

December 4, 2005

Via E-Mail

Mr. Joseph Weber
Federal Emergency Management Agency
Region X, Mitigation Division
130 228th Street SW
Bothell, Washington 98021-9796

RE: Response to Colonel Debra M. Lewis, Corps of Engineers Letter dated 11/22/2005 re
Hydraulic studies on the Skagit River

Dear Mr. Weber,

On or about November 28, 2005 you received the letter referenced above from Colonel Debra M. Lewis, U. S. Army, Corps of Engineer, District Engineer, which among other things showed the bullying of Skagit County's flood control efforts by the U. S. Army by once again showing it's the Army way or the highway approach to working with local governments.

As a taxpayer and individual that has been involved with the Skagit River flood issue for over 30 years I must go on record as stating that I am appalled at the content of her letter. As we both know, hydrology is not a science. In fact the argument could be made that hydrology is an insult to science. Hydrology is a mathematical statistical analysis of **assumed** data. The hydrologist like the statistician can literally make their end result say anything they want it to by the inclusion, manipulation or exclusion of "data". It is the assumed data that is in question with respect to the competing Skagit hydrology studies. The Corps of Engineers study excludes 20 years of approved, observed and accepted gage data. The Skagit County study includes those 20 years. You and I have personally spoken many times over the years about your personal and professional feelings regarding the inclusion of the Stewart 1923 figures. Your justification has always been "You can't exclude data." How than Mr. Weber can you justify throwing out 20 years of recorded, observed data?

One of the main issues in Skagit County is the inclusion of the "Stewart" data derived from a highly questionable flood report written by an "agent" of Skagit County (he was paid directly by Skagit County not USGS, See [Payment to James E. Stewart](#) , [Payment to James E. Stewart](#) , [Payment to James E. Stewart](#) and [Payment to James E. Stewart](#)) and clearly the legal argument could be made that USGS had no business publishing anything this gentleman wrote. Skagit County owned his work product, not the government.

The Corps of Engineers study blindly accepts the Stewart 1923 Report without trying to justify the conclusions reached in that report. Skagit County has shown major flaws in accepting those conclusions including but not limited to the fact that Mr. Stewart has all the water in the four outlier floods (1897, 1909, 1917, and 1921) as all going through The Dalles. Skagit County has taken the exact same computer model used by the Corps of Engineers and did what the U. S. Army should have done years ago and shown that all the water cannot make it through The Dalles using Mr. Stewart's flow figures. For Colonel Lewis to state that the Corps of Engineers is using the "best available scientific information" is an insult to hydrologist and taxpayers alike.

Simply put, they are using what they choose to use, not all of the available information to them.

Further, Colonel Lewis touts the "independent technical review" of the U. S. Army's hydraulic study by the Hydrologic Engineering Center in Davis California. When one reviews the complete name (**Department of The Army Corps of Engineers Institute for Water Resources Hydrologic Engineering Center**) one is left asking the question, "How independent was the review?" This would be the same as USGS Tacoma office sending out the Stewart Report for independent technical review to USGS Colorado Water Science Center. I submit to you that there is nothing independent about one agency reviewing its own work product. The time has come to demand that government agencies receive "independent technical review" by private enterprise not dependent on government contracts for their survival. Having the fox count the eggs in the henhouse is not exactly an appropriate method of winning the hearts and minds of the American public.

Strictly from an engineering point of view there are so many questions concerning the Stewart data, and thus the Corps hydraulic study, that it is not much of a leap to disregard those floods altogether. As stated, the Skagit County hydraulic study has left in the high water marks shown by Stewart and let the Corps of Engineers model show the flawed conclusions reached by Mr. Stewart. What Skagit County has not shown you and I now submit for your perusal is the following:

In 1924, Colonel Barden of the Corps of Engineers held a public hearing in Skagit County to discuss the future of flood control in Skagit County. At that public hearing, one year after the submission of the Stewart Report in October 1923 Colonel Barden stated the following:

I would like to emphasize the point that Mr. Knapp¹ brought out in his paper, that before any really scientific plan can be prepared for the protection of this valley from floods, it is necessary to have more authoritative information than we now have as to the amount of water carried by the river in time of floods. . . . The information that was collected by Mr. Stewart and given in his report to the committee was excellent so far as the data that he had to work upon permitted, but that data was necessarily more or less inaccurate. (Source: [Notice and Minutes of Public Hearing, 1924](#))

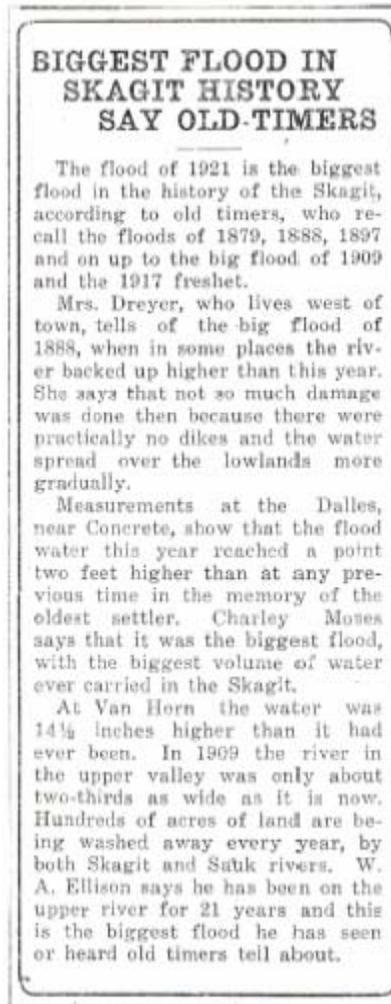
USGS in its feeble attempt to conduct an "independent review" of the Stewart Report stated the following:

Stewart's study of historical floods in the Skagit River basin had, by today's standards short-comings, simplifications, incomplete documentation, no known photographic documentation, and took decades to review and complete the evaluation of flood hydrology for the Skagit River near Concrete. (Source: [Review & Comments, "Draft Evaluation of Flood Peaks Estimated by USGS" by Robert D. Jarrett, Ph.D., USGS, National Research Program, 2/14/05](#))

I view Dr. Jarrett's comments as nothing short of a public admission of the quality of information the U. S. Army considers "best available scientific information". Is this really the quality of information the Federal Government uses to determine multi-million dollar flood projects?

¹ Mr. Knapp was the Skagit County Engineer who worked closely with Mr. Stewart and his comments can be viewed in their entirety at [Robert E.L. Knapp, Skagit County Engineer, Testimony for 11/26/1924 Hearing](#).

Very near the end of the Stewart Field notebook at approximately page 140, there is a long list of notes he made to himself on things he had left to do in order to finish his "study". Among the list was a notation at number 18 which stated "Get all data concerning floods and damages from newspapers." Another notation was to interview a man by the name of Charlie Moses, an upriver tribal member who according to Stewart's notes lived near Bacon Creek and was "a good man". It is clear from reviewing this list that Stewart never completed the things he viewed necessary to complete his work. If he had done these things, like the local newspaper did, he would have discovered the following:



Source: Courier Times 12/22/21 ([12/22/21 CT](#))

Not only does the article document from several sources that the 1921 flood was higher than the other historic floods but they interviewed Charlie Moses, the man Mr. Stewart had on his list of things to do. There is no reason to believe that had Mr. Stewart interviewed Mr. Moses that Mr. Moses would have told Mr. Stewart anything different in 1923 than he told the newspaper just ten days after the flood occurred.

If that was the only local news article that came to that conclusion perhaps it would not carry the weight that it does. However, a week later the Concrete Herald ran the following story:

FLOOD WAS HIGHEST IN SKAGIT COUNTY HISTORY

Old timers in the Skagit valley, who have seen all the floods in the Skagit valley since the early 80's say that the recent flood carried a greater volume of water than any previous flood since the county was settled, surpassing even the famous high water of 1897. The fact that the river did not reach marks set in former years at some points in the upper valley is accounted for by the widening of the river since that time. In all places where the banks of the river have remained unchanged the **1921 mark is considerably above that of any previous flood known to settlers.** (Source: [Concrete Herald 12/31/21 C.H.](#))

Further, when one reviews the newspaper articles concerning the 1909 flood in Burlington and compares it to the 1921 flood it is clear that the 1921 flood was more damaging even in the lower valley than the 1909 flood was:

Burlington had about one foot of water in some of the streets, and there were many buildings over the town that were not even surrounded by water. (Source: [12/3/09 B.J.](#)) Thursday was a great day in Burlington and many talked of camping on the heights Tuesday night, but the change came about noon, the water went down rapidly and Burlington has perhaps received less damage than any other town on the Skagit. (Source: [12/3/09 The Journal](#))

Monday night, December 12, the dikes east and southeast of Burlington broke. Tuesday morning at six o'clock the flood water covered Fairhaven Avenue, and in part the residence districts of the city. At this time the entire lowlands lying east, west, south and in part northwest of Burlington were inundated. The depth of water is on relative, the lamentable fact being that the area of low lands covered with water was wide-spread. (Source: [12/16/21 B.J.](#))

Had Mr. Stewart ever gotten around to completing his long list of "things to do" his report might have had a degree of creditability. At best, his report is incomplete and never should have been published 40 years after the fact by USGS and blindly accepted by the Corps of Engineers as "best available scientific information". There is nothing even remotely resembling science in Mr. Stewart's report.

Mr. Weber, I could go on for pages (and plan to in the near future on my web page) showing you the questionable conclusions reached by the U. S. Army's hydraulic report submitted to you by Colonel Lewis. However, suffice it to say that in the interest of honesty and truth I hope that FEMA will accord the Skagit County hydraulic report the same equal consideration it will give the U. S. Army hydraulic report. Certainly based on the verbiage contained herein, the U. S. Army report could be viewed as having just as many or more flaws contained in it that the U. S. Army feels the Skagit County report contains.

Sincerely,

Larry J. Kunster

cc: 647 E-mail recipients' across the Nation
All Elected Officials Representing Skagit County
Corps of Engineer Headquarters Wash DC
USGS Headquarters Wash DC