
From: Stephen F Blanchard [mailto:sfblanch@usgs.gov]
Sent: Wednesday, February 24, 2010 9:42 AM
To: Chal Martin
Cc: Albert Liou; Cynthia Barton; Dan Berentson; Long, Kevin; LornaEllestad; Carey, Mark; Malcolm Leytham; Robert R Mason; Ike, Ryan; Jerad D Bales; Michael Nolan; Mark C Mastin; Robert A Kimbrough; Blanchard, Stephen F
Subject: RE: Request for USGS Participation in a Technical Conference: Skagit River WA Hydrology

Mr. Martin,

Since 2003, the U.S. Geological Survey (USGS) has been very actively involved with the Skagit Valley community in re-evaluating our historic flood data for the Skagit River. We recognize the critical importance of this issue to the community for flood protection and economic development. I can assure you we have taken your concerns and questions seriously.

The list below describes some of the work which the USGS has performed on your community's behalf since 2003:

1. We freely opened our archives related to Mr. Stewart's flood studies to the community for their review and scrutiny.
2. Our USGS Washington State and National flood experts carefully went over Mr. Stewart's field notes and analyses, as well as field notes and analyses of a number of hydrologists that succeeded him in studying flooding on the Skagit River.
3. We spoke to the community about our recent investigations of this historic data at public meetings.
4. We visited the measuring sites and did some preliminary paleoflood investigations and brought in experts in Cascade Mountain runoff, debris flows, and geomorphology to evaluate any potential impacts to the historic flooding.
5. In order to re-evaluate the 1921 peak discharge estimate, we collected and analyzed additional flood data in 2003 and 2006 and published the results in two formal USGS reports (references below). Based on these studies, the USGS decreased the 1921 peak discharge by 5 percent.
6. We reviewed the analyses of the community's consultants including PIE and Northwest Hydraulics Consultants. This includes the report associated with the modeling done fairly recently upstream of the gage. We feel that it would be irresponsible for us to revise our flood estimates using this work given uncertainties associated the reach chosen for the modeling.

7. We requested that Bob Jarrett, a USGS National Research Program hydrologist review and provide feedback on the modeling work of your community's consultants.
8. We answered numerous questions from the consultants, the Corps of Engineers, and FEMA related to our data, collection methods, and analyses. These questions included ones related to high water marks, the measuring datum, and roughness coefficients.
9. We held a one-day meeting in Reston several years ago with the PIE consultants, a Skagit County Commissioner, Bob Kimbrough, Mark Mastin, and me.
10. We have done a formal response to a congressional inquiry, several county responses to their inquiries, public meetings, many private meetings with the consultants.
11. John Costa, our USGS National Flood Coordinator (now retired), and Mike Nolan, our USGS Western Region Surface Water Specialist, have all reviewed the historic data.

The USGS considers the peak-discharge estimate of 228,000 ft³/s for the 1921 flood on the Skagit River near Concrete as documented in the USGS Scientific Investigations Report 2007-5159 as the best estimate of the 1921 peak discharge. It utilizes modern indirect hydraulic analysis at a relatively uniform site selected to minimize complications in the flow hydraulics. Also, it utilizes high-water-marks and channel geometry data surveyed soon after the peak, and it does not require the data to be tied to an elevation datum.

The USGS is always willing to consider historic flood information, but as far as we know we have considered and evaluated all currently available information and nothing better exists than the work done by Mr. Stewart after the flooding and recently re-evaluated by the USGS. We would be willing to listen to suggestions from a group such the National Academy of Sciences or participate in collecting additional historic information using paleoflood techniques if such work would help clarify issues for the community. In summary, given the extensive work we have already done and the lack of any new compelling field information, I do not see how another meeting would be productive at this time. As a result, we respectfully decline to attend the proposed workshop.

Sincerely,
Stephen Blanchard