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DOCUMENTS NOT CREATED IN 2010 POSTED IN 2010

Baker River Dam Storage Documents

7/11/1977	**Corps Letter to Skagit County**	Congress authorized an additional 58,000 ac ft of storage behind Upper Baker dam. Would reduce flooding during "major events". Ltr also addresses possible "deauthorization" of the Avon By-Pass project and the possible construction of a levee improvement project which would give lower valley 11 year protection with 3 feet of freeboard.
9/9/1977	**Corps Memorandum re Additional Storage**	Documents SCL plans for Copper Creek Dam and possible dams on Newhalum and Thunder Creek. States that PSPL had no plans to provide additional storage behind Baker River Upper Baker or Lower Baker dams.

City of Burlington Documents

7/12/1982	**Summary Report for DEIS - Hydraulic Investigations: Cascade Mall at Burlington**	A through and thoughtful report 13-page report on hydrology, circa 1982, on the hydraulics and hydrology of Burlington & Gages Slough. "The Corps further reported that nearly the entire runoff from the town of Burlington drains into Gages Slough."
4/1983	**Supplemental Hydraulics Investigation to the Cascade Mall**	Hydraulic calculations about how a 100-year flood would proceed through Burlington City Limits. **NOTE:** This report was never accepted by FEMA. "Cascade Mall hydraulic study could not be supported by any scientific or technical data." See 8/22/1983 **FEMA letter**
4/24/2009	**Series of e-mails between Burlington and FEMA re: potential agreement to rely on the National Academy of Sciences to determine the hydrology of the Skagit River**	FEMA concerned that there was nothing in the law or regulations that states the process being proposed by Burlington would have any legal binding implication. Potential cost estimate of $500,000 for NAS review.
8/13/2009	**Burlington e-mail re GI study funding**	"What frustrates me is, if we could get the Corps to accept reasonable hydrology numbers, then no appeal would be necessary and the money designated for technical and legal support for the appeal could be put toward a real partnership funding effort on the GI. I would really like to see that happen. And it wouldn't just be Burlington: it could also be Mount Vernon, Sedro-Woolley and several of the DDs. That would be a compelling funding partnership."

12/16/2009	**Burlington e-mail re FEMA Press release re Preliminary Flood Maps**	The comments in the press release certainly do present a question of the appearance of fairness and a conflict of interest.
12/17/2009	**Burlington e-mail, re: new flood heights**	"I am looking at our Burlington maps, and comparing them to the Corps' work product submittal to FEMA back in 2008, after the Flo-2d issues were sorted out, and after Ted adjusted the hydrology for the USGS historic floods, and adjusted his peak to one-day flow ratios. What I am seeing, is base flood elevations 1-2 feet higher than the previous output – about 1 foot higher generally on the east side of town, to 2 feet higher on the west side, closer to the freeway. For example, the previous version had the Cascade Mall at 34.5 feet. Now that is 36.7 feet. The first floor level of the mall is 31 feet. "

City of Mount Vernon Document

9/22/1988	**Letter to Corps re request to reactivate 1979 Levee Project**	The City of Mt. Vernon requested the Corps to reactivate the 1979 Levee Improvement Project.

Corps of Engineers Documents

3/2/1907	**USACE Survey Map of the Skagit River in the Sterling Area**	A wonderful piece of history showing depths of the river, height of the 1906 flood event, location of the Balls Riffle Ferry, pioneer farming family residences, location of the 1897 and 1907 channels, as well as surveys of land elevations. Notice all depths are based on Low Low Water (i.e. different then sea level today).
1/7/1950	**Letter to Skagit County Government Requesting Flood Fight Mapping**	"The Seattle District is reviewing its maps of the Skagit Valley in order to incorporate therein data which might be of assistance during flood-fighting operations." **See Also: 1/7/1950 Reply to Corps Request for Flood Fight Mapping**
2/15/1950	**Elevations of Skagit River Gages**	NGVD 29 levels for Skagit River gages.
5/24/1950	**Letter to Skagit County Farm Bureau, Re: Dredging**	"There has been very little additional material deposited in the river during the past 18 years between the south and Mt. Vernon. ... Dredging a cut-off at the mouth of the North Fork or dredging an outlet along the present path of the river from the south to deep water cannot lover flood stages at that point below the stage which would be experienced at high tide with normal flows."
1/24/1951	**Letter to Congressman "Scoop" Jackson, Re: 12/26/1950 Letter from Skagit County Farm Bureau**	Discussion of various diking projects for Skagit River. See Also: **12/26/1950 Skagit County Farm Bureau Letter to Congressman Henry "Scoop" Jackson**

2/16/1951	**Dike Dist. Letter to Seattle District Engineer, Re: Plans to dam off Dry Slough**	"It has come to the attention of the commissioners that there is a project considered in your office to dam off Dry Slough at the point of "intersection" of this slough with the north fork of the Skagit. We must advise the engineer that the undersigned commissioners are in opposition to such a procedure and desire to place our objection on record and to request a hearing in the event the proposal is further pursued."
2/28/1951	**Skagit River – Rough Estimate of Flood Damages from Sedro-Woolley to Mouth of Skagit River**	This is a wonderful historical document drafted for the purpose of computing the 1951 flood damages however it also contains detailed information on the floods of 1949, 1932, and 1921. What it clearly shows us is the reliance on the James E. Stewart data 10 years before it was published.
6/21/1951	**Status of Emergency Repairs to Levees in the Skagit Flats Area, Washington**	Four months after 1951 flood, "Authorized emergency flood control repairs in Skagit Flats, Washington, have been completed by this office."
10/3/1951	**Ltr to Corps of Engineers, Re: Expansion of Dike District 12**	"We are attempting to bring additional area into this Diking District, including the City of Burlington, which now has no adequate dike protection and which is not within the aforesaid Dike District."
12/7/1951	**Ltr re: Mount Vernon Revetment Impact on Flood Levels**	Corps of Engineers reassures upstream dike districts rock revetment in front of Downtown Mount Vernon has no impact on their flood stages.
2/21/1952	**Excerpts from Report on Survey for Flood Control of Skagit River and Tributaries**	Paragraphs suggest a design of 250,000 CFS at Mount Vernon. Skagit County failed to reconcile those statements here with their record of 11 floods from 1896 to 1960 with a flood volume of 100,000 CFS to 195,000 CFS, proving the hydrology of the Skagit River was in question as early as fifty years ago. **See: Ltr to Colonel R.P. Young, US COE, Seattle District, Re: Legislative Council Meeting**
2/21/1952	**Appendix to Report on Survey for Flood Control of SKAGIT RIVER AND TRIBUTARIES, WASHINGTON**	Excellent description of the Standard Project Flood and current (as in 1952) potential dam sites.
12/18/1952	**Memo Re: Report on Survey for Flood Control of Skagit River and Tributaries, Washington**	Memo on potential further damming of the Skagit River and its tributaries.
8/1/1963	**Lower Sauk River Dam Analysis & Pertinent Data**	Analysis of power requirements for potential dam on the Sauk River encompassing 712,000 acre-feet of which 200,000 acre-feet was to be used for flood control storage.

8/31/1977	**Corps Letter to County re studies of the Levee & Channel Improvement Project.**	"There has been extensive development in the Burlington-Sedro Woolley area since our flood control studies in 1964, and flood protection for this area now appears to be urgently needed."
12/1978	**USACE Levee Improvement Study Studygram December 1978**	Analysis of proposals to improve levees from the 3-Bridge Corridor to the delta for the 1979 Levee Improvement proposals that failed at the polls. One alternative, 3D, would provide, "29,700 acres of land" with "rural protection (50-year), and 22,000 acres of land would be provided urban protection (100-year). The project would prevent 100-year Skagit floods from overflow to the Samish. However, flooding would still occur due to Samish River flows on 14,500 acres. The Nookachamps-Clear Lake area would experience an increase in the 100-year water surface elevation of about 4.5 feet." **See also:** 1979 Levee Improvement Project Historical Index
7/18/1989	**USACE MFR Re: Skagit River Flood Control Study**	"This led into a discussion of the capabilities of the existing levees on the Skagit. In 1975, the last major flood on the Skagit which reached flows at the town of Mount Vernon of 130,000 cfs, levees were not overtopped but the flood stage of the river was within 6" of the top of the main levee system at Mount Vernon. Since 1975, Skagit County has improved the levees downstream from Mount Vernon protecting agricultural land. The levees are built to a height equivalent to the water surface elevation of the 50-year flood event. They have something in the neighborhood of a 25-year level protection if you consider a need for freeboard."
4/6/1994	**Seattle District USACE Public Testimony, Re: Burlington Land Use Practices**	"One example of poor flood plain management is the Gages Slough floodway in Burlington. Historically this floodway has seen flows from 30,000 to 60,000 cfs with significant flooding in Burlington and out to Padilla Bay and Samish Bay. This floodway has been blocked by road fills, malls and Interstate 5. This development will cause significant damages to itself and increased damage to the rest of Burlington. The current plan recommends an Urban Growth Area (UGA) right across the upstream end of this floodway. ... There is significant pressure to increase the tax base of the cities and the county by developing the flood plain. Hopefully this leadership will be enlightened and visionary enough not to recommend any further development within the flood plain."
10/10/1996	**USACE MFR Re: Skagit River Levee Repairs**	"As long as any repairs we make to the Skagit River levees replace them in kind, we comply with the standard. If we raise the levees or add material to their riverbank or landward sides, then in my opinion, we must conduct an analysis to comply with the standard." **See also: FEMA letter re denial of appeal filed on Burlington FIS**

8/21/1997	**Skagit Fisheries Investigation Feasibility Study**	"It has been inferred that the massive loss of slough habitat in the lower Skagit River has reduced overwintering productivity of the river and placed increasing pressure on the few remaining sloughs. A survey should be completed to quantify the amount of slough habitat currently open to fish passage along the project area and to quantify any further loss of slough habitat due to the proposed project. If losses occur beyond the current condition, engineering solutions to retain adequate fish passage should be devised."
7/9/2002	**News Release Showing Partnership between Corps of Engineers and Nature Conservancy**	Interesting to note there was no mention of the Baker River Dams which later the Nature Conservancy worked to make sure no additional storage would be made available for flood reduction impacts on the landowners along the Skagit River.
7/9/2002	**Series of e-mails expressing concern over TNC/Corps Joint Press Release**	"If that is not possible we can do damage control with Seattle City Light (Ross, etc.) and Puget Sound Energy (who operates the Baker River projects) but it benefits neither USACE nor TNC to create the impression that we are going to conspire to dictate operational changes to dams neither of us owns."
11/20/2002	**MFR for USACE Re: Policy and legal issues created by a diversion alternative that directs floodwater to the Padilla Bay National Estuarine Research Reserve (PBNERR) and CZMA**	"The purpose of this memorandum is to discuss whether the designations of a Marine Protected Area and a National Estuarine Research Reserve impose protections on Padilla Bay that would be relevant to a diversion alternative which directs floodwaters to PBNERR. After careful review, it is the legal opinion of this office that the designations enjoyed by Padilla Bay present significant legal issues with regard to the viability of the proposed diversion alternative." **See also: 12/20/2002 County e-mail killing diversion channel efforts**
9/15/2009	**USACE Levee Safety Program - Presentation to NORFMA 2009**	43-slide presentation on the history of levees and Corps of Engineers plans to inspect, screen and certify levees.

Corps of Engineers GI Study Scoping Documents

11/07/1997	**Intent To Prepare Draft Environmental Impact Statement (DEIS), Skagit River Flood Damage Reduction Study, Skagit County Washington**	Document informs the public about the scoping process.
11/19/1997	**Corps Letter to Citizens**	Letter informs citizens of the Scoping Process.
12/11/1997	**Public Meeting Notice re Scoping**	Document describes the purpose and what was going to happen at the meeting.
3/30/1998	**Draft Questions and Comments re Scoping**	Any "GI Study" conducted by the Corps must reinitiate the scoping process. This document shows the concerns and Corps responses to the

		last scoping notice in 1998.
7/12/2002	**Scoping Talking Points**	"Using current data for hydraulic modeling and economic analysis, results indicated that the flood damage potential for the Skagit delta was much greater than previously thought. Habitat restoration has also been added as an element of the project. The potential multi-benefits of the project are very significant."

FEMA Documents

8/22/1983	**FEMA letter re floodway designation of Gages Slough**	This letter discusses why FEMA felt it could not designate Gages Slough as a floodway. Cascade Mall hydraulic study could not be supported by any scientific or technical data. Section 60.3c would be part of local ordinances which would require hydraulic analysis of fill in the Burlington area.
3/11/1996	**Interagency Levee Coordination Committee Review Form and Supporting Documents for PL 84-99 work on Dike District 17 Levees Completed by Corps of Engineers**	One of several projects for DD-17 due to damages during 1995 flood event. (Interesting answers to Yes/No questions).
9/15/2009	**ESA and the National Flood Insurance Program: Implementing a salmon friendly program**	28 slide presentation explaining the path forward as, "FEMA recognizes the need to protect threatened and endangered salmon species while continuing the successful implementation of the NFIP in the Pacific Northwest."
9/15/2009	**FEMA Region X: A New Vision for the Future NOW**	A FEMA Region X presentation to the 2009 Northwest Regional Floodplain Management Association (NORFMA). Includes this statement, "FEMA feels that land use and flood control practices that protect salmon and their critical habitat also means implementing good floodplain management that will ultimately reduce damages to flood."
12/3/2009	**Series of E-mails between Burlington & FEMA re: Certifying Levee Segments**	"One thing that I think would really help in a discussion is a bit more detail on the design concept. There is not really such a thing as a "certified levee segment". 44 CFR 65.2b defines certification. One part states "Certification of structural works is a statement that the works are designed in accordance with sound engineering practices to provide protection from the base flood" (emphasis added)."
12/8/2009	**FEMA E-mail to Burlington, Re: Meeting to Update Region X on Dike 12 / Burlington "Certified Levee Segment" Concept**	List of 5 things necessary for addressing floodplain development .

Guest Documents

6/25/2008	**Popular Mechanics: 13 Tough Questions for the Army Corps of Engineers' Flood Reconstruction Chief**	13 questions "with Eric Halpin, the Special Assistant for Dam and Levee Safety for the U.S. Army Corps of Engineers, about flood response lessons learned and just how far the Corps can go in preventing disasters."
2/2009	**Fisher Slough Fact Sheet**	"Fisher Slough historically supported dynamic tidal and non-tidal wetlands. To claim land for agricultural purposes, tide gates and levees were installed decades ago. Today, the slough and its lower tributaries are confined and filled with invasive non-native plants; the historic alluvial fan has been eliminated; and natural flooding and tidal events are almost non-existent. The net results are a reduction in extent and diversity of wetlands, reduced accessibility for fish, degraded water quality and a reduction in flood storage capacity."
2/2009	**Fisher Slough Project Maps**	Two pages of maps showing how the Nature Conservancy and other partners work to restore Fisher Slough on the South Fork Skagit River to its natural habitat and floodplain management capacities.
9/16/2009	**National Wildlife Federation (NWF) Presentation to the 2009 Northwest Regional Floodplain Management Association (NORFMA): Puget Sound NFIP BiOp: Benefits for Public Safety and the Environment**	39 slide presentation to Northwest Regional Floodplain Management Association (NORFMA) about impacts of National Flood Insurance Program (NFIP) on climate change's impact on floodplains plus alleges, "Most development in coasts and floodplains dependent on NFIP insurance."
9/16/2009	**NOAA Fisheries Presentation to NORFMA on BiOp**	NOAA explains what they perceive is the NFIP's affects on the floodplain as well as how their Reasonable and Prudent Alternative will work.
9/16/2009	**NORFMA Alternative CFM Exam**	A satirical presentation on the basic terminology Certified Flood Managers must know... the editorial cartoon on page 17 says a 1,000 words in one picture.

Ross Dam Documents

7/15/1946	**Congressman Henry "Scoop" Jackson Letter to Corps of Engineers, Re: Application to Increase Ross Dam Height and Request for Flood Control**	"As you will note, the Skagit County Planning Commission and the Board of County Commissioners have requested that any grant of right to increase the height of the Ross Dan be granted only upon the condition that the upper 15 feet of the dam, as either completed or partially completed be reserved as storage for flood waters and for flood control purposes." **Note:** Upper 15 feet of full pool translates into 170,741 acre-feet of storage. As of 2/2010, Ross Lake has 119,629 acre-feet of flood control storage.
9/26/1946	**Seattle District Corps of Engineers Letter, re: Ross Dam Flood Capacity Needs**	"From the tabulation in paragraph 4, it can be seen that 100,000 to 200,000 acre-feet of storage would control the winter floods of record on the upper Skagit."
11/20/1946	**Acting Chief of Engineers for the Army Corps of Engineers Letter to Federal Power Commission, Re: Third Step in the Construction of the Ross Dam**	"Studies by our District Engineer, Seattle, Washington, indicate that 300,000 acre-feet or more of capacity would be required to control floods comparable to the historical floods of 1851 and 1856, although a reserve capacity of approximately 200,000 acre-feet during the period 1 November to 1 April would have controlled floods of record since 1909."
1/16/1947	**Seattle District District Engineer Corps of Engineer Letter to North Pacific Division, Re: Skagit County Planning Commission Meeting on Flood Storage, Ross Dam, Skagit River, Washington**	"Several members of the committee objected to the proposed flood control reservation of 200,000 acre-feet from 1 November to 1 April on the grounds that, although the amount of storage was adequate, the period suggested did not include the usual early fall high water in October, nor the snow melt high water in April. In historic times neither of those high waters has exceeded bank-full stage of Skagit River, and anticipated reservoir operations are such that flood storage reservation in the months of October and April would reduce the prime power output of the plant. Nevertheless, the representative of Seattle City Light stated that the City would have no objections to reserving 200,000 acre-feet of flood storage from 1 October to 1 May of each year."
4/29/1947	**Federal Power Commission Order Authorizing Amendment of License [to complete Ross Dam]**	"Upon installation of the spillway gates it is provided that during the period November 1 to April 1 200,000 acre-feet of storage space in Ross Reservoir shall be reserved by the licensee for flood control and utilized as prescribed herein."
12/27/1948	**Seattle City Light Letter, Re: Amendment of License - Project No. 553 - Third Step of Ross Dam**	Request due to inadequate data, incomplete dam & powerhouse construction and also "the position that the Skagit Project bears to regional power development rather than an isolated project."

1/26/1950	**Col. Itschner Ltr to Seattle Department of Lighting/Seattle City Light on Ross Dam Storage**	"The value of flood storage at Ross was recently demonstrated during the November 1949 flood when river stages at Mount Vernon were reduced by an estimated three feet through the fortunate availability of sufficient storage above Ross Dam." **See Also: 1/7/1950 Reply to Corps Request for Flood Fight Mapping:** At "the peak of the Nov. 27-28 flood... The dikes at Mount Vernon were about 1.5 or 2 feet above the peak at most places, with weak spots developing near Avon."
2/8/1950	**Corps Seattle District Ltr to North Pacific Division, Re: Standard Project Flood, Skagit River Basin, Washington**	"From the hydrograph on Plate 4 and considering 200,000 acre-feet available in Ross Reservoir for reduction of floods, it is calculated that the peak inflow of 97,000 second-feet could be reduced to a constant outflow of about 25,000 second-feet. The Skagit River Report may present data to indicate that a reduction to zero outflow for a short period may be better for flood control, but in any case it is evident that the Ross Reservoir, will be able to accomplish a substantial reduction of flood flows."
7/17/1950	**Seattle City Light/Department of Lighting Letter to Corps of Engineers, Re: Costs of 200,000 Acre-Feet of Ross Dam Storage & Discharge Capability Past Gorge Diversion Dam**	"The Department has made a study of the operations of the reservoir to effect flood control in the amount of 200,000 acre-feet to be made available continuously from December 1 through February 15 of each seasonal year. In this study it was assumed that the Skagit River plants would be operated as a part of the Northwest Power Pool."
8/13/1953	**Ltr to USACE Corps District Office in Portland fm USACE Seattle District Office re: Flood Control Requirement and Operating Procedure for Ross Reservoir, Skagit River, Wash.**	This document provides descriptive detail into how the USACE determined to lower the required 200,000 acre feet originally required for flood control storage down to 125,000 acre feet. "All discharges of more than 65,000 second-feet at either Sedro Woolley (1908 through 1923) and Concrete (1924 to date) occurring in October, November, and December were studied." **See also: Retyped for clarity and emphasis 8/14/1953 Corps document.**

Skagit County Documents

1/7/1950	**Reply to Corps Request for Flood Fight Mapping**	Through discussing about the Nov. 27-28 1949 flood. At "the peak of the Nov. 27-28 flood... The town of Hamilton was under 2 to 4 feet of water. The other towns in the valley, Mount Vernon, Sedro Woolley, Burlington and Lyman were not inundated but at least one, Burlington was seriously threatened. ... The water was about 3.0 feet below the top of the dike East of Burlington on Fairhaven St., and was about 1.5 feet below the top of the dike northeasterly of Burlington. The dikes at Mount Vernon were about 1.5 or 2 feet above the peak at most places, with weak spots developing near Avon." **See Also: 1/5/1950 Letter to Skagit County Government Requesting Flood Fight Mapping**
12/26/1950	**Skagit County Farm Bureau Letter to Congressman Henry "Scoop" Jackson**	Request for four lower Skagit River Basin flood control projects to reduce flood damages.
1/11/1951	**Skagit County Farm Bureau Letter to US Senator Harry P. Cain**	"The Skagit River normally empties into the Sound through many outlets besides its main channel. The Engineers closed several of these outlets thus forcing more water out through the main channel which raised the low water level at the mouth of the main channel by several feet. The drainage system for the lower Skagit Valley depends on emptying its ditches at low tide with a quick runout and holding high tide back by use of flood gates. The raised level of low water in the main Channel of the Skagit River makes this quick runoff impossible and the drainage system inoperative.."
12/16/1955	**Minutes of Meeting of Skagit County Chapter, Puget Sound Flood Control Council**	Serious discussion amongst all dike and drainage district regarding potential Fir Island dredging cutoff project involving "Valentine Bend" and revetment work.
5/3/1960	**Ltr to Colonel R.P. Young, US COE, Seattle District, Re: Legislative Council Meeting**	"Why is it so hard to get an acceptable cost benefit ratio for diking protection of the Skagit River, when in 1936 Congress approved the Avon Bypass and supported dike systems. Please refer to paragraphs 68, 91 and 92 of the 1952 copy of "Report on Survey for Flood Control of Skagit River and Tributaries", Copy No. 43. Your report suggests a design of 250,000 C.F.S. at Mount Vernon. We fail to reconcile these statements with our record of eleven floods from 1396 to I960 and with a flood volume of 100,000 C.F.S. to 195,000 C.F.S."

8/19/1974	**George M. Dynes Proposal for Flood Control - Skagit River Basin**	"There exists an immediate and urgent need for the establishment of a program to work out details for a plan of flood control on the Skagit River and its tributaries, especially the Baker, Sauk and Cascade Rivers; and, to secure support and assistance to put such a program into effect." Proposal includes idea of volunteer "special consultant", raising levees, 84,000 additional acre-feet behind Upper Baker Dam, and either a Sauk River Dam or a "lower cost" Avon By-pass.
11/22/1978	**Baker Lake Reservoir Flood Control Negotiations Ltr and Notes from Skagit County Engineer to Skagit County Commissioners**	"Negotiations are faultering (sic) over the method of reimbursement to Puget Power for power loss due to this agreed draw-down. Puget Power is indicating to the Corps that they want reimbursement in power, rather than in financial remuneration. This in turn involves Bonneville Power Administration in a very complicated 3-party negotiation process."
1/4/1979	**January 4, 1979 Flood Fight Exercise Notes**	"The purpose of this meeting was to gather those agencies directly involved in flood fighting together and for these agencies to become better acquainted with each other and better understand their respective functions during a flood fight. To become aware of the help available from other agencies, to establish better communications between these agencies involved and to generally improve the flood fighting ability of all the agencies."
10/17/1979	**October 1979 Skagit River Flood Fight Exercise Notes**	Notes on how the Skagit River Flood Risk was managed in 1979.
10/18/1979	**1979 Flood Fight Meeting Minutes**	"Corps of Engineers, Seattle District - Ernie Sabo said that when the river rises to flood stage and county resources are exhausted, the Corps will begin their active flood fighting. Headquarters will be set up at the Skagit Valley College and the Corps will hire equipment and men, and oversee the flood fighting sectors. After the flood is over, they will begin the restoration process."
12/20/1979	**Skagit County Commissioners Letter to Skagit County Road Department**	"Skagit County has just witnessed the power of the mighty Skagit River and it's several tributaries, and we are reminded that it is a river to be respected as an awesome force. Skagit County can also be thankful that they have dedicated men and women such as you, who are willing to put forth the type of effort that you have just given us in times of emergency. ... It is apparent that the County Road Department is the hub of the coordination effort for a county wide flood fight, and we feel fortunate in having knowledgeable, capable, and dedicated employees willing to put in extraordinary amounts of time for the good of the county."

10/16/1980	**Pre-Flood Fight Meeting Minutes -- Update to County Flood Early Warning System**	"A new recording device has been installed that will handle four calls at a time. This recorder will have an update on the projected river level every hour. This updated message will state projected levels at the Concrete gauge and the Mt. Vernon gauge on the Skagit River and any other vital information. ... There has been a change in when the Corps of Engineers will be moving into the Skagit River basin. They will be moving into this area when -0- damage is projected at the Concrete gauge instead of the Mount Vernon gauge. This will help the downstream areas and provide earlier assistance to the upriver area just downstream from Concrete. The Army Corps of Engineers can't pay for clean up after the flood is over. The Corps' responsibility is over when the river has begun to recede or the danger has passed."
4/30/1982	**Brown and Caldwell Letter and Report, RE: Skagit County Strom Drainage Management Options**	"The County is in the drainage business, though there is no money available for drainage basin planning, for off-roadway drainage maintenance, or for construction of drainage facilities. What County officials need to weigh is the direct costs of promoting or providing drainage management services versus the indirect costs of property damage, pollution, destruction of watercourses, and other problems caused by stormwater drainage from uncontrolled land development."
4/10/1984	**Memo Re: Skagit County Flood Control Fund**	"...The Commissioners did not wish to limit the Fund to the Skagit River only stating that the fund should be available for all flood control needs specifically including salt water dikes and the Samish River Basin. The Commissioners also requested the Committee to recommend a maximum dollar grant for each project not to exceed 50% of the total project. It was felt this was necessary to assume that one applicant would not receive the entire fund."
4/24/1984	**Public Works Director Letter to Anacortes Mayor, Re: Flood Control Funds**	"Thank you for your inquiry regarding flood control monies made available through the County's Revenue Sharing Fund. These monies have been set aside by the Board of County Commissioners for the purpose of matching project funds for dike and drainage districts and subflood control zones within the County and are not intended for the use of any other entity primarily because of the limited amount of money available and the source of these revenues."
4/16/1986	**Memo to Dike and Drainage District Commissioners Re: Dike and Drainage District Legislation**	"It has also come to our attention that many of the District Commissioners are having trouble obtaining liability insurance. We have been urged by several of the commissioners to hold a meeting to see what can be done about this problem. We will have an Insurance Representative at this meeting to explain the present insurance situation and the possibilities that are available for district liability insurance."
1/19/1987	**Handwritten Notes by Brown and Caldwell Employee for Comprehensive Flood Control Management Plan (CFCMP)**	Handwritten notes (HWN) include notes that "whole county plan - highest priority problems" and "no modeling in plans - not lots of money & effort".

2/25/1987	**Skagit County Public Works Contract Activation Letter to Brown and Caldwell for Comprehensive Flood Control Management Plan (CFCMP) Work**	Letter to Brown & Caldwell with "executed copy" of the scope of work Brown & Caldwell did for the 1989 Skagit River CFCMP. Includes line on last page of "Computer costs at $10.00 per hour."
4/25/1989	**April 1989 Skagit County Comprehensive Flood Control Management Plan**	"The development of flood control management actions must take into consideration the County flood control goals in alternative analysis and prioritization. These goals, discussed in Chapter 3, include reducing threat and damage, protection of economic base, provision of effective emergency response, maintain and improve existing facilities, maintain local control of flood control works, and provide Countywide protection."

Skagit County Flood Control Committee Documents

8/31/1981	**Skagit River Flood Control Committee Report and Recommendation for Lower Skagit River Basin Floodway Designation**	"This report constitutes the final recommendation of the Skagit River Flood Control Committee with response to the request from the Board of Skagit County Commissioners for this Committee's recommendation of a floodway designation for the lower delta of the Skagit River."
5/18/1982	**Minutes for May 18, 1982 Skagit County Flood Control Committee**	"Commissioner Norris went on to say that Skagit County was in the process of negotiating with the Federal Emergency Management Agency on the floodway recommendation and it appeared that a workable agreement could be reached. Commissioner Norris expressed his desire to have the Committee help in these negotiations."
5/25/1982	**Skagit River Flood Control Committee Recommendation For A Flood Control Plan For The Skagit River Basin**	"If at some point in the middle future the Sauk River Dam proves to be unfeasible, and if the Limited Dike Improvements, Debris Removal and Floodplain Management are still not enough, Skagit County should then commence to pursue and investigate a By-Pass, with project completion scheduled for the distant future."
5/25/1982	**Skagit County Commissioners Resolution No. 9307**	Skagit River Flood Control Committee and Skagit County Commissioners recommends among other things "to study alternatives and make recommendations for a flood control program for the Skagit River" a Sauk River Dam feasibility study, dike improvement, debris removal, floodplain management and gather some cross-sectional data.
10/28/1982	**Minutes for October 28, 1982 Skagit County Flood Control Committee**	"A proposed budget was submitted addressing the recommended projects in the Flood Control Plan."
10/28/1982	**Skagit River Flood Control Committee Proposed Budget for 1983**	Proposed budget for flood control includes a study for a Sauk River Dam, a match with dike districts for $200,000 in levee improvement and other ideas to reduce the Skagit River Flood Risk.
11/18/1982	**Skagit Cty Commissioners Ltr to Skagit River Flood Control Committee re Budgeting**	Skagit County Commissioners inform the Flood Control Committee of a severely reduced budget allotment for 1983. **See also: Skagit River Flood Control Committee Proposed Budget for 1983**
12/14/1982	**Skagit County Flood Control Committee Chairman Letter to Mt. Baker-Snoqualmie National Forest Supervisor RE: Wild and Scenic Rivers Management Plan**	"As a large part of the flood damage will occur to property outside the authority of the Act, with much of the cause due to the conditions corning from within the classified section of the river, this Committee would sincerely hope that the Forest Service, in its management of the classified section of the Skagit River, would use its authority to cooperate with the efforts of Skagit County to provide adequate flood protection for the entire Skagit River Valley."

2/17/1983	**Minutes for February 17, 1983 Skagit River Flood Control Committee**	"The Chairman asked Mr. Larry Kunzler to comment on the wetlands proposal for Gages Slough as it may effect the decisions of the Committee with regard to the floodway. Mr. Kunzler stated that Gages Slough qualified as a wetland and the proposal had a 95% chance of approval. Public hearings would be held this spring with the slough being designated a wetland sometime this fall. Larry went on to say that FEMA would be sending their comments on the limited density floodway in the next few days. He was sure the restrictions would be more severe than those indicated in the Committee's report. The designation of Gages Slough as a wetland then could very well be a benefit."
11/17/1983	**Minutes for November 17, 1983 Skagit River Flood Control Committee**	"A discussion took place regarding the responsibility of owners of structures across the river and the removal of the log jams that accumulate on them. ... A motion was made and seconded that the committee request the Board of Skagit County Commissioners to appropriate $20,000. to proceed with implementing the necessary telemetering to acquire data from the two flood warning gages on the upper Sauk and the upper Skagit Rivers."
1984	**Skagit County Flood Control Improvement Fund Guidelines for Implementation**	"It is the intent of this Fund to assist in bringing the levees and dikes' of Skagit County to a uniform 25-year flood protection. in both elevation and integrity."
3/14/1984	**LJK Resignation from Skagit County Flood Control Advisory Committee**	Until the Flood Control Committee or some other government agency actually builds the BURLINGTON BYPASS [aka Avon Bypass, Swinomish Bypass] the only thing available to the people of Skagit County is FLOODPLAIN MANAGEMENT. This is nothing more than an exercise in common sense. A philosophy based on EXISTING CONDITIONS setting the necessary restrictions and regulations. There are those in this county that feel FLOODPLAIN MANAGEMENT is a violation of private property rights. The irony here is that based on the principle of no one has the right to flood another's property, FLOODPLAIN MANAGEMENT is the strongest supporter of private property rights.
4/10/1984	**Skagit Flood Control Engineer Memo, Re: Skagit County Flood Control Fund**	"The Commissioners also requested the Committee to recommend a maximum dollar grant for each project not to exceed 50% of the total project. It was felt this was necessary to assume that one applicant would not receive the entire fund."
4/23/1984	**Minutes for April 23, 1983 Skagit River Flood Control Committee**	"Mr. Hamburg made a motion that maximum dollar amount for any single project be $l2,500,00 or 50% of the total project cost, whichever is the least. The motion seconded and passed with two "no" votes. Several changes were made to the preliminary guidelines. A motion was made and seconded to approve the changes. The motion passed. (See attached guidelines with changes included)."
2/13/1986	**Memo from Flood Control Engineer to Skagit County Flood Control Committee, Re: Flood Control Committee Meeting February 19, 1986**	"With the severe strain on this year's budget, the Commissioners, by fully funding this Grant Fund for 1986, have shown a great deal of confidence in the value of the Grant Fund and its execution by the Committee."

Skagit County Flood Control Council Documents

1/25/1978	**Skagit County Engineer Reactivation of Flood Control Council**	"It has been suggested by Mr. Peter Walker, Dike District #12, that the Skagit County Flood Control Council comprised of the local diking and drainage districts be reactivated."

2/8/1978	**February 8, 1978 Skagit County Flood Control Council Meeting Packet**	"Mr. Johnson informed those in attendance that the meeting was called to reactivate the old "Skagit County Flood Control Council", to help coordinate the proposed Lower Levee Flood Control Project with the Army Corps of Engineers. Also, the Army Corps of Engineers' personnel would bring us up to date on the Lower Levee Project. ... Mr. Johnson stated considerable right-of-way will be required to construct the Lower Levee Project. That Districts 1, 2, 3, 12, 13, 15 and 17 were most affected. That it will be necessary to acquire additional rights-of-way in these districts. The reestablishing of the "Skagit County Flood Control Council" could most effectively accomplish this task. Mr. Johnson added the new officers should be from these vitally affected districts. Also, the "Skagit County Conservation District" should be represented on the Flood Control Council."
2/22/1978	**February 22, 1978 Skagit County Flood Control Council Meeting Packet**	"Mr. Don Nelson explained the purpose of this meeting was to elect a Board of Directors and officers for the Skagit County Flood Control Council (S.C.F.C.C.)"
3/7/1978	**March 7, 1978 Skagit County Flood Control Council Meeting Packet**	"The President recapped the work done by the old Skagit County Flood Control Advisory Committee and presented a four point plan of objectives adopted by that Committee. Mr. Walker stated that two of those objectives have been met. Being the establishment of the County Flood Control District and the Agreement with Puget Power for additional flood storage in the upper Baker River Dam. Mr. Walker also stated one of those objectives was the lower levee project."
4/5/1978	**April 5, 1978 Skagit County Flood Control Council Meeting Packet**	"The Skagit County Flood Control Council requests that the Army Corps of Engineers be given authority and funding for a study of a flood control structure on the Sauk River, to provide long-germ flood protection for the Skagit River. The Skagit County Flood Control Council asks the Congressman, should the Skagit Ri.er System be included into the Wild and Scenic Rivers Act, that such legislation insure that none of the flood control measures necessary for long term flood protection, be precluded from the Act."
5/3/1978	**May 3, 1978 Skagit County Flood Control Council Meeting Minutes**	"Mr. Nelson informed the board that the Lower Levee Project will now consist of two phases. Phase I to start at the mouth of both forks and run to some point between the fork of the river and Mr. Vernon. Phase II to start at this point and continue up river to some point yet to be determined, possibly Sedro Woolley."
6/8/1978	**June 8, 1978 Skagit County Flood Control Council Meeting Minutes**	"The Council questioned Mr. Skrinde regarding dredging of the mouth of the North Fork of the Skagit River. Mr. Skrinde answered that he had done considerable study of dredging for the mouth of the North Fork as an Engineer for the Corps. That an undertaking of this nature would be very expensive. That a pile line or rock rip-rap line along each side of the channel would be necessary at great expense. That Skagit County would have to sign a maintenance agreement with the Corps to keep this channel clear once it was established. That most likely, this channel would need dredging each year. The cost to Skagit County for this maintenance operation would be prohibitive."
6/15/1978	**Letter from US Senator Henry M. "Scoop" Jackson to Skagit County Flood Control Council**	Senator Jackson understands Wild & Scenic Legislation has "a provision to allow for rip-rapping along the Skagit to protect farmland."
8/2/1978	**August 2, 1978 Skagit County Flood Control Council Meeting Minutes**	"A discussion was beld with regard to the appointment of a Flood Control Coordinator for the Lower Levee Project. The Board requested Don Nelson to make an appointment with the County Commissioners the week of August 21st. Mr. Nelson will notify all Board Members of the date and time of this meeting."

8/8/1978	**August 8, 1978 Skagit County Flood Control Council Meeting Packet**	"Don Nelson stated that Washington, D.C. had been receiving a considerable number of letters against the Project and suggested the Council send a letter in support of the Project. Mr. Nelson presented a preliminary letter to the Council. The Council approved the letter as written." Includes the aforementioned letter on page two and on page three handwritten notes from a meeting attendee.
9/6/1978	**September 6, 1978 Skagit County Flood Control Council Meeting Minutes**	"Donald Nelson reported on his last visit to the Seattle District Headquarters of the Army Corps of Engineers. Mr. Nelson and Mr. Sampley visited the Corps Headquarters and were brought up to date on the Lower Levee Project. The Corps indicated they are changing their plans regarding widening of the river. They had previously planned to widen the river in several places. As their contact with environmental people have indicated objection to this practice, no widening is planned at this time."
10/4/1978	**October 4, 1978 Skagit County Flood Control Council Meeting Minutes**	Meeting discussed recreation opportunities. Also, "Don Nelson reported that he and Mr. Sampley had visited the Seattle District Office of the Army Corps of Engineers on September 27, 1978. The Corps is coming along with their levee design. The proposed levee design will have a river capacity of 120,000 c.f.s. plus six (6) feet or a river capacity of approximately 160,000 c.f.s. This is a flood requency of 50 to 70 years. Considerably higher than we first expected. The existing levees will be raised an average of 2 1/2 to 3 feet with a maximum around 4 feet."
11/1/1978	**November 1, 1978 Skagit County Flood Control Council Meeting Packet**	"Senator Jackson has assured us quick passage of the Omnibus Bill and support of the Levee Project. ... Alternate No. 3 provided high level flood protection for the urban areas (100 year frequency) and lower protection for the rural area (about 10 to 15 year frequency) from the mouth of both Forks of the Skagit River upstream to Sedro Woolley. ... Plan 3 (e) would give the cities of Mount Vernon and Burlington, the Riverbend area on the Mount Vernon side, as well as the Avon side, 100 year protection. The rest of the lower basin, 50 year protection. This plan would include raising the levees below Mount Vernon with earth dikes to the 50 year frequency. Construction of concrete sea walls through Mount Vernon and the west side of Mount Vernon. Levees through the Riverbend up to Burlington to 100 year protection with a weir from Burlington to Sedro Woolley to protect the Samish River Basin from increased flow from the Skagit River."
1/3/1979	**January 3, 1979 Skagit County Flood Control Council Meeting Minutes**	"Mr. Nelson stated that Skagit County is requesting the Army Corps of Engineer to make an in-depth study of the Nookachamps area to establish in detail the impact on the Nookachamps area by the Levee Project. The Corps is also requested to study various methods to resolve this impact, should it exist. The Army Corps of Engineers agreed to make this study at the meeting with the Commissioner on January 2, 1979, at no cost to Skagit County. Work will continue on the Project and this study will not delay the Project."
2/6/1979	**Letter to Congressman Al Swift - RE: Legislation Request for Levee Improvement Project**	"With the Sauk River inclusion into the Wild and Scenic Rivers Act, the possibility of upriver storage as a means of flood control is very remote. With the loss of this means of flood protection, the Levee Project is the last acceptable flood protection available. It is now very necessary that legislation be prepared and passed in this session of Congress authorizing the Skagit River Levee Channel Improvement Project to extend from the mouth of both forks upstream to the City of Sedro Woolley, Washington and to authorize the higher degree of protection now proven to be cost effective."
2/7/1979	**February 7, 1979 Skagit County Flood Control Council Invitation**	"It seems a considerable number of people in Skagit County still feel dredging is a reasonable alternative for Flood Protection. We need to address this thinking."

2/7/1979	**February 7, 1979 Skagit County Flood Control Council Meeting Minutes**	"Considerable discussion took place regarding the feeling by some people that dredging the river is the answer to flood protection. Mr. Nelson pointed out that the Project as presented will not include dredging for a number of reasons. ... The Board discussed the possibility of the Dike Districts assisting Skagit County in financing the local portion of the Levee Project. The Board feels the Dike Districts should incur little expense for dike construction and maintenance for a considerable time after construction of the levees is completed. It has been roughly estimated that the combined Diking Districts have a tax base of about $250,000,000. The Board feels an annual levee of about 50 cents per $1,000 valuation would be reasonable. At this rate, the Diking Districts could raise about $125,000 per year to assist Skagit County in financing the local portion of the Levee Project."
3/7/1979	**March 7, 1979 Skagit County Flood Control Council Meeting Packet**	"Mr. Nelson stated that the funding for the Levee Project was not in the President's budget. This will make it necessary for Congress to include the project in a funding bill this year if construction is to begin in 1980 as scheduled. The Corps is requesting about $3,000,000 for fiscal year 1980 as they feel that would be the capability for that year. The first work will start on Fir Island with the right bank of the North Fork and the left bank of the South Fork scheduled for the following year. (1981) ... President Walker presented the Council with a proposal to assist Skagit County in financing the local portion of the Levee Project. The President and Board feel expenses to the Dike Districts will be considerably reduced upon completion of the Levee Project. As this will be a great benefit to the Districts, a portion of present assessments could be channeled to Skagit County to offset a part of the local cost. About 50¢ per $1,000 of valuation was suggested as a reasonable amount."
3/22/1979	**Skagit County Flood Control Council Letter to U.S. Army Corps of Engineers**	"The Skagit County Flood Control Council is of the opinion that the Skagit Valley is vulnerable to severe flooding from the Skagit River and that the existing flood protection is inadequate. The Council feels that a flooding of disastrous proportion is eminent, that flooding of this nature will place an economic burden of grave consequence on all of Skagit County." ... "That a continuing effort to bring about those proposals which afford the greatest long-range protection for the Skagit Flood Plain for example, further study for additional upstream storage on the Sauk River with a dry flood gate, and further study of the Avon By-Pass, should be pursued."
4/4/1979	**April 4, 1979 Skagit County Flood Control Council Meeting Minutes**	"Bob Hulbert stated that property owners in the Samish River Basin were dissatisfied with the levee plan. A considerable number of property owners in this area have indicated concern about the location of the overflow weir."
5/31/1979	**May 31, 1979 Skagit County Flood Control Council Meeting Packet**	"A discussion was held regarding the financial support of the Dike Districts to the Levee Project. It was generally agreed that this should be done. That a uniform rate of assessment would be necessary. ... Skagit County has requested a 50-year loan from the Federal Government for it's portion of the project. The annual payback for this loan would be about $350,000. per year."
6/1/1979	**Skagit County Public Works Employee Letter to Skagit County Flood Control Council**	"On Tuesday, June 19, 1979, at 7:30 p.m. in the Skagit County Administration Building, the U. S. Army Corps of Engineers will hold a Public Hearing on the Skagit River Levee Project. At this meeting, the Army Corps of Engineers will hear testimony for and against the Skagit River Levee Project. It is very important that the members of the Skagit County Flood Control Council attend this meeting and present positive testimony in favor of the project."

6/6/1979	**June 6, 1979 Skagit County Flood Control Council Meeting Packet**	"Mr. Donald Nelson reviewed the recent changes in the Skagit River Levee Project. The Clear Lake-Nookachamps area has been declared an area of induced damage. Previously it had been declared an area of consequential damage. Due to the fact that this is now an area of induced damage, the Federal Government will participate in the mitigation of these induced damages at the project rate with 80% Federal cost and 20% local construction. ... "An additional change to date has eliminated the proposed weir between Burlington and Sedro Woolley. The weir has been replaced by an erosion control structure to run from Sterling Hill to Anderson Road on the southwest and from Sterling Hill to District Line Road on the East. The erosion control structure will consist of sheet piling driven to existing ground level. The erosion control structure will prevent the possibility of a Skagit River Channel change from its present channel to the Samish River basin in large floods in excess of 100 years."
10/3/1979	**October 3, 1979 Skagit County Flood Control Council Meeting Packet**	"President Walker reported that he and Donald Nelson has seen the Prosecuting Attorney and were informed that no money derived from taxes could be spent to promote a special levy. Funds used for this purpose would have to come from volunteer donations. ... "The total present assessed value of Skagit County is $1,337,423,939. An annual levy of $0.56 per thousand dollars of assessed value would yield $748,954 annually."

Skagit County Flood Control Zone Advisory Committee Document

6/9/2008	**Tetra Tech Presentation on Comprehensive Flood Hazard Management Plan Roadmap**	35 slide roadmap prepared by Tetra Tech for drafting the Skagit County Comprehensive Flood Hazard Management Plan (CFHMP) by the Skagit County Flood Control Zone District Advisory Committee (SC FCZD AC).

Swinomish Tribal Documents

7/22/1992	**Skagit System Cooperative ltr to Skagit County re Sediment Pond Construction on Hansen Creek**	"...this project as proposed, will have adverse impacts upon the treaty protected fisheries' resources in the Hansen Creek watershed."
10/28/1996	**Skagit System Cooperative ltr to DFW re Hansen Creek Dredging and Red Creek Flood Gate**	"We need to get away from the "same old way" of handling these chronic problems."

USGS Documents

1916	**Water Supply Paper 419: Profile Surveys in 1915 in Skagit River Basin, Washington**	An early Water Supply Paper/WSP about Skagit County.

Washington State Dept. of Ecology

8/2/1999	**DOE Ltr to USACOE Seattle District re: GI Study -- Concerns over Swinomish Bypass Impacts on Padilla Bay National Estuarine Research Reserve**	Although the final nail in the coffin of a Bypass concept was not to come for several years (See County e-mail killing diversion channel efforts), this letter was the beginning of the end of one of the more responsible flood control alternatives.

Washington State Dept. of Fish & Wildlife

9/17/1998	**Dept of Fish & Wildlife Ltr to Skagit County re Hanson Creek Dredging Project**	"The less frequent the dredging, the fewer fish are killed and the more the channel and bank vegetation can recover. "

2010 DATED DOCUMENTS

LJK Documents

1/10/2010	**Chapter 6 CFHMP LJK Final Draft**	33 pages of flood history documentation of the Skagit River.
1/19/2010	**Handout to Jan. 19, 2010 SC FCZD AC Meeting**	7 page handout on actual flood conditions in Crofoot's Addition to the south of Concrete.
3/7/2010	**Retyped for clarity and emphasis 8/14/1953 Corps document.** See **Seattle District Office Ltr re: Flood Control Requirement and Operating Procedure for Ross Reservoir, Skagit River, Wash.** for original document.	For this document we took the original 8/14/1953 document, retyped it verbatim and added emphasis, footnotes, and a flood CFS table to show what the Corps was studying. The document shows us that among many other things, the Corps used the Sedro-Woolley Stewart figures to compute the Ross Dam storage requirements, this despite the fact the Stewart data wasn't published yet, and presents a serious question as to why they discarded the Stewart Concrete figures before 1924; if the 1909 flood happened today it would carry approximately only 185,000 CFS not the 220,000 CFS Stewart estimated; and the Corp recommended storage only "start" to be accomplished on November 1st even though 24% of the flood events "studied" happened in October. This document is a must read for everyone interested in storage issues for the Skagit River.
7/18/2010	**Low Low Water in Puget Sound vs. Mean Sea Level**	"When you make the adjustment of 8.93 feet to the published values and then subtract the impacts of upstream dam storage it is very possible that the 1990, 1995, 2003 flood events mirror the 1906, 1917 and 1921 flood events."
12/29/2010	**Documents Posted in 2010 on www.SkagitRiverHistory.com**	A listing of every document posted to SkagitRiverHistory.com in 2010, broken out between documents dated before 2010 and documents created in 2010.

LJK Presentation

10/25/2010	**Presentation: Low Low Water in Puget Sound vs. Mean Sea Level**	"When you make the adjustment of 8.93 feet to the published values and then subtract the impacts of upstream dam storage it is very possible that the 1990, 1995, 2003 flood events mirror the 1906, 1917 and 1921 flood events."

Corps of Engineer Document

9/29/2010	**Skagit GI Field Tour Documents**	Many public employees and consultants went "to familiarize the PDT [Project Development Team] with the areas where the proposed flood reduction measures and restoration activities are located." A proposed funding schedule is on page two and proposed projects is on page three.

FEMA Documents

1/2010	**Model Ordnance: Floodplain Management and the Endangered Species Act**	Current recommendation from FEMA Region X on a draft model ordinance for all local jurisdictions to implement.
2/8/2010	**FEMA Letter to City of Sacramento on Illegal Development Permits**	"NFIP participating communities are required to enforce floodplain management regulations that meet minimum NFIP criteria. Failure to develop a corrective action plan that remediates the known violations, will result in a finding that the City's floodplain management program is not compliant with NFIP criteria; and, therefore, the City is ineligible for the CRS Program."
3/17/2010	**Michael Baker, Jr. Corp Summary of the Skagit River Hydrology Technical Meeting**	"Ted Perkins, FEMA, indicated that a Technical Memorandum was being prepared with responses to questions raised by the County and the City of Burlington. This Technical Memorandum will be provided with revised copies of the Preliminary FIRM. Ted also indicated that release of the revised Preliminary FIRM was held up pending the outcome of the March 17 meeting. ... Ted indicated that a meeting will be held with community officials (without the public) to discuss the Technical Memorandum and the revised Preliminary FIRM."
4/8/2010	**Letter to FEMA Region X on behalf of the Washington REALTORS®, several local associations of the Washington REALTORS, the Master Builders Association of King and Snohomish Counties, several local building associations, and several private property owners with property in King, Snohomish and Skagit Counties re: FEMA's Model Ordinance for Biological Opinion issued by the National Marine Fisheries Service**	"As a foundational comment, FEMA's Model Ordinance suffers the same fatal flaw as the BiOp itself: it is bipolar. On the one hand, the BiOp repeatedly acknowledges that the majority of the 100 year floodplain and floodplain habitat in the Puget Sound region has been modified, channelized or otherwise developed and, therefore, provides no habitat functions or benefits for endangered species. BiOp at 146. At the same time, the BiOp asserts that virtually every inch of the 100 year floodplain in the Puget Sound region should be protected from development to achieve the BiOp' s goal of ensuring that development in the floodplain "will not result in adverse habitat effects." BiOp at 156." **See also: Endangered Species Act – Section 7 Consultation Final Biological Opinion**
5/19/2010	**An Evaluation of Flood Frequency Analyses for the Skagit River, Skagit County, Washington**	"The impact of the historic peak discharge revisions and new data resulted in the regulated 1-percent annual chance (base) discharge decreasing from 226,400 cfs to 209,500 cfs. ... Based on this review, it was concluded that no changes are warranted in the USACE (2008) hydrologic analysis." **See Also: FEMA Region X E-mail, Re: Status Update on FIRMs**
5/27/2010	**Letter to Three Rivers Levee Improvement Authority (of California), Re: FEMA Levee Certification**	What it takes to get FEMA to certify a levee. FEMA also warned, "Even though we plan to map the referenced levee system as providing protection from the 1-percent-annual-chance flood, it is important to note that levees are only designed to provide a specific level of protection. They can be overtopped or fail in larger flood events. ... When levees do fail, they fail catastrophically, and damage may be more significant than if the levee was not there."

6/15/2010	**FEMA Region X E-mail, Re: Status Update on FIRMs**	"The Preliminary FIS and associated maps are expected to be sent to all Skagit County communities on or near June 30, 2010. This study is county-wide and will extend from Concrete downstream to the bay. All communities in the County are encouraged to review the maps and take a close look at the new conditions shown. ... Along with the preliminary FIS, we are also looking at HAZUS (emergency management and economic loss estimation tool) to evaluate a series of scenarios to determine relative change in damages and flood depths. This product is non-regulatory but helps isolate various levels of risk associated with the flood hazard. It is also a modeling tool frequently used by Emergency Managers to evaluate potential debris, displaced population, and response planning. The data used in the modeling was provided by the County." **See Also: An Evaluation of Flood Frequency Analyses for the Skagit River, Skagit County, Washington**
6/30/2010	**FEMA Flood Insurance Rate Map Packet for Skagit County**	This is a 65MB PDF file hosted by Skagit County Government containing the maps and assorted documents. **See Also: Flood Insurance Study for Skagit County, Washington and Incorporated Areas - Revised June 30, 2010, See Also: 1981-1984 FEMA-BFE Flood Research**
6/30/2010	**FEMA Region X Mitigation Division Director Letter to Burlington Mayor**	"Your community and others will have 90 days from the receipt of this letter to review the enclosed copies of the DFIRM and FIS report. The review period provides your community and others with an opportunity to identify changes or corrections to non-technical information, such as corporate limits, road names (within or adjacent to SFRAs), bridges, and streams labels, presented on the DFIRM or in the FIS report. ... During the course of preparing the countywide DFIRM and FIS report, we added or modified BFEs where appropriate. Therefore, following the 90-day review period and the flood study review meeting, we will initiate a statutory 90-day appeal period for the new or modified BFEs. We will send you a letter approximately 2 weeks before the start of the 90-day appeal period to detail the appeal process."
6/30/2010	**Flood Insurance Study for Skagit County, Washington and Incorporated Areas - Revised June 30, 2010**	"The hydrologic analysis was based on flows developed for the Skagit River near Concrete at River Mile 54.1. This location was the focal point for several reasons. There has been a stream gage (U.S. Geological Survey (USGS) gage #12149000) at this location since October 1924 and there are four additional significant historical peaks that were estimated for this location. The stream gage encompasses 88% of the total drainage area of the Skagit River (2,737 square miles). ... The data for the Skagit River near Concrete provides a firm foundation to determine the magnitude and frequency of floods in the Skagit River Basin."
6/30/2010	**Flood Profiles for Revised as of June 30, 2010 FIS**	70 pages of projections of Skagit River Flood Risk at various stretches of the Skagit River and tributaries such as the Sauk River, Baker River and Cascade River.
7/23/2010	**U.S. Senator Thad Cochran: Cochran Legislation Elicits FEMA Action On Flood Insurance**	"FEMA will establish a process for communities to appeal to an independent review panel when direct FEMA-to-community consultations falter. A five-member scientific resolution panel, three of whom would be selected by appellant communities, would be formed from a predetermined list of qualified and independent experts. The panel would have a set timeline to review scientific and technical information submitted by communities to challenge FEMA findings." **See Also: Parameters for the Flood Mapping Scientific Resolution Panel**

7/23/2010	**Parameters for the Flood Mapping Scientific Resolution Panel**	"National Flood Insurance Program (NFIP) participating communities are strongly urged to collaborate with FEMA throughout the study of their flood hazards, providing available data, models, and other scientific information that would enhance the final Flood Insurance Rate Map and avoid appeals. When such appeals are necessary, community consultation is the preferred method of resolution. Such consultation allows for collaborative evaluation and discussion of the conflicting data between FEMA and the appellant and usually facilitates a mutually acceptable resolution. On occasions when community consultation cannot produce a mutually acceptable resolution, the Panel will be made available. The Panel will be made up of experts on hydrology, hydraulics, and other pertinent sciences, as they apply to the development of Base Flood Elevations (BFEs)for FEMA flood studies." **See Also: U.S. Senator Thad Cochran: Cochran Legislation Elicits FEMA Action On Flood Insurance**
8/9/2010	**Essential Facilities in the City of Burlington Affected by a 100 Year Flood Due to the Removal of the Burlington Levee**	"Essential Facilities in the City of Burlington. Essential facilities include fire stations, hospitals, and other vital business. Notice the depth of flooding near some of these facilities, which may be as high as 13 feet." **See Also:** 6/15/2010 **FEMA Region X E-mail, Re: Status Update on FIRMs**, **FEMA HAZUS website**
8/9/2010	**Essential Facilities in the City of Mount Vernon Affected by a 100 Year Flood Due to the Removal of the Mount Vernon Levee**	"Essential Facilities in the City of Mount Vernon. Essential facilities include fire stations, hospitals, and other vital business. Notice the depth of flooding near some of these facilities, which may be as high as 15 feet or more." **See Also:** 6/15/2010 **FEMA Region X E-mail, Re: Status Update on FIRMs**, **FEMA HAZUS website**
8/9/2010	**HAZUS Results for the City of Burlington Due to the Removal of the Burlington Levee 50 Year Flood Analysis**	"The estimates of social and economic impacts contained in this report were produced using HAZUS loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific flood." **See Also:** 6/15/2010 **FEMA Region X E-mail, Re: Status Update on FIRMs**, **FEMA HAZUS website**
8/9/2010	**HAZUS Results for the City of Burlington Due to the Removal of the Burlington Levee 100 Year Flood Analysis**	Analysis by FEMA of potential flood water depth, financial and property losses plus creation of debris due to lack of 100-year certified levee protection for the City of Burlington. **See Also:** 6/15/2010 **FEMA Region X E-mail, Re: Status Update on FIRMs**, **FEMA HAZUS website**

8/9/2010	**HAZUS Results for the City of Mount Vernon Due to the Removal of the Mount Vernon Levee 50 Year Flood Analysis**	"The estimates of social and economic impacts contained in this report were produced using HAZUS loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific flood." **See Also:** 6/15/2010 **FEMA Region X E-mail, Re: Status Update on FIRMs**, **FEMA HAZUS website**
8/9/2010	**HAZUS Results for the City of Mount Vernon Due to the Removal of the Mount Vernon Levee 100 Year Flood Analysis**	Analysis by FEMA of potential flood water depth, financial and property losses plus creation of debris due to lack of 100-year certified levee protection for the City of Mount Vernon. **See Also:** 6/15/2010 **FEMA Region X E-mail, Re: Status Update on FIRMs**, **FEMA HAZUS website**
8/9/2010	**HAZUS Results for the Skagit Valley Combination of All Levee Removals 50 Year Analysis**	"The estimates of social and economic impacts contained in this report were produced using HAZUS loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific flood." **See Also:** 6/15/2010 **FEMA Region X E-mail, Re: Status Update on FIRMs**, **FEMA HAZUS website**
8/9/2010	**HAZUS Results for the Skagit Valley Combination of All Levee Removals 100 Year Analysis**	Analysis by FEMA of potential flood water depth, financial and property losses plus creation of debris due to lack of 100-year certified levee protection for the Skagit River Basin from Sedro-Woolley downstream to Fir Island. Also analyzes damages to Samish River Basin from levee breeches on the Skagit River at Burlington and Avon. **See Also:** 6/15/2010 **FEMA Region X E-mail, Re: Status Update on FIRMs**, **FEMA HAZUS website**
8/9/2010	**Press Release of Public Meeting Dates on new FEMA Flood Maps**	"The new information shows areas that will be inundated by the base (100-year) flood as well as the revised base flood elevations (BFE). The maps, once adopted by the community are utilized by lending institutions and insurance agents to determine who must purchase flood insurance. In addition, the maps will be used by community officials for floodplain management and permitting purposes."
8/10/2010	**1897 Mount Vernon Levee Failure** **1917 Big Bend Levee Failure** **1921 Burlington/Mount Vernon Levee Failure** **1921 Burlington Levee Failure** **1990 Fir Island Levee Failure**	The following Skagit County Gov't/FEMA videos were created from flood modeling incorporating approximate locations of historic levee failures. The depth and time of flooding was generated using FLO-2D. The approximate levee failure location is shown in red in each scenario. The time lapse video begins at 60 hours after flooding begins and ends at 130 hours. Each scenario is based on a 100 year discharge. Please note these flood events are modeled and may differ from an actual flood event. Movies are in the Windows Media .wmv format.

8/12/2010	**Great Rivers Habitat Alliance V. Federal Emergency Management Agency Ruling by United States District Court for the Eastern District of Missouri**	"The NFIP does not invite motions for reconsideration. Where FEMA's regulations require **new certified technical information**, this is not a command to certify the existing information in FEMA's files. Rather, the regulations require appellants to **certify new information** so FEMA can conduct another analysis. This is precisely what appellants failed to do in this case. **Instead, appellants attempt to force FEMA to reanalyze the existing data, hoping for a different result, without submitting any new certified technical data showing the first analysis contained mathematical or measurement errors, or physical conditions have changed**. Because appellants did not submit new scientific or technical information, and what they did submit was not certified by an engineer or surveyor, appellants are relying on nothing but the data in FEMA's files. The district court correctly concluded it lacked jurisdiction because appellants failed to exhaust their administrative remedies by filing a proper appeal with FEMA."
8/18/2010	**Procedure Memorandum 64 – Compliance with the Endangered Species Act (ESA) for Letters of Map Change**	"Because Conditional Letters of Map Revision based-on Fill (CLOMR-Fs) and Conditional Letters of Map Revision (CLOMRs) are submitted to FEMA prior to construction, there is an opportunity to identify if threatened and endangered species may be affected by the potential project. If potential adverse impacts could occur, then the Services may require changes to the proposed activity and/or mitigation." **See Also: NAHB: FEMA Enacts Rules for Building in Floodplains to Comply With Endangered Species Act**
9/8/2010	**Community Rating System: CRS Strategic Planning and Changes Expected in 2012**	A look-ahead presented by FEMA to NORFMA 2010 of the Community Rating System (CRS) that allows for NFIP rate reductions in return for flood risk awareness & reduction efforts.
10/2010	**NFIP Grandfather Rules - Fact Sheet for Insurance Agents**	Four pages of grandfathering rules for insurance agents as new, updated FIRMs are installed around the country.
11/8/2010	**FEMA Letter, re: Delay to FEMA Flood Insurance Study (FIS)/Flood Insurance Rate Map (FIRM) for Nov. 15, 2010 Meeting**	FEMA notifies local jurisdictions that statutory appeal period will begin in early December 2010.
12/2010	**United States Government Accountability Office (GAO) Audit: FEMA Flood Maps - Some Standards and Processes in Place to Promote Map Accuracy and Outreach, but Opportunities Exist to Address Implementation Challenges**	"GAO reviewed the actions FEMA has taken to enhance the accuracy of updated flood maps, and FEMA's outreach efforts in conducting flood mapping activities. GAO analyzed FEMA's mapping standards and information systems, tested quality assurance processes, and interviewed FEMA officials and contractors."
12/20/2010	**Skagit County FIS Status Update**	"This email is to inform all interested parties that the Skagit County Flood Insurance Study official 90-day appeal period will begin on 12/31/10 following the second publication in the paper of record."

Skagit County Documents

1/4/2010	**Series of e-mail exchanges re meeting with FEMA**	"FEMA will propose the vague series of open houses where they cannot get nailed on the issues, so we might want to consider a forum or two where they are tied into being forced to give answers that can be recorded: such as "we are confident and right" and "you have to appeal and you are screwed anyway"."

1/6/2010	**nhc Draft Memorandum Re: Skagit Hydrology Documentation Update – Outstanding Issues**	nhc finds that the GI study has issues around "Consideration of Seasonal Variation in Flood Control Storage" and "Use of 1925-1943 Unregulated Data". Also, "Many of the large floods in the historical record have however occurred in November or even October (e.g. the flood of October 2003) when required flood control storage is substantially less than that assumed in the current existing condition analyses. ... Some indication of the effects of having less than the full amount of flood control storage is provided by the comparison of regulated and unregulated discharges. After considering seasonal weighting of regulated flows (approximately 40% of floods occur before 1 December) we expect that the 100-year regulated discharge at Mount Vernon could increase by between 5,000 and 10,000 cfs."
2/10/2010	**Skagit County Commissioners' Letter to Seattle District Corps of Engineers**	"We do not believe the uncertainty in the USGS data used in the Corps' hydrology analysis and the new information now available from the work performed by our consultants, has been incorporated into a review. Skagit County requests a technical conference with the Corps, USGS, and FEMA to address these findings and the USGS data used in the Corps' analysis."
3/10/2010	**nhc Re-Evaluation of the Magnitude of Historic Floods on the Skagit River Near Concrete Revised Final Report**	"It is not known how Stewart determined the 1921 water surface profile or the falls between cross-sections which are critical to determination of discharge. Any interpretation of the data is hampered by the lack of 1921 HWMs between XS2 and XS3, this being the reach relied on by the USGS (Mastin, 2007) for recomputation of the 1921 peak discharge."
3/17/2010	**nhc PowerPoint Presentation of Re-Evaluation of the Magnitude of Historic Floods on the Skagit River near Concrete**	Presentation given in D.C. by **nhc** on unreliability of high water marks/HWMs in the Dalles stretch of the Skagit River.
5/5/2010	**nhc Memo Re: Skagit River 1921 High Water Marks**	"(It is perhaps also worth pointing out Stewart's comment that "the only elevations available, when the flood crest is based on high water marks, is the crest of the surges, whereas what is needed is the mean level of the water at the time of the flood crest".) It remains our opinion that given the available HWMs, there is considerable scope for uncertainty in the slope area measurements of the 1921 peak discharge." **See also: nhc Re-Evaluation of the Magnitude of Historic Floods On the Skagit River Near Concrete Revised Final Report, USGS responses to issues raised by the Technical Memorandum, "Review and reevaluation of Skagit River 1921 flood peak discharge." and Correction Memo for 5/6/2010 USGS responses to issues raised by the Technical Memorandum, "Review and reevaluation of Skagit River 1921 flood peak discharge."**
8/24/2010	**FEMA Letter to Skagit County Government, re: CLOMR for City of Mount Vernon Floodwall**	"As a result of the proposed project, the Base Flood Elevations (BFEs) for the Skagit River will increase and decrease with both levees holding, compared to the preliminary BFEs. The maximum increase, 0.2 foot, will occur approximately 8,790 feet downstream of Curtis Road, and the maximum decrease, 0.1 foot, will occur approximately 3,980 feet downstream of Curtis Road."
9/13/2010	**County Prosecutor Letter to Cities, Re: Potential Appeal of FEMA Flood Maps**	"To be clear, Skagit County is willing to participate in a city led appeal, provided that the cities' game plan makes sense. The Prosecuting Attorney is charged by law with representing Skagit County on all legal matters, But neither Burlington nor Mount Vernon has yet contacted my office to discuss a potential appeal of the final FEMA maps."

12/22/2010	**Skagit County Prosecutor's Office Letter RE: FEMA Map Appeal**	"We have received a public document in the past few days that contains few details, but have otherwise not been invited to participate in formulating an appeal plan. It is our understanding that the cities' appeal plan has generally been cloaked in secrecy - for example, Burlington city council members were allowed to see but not keep a copy of the appeal plan."

City of Burlington Documents

1/12/2010	**Burlington e-mail re potential technical conference in DC**	"I think we have a window of opportunity here to address the foundational issue in this period before FEMA reissues the maps. The arc of this story is: if we can get the hydrology corrected, then the general atmosphere of frustration and ambivalence about the GI study could be changed to enthusiastic support. And that could make an eventual regional flood project possible. We might not be successful in this effort. But I think now is the time to push, and push hard. I am not seeing a better opportunity in the future."
1/21/2010	**Request for Technical Conference to Resolve Skagit River Hydrology to FEMA**	"We would like an opportunity for both FEMA's experts and our experts to sit in the same room, dedicate the uninterrupted and focused time necessary to go through the information, explain and discuss the technical arguments, defend technical positions, and then work together through all of the individual components of the analysis, point by point, to reach agreement."
2/2/2010	**State Legislators Request Technical Conference of the Corps of Engineers**	"Recent discussions between Skagit County, Mount Vernon, Burlington and Dike District staff with senior Civil Works and Corps of Engineers executives raised the possibility that an expert technical panel/conference could be convened ahead of the milestone Feasibility Scoping Meeting set for the Skagit General Investigation Study this year. Local jurisdictions have committed to help pay travel and per diem expenses for Corps of Engineers experts and other independent experts participating in the conference."
2/2/2010	**State Legislators Request Technical Conference of FEMA Mitigation Directorate**	"We are writing to urge your support to convene a technical conference March 17-18 in Washington D.C. to exchange information and defend technical positions regarding the Skagit River hydrology, focusing in particular on the historic flood events. The purpose of this conference would be to resolve the Skagit hydrology issue if possible; but if not, build a knowledge base among FEMA's technical experts and staff about the issue."
2/12/2010	**Request for Technical Conference to Resolve Skagit River Hydrology to Congressman Larsen**	"We have formally requested FEMA convene a 2-day technical conference March 17-18 in Washington D.C. to consider the Skagit River hydrologic analysis, with a specific emphasis on determining the nature of the historic floods of 1921, 1917, 1909, and 1897. So far, FEMA has listened but taken no action. We are requesting your office's involvement to facilitate convening such a conference. We believe this request is consistent with the spirit and intent of FEMA's policy of working with local communities. Further, the situation with the Skagit hydrology is unique, and merits a special focus that this technical conference would provide."
2/25/2010	**Burlington Response to USGS Refusal to Attend Technical Conference**	"I am not an expert here but as I understand it, the criticism is that the model cannot accurately determine the water surface levels through the Dalles Gorge. Again, I am not an expert, but I must say that this criticism completely misses the point."

Documents Posted in 2010 on www.SkagitRiverHistory.com

3/11/2010	**PIE Technical Memorandum re: Review and Reevaluation of Skagit River 1921 Flood Peak Discharge, March 2010**	Document submitted to technical review committee in Washington DC.
3/17/2010	**PIE_PowerPoint_Presentation_Skagit_River Reevaluation of 1921 Flood Peak Discharge**	Presentation given in D.C. by PIE on issues with Stewart's datum and calculations of slope-area computations of the Skagit at The Dalles just south of Concrete, WA.
3/23/2010	**Mr. Stewart Goes to Washington Round 2**	A detailed account of the latest meeting with Washington D.C. officials.
7/8/2010	**Final Environmental Impact Statement/FEIS To Adopt A Strategic Program for Comprehensive Flood Hazard Mitigation in the Burlington Urban Area and Adjacent Land With A Range of Structural and Non-Structural Components**	"Over 3.5 million square feet of commercial and industrial construction and over 1400 dwelling units have been built between 1995 and 2008, based on the Flood Insurance Rate Map (FIRM) adopted in 1985. Only 216 acres of vacant land are available within the City Limits. Because of the growth since 1995, the need to protect the existing urban built environment against the Base Flood is very important for the economic vitality of the community."
9/3/2010	**Trip Report, National Association of Flood and Stormwater Management Agencies, August 23-27, 2010**	"Chal brought up his concern that to utilize the Scientific Review Panel would cost the local communities a lot of money, because a different kind of information package would be necessary to submit - a kind of a literature review that would guide the Scientific Review Panel through the information sources, issues, and sources documents. Doug said no: the only package that would be submitted would be the appeal package. No additional information would be allowed to be submitted to the Scientific Review Panel. And, no "consultation" would occur between the local communities and the Scientific Resolution Panel (Note: Chal forgot to ask: does this also mean that FEMA cannot provide further input to the Scientific Resolution Panel?). Both Doug and Roy emphasized: for the communities to give themselves the best possible shot during both the appeal process and the Scientific Review Panel process, the appeal needed to be submitted in accordance with Federal regulations, including new maps that are based on superior methodology and/or science that demonstrate FEMA's maps are wrong. The appeal documentation basically needs to show the new base flood elevations and then explain why those new elevations are superior to FEMA's."

City of Mount Vernon Document

8/24/2010	**Conditional Letter Of Map Revision/CLOMR for Mount Vernon Floodwall**	"Because the updated hydrologic/hydraulic analyses completed as part of the preliminary FIS report and FIRM reflect improved methods and analyses, the submitted duplicated preliminary FLO-2D hydraulic computer model, dated July 14,2010, was used as the base conditions model in our review of the proposed conditions model for this CLOMR request. We believe that, if the proposed project is constructed as shown on "Skagit River Levee System, City of Mount Vernon - Downtown Flood Protection Project," prepared by Pacific International Engineering, dated January 30, 2009, and the data listed below are received, the floodplain boundaries of the base flood will be delineated as shown on the annotated FIRM (COE 2008 Hydrology Inundation Map, Post-Project Condition), prepared by Pacific International Engineering, dated January 4, 2010. "

Documents Posted in 2010 on www.SkagitRiverHistory.com

Skagit County Flood Control Zone District Advisory Committee Documents

(This is for all the meetings of that year.)

1/13/2010	**Swinomish Tribal Representative Resignation**	"The purpose of this letter is to inform you of my resignation from the Flood Control Zone District Advisory Committee (AC) and the Environmental Technical Committee. From the very beginning of this process, the Tribe explained that our support for individual flood damage reduction elements would be based on the result of a cumulative effects analysis that would consider many flood reduction actions together and their associated environmental consequences. ... However, the AC has moved forward and developed recommended action items without any analysis of the environmental consequences nor the level of flood damage reduction that would be achieved."
1/19/2010	**Agenda for January 19, 2010 Meeting (Handout 1)**	Topics of discussion are: 1) CFHMP Draft Update Status 2) Board of County Commissioners Discussion 3) FEMA Flood Maps - FEMA Representative TBD 4) To determine next steps and Technical Committee assignments (if any)
10/19/2009	**Draft Minutes for Nov. 16, 2009 (Handout 2)**	"If a project is chosen to reduce flood risk in Skagit County, how would it be funded? Boudinot opened the discussion by handing out three documents: a presentation given by David Brookings in 2007, a table compiled from the Assessor's database (by Emma Whitfield, Skagit County Public Works), showing the Dike and Drainage Districts' monies received every year, and a report on Levy rates by Kunzler."
2/16/2010	**Agenda for Feb. 16, 2010 Meeting**	Meeting is to review discussion on FEMA Flood Insurance Rate Maps plus review chapters 1-4 of CFHMP.
1/19/2010	**Draft Minutes for Jan. 19, 2010 Meeting**	"The common theme was the concern regarding FEMA's review of information submitted during the appeal process. Many feel the data submitted has not be taken into consideration. It was also mentioned there is a desire to hold a discussion about the hydrology of the Skagit River with FEMA and several other parties. ... Ryan was asked again about the possibility of having a technical panel review the base information and the maps and Ryan said that if it was up to him, he would like to get all of the experts in the same room and work this out. Unfortunately, it is not his call."
2/10/2010	**CFHMP Draft Chapter 1**	Draft Introduction to Skagit River Comprehensive Flood Hazard Management Plan/CFHMP as of Feb. 10, 2010.
2/10/2010	**CFHMP Draft Chapter 2**	Draft Skagit River Basin Characteristics section of Skagit River Comprehensive Flood Hazard Management Plan/CFHMP as of Feb. 10, 2010.
2/10/2010	**CFHMP Draft Chapter 3**	Fundamentals of Flooding section of Skagit River Comprehensive Flood Hazard Management Plan/CFHMP as of Feb. 10, 2010.
2/10/2010	**CFHMP Draft Chapter 4**	Flood Warning and Operations in the Skagit River Basin section of Skagit River Comprehensive Flood Hazard Management Plan/CFHMP as of Feb. 10, 2010.
4/19/2010	**Agenda for April 19, 2010 Meeting**	Meeting is to review membership, funding issues, updating the draft CFHMP as well as the recent trip to D.C. for federal assistance.

4/16/2010	**Draft Minutes for Feb. 16, 2010 Meeting**	"The Skagit GI project delivery team is also reviewing the scope of work to complete the 10% design and cost estimates for each measure. This information will feed into the USACE's HEC- Federal Damages Assessment model to establish whether there is a Federal interest in pursuing a flood project in the Skagit River basin. "
4/7/2010	**2nd District Congressional Meeting Senator Murray and Skagit County Community Agenda**	Meeting w/ US Senator Patty Murray on attempting to get funding for the Corps of Engineers Skagit General Investigation Study.
4/7/2010	**List of Tasks Left to Do in Skagit GI Study as of April 7, 2010 and What's Funded**	As per title.
4/19/2010	**DRAFT Executive Summary**	Most recent draft of CFHMP Executive Summary.
5/3/2010	**Skagit Flood Planning "Blueprint" Discussion Purpose**	"The AC needs direction and funding to move forward."
5/10/2010	**Skagit Flood Planning Blueprint Discussion Notes**	"Todd: Need to determine who is in charge – this especially needs to be resolved." "Bob: Leadership is needed as a core group." "Esco: Coming up with a plan is not high on a priority list. There is a need to work through the priorities of the individual groups." "Leonard: Advised that he had been part of a Recon study before – when it was presented to the County Commissioners, they did not like it & threw it out. Since then the Commissioners and the Corp have been at odds."
5/17/2010	**Agenda for May 17, 2010 Meeting**	Bulk of meeting is to, "Continue Conversation Regarding Funding to Complete Planning Process."
4/19/2010	**Draft Minutes of April 19, 2010 Meeting**	"Boudinot opened the discussion with two questions: 1.) How does the County plan to fund the Skagit GI and 2.) Is it possible to devote a source of funding towards building projects? The County is going to need a dedicated funding source in order to meet its match requirement for funding the Skagit GI, which comes to approximately $2 million over the next two years. The Board of Skagit County Commissioners (BCC) is going to have to decide how the County goes about meeting this match."
6/26/2007	**Plan B Presentation**	LJK Presentation to Skagit County Commissioners urging formation of a flood agency and excise sales tax to be used specifically for flood project construction.
6/19/2010	**Draft as of June 19, 2010 of Chapter 7 of CFHMP: History of Flood Management**	This section of the CFHMP discusses the studies conducted and some of their findings on the Skagit River so far.
6/21/2010	**Agenda for June 21, 2010 Meeting**	Meeting will be to plan future flood control efforts thru a Blueprint and also the first draft of the Combined Flood Hazard Management Plan/CFHMP.

6/21/2010	**Handout 2: Draft Minutes of May 17, 2010 Meeting**	"Ellestad estimates the cost to finish the study is approximately $3 million. The County's match thus far has been met by contracts with technical consultants, county staff time, and funding from DOE. The County is reviewing the PMP and is negotiating to be responsible for tasks that have obvious "added" value to local cities and dike districts in order to complete them in a timely manner. Identified match for the Skagit GI will be submitted as part of the projected Fund 110 budget and vetted through the county bdget process for approval. It was decided to not request funding for the CFHMP. However, the AC agreed to send a letter to the Board of Skagit County Commissioners to ensure their monetary support of the Skagit GI."
4/30/2010	**Handout 3: Quarterly Progress Report to Washington State Department of Ecology on GI Study and other Skagit River Flood Risk Management**	Listing of various tasks the State Department of Ecology is funding on Skagit River Risk Management from among other things seeking full GI study funding, working to get correct Flood Insurance Study/FIS maps and the buy-out of six Cape Horn properties. Also managing the Baker River hydroelectric project as, "Skagit County continues to be confident that the additional flood control at the Baker River Hydroelectric project will be compatible with other project purposes and provide additional protection benefits for endangered Chinook salmon by reducing bed scour during flood events."
5/10/2010	**Skagit County Commissioners Resolution #20100157 Updating the Flood Control Zone District Advisory and Technical Committees Membership Lists**	Skagit County Commissioners recognize resignations and replacements on the Flood Control Zone District committees.
9/20/2010	**Agenda for Sept. 20, 2010 Meeting**	Discussion on FEMA Flood Insurance Rate Maps/FIRMS and review of Comprehensive Flood Hazard Management Plan/CFHMP.
6/21/2010	**Handout 2: Draft Minutes of June 21, 2010**	"County staff handed out the first draft of the Skagit River CFHMP. It was requested the group review the plan for items of importance that may have been left out, areas that should be developed further, or additional sources of information that should be referenced. The AC and TCs will meet to discuss the Plan in September."
5/19/2010	**Handout 3: An Evaluation of Flood Frequency Analyses for the Skagit River, Skagit County, Washington**	"The impact of the historic peak discharge revisions and new data resulted in the regulated 1-percent annual chance (base) discharge decreasing from 226,400 cfs to 209,500 cfs. ... Based on this review, it was concluded that no changes are warranted in the USACE (2008) hydrologic analysis." **See Also: FEMA Region X E-mail, Re: Status Update on FIRMs**
10/25/2010	**Agenda for Oct. 25, 2010 Meeting**	Review of Comprehensive Flood Hazard Management Plan/CFHMP Chapters 1-4 and regular business.
9/20/2010	**Handout 2: Draft Minutes of Sept. 20, 2010**	"The U.S. Army Corps of Engineers' (USACE) Hydrology and Hydraulics update is nearing completion. NHC will soon be working on the 10% design of the measures. The Project Development Team will be meeting on September 29 to view the measures sites. This will be followed by a discussion of the measures. Dan Johnson, USACE, added the Corps is wrapping up the *Without Projects Conditions* report as well."
10/25/2010	**GI Study Report Out Handout**	"What we have been told is that the Seattle District will be required to report on a regular basis and that the Skagit GI is now one of the Seattle Districts priorities. ... This is a direct result of the effort by the Cities and the County to get HQ directly involved in address the lack of progress over the years and finally getting the Skagit GI on a shorter completion schedule and allocating the resources to make it happen."

10/25/2010	**Agenda for Nov. 15, 2010 Meeting**	The meeting has been moved to Fisher Slough for a site visit & Dike District 3 HQ in Conway. Will also have report outs.
10/18/2010	**Handout 2: Draft Minutes of Oct. 18, 2010**	"The Skagit River GI project development team has had two follow-up meetings to the tour of measures that took place in September. The meeting discussion consisted of hydraulic effectiveness and damages among several other factors. ...The GI will be "reset" due to its lengthy process. Headquarters has acknowledged the study has taken several years. Chal Martin added this is positive, because it appears the Corps is staying on schedule. It has also been effective tasking NHC with designing the measures. Adam LeMieux added Representative Larsen and Senator Murray are still confident the bill providing the GI with a match of $1.137 million will pass."
10/25/2010	**Handout 3: Low Low Water in Puget Sound vs. Mean Sea Level**	LJK Presentation given to the SC FCZD AC about questions concerning the datum used for historical floods at Sedro-Woolley and the impacts on Ross Dam Storage.
2/2009	**Handout 4: Fisher Slough Fact Sheet**	"Fisher Slough historically supported dynamic tidal and non-tidal wetlands. To claim land for agricultural purposes, tide gates and levees were installed decades ago. Today, the slough and its lower tributaries are confined and filled with invasive non-native plants; the historic alluvial fan has been eliminated; and natural flooding and tidal events are almost non-existent. The net results are a reduction in extent and diversity of wetlands, reduced accessibility for fish, degraded water quality and a reduction in flood storage capacity."

USGS Documents

2/24/2010	**USGS E-mail response to Request for USGS Participation in a Technical Conference: Skagit River WA Hydrology**	"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. ... 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."
5/6/2010	**USGS responses to issues raised by the Technical Memorandum, "Review and reevaluation of Skagit River 1921 flood peak discharge."**	"Because they do not represent peak flow conditions, the USGS generally disregards the lower highwater marks in favor of the higher marks, particularly when multiple highwater marks provide confirmation of those higher elevations." See Also: nhc Re-Evaluation of the Magnitude of Historic Floods On the Skagit River Near Concrete Revised Final Report, Correction Memo for 5/6/2010 USGS responses to issues raised by the Technical Memorandum, "Review and reevaluation of Skagit River 1921 flood peak discharge." and nhc Memo Re: Skagit River 1921 High Water Marks

5/7/2010	**Correction Memo for 5/6/2010 USGS responses to issues raised by the Technical Memorandum, "Review and reevaluation of Skagit River 1921 flood peak discharge."**	"Rereading these notes, the HWM at the upper gage was at an elevation of 27.468 feet (gage datum) not 27.714 feet. It was located at the upper section of the upper gage not the current gage. The recorded gage height for the February 27, 1932 peak was 27.30 feet (gage datum) at the current gage." See Also: nhc Re-Evaluation of the Magnitude of Historic Floods On the Skagit River Near Concrete Revised Final Report and USGS responses to issues raised by the Technical Memorandum, "Review and reevaluation of Skagit River 1921 flood peak discharge."

Guest Documents

(Some of these are links to off-SkagitRiverHistory.com documents.)

3/3/2010	**Water Resources Development Act of 2007 Public Law 110-114: A Report on Implementation in the Third Year**	"Section 2034 of WRDA 2007 established independent review requirements for certain project studies Reviews are required if the project cost is expected to exceed $45 million, if the governor of an affected state requests a review, and if the Chief of Engineers determines that a project is controversial. A project may also be subject to independent review if the head of a federal or state resource agency determines that the project is likely to have a significant adverse impact on environmental, cultural, or other resources under the agency's jurisdiction."
3/11/2010	**The Hawk Eye: Corps, levee district butt heads (again)**	Unlike in Skagit County, Washington, P.L. 84-99 is being enforced in Henderson County, Illinois.
4/2010	**Institute for Policy Integrity: The Distributional Consequences of the NFIP**	"The program encourages building in floodplains by providing insurance policies that private insurers find too risky to write. The less expensive it is to insure a property in the floodplain against loss, the stronger the incentive to build in that floodplain and the more risk becomes concentrated in areas covered by the NFIP. The geographic concentration of risk helped to create the debt crisis the program faces today: a single flood event can affect a great number of covered properties, none of which have paid insurance premiums at a market rate."
4/2010	**University of Washington Climate Impacts Group Draft Report**	"Under a warmer future climate, more winter precipitation falling as rain, rather than snow, will intensify winter flood risk for warmer transient basins."
5/16/2010	**Everett Herald: Glacier Peak Hazard Zones**	A must-see graphic on the Everett Herald website on the "very high threat" that Glacier Peak is. See also: Everett Herald: Our volcano: Glacier Peak is the hidden threat in our back yard
5/16/2010	**Everett Herald: Our volcano: Glacier Peak is the hidden threat in our back yard**	"Glacier Peak is one of 18 volcanoes in the U.S. listed as a "very high threat." It made the list because its historical record shows it erupts frequently and on a large scale. It last erupted about 240 years ago, just before the Revolutionary War, and its last major eruption was about 1,800 years ago." See also: Everett Herald: Glacier Peak Hazard Zones

5/19/2010	**US Senator David Vitter Press Release: Vitter Secures Corps Reform Commitments, Pushes for Further Accountability**	"From the beginning, this disagreement was about holding the Corps' feet to the fire and demanding that a broken and irresponsible bureaucracy be held accountable." ... In addition to the Corps' promises to meet its deadlines, Vitter is working to further reform the Corps by attempting to secure language in the next the Water Resources Development Act that would request that the Corps be penalized $100,000 per week from its salaries and expenses accounts for each week a statutory deadline is missed or ignored."
5/26/2010	**The Columbia Daily Tribune - Taming the River**	"Enter the Army Corps of Engineers, the hapless agency years ago given the impossible task of satisfying irreconcilable differences so many generations in the making. Finally the corps came up with a plan for water management, but after a few years complaining persists and Congress has commissioned a $25 million study. Nobody, including the group conducting the study, thinks it is likely to bring mutual happiness. Apparently Congress had to do something, so we shall have another study." Sound like Skagit County?
6/2010	**Selections from Updated Media Guidebook for Natural Hazards in Washington**	Clippings from a guidebook originally issued in 2006, prepared by federal & state agencies regarding geologic-based natural risks in Washington State and updated in June 2010. "This guidebook supplies background information about volcano hazards and an overview of the notification process used to send volcano alerts to emergency and land managers, the media, emergency broadcasters, and the public. It includes background information about volcanic hazards expectable at Washington volcanoes, maps showing areas most susceptible to these hazards, a volcano warning flow chart that shows how information is sent to emergency management and local media, and a list of published resources and specialists who can provide credible volcano information."
6/7/2010	**Letter from Western Washington State Congressional Delegation to Assistant Secretary for Civil Works, Army**	"Additionally, as you know, several populations of salmon in Washington State are listed species under the Endangered Species Act (ESA). As a result of this listing, levee operators in the impacted Washington river basins must comply with the ESA, which in most cases means vegetation that provides shade to cool the water temperature must be planted on a levee. Levees required to be in compliance with the ESA could simultaneously be in conflict with proposed Corps vegetation standards if no variance is kept in place. This could also result in levees being decertified or not being accredited if the FEMA standards are not met."
6/9/2010	**Recent GAO Work on Disaster Recovery: FEMA's Long-term Assistance Was Helpful to State and Local Governments but Had Some Limitations**	GAO Presentation to the 13th Annual FEMA Emergency Management Higher Education Conference. One of GAO's recommendations was, "Establish a long-term recovery structure that more effectively aligns the timing and level of federal involvement with the capacity and needs of of state and local governments" in the wake of contradictory guidance.
7/7/2010	**Snoqualmie Valley Preservation Alliance: Citizen group takes legal action against Army Corps of Engineers over flooding**	"Calling legal action "the only means to dig out the truth about increased flooding," the Snoqualmie Valley Preservation Alliance (SVPA), a nonprofit group of farmers and residents in the Snoqualmie Valley, today filed a lawsuit in U.S. District Court against the U.S, Army Corps of Engineers (Corps). At issue is the Corps' approval of a new Snoqualmie Falls river widening project by Puget Sound Energy (PSE) and the Corps' complete failure to consider whether the project will cause flooding in the lower valley."

7/20/2010	**US Senator Patty Murray: Senator Murray Secures Funding for Critical Washington State Water Priorities**	Senator Murray gets $1.137 Million for Skagit GI Study thru part of Congressional appropriation process. Says, "This funding would allow the Army Corps of Engineers to analyze possible flood control projects to protect citizens and infrastructure that would be impacted by a flood event on the Skagit River."
8/12/2010	**NWCN/KING 5: Skagit County citizens say new flood maps cause deep problems**	"The problem is the way the data was compiled," says Chal Martin, Public Works Director for Skagit County. "FEMA predicts that one or all of the levees along the river will fail in a flood. We don't ever expect that to happen."
9/2/2010	***DON L. FITZPATRICK ET AL. v. OKANOGAN COUNTY* - Washington Supreme Court Decision**	"The owners' theory was that the road and dike work impacted the river by cutting off natural overflow channels in the floodplain, thereby forcing all of the flow during the high-water event into the main channel and onto their property. The availability of the common enemy defense turned on whether the water in question was surface water or water in a natural watercourse. That was a factual question. Because there were genuine issues of material fact as to whether the water at issue was water in a natural watercourse or surface water and whether the damage to the owners' property was a necessary incident to defendants' work on the dike, the trial court erred in granting summary judgment."
9/8/2010	**The BiOp and Beyond: Fixing Floodplain Management Problems**	National Wildlife Federation presentation to NORFMA 2010 on their vision of floodplain management after the BiOp finding the NFIP a threat to wildlife. Includes stellar graphics on development encroachment into floodplains - especially slides 20-23.
9/8/2010	**The Dallas Experience: NFIP and Levee Accreditation**	A HNTB Presentation how HNTB restored aging Dallas levees to health. Notes that, "California's State Engineer, William Hammond Hall, reportedly stated: "…There are two kinds of levees, those that have failed and those that will fail."
9/22/2010	**GAO Director of Financial Markets and Community Investment Testimony to Congress: Continued Actions Needed to Address Financial and Operational Issues of National Flood Insurance Program**	"Congress and FEMA intended that the NFIP's operating expenses and flood insurance claims would be paid with premiums collected by the program rather than with tax dollars. But the program is, by design, not actuarially sound, for several reasons. First, NFIP does not operate like private insurance companies. For example, FEMA is not structured to build a capital surplus, is likely unable to purchase reinsurance to cover high or catastrophic losses, cannot accept or reject applicants to help manage risk, and is subject to statutory limits on rate increases. Second, many property owners pay premium rates that do not reflect the full, long-term risk of flooding. Almost 25 percent of property owners pay subsidized premium rates, and even "full-risk" premium rates may not reflect the actual risk of flooding. Further, NFIP allows some property owners to continue to pay rates that do not reflect reassessments of their properties' flood risk ("grandfathered rates"). Finally, NFIP must continue to insure repetitive loss properties, which represent only 1 percent of flood insurance policies but account for 25 to 30 percent of claims."
9/26/2010	**Stuff.co.nz: Quake-hit residents may sue council**	A New Zealand community is dealing with the likely litigious aftermath of an earthquake striking a geologically unsafe area that a council allowed developers to develop kind of like Burlington.

10/30/2010	**Seattle Times Column: Route to trace wonders of Central Washington ice-age floods**	"Whether the trail is followed for a few hours or a few weeks, the mental image is powerful once the story is absorbed: During the most recent ice age, which began about 18,000 years ago, ice pushed south into what's now northern Idaho, damming the Clark Fork River drainage. Water backed up to form glacial Lake Missoula — 500 cubic miles of water in a lake 200 miles across and as much as 2,000 feet deep. Over time, the immense water pressure broke through the ice, blasting the equivalent of the combined water of Lake Erie and Lake Ontario west toward the Pacific. Standing in the way was what we now call Washington state."
11/4/2010	**Flood-ravaged Sans Souci homes coming down**	This article was sent to me by a former resident of this town who stated flooding was serious there 60-70 years ago. There are some places that just should be abandoned. The NFIP like it promotes development in floodplains also enables some to stay in repetitive loss areas that end up costing taxpayers millions. The NFIP needs changing so that more of the below can happen in repetitive loss areas. No one should be forced from their homes if they want to stay but if they stay they do so at their own peril not at the expense of the taxpayer.
11/15/2010	**NAHB: FEMA Enacts Rules for Building in Floodplains to Comply With Endangered Species Act**	"As currently written, the Procedural Memorandum 64 is likely to impose a burden upon developers, builders and private landowners seeking an LOMC." LOMC being Letter Of Map Change. See also: Procedure Memorandum 64 – Compliance with the Endangered Species Act (ESA) for Letters of Map Change
12/5/2010	**The Olympian: State may halt fishing on Elwha**	"Ron Warren, fish manager for the department's Region 6, said a moratorium would help protect fish runs during dam removal and maximize the number of fish available to spawn in the Elwha River watershed. "Once those dams are gone, we'll have a tremendous opportunity to rebuild fish runs that have been blocked from the upper river for the past century," Warren said in a news release. "A fishing moratorium would support that goal, but we want to talk to area residents before we formally propose a plan to the commission"."
12/10/2010	**The Oregonian: With a concrete wall, researchers improve migrating salmon survival rates at The Dalles Dam**	$51 million to redirect Columbia River salmon to help salmon pass a dam.