river gages reach elevated and potentially threatening flood levels. The Chehalis River Basin Flood Warning System is one way the Chehalis River Basin Flood Authority is working to ensure Basin residents are flood aware and flood prepared.</p> <p>Here are some additional resources:</p>

- 2019-20 Flood Alert Sign-Up Information --> Click [here](#).
- Interactive Gage Alerts map --> Click [here](#).
- Flood Warning System icon for posting to your website --> Click [here](#) (option 1), [here](#) (option 2).

Thank you for your consideration and feel free to contact me to discuss further.

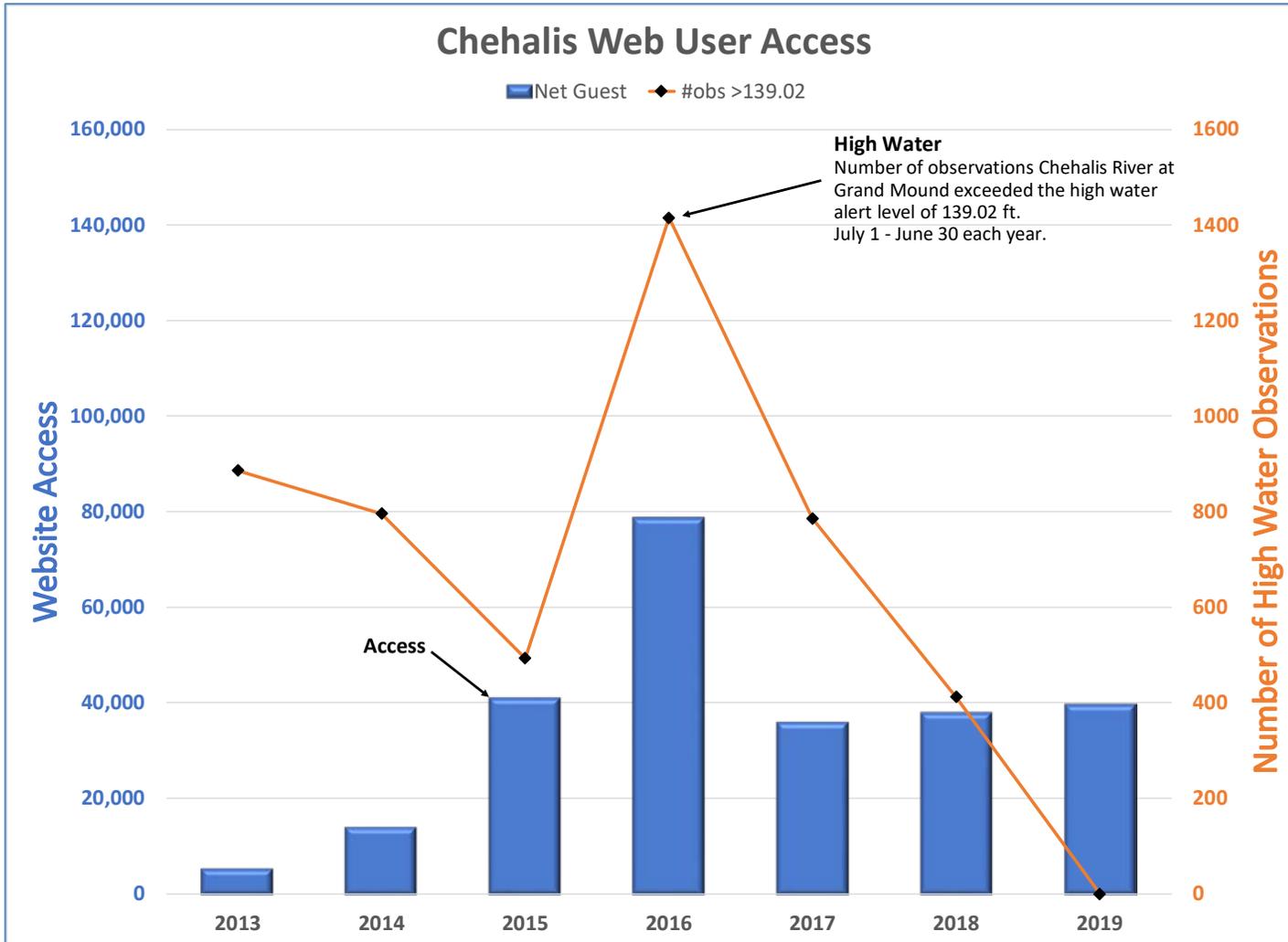
Scott

***Be Aware, Be Prepared.***

**Scott Boettcher, Staff**  
**Chehalis River Basin Flood Authority**  
360/480-6600  
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## Attachment D Flood Warning System Usage (2)

As river levels rise (orange), Flood Warning System website usage rises (blue). Usage has been steady to slightly growing, even with recent drier flood seasons. Website usage appears to be becoming in-grained in the community.



- ✓ 2013 -2015 -- Initial growth as website awareness spreads.
- ✓ 2016 – Usage spiked as high-water observations spiked.
- ✓ 2017-2019 – Slow, steady growth in usage despite drop in high-water observations.