

SKAGIT RIVER FLOOD CONTROL COMMITTEE MEETING

June 5, 2000

Present

Flood Control Committee Members

Chuck Bennett
Lee Bode
Ed Capasso-excused

Leonard Halverson
Neil Hamberg
Herb Hansen-excused
Don Moe
Dan O'Donnell
David Olson
Richard Smith

Others in attendance: Bud Karvelis, Bob Dean, Gary Jones, John Shippee, Carol Ehlers, Larry Kunzler, Facilitator: Valerie Lee, Skagit County Public Works: Penny Harrison, Sky Miller, and Jackie Vander Veen, U. S. Army Corps of Engineers: Stephen Pierce, WA St Dept of Ecology: Dave Burdick

Chairman Bennett called meeting to order at 7: 07 PM

Roll was called: The recent passing of Flood Control Committee (FCC) member, Louie Parker was noted.

Meeting Minutes: Motion was made to accept the April minutes and seconded.

Flood Study Update:

Miller: Skagit County staff and its consultant have been meeting with state agencies and their directors to notify them of Skagit County's plans and publicize the U. S. Army Corps of Engineers (Corps) Skagit River modeling results. We have also explained our efforts including the formulation of a long-term plan. Skagit County is requesting that these agencies way in favor and/or assist with funding. Those agencies contacted include: Washington State Department of Transportation (WSDOT), National Marine Fisheries Service (NMFS), and Washington State Department of Ecology (DOE). WSDOT Director Sid Morrison, and two of his top engineers were asked to designated a top person to keep track of our activities and plans and to attend the work-group meetings where they may be called upon to make decision. Mr. Morrison designed a top regional

engineer. NMFS director, Kurpatrick, assigned a fish biologist, which DOE director, Thomas C. Fitzsimmons, gave the assignment to Dave Burdick who has already been working closely with VanderVeen on the study.

The team (Sky Miller, Jacqueline VanderVeen, Valerie Lee) have met with several other interest groups including: Rotary clubs in Sedro-Woolley, LaConner, and Mount Vernon and the Association of Realtors. Future meetings will target city councils, the railroad and other interested organizations. If you have a group that is interested in a presentation, have comments, want to be involved, or would like to offer a suggestion for the selection of candidates represented on the work group, please let us know. This would enable you to feed information through them. The work group will be back with two or three options, what they have found out, what they have been up to, what the options are, and recommendations and costs.

Ehlers: It would be a good idea to have the Planning Commission involved. They will want to be notified of any significant recommendations. A recent presentation was only the second time that the planning commission has heard about flooding issues.

Miller: Any other ideas?

O'Donnell: The City of LaConner Council would like to have a presentation. They meet the second and fourth Tuesday of each month.

Miller: We would like to have input from the FCC members as well as anyone who has history on the river to be sure that the results accurately simulate the way the river will react. It is kind of an iterated process. We have a good first cut at the computer model as to breaks, but it is helpful to have a reality check. If there is anything about the model that surprised you or don't buy it, then it would be helpful to have some input. The key to the proposal and the ability to sell relies on the authenticity and believability of the model - that the modeling effort is the best we can produce. Let us know when something you see doesn't agree with your intuition. We will continue to show you the information we have.

Flood Study Facilitator Update:

Lee: We have had meetings with agency officials and from our side are trying to plan the logistics of the working group. We have a final list based on our scouting missions, comments from the FCC, and input from the community. We have tried to create an organization group

The selected members include:

Risk Management Working Group	
Participant	Organization/Community
Bennett, Chuck	East Side of the River
Boudinot, Bob	Mount Vernon
Burdick, Dave	WDOE
Capasso, Ed	Anacortes
Cook, Carl	FEMA
Halverson, Leonard	Up River
Hedlin, Dave	LaConner/Agriculture
Johnson, Rich	WDFW
Jones, Lou Ellyn	FWS
Josephson, Bob	WDOT
Miller, Sky	Skagit County Public Works
PM - to be announced	U.S. Corps
Roozen, Will	Agriculture/Drainage
Schmidt, Corey	Planning and Permitting
Scuderi, Mike	U.S. Corps
Smith, Richard	West Side of River
Solomon, Shirley	Environment
Teersdma, Gus	Burlington
to be announced	NMFS
Vander Veen, Jackie	Skagit County Public Works
Wasserman, Larry	Skagit Systems Cooperative
Wylie, Curt	Fir Island

These individuals have accepted and will have their first meeting in July. This meeting will be either the 18th and 19th or the 25th and 26th of July. Due to scheduling, the final date has not been determined. An information packet will be created to give folks a better sense of focus and what steps will occur. We want to underscore to the FCC that the bottom line is the FCC needs to be involved in this process. If you want a copy of the packet, please let us know (return the enclosed postcard with any address correction). The FCC is key to the success of the working group. You are sub-group that works on issues as they arise - a place to vent issues and tell the work group what you think. There is too much knowledge on this committee not to use you. We want you to stay involved. You will be given information as we acquire it. You will also be given assignments. We will be coming back to you for input and decisions. It is pretty much the same structure and basis. The first meeting will establish a common base. During the second phase, the work group will move into helping the Corps and Skagit County select the alternatives for more serious consideration. Engineers' studies do not get the feel of the community. The third phase will help us get to place where the public will feel comfortable with a couple or a single alternative. The working group is the hub and the FCC is the spokes going out to community.

It is our hope that the FCC will assist with the community outreach. There will be small meetings with the community during each of these junctures. That is how I see it evolving. I don't know what the project will be but I am pretty confident – we are a special moment in time – there are opportunities that didn't exist and there are opportunities that make the outside person very optimistic. We hope to get to a place

were a good portion of the community will agreed that an alternative is worth pushing forward.

Lee asked for a show of hands of those interested in the information packets. Those responding included: Ehlers, Gary Jones, Halverson, Larry Kunzler. Recorded suggested including a postcard in minutes for response from the mailing list.

Lee also suggested either E-mail or regular mail.

Lee: In addition to the packets there will be a web page that will keep you abreast of the activities of the working group. You can also reach me, Valerie Lee at 206.525.2262 or Polly Hicks at 206 525-3362 can also assist you.

Ehlers: The work group or FCC should also consider letters to the editor. I find that many people read the letters to the editor more carefully than other parts of the paper. It is an excellent way to educate people long before choices need to be made. Other issues might help to be laid aside through this medium.

Lee: In addition to letters to the editor, Sky said you should list concerns regarding the model. If there are issues to consider what are they and why. The point is, you have far too much insider knowledge for us not to access. We want to be sure that this information gets captured. We will be producing a video for distribution and presentation.

VanderVeen: We are in the preliminary stages on the video that will depict flooding in the valley. Lots of people are moving in to the valley and don't understand the flood risk. One good medium would be a video. We will be able to use it for small meetings, city councils presentations, public meetings, and air it on the government channel. We are in the process of contacting a number of different people who have witnessed or fought historic flood events. I have had the fortunate experience of talking to some of those people. Just to increase awareness of what our geography is here.

Bennett: Now, I would like to introduce the new project manager from the Corps, Stephen Pierce.

Miller: Mr. Pierce is a civil engineer with a professional engineering license and certificate in cost engineering. He has been with the Corps for 26 years and has just recently returned from Hungary. He will give us a brief overview of his experience but since he has only been on the project for one week, you will not be able to grill him.

Pierce: I am an experienced hydraulic and civil design engineer. I was up here for the 1995 flood fight. As you may know, I am replacing Forest Brooks who has transferred to Alaska. I was on Forest's flood team which is made up of senior people in the office. I have 20 years or more experience working with a real strong team. I look forward to working with all of you.

Bennett: We will now have a presentation by Larry Kunzler on volcano's.

Kunzler: Actually the presentation will cover Flood Control namely dredging, the Corp Project as well as volcano's and we will do it all in twenty minutes or less or at least we are going to try.

FLOOD CONTROL, two words that go together as bout as well as Military Intelligence, Jumbo Shrimp and Government Organization. It represents the dinosaur approach to river management, Dike It, Dredge It, Dam It.

Dredging is environmentally a disaster, cost prohibitive, and an engineering liability.

Kunzler presented a historical list of dredging cubic yards that represented every single grain of sand ever moved around by the Corp of Engineers. They never dredged it, they side cast it. Meaning they took the material from the center of the river in order to keep the logging rafts moving and placed it on the riverbank. Which also meant that every time the river had a little high water it would pick up the material and move it back into the river channel. Sort of the governments idea of perpetual job security, (See attached to minutes). The chart clearly shows that there were floods during the years they side cast the river and this so called dredging had no impact on flooding whatsoever.

Next Kunzler showed a graphic on 100-year flood plain. It showed that the floodplain above Sedro Woolley is 1 to 3 miles wide. The channel is only 300 to 800 feet wide. It is estimated that in order to handle the water during a 100-year flood you would have to dredge the river to an average depth of 150 feet deep. In the lower valley the situation would be even worse. Kunzler showed a graphic depicting the results of a hydraulic analysis, which clearly showed the amount of water artificially, stored in the Sterling and Nookachamp area by the current levee system. The analysis shows that currently during flooding events like 1990 and 1995 the current levee system contains at least 7 to 9 feet between the levees and stores an additional 2 to 5 feet of water upstream of the Burlington Northern Railroad Bridge. If we were to dredge the channel between the levees it would create a hydraulic condition wherein the levees would fold into the river. "DREDGING NEVER HAS BEEN DONE AND WOULDN'T WORK ON THE SKAGIT RIVER."

Kunzler then stated that since dams and dredging are out of the picture then we are only left with two possible alternatives. He quoted from an October 14, 1991 meeting of the Joint Select Committee On Floodplain Reduction in which Sky Miller, then a Snohomish County Engineer stated the following:

"The problem is not how to keep the water in the channel. The problem is how do we get the water onto the floodplain in a safe manner. Levee failures cause tremendous damage. The solution to flooding is consistent heights on all levees and getting water onto the floodplain."

The second alternative is the 1966 Corps Avon Bypass project. He showed a graphic taken from the 1966 Corp study showing the location of the proposed channel.

However, due to statements made by County Commissioner Harvey Walden at a meeting on April 16, 1996 with the Corp of Engineers in which Commissioner Walden stated that the Corp couldn't develop a project so large it requires a vote of the citizens of Skagit County, and that the Corp had to stay within the limit of the Commissioners authority, Kunzler felt that the Avon Bypass would not receive a through analysis by the Corp of Engineers.

Next Kunzler discussed the current hydraulic analysis conducted by the Corp of Engineers. He stated that he had been after this hydraulic analysis for over 17 years. He felt that the analysis clearly showed that what he tried to tell FEMA in 1983 when he appealed the NFIS flood elevation figures for Mt. Vernon and Burlington was proven by this current study. That everything from Gages Slough south to the Skagit River and west to Padilla Bay should have received a "floodway" designation due to the depth of the water and the current in those locations. He stated that "FEMA will issue new flood insurance levels as soon as they have the Skagit River study in their hands."

Kunzler then presented a short presentation on the volcanics of the Skagit River floodplain. He had been contacted by flood committee Chairman Chuck Bennett about some strange "mud" Chairman Bennett found while working on a keyway project in the vicinity of the Burlington Sewage Treatment Plant. Kunzler had the mud analyzed by geologist who found the mud to be "volcanic tuff" or more commonly known as pure volcanic ash. The geologist determined that the material was not stratified, meaning the material was deposited in one event.

Next Kunzler presented an overhead depicting a recently released study to the Geological Society of America ("GSA") in Vancouver, B.C. by the State Department of Natural Resources ("DNR") geologist Joe Dragovich. DNR has determined that following an eruption of the Kennedy Creek assemblage on Glacier Peak, a huge pyroclastic lahar flowed down the mountain, into the Skagit River all the way to La Conner. The report analyzed borings and well logs and determined the following:

"The sediments contain abundant dacite fragments and appear to be lahar runout deposits. These deposits are exposed in 10 to 50 foot high terraces that face the modern Skagit River channel and flood plain and underlie the cities of Burlington, Sedro Woolley, Lyman, and Hamilton and much of the agricultural area of the lower Skagit Valley. We have traced a correlative stratum, both exposed and buried, to the vicinity of La Conner."

Kunzler then took the "volcanic mud" and formed it into a ball. Then he shook it to simulate what happens to volcanic soils during an earthquake. The mud ball flattened in his hand and oozed between his fingers like "silly putty." Kunzler explained that this was the process known as liquefaction. Then Kunzler presented an overhead of an earthquake study performed during the proposed siting of the nuclear power plant during the 1970's. The graphic showed an active earthquake fault line known as the Bellingham Bay—Lake Chaplain fault line running directly under Burlington and downtown Mt.

Vernon. The graphic also showed another active fault line known as the Hamilton fault line running right up the Skagit River. Kunzler explained that during an earthquake in volcanic soils you would lose your infrastructure, roads, sewer and water lines and your levees.

Kunzler concluded his presentation by stating his concern that Skagit County needs to inform its citizens that the Skagit River is the most dangerous volcanic flood plain on the entire West Coast of America. That the river is only 11,000 years old. That the channel of the river changes channel during volcanic events not flooding events. That the second most active volcano in the state of Washington, Glacier Peak, constructed the lower river valley. That the next time Glacier Peak erupts it could send another 40 to 50 foot high wall of volcanic material down the river and bury the town of Burlington. Kunzler stated, "It's time we told the citizens of our County the truth and quit lying to them."

Kunzler then took questions from the audience.

VanderVeen: How deep is the volcanic material?

Bennett: It was found at about 18 feet.

Kunzler: DNR found it at 10 feet. DNR will make their publication public later this Fall.

Question: How long have we been overdue for this?

Kunzler: Can't make that kind of prediction. Glacier Peak is the second most active volcano in the range.

Ehlers: Why is there not a gage on Glacier Peak?

VanderVeen: You can't see the peak from Interstate 5.

Kunzler: What I have stumbled onto is that the Corp of Engineers has been doing studies on the Skagit River since 1897. They never studied the volcano's. USGS has been doing studies in Skagit Valley since 1895, until recently they never studied the river. Both DNR and Corp information should be compiled into one review. I strongly suggest that the Corp add geotechs to the flood project.

Halverson: The pipeline study showed the fault information 25 years ago.

O'Donnell: What about Mount Baker?

Kunzler: The DNR study stated the following: "Significant laharcic and volcanoclastic sediment from Mount Baker has not been recognized in the Skagit Valley." In the past that pyroclastic flow moves north to Nooksack. What Mt. Baker has given us is large floods due to debris dams breaking up. In 1856 and 1815 those two floods came from Mount Baker.

Gary Jones: It doesn't sound practical to manage it. If it happens, you can just say goodbye.

Kunzler: One of the major concerns that USGS has is that the levees just might hold during a volcanic eruption. What you have then is the channel filling up with volcanic material, perching the river, thereby changing the flow of the Skagit through the center of Burlington.

VanderVeen: It would be more catastrophic than that.

Kunzler: Bennett's levees - I can see them holding. On other hand - a 40-foot wall of mud and ash would fill valley wall to valley wall. The river will go back to channel number two, Padilla Bay, where it was 5,000 years ago. We need a different mindset by our County Commissioners or we will not get the flood study we need.

Kunzler: We need to tell the public the truth about our valley and how it was formed.

Ehlers: A took a field trip to Day Creek. There is a 15-foot high remnant of volcanic activity on the south side of river.

Kunzler: I would like to organize a float trip to find and map these flows. DNR has read borings and analyzed some of these events.

Ehlers: I have asked that an article from the *Chronicle of Higher Education*, Jan 7, 2000 be attached to the minutes for distribution (attachment A). It demonstrates what can happen during sudden heat and melting glaciers. It happened in Nicaragua several years ago. Snowmelt is dangerous - can cause a forty-foot wall of mud.

Halverson: There is a great example of a volcanic lahar outside of Arlington. Go to Highland Crossing, then to Arlington. Proceed 4 or 5 miles to a dairy farm. The slag is 50-foot deep. **Get better directions/description from miller.**

Ehlers: Is there anyway we can tell the hospital committee about this.

Kunzler: It is my opinion that to put the hospital here is insanity in its finest hour. The most dangerous volcanic floodplain on the west coast of America and we're going to build a hospital in it? Either re-build the Mt. Vernon hospital or put a new one on Bay View Ridge, out of the floodplain.

Miller: There was an article in the paper two weeks ago.

Miller: There are two processes - classic eruption and then the mountain rotting away and collapsing - lahar has already started because of the landslide.

Kunzler: There are many types of volcanic events – landslide, glacier outburst floods, debris flows, earthquakes. You don't have to have a volcanic eruption to have a volcanic event. In 1993 when the Skagit River ran chocolate brown and almost shut down the Anacortes water treatment plant, that was a volcanic event. Caused by a glacier outburst flood on Glacier Peak.

VanderVeen: Glacier Peak behaves very similar to Mount Saint Helens. During that event, there was time to get people out of area.

Miller: I agree with Gary, I can't imagine that there is anything to do about this.

Kunzler: We can't stop it from happening. I'm in total agreement with that, however, I feel very strongly that we have an obligation to inform the public about the certainty of the situation, I mean the volcano will erupt and devastation will happen. I think that we should not be building hospitals, subdivisions and major commercial establishments within the most dangerous floodplain on the West Coast of America without informing people of what will happen here. In other words we shouldn't be making the amount of damages any worse than they already will be.

Bennett: Is it a possibility that the volcanic flows might not reach here?

Kunzler: There is certainly the possibility that the volcanic debris flows could be of such a magnitude that it could block off the Whitchuck, Suaittle and Sauk Rivers and force those rivers back into the Stilliguamish River system which is where they including the Skagit used to flow 11,000 years ago. The soils in the Stilliguamish Basin are the same as the Skagit. That's because they both had the same mother, Glacier Peak.

Ehlers: When collecting information of geological nature, each time you dig you find something else. There are two faults. The nuclear power plant information has not been available. If you don't know what the real science is you can't plan for it. If you knew of this information you would modify your plan. If you are planning for emergencies you have to know what it is against which you are planning.

Discussion on how long it would take if the dam broke or a pyroplastic flow traveled down the valley and water and mud followed.

Bennett: Additional business.

Question: What is the time schedule for river study itself?

Miller: Bottom of river has been surveyed to analysis conditions. Meat of study where we iterate back and forth between model and ideas of group and options they want to look at and tone it down to two or three and cost and benefits comparison. Going through the process with take 6 or 8 months. Then we will distill it into a feasibility report – from Corps. We don't have options yet.

Comment: At some point they will come to ‘these are the best options’?

Miller: They will analyze our choices and determine which is most viable.

Comment: A year from now as a guess?

Miller: With a recommended option but longer for environmental studies and to get the plan through congress. I think optimistically, a year from now. I think it is a good first start.

VanderVeen concurred – we hoped to be well into the report.

Miller: How much does the river go down as we set back dikes. Bottlenecks where we can’t economically set back – that will – speaking hypo – there is only so far we can go – we can only open it up $\frac{3}{4}$ of 100 year flood. We may need to spill over the top and deal with it that way. Similarly we go down stream, identify bottlenecks first and then look at other areas.

Question: After options are thought out, who will have the final say on what we are going to do?

Miller: This body will make recommendations to the Board of County Commissioners – they will have a final say but not the final say. After the Commissioners make their recommendation, it will go to the Department of Ecology and the Corps to approve with the state legislature, Department of Transportation, and a lot of people with final financial say. If we get people with salmon interest and who will be paying for it we have a very powerful tool that the final say will be affirmative.

Comment: Some people think it will come down to a vote.

Miller: Whether or not it comes to a public vote or a congressional vote for funding, fundamentally it will be the taxpayers that will decide. If we go to legislature and ask for funds, the taxpayers are essentially voting on it. Fundamentally we are selling it to the taxpayers.

Question: Will the people living in the areas were we decide to spill get some compensation?

Miller: Some dikes have been lowered and the citizens did not get paid. They got water more often but in a more controlled flow. There was a tradeoff but it was better. We worked with property owners as to where and they did protect the houses involved. In some cases, the whole district was bought out. There is that kind of horse trading all down the system. Forty percent in these cases was for overtopping but would only would spill 6-inches deep. This took miles and miles of dike for overtopping.

Ehlers: The model looked like there was an overwhelming amount of water in South Mount Vernon. Is there an outlet?

Miller: I-5 has plugged the outlet.

Ehlers: There needs to be a way for the water to get out.

Miller: Even if it does work you are only half done – need to chase the water to where it is going.

Bennett: What about the installation of tide gates. **Chuck – what did you say here?**

Miller: You mean the installation of big flood gates.

Bennett: I have slides that we could show at a future meeting.

O'Donnell: Was there ever a response to our response to the letter from the Department of Ecology?.

Miller: I don't think that there is any response.

VanderVeen: We are planning on having a dialogue on June 26.

Bennett: Where?

VanderVeen: Padilla Bay.

VanderVeen: This is just to start talking about the science on protection of the eelgrass. Just an initial beginning of dialogue

Burdick: Yes. We don't want to take more floodwater than would naturally occur.

Kunzler: Now there's a unique concept.

Bennett: Next agenda item – the next meeting. As we normally take July and August off I would like to have agreement on this. Is that OK? We will have the working group have their meeting in July and hopefully a presentation in September.

Halvorson: Forest Brooks eluded to a study that concluded that the North Fork of the Skagit River would silt up. Dredging people would like to see the study and so do I. He was referring to an old study from 40 or 50-years ago. I would like to see it.

Kunzler: I have it.

Pierce: I will get it to you.

Miller: We will have an update on the economic study in September.

Bennett: Is there anything else you would like to see on the September agenda?

Next meeting: September 11, 2000.

Adjourned: 8:45 pm.