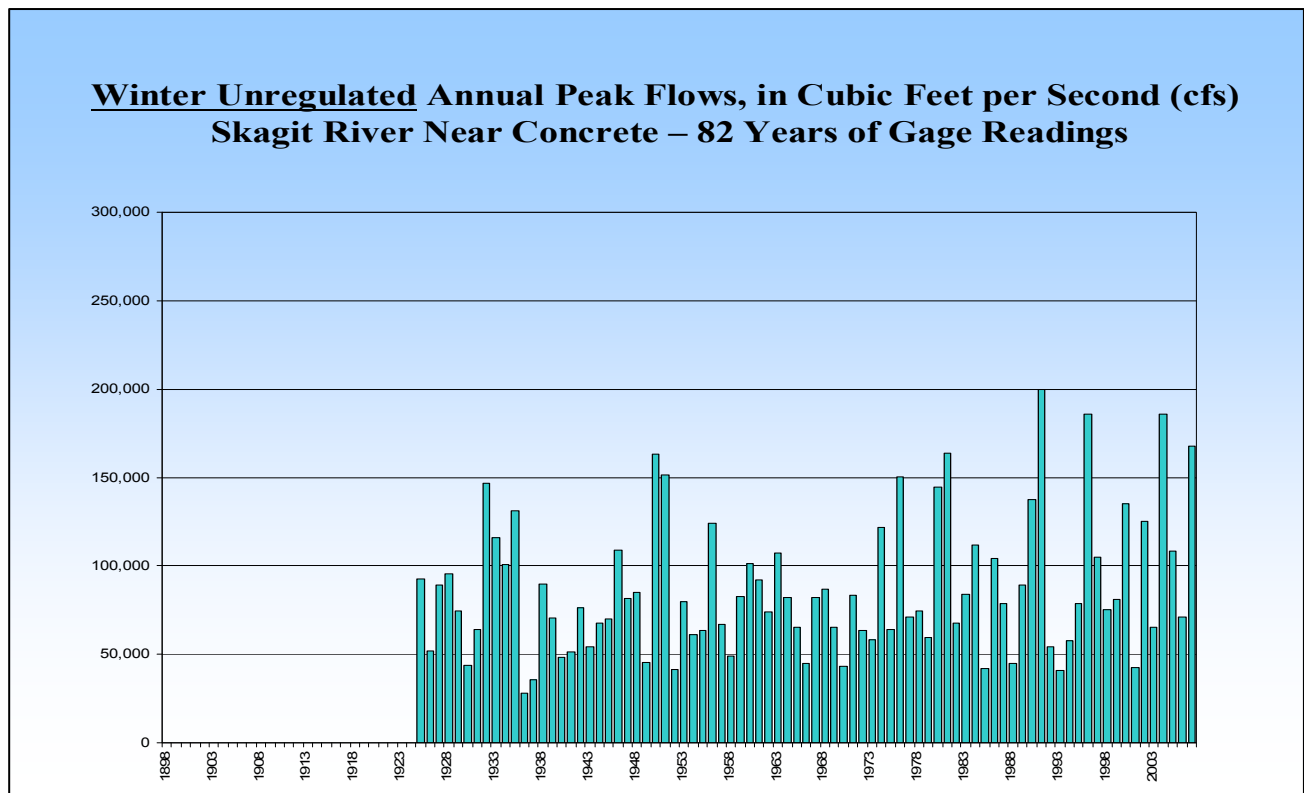


Public Works

FEMA Flood Mapping and Skagit River Hydrology – Could the Administrative “Cure” be Worse Than the Problem?

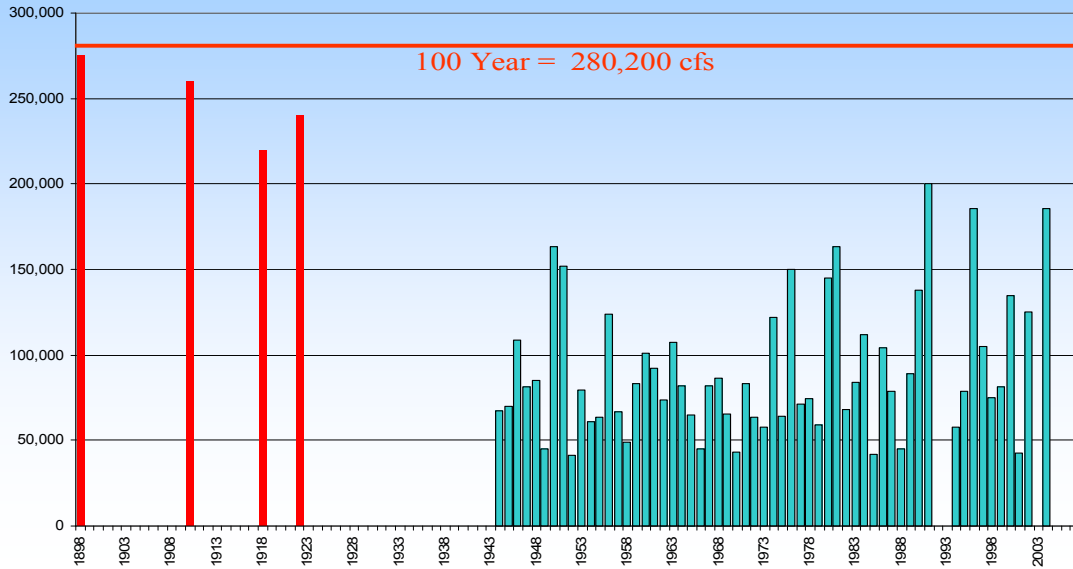
We all know Skagit River flooding is a serious issue. Since 1991, we have had four floods with the potential to put water into parts of the City; however, Dike District 12 was successful each time in protecting the City. Since 1991, the Dike District has improved the levee system in key areas. Today, Dike 12 can withstand a larger flood event than any recorded in 82 years of gage records.

FEMA, through its technical consultant the US Army Corps of Engineers, believes the theoretical 100-year flood is much larger than any recorded flood of the past 82 years. The City of Burlington disagrees with this analysis and believes that while a 100-year event is much larger than any floods recorded in the past 82 years, the 100-year flood is not as large as the FEMA analysis indicates. This is because the gage record of the past 82 years (see graphic) does not support the estimates of historic flooding that are included in the FEMA analysis. The graph below shows the unregulated peak flows recorded on the Skagit river for the past 82 years:

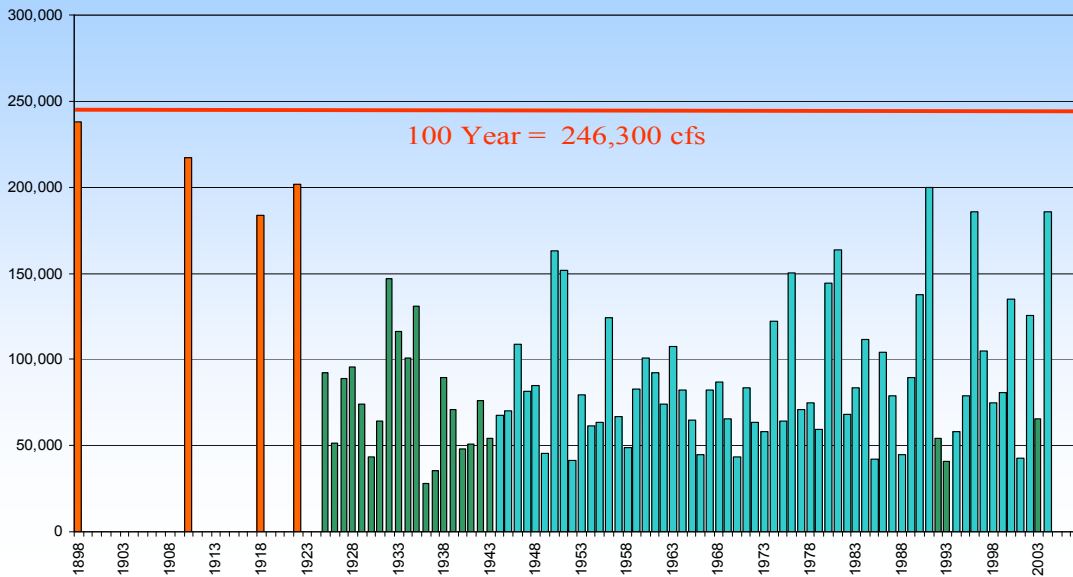


At issue in the hydrologic analysis is the magnitude of flooding that occurred prior to the gage installation in 1923. We believe the estimates of these historic events FEMA is using are too high and skew the hydrologic analysis high. You can judge for yourself. Graphical depictions of the 82 years of recorded data, the differences in the data sets, and the 100-year discharges projected from those data sets are shown on Page 7:

Winter Unregulated Annual Peak Flows Skagit River Near Concrete: Corps of Engineers Data Set



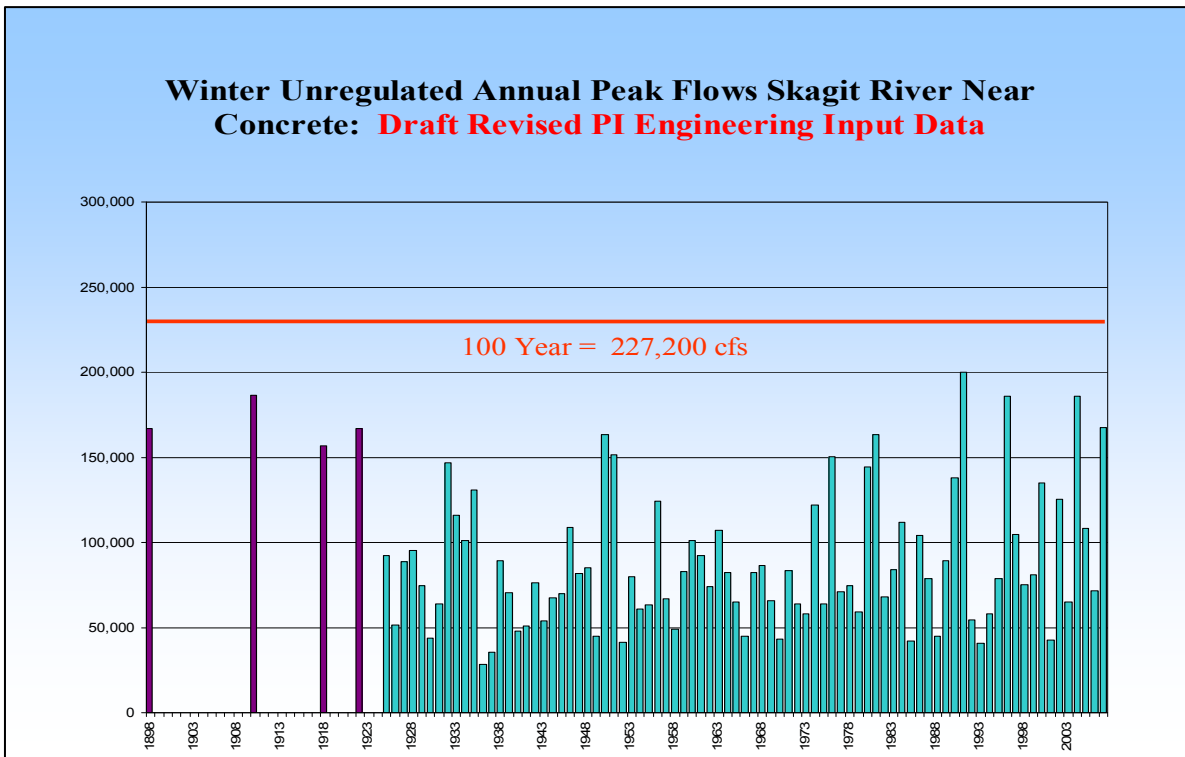
Winter Unregulated Annual Peak Flows Skagit River Near Concrete: PI Engineering Data Set



continued on Page 8

Continued from Page 7 — PUBLIC WORKS
FEMA Flood Mapping and Skagit River Hydrology

Since the City’s consultant, Pacific International Engineering, published its original hydrology and hydraulics report in December 2005, Burlington has conducted additional study work in Hamilton, based upon the flood history of the Smith house, built in 1908. This new information has been incorporated into the latest technical analysis from PI Engineering, resulting in the revised unregulated peak flow estimates shown here:

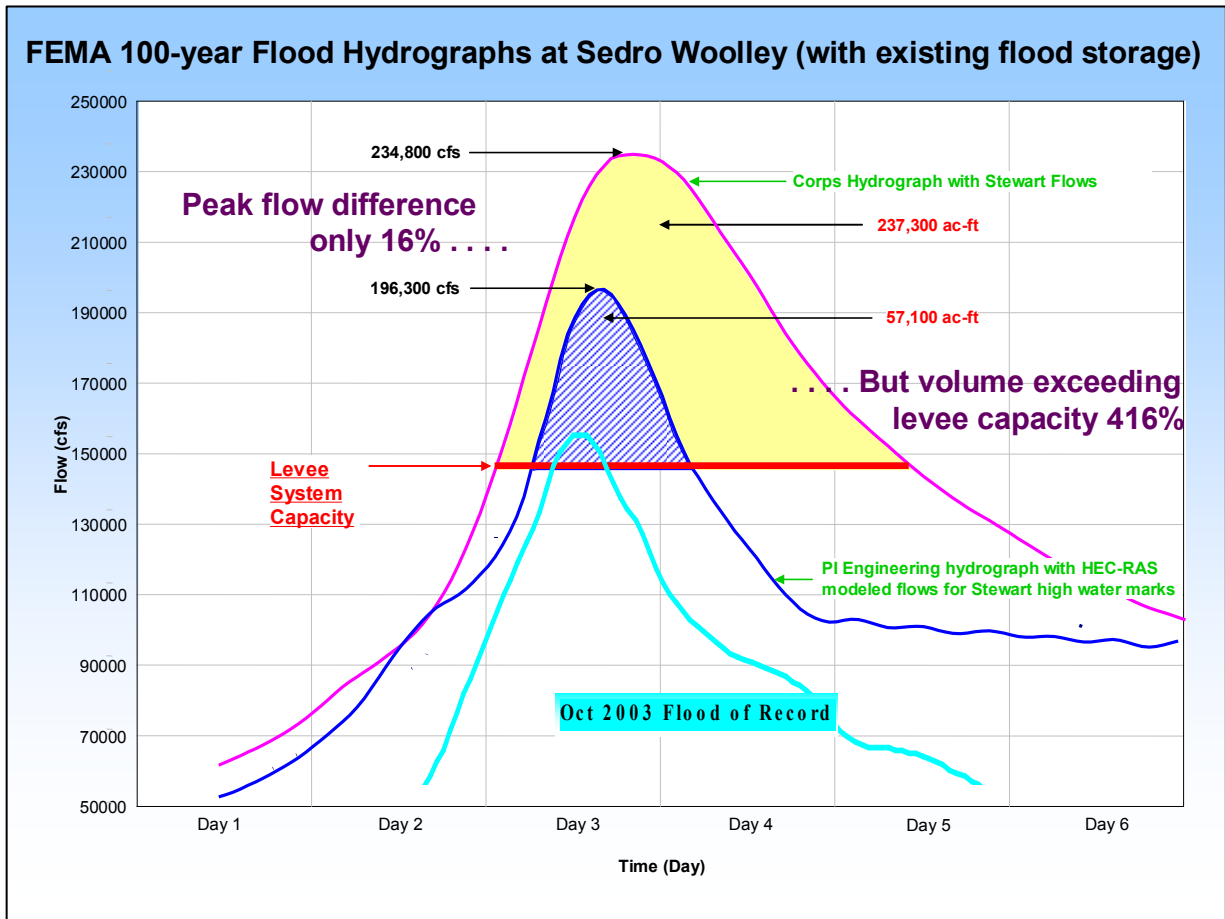


The charts above speak to unregulated flow estimates at Concrete, Sedro-Woolley and Mount Vernon. Taking into account the currently-authorized flood storage behind Ross and Upper Baker dams, the table below shows the differences in the various technical estimates, compared to the 2003 flood of record for the Skagit River:

100-Year Regulated Peak Flow Estimates (cubic feet per second)
Corps of Engineers and Pacific International Engineering

<u>Analysis/Data</u>	<u>Concrete</u>	<u>Sedro-Woolley</u>	<u>Mount Vernon</u>
FEMA	226,400	234,820	221,510
PI Engr 2005	192,300	196,300	174,200
PI Engr 2007	178,700	180,900	162,100
Peak since 1924	166,000	163,000 (est)	152,000

These differences are shown in the graphic on Page 9:



Recently, the Cities of Burlington and Mount Vernon, along with Dike Districts 12 and 1, have been working cooperatively with Skagit County to try to find a way to get an independent and fair review of our side of this story. There has been some progress in that regard, in that the entities above recently agreed to a joint defense framework that enables everyone to work together and share information.

The ramifications of incorrect hydrology will be serious and persistent for the entire Skagit Valley, and negatively affect the long term economic vitality and future quality of life for our area citizens. Growth in the property tax base is essential to provide important services our community needs, including schools. Most people do not realize that the base flood elevations will go up, no matter which analysis is used. So there will be a financial handicap – it is already going to happen. At issue is whether our community will be handicapped for decades by overly conservative base flood estimates which follow from an incorrect analysis, or whether we will have a chance to, over years and perhaps decades, at least certify our levies and take other appropriate actions to protect ourselves from the externally-generated, administrative handicap that is being thrust upon us. Ultimately, it may not be the flood itself, but rather the negative economic consequences of the overestimated 100-year flood that turns out to be the greatest risk for the City. We recognize the difficulty of, on the one hand, ensuring our citizens have a healthy respect for the Skagit flood risk, while on the other hand, protesting that the risk is overstated by FEMA. But it is a critical distinction that must be made. On the one hand, we have a tangible flood risk that we can deal with directly; on the other hand, we have an administrative program that, over time, could cause the economic foundation of the community to slowly wither. In the end, the greatest threat could be the latter.

We welcome your thoughts on this issue. If you would like additional information about this article, or would like to view more in-depth information, please call the Burlington Public Works Department at 755-9715, email our Public Works Director at smartin@ci.burlington.wa.us or stop by the Public Works office in our new City Hall, 833 South Spruce Street.