

**Date:** August 28, 2008

**To:** Tom Karsh, Skagit County  
Skagit County Department of Public Works  
1800 Continental Place  
Mount Vernon, WA 98273

**c:** *Ric Boge, Skagit County Public Works; Bob Wheeler, Triangle Associates;  
Tony Melone; central files*

**From:** Cynthia Carlstad

**Project No./Name:** 135-27049-08-065/Skagit CFHMP

**Subject:** Skagit Comprehensive Flood Hazard Management Plan (CFHMP)  
Stakeholder Interview Takeaways

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## INTRODUCTION

As an important early step in the Skagit Comprehensive Flood Hazard Management Plan (CFHMP) update process, consultant team members Cynthia Carlstad and Bob Wheeler conducted interviews with participants and other stakeholders. As facilitators, these interviews aid us in understanding the interests and needs of participants so as to best formulate a strategy to allow consensus agreement among participants. Interviews early in the process helped provide an understanding of perspectives, commonalities, differences, and individual knowledge. Additionally, they helped inform participants about the CFHMP elements and process and the relationship of this planning effort to other ongoing studies and plans. The interviews also serve as an opportunity to bring all participants to a common level of understanding.

In-person interviews were conducted in Skagit County on March 28 and 31, April 17 and 18, May 1 and 5, and June 9, 2008. Telephone interviews were conducted with interviewees who were unable to meet with the consultant team in person, or these interviewees provided completed interview questionnaires to the consultant team. In total, 47 interviews were completed (see Attachment A).

Interviews were conducted with the understanding that findings, commonalities, differences and takeaways would be reported to the Advisory Committee and Skagit County staff without divulging specific statements from individuals or groups, in order to maintain confidentiality and encourage candid discussion. While a prepared set of interview questions often guided the discussion, (See Attachment B), the prepared questions were not rigidly answered during each interview. Rather, each interviewee was provided the choice of talking through the questionnaire or discussing whatever they felt was important information to communicate. These interviews do not represent a scientific survey of participants; statistical analysis of these interview responses would not be an appropriate use of the information.

For in-person interviews, a map of the Skagit watershed was available to allow interviewees to mark potential solutions, concern areas, ideas, or features of importance directly on the map. Many did provide their ideas, and these have been synthesized and converted from hand drawings to electronic graphics as shown on the map in Attachment C.

This memorandum provides a categorized compilation of interview responses.

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## **BASIC TAKEAWAYS**

### **Understanding of the CFHMP Project**

- Seen as an opportunity to bring people together, from different backgrounds and with different agendas, in order to accomplish a real set of goals.
- Unanimous desire to protect people, transportation systems and infrastructure (especially critical infrastructure)
- Huge amount of awareness that past efforts have not resulted in much happening. So, this effort has to produce results and lead to rapid implementation.
- This is about risk reduction, not 100% protection (reducing liabilities is main focus).
- Some amount of skepticism that this process will work, but hopeful that this will be a successful process.
- Be careful of solving a problem for one person/entity, only to pass the problem to someone else.
- Still some misunderstandings about CFHMP—what it is and why now.
- Lack of understanding of County's role in flood hazard management.
- The more the CFHMP considers all aspects of the issue—life safety, property damage, environmental, open space opportunities, and economics—the more successful it will be at creating financial support from the public.
- Right-minded, systematic way to solve complex problems.

### **Flood Control Zone District (FCZD) Organizational Structure**

- General sense of uncertainty exists about organizational structure and how it will function:
  - Need to be flexible and willing to adapt committee relationships, with early checkpoint to identify needed tweaks.
  - Technical Committees need to have key role, not just bit-piece assignments.
- Need free information/idea exchange between Advisory Committee, Technical Committees, and all participants
  - Communication protocols are needed (i.e. email distribution, meeting summary distribution, monthly communiqué on technical committee activities).
  - Technical Committee report-outs at each Advisory Committee meeting.
- Need interaction among Technical Committees.
  - Depends on assignment.
  - Joint meetings have been well-received and foster relationships and better understanding.
- Some desire was expressed by a few for broad representation on Board of Supervisors
  - Need to evaluate legality, operational components, and practical examples of representation alternatives.

- Advisory Committee members need to balance representing their Technical Committee and their constituent group with their role in working with other Advisory Committee members to develop solutions that are acceptable to all.

### **Goals—Themes**

- Implementable and fundable plan with a high level of practicality and timely actions and projects that solve real flood problems.
- Visionary and advanced flood control plan that balances life safety, economic, environmental, fish, and wildlife issues.
- Focus on risk reduction more than flood protection.

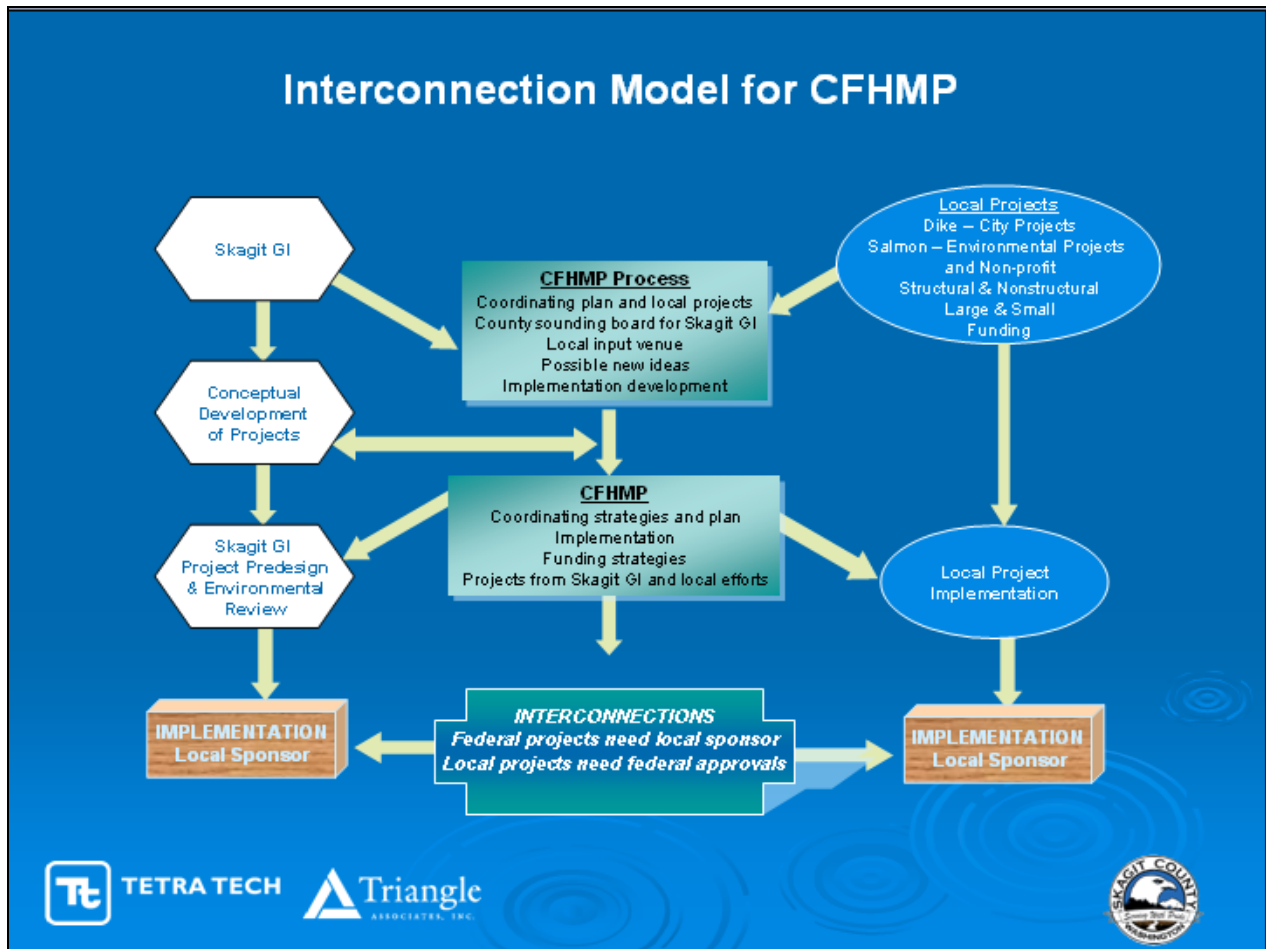
### **Objectives—Themes**

- Urban cores are protected.
- Farmland doesn't take undue burden.
- Create a whole watershed focus.
- Need for incorporating land use solutions.
- Create a sustainability of efforts.
- Aid in salmon recovery.
- Locally directed.
- Make the river more of an amenity.
- Large and small projects.
- Structural and non-structural projects.
- U.S. Army Corps of Engineers Skagit General Investigation (Skagit GI) Project purpose statement (should be consistent with this).

### **Interconnections between Flood Hazard Management Efforts**

- The Skagit GI should not be only vehicle pursued for flood risk reduction—too dependent on federal funding.
- Projects need to meet Corps standards so eligible for federal funding.
- Confusion about link between two efforts, especially timeline
  - CFHMP provides ongoing opportunity to understand linkages, improve communication, and ensure no disconnect.
- Some questions related to the timing of this effort.
- Timing for CFHMP is premature; need to wait for GI to be farther along

The diagram below was developed from interview input, and discussed with approximately half of the interviewees. It represents some but not all of the perspectives and opinions, and seemed to capture many of the ideas related to the interconnections.



## Flood Hazard Management Projects

This section summarizes the ideas and specific projects that those interviewed mentioned as possible solutions for reducing flood risk in the Skagit basin. It does not represent every possible or conceived project that may be ultimately considered.

- Protection of critical infrastructure.
- Storage versus conveyance—key concept; maybe a combination will be best.
- Major conveyance projects:
  - Avon bypass
  - Mount Vernon bypass
  - Fir Island—Cross island connector
  - Burlington levee certification
  - Mt. Vernon downtown project
  - Three bridge corridor
  - BNSF bridge replacement

- Levee setbacks
- Do not dredge river
- Storage
  - Nookachamps
  - Baker Lake
  - Middle reach of Skagit—Letting nature take its course
  - City of Seattle facilities
- Nonstructural
  - Land use approaches
  - Enforce zoning
  - Relocations
  - Floodproofing
  - Insurance
  - Certify levees
  - Define the long-term County role
  - Install more stream gages
  - Encourage low-impact development (LID)
  - Determine the 100-year flood flow

### **Balancing Objectives**

- Skagit River is the most important Puget Sound watershed for recovery of Chinook salmon—fry hold in the delta area
- Shared burden—flooding is a concern for all so all need to be part of the solution
- Farmland is a regional asset—quality of life and economic—important part of the flood solution
- Consider projects that would also benefit Padilla Bay
- Consider impacts of climate change on flood event frequency and severity
- All acknowledge that flood risk reduction should consider environmental and salmon components, but view of how this is best accomplished differs:
  - Integrate flood management and environment considerations/objectives.
  - Focus only on flood management, which may include incidental environmental benefits. Mitigate for environmental impacts.

This concept led to the consultant team developing the matrix below to compare/contrast various aspects of these two viewpoints. This matrix was presented to the FCZD Advisory Committee on June 9, 2008.

| <b>COMPARISON OF INTEGRATED VS. FLOOD-FOCUSED APPROACHES</b> |                                      |                    |
|--|--------------------------------------|--------------------|
|  | Integrated                           | Flood-Focused      |
| Project Outcome  | Potential for meeting more interests | Addresses one need |
| Funding Options  | More sources                         | Fewer sources      |
| Support  | Broad                                | Focused            |
| Level of Complexity  | More complex                         | Less complex       |
| Cost   | ?                                    | ?                  |
| Impacts  |                                      |                    |
| Timeliness   | ? Longer?                            | ? Shorter?         |

### Potential Criteria to Consider in Selecting Solutions

- Life safety criteria.
- Higher level of protection for critical infrastructure.
- Consider benefits of ecosystem restoration.
- Satisfy multiple objectives.
- Consider scale of projects—large projects may not be feasible, so consider series of smaller doable projects.
- Consider resource losses and how they impact the valley.
- Frequency of floods and number of people affected.
- Level of benefits to the region in general.
- Chance of success.
- Fundable.
- Compatible with land use planning laws.

### Cost and Funding

- Need funding from all sources.
- Take advantage of national interest in transportation corridor and critical facilities to access funding.
- Consider legislative approaches to create new funding opportunities.
- Skagit County can't wait for Santa Claus to show up with the gifts.
- Multi-objective projects will attract varied funding sources (i.e. parks and trails).
- Recognition that local funding will be critical.
- Salmon funding could be a piece of the answer.
- Consider impact of flood on economy.

- Consider establishing a County insurance program—Tax here to produce insurance for lost property (Over and above FEMA insurance).
- Consider system where those most impacted by flood pay more than those less impacted.
- Understand that there are precedents for local funding, such as Skagit transit = \$ 0.20/\$1,000, the jail = \$ 0.30/\$1,000, and others.

### **Public Awareness**

- Residents outside flood-prone areas are less aware.
- Don't give the public a false sense of security.
- Public wants simple, direct information, but the problems are complex and interconnected.
- Need for much more outreach—ties to public support for funding.
- If public doesn't understand, it will default to NO.
- Create a graphic of what a 100-year flood looks like.
- Use clear terminology and language and define terms.

### **CFHMP Planning Process**

- An approach that uses mutual learning, building relationships, focus on interests and identify potential partnerships.
- “We need to solve your problem, and in doing so, also solve my problem.”
- Consider an alternative futures process.
- Have interest groups put themselves in the shoes of each other.
- Lack of confidence and trust in long-term role of County
- Don't reinvent past efforts and results.
- Define timeframe for this effort and implementation.
- Use clear terminology and language and define terms.
- Use process used by PSE in relicensing as potential model for committees.
- One suggested process includes:
  - Look at all the options, brainstorm.
  - Narrow options down to a list that will solve problems and that has double benefits.
  - Conduct cost/benefit analysis.

### **Key Components of Basic Takeaways**

- Define goals and objectives and maybe a mission statement early in the process.
- Need to define and agree on workflow between Advisory Committee and Technical Committees.

- Discuss whether projects should address environmental concerns in an integrated approach or as a “mitigated” approach where a project would go forward as the project and environmental concerns would be mitigated.
- Communication protocols are needed.
- Define and incorporate linkages among all studies, especially the Corps Skagit GI study.
- Address logistics such as meeting times and frequency early.
- Consider long-term planning and funding.
- FCZD Advisory Committee will have other tasks beyond the CFHMP, such as determining funding.

## **SPECIFIC INTERVIEW COMMENTS**

### **Background**

- 90,000 acres of floodplain.
- 130 tide gates.
- 14 years of GI study and still no report.
- Agriculture is single biggest industry in Skagit County—cut flowers, seeds—60% of spinach seeds grown in Skagit County. Bulbs some, Rotational issues, Specialty crops, red potatoes—pretty much all farmland is in floodplain.
- Corps has done excellent job of helping during floods.
- Corps historical flood estimates—235,000-cubic-foot-per-second 100-year estimate—Controversial estimate.
- Corps studies from 1917 and 1922—what data exists from these floods that can be used now in this effort.
- Flood levels are still in the air.
- Highway 9 is a bottleneck.
- In 1990, when dike broke, downstream water dropped a foot in a few hours.
- Past efforts have not had public buy-in.
- Only recent flood was in 1990 on Fir Island. Threats in 1995, 2003, 2006. In 2003 there was unanticipated storage in Barker Lake—saved area from flooding.
- Some good comes from flooding.
- Skagit County has not done flood project in over 40 years—all flood projects from Dike Districts.
- Dike-centric approach has taken one of the most important rivers in the Northwest and turned it into a channel that threatens public safety.



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## **Flood Planning in Skagit County**

### ***Options***

- Consider different make-up for Board of Supervisors.
- Napa Watershed in CA is a model for what could be done here.
- Solution is to designate floodways, use insurance to protect those in harms way, put relief gates on levees, replace BNSF Bridge, setback levees, Baker Storage, and debris management.

### ***Existing Plans***

- Built huge infrastructure in floodplain.
- Concern is that CFHMP relies too much on Skagit GI and not enough on local knowledge and ideas.
- Good example now with Dike District #3 and Fischer Slough.
- Cross island concept popular but expensive.
- Dike setbacks are popular.
- For Burlington to be viable need levee certification.
- Levees have created false sense of security.

### ***General Concepts***

- Develop a more visionary plan that multiple interests can support—increase flood control, reduce flood hazards, but do it with benefits to the environment and the economy.
- Dike District responsibilities are to protect lives, property, and infrastructure.
- Don't let environmental factors create situation where we lose focus on flood control.
- Focus on flood control and consider environmental concerns, not the other way around.
- Go fast for “no brainer” projects/efforts.
- If the public is confused, they will default to saying “No.”
- Look for early wins.
- Need better coordination among Dike and Drainage Districts.
- Need implementable plan—actions and projects that help solve the problems, stuff needs to happen on the ground, and it has to be timely.
- Need to protect urban and rural.
- Need to weigh all concerns.
- Plan should be understandable to lay-person audience.
- Projects need to be planned incorporating environmental components and not just as an afterthought.
- Spend less on studies and more on projects.
- The CFHMP should be responsive to the Skagit GI and not the other way around.

- Turn river into an asset, something that helps economic interests.

**Other**

- BNSF Bridge is in poor condition.
- Concern about approach of reoccurring claims for flood damages.
- Concern about viability of farmland now because of economics.
- Levee protection is now “Levee risk management.”
- Maximize liability reduction.
- Question to answer is: what are we going to do about floodplain development?
- Revitalization of Mount Vernon downtown is reliant on flood control.
- River access has become more limited.
- Stop fighting FEMA; preparing for higher flood levels ultimately will provide a higher level of protection to the community.
- Worst fear is that study will stay on the shelf.

**Salmon**

- Consider how to include Padilla Bay and make situation better for that area and salmon.
- Consider how upstream Wild and Scenic River designation could benefit the process, especially with potential funding.
- Dike setbacks in order to create habitat, but cost is huge.
- Flood management and salmon restoration are compatible.
- Focus on efforts that benefit both flood and salmon in the delta areas.
- Fry hang out in delta for protection.
- Include salmon as a parallel goal.
- It’s the harvest, not the habitat.
- Salmon recovery should not turn flood control into mitigation.
- Salmon included is key, have to bring them into the picture to be successful.
- Shared burden.
- The Skagit River is the most important Puget Sound system for recovery of Chinook.
- The Skagit should be looked at not only for salmon recovery but for the economic benefits an environment conducive to salmon recovery will bring to the watershed.
- Wild and Scenic River status of upper river controls a lot about what can be done.

**Costs****Funding Options**

- Consider charging system where those most impacted by flood pay the most.

- Consider legislative change to implement local option sales tax.
- Consider private funding.
- Consider sales tax for funding.
- Could also be funded through savings from reduced flood insurance premium.
- Funding should come from the federal government because of the I-5 transportation corridor, Whidbey Naval Base, and ferry system—national infrastructure.
- If trail opportunities are considered, this could be a contributor to funding from various trail funding programs.
- Need funding from all sources, federal, state, local.
- Need legislative assistance.
- Put flood control on par with restoration for access to additional funding: State Revolving Fund Board funding, EPA, etc.
- Sales tax may be the best first choice, then property tax (consider sliding scale).
- Use open space acquisition funding as match.

### **Comments**

- Consider a County fund to provide insurance above FEMA insurance.
- Easier to sell local funding in urban areas in floodplain, harder sell in rural areas.
- FCZD is a possibility.
- Tax burden already fairly high.
- The Skagit Valley just can't wait for Santa Claus to show up with gifts.
- To the extent that the CFHMP considers all aspects of the issue, life safety, property damage, environmental, open space opportunities, economical, the more successful it will be at creating financial support from the public.
- Washington State Department of Transportation needs to be part of the solution.

## **Process and Public Involvement**

### **Current Situation**

- 34% of residents live in floodplain, 66% outside—How to convince the 66% that they need to be concerned is an important challenge.
- Anacortes has to be involved—infrastructure in floodplain.
- Concern with the fact that the public wants simple, direct information when the problems are complex and interconnected.
- Consider timing between Skagit GI and CFHMP.
- Farmers need to understand that land is more valuable for flood reductions than for farming.
- Flood fighting every few years brings folks together.

- Forces are aligning for the community to actually get something done regarding flood protection.
- Good awareness of relocating Hamilton.
- People are skeptical and guarded but very hopeful results can happen.
- People outside of the 100-year floodplain don't understand the situation—consider public involvement approach that would graphically simulate the 100-year event so that effects would be more obvious. Also make message that needs for work, shopping, emergency services all relate to 100-year floodplain.
- Perfect storm of opportunity.

***Products and Actions***

- Consider setting up an “Alternatives Futures” process.
- Define the timeframe for this effort and implementation.
- Develop diagram that shows what 100-year flood looks like.
- Do the following—identify all options (brainstorming), narrow list to ideas that will solve problem and that are technically feasible, conduct a cost/benefit analysis.
- Flood awareness week.
- Have someone from New Orleans come speak.
- Look at newspapers, local radios, focused mailers as ideas for getting the word out.
- Need definitions for levees (protect roads) and dikes (protect property).
- Need a mission statement.
- Need to define geographic boundaries of CFHMP.
- Need visuals to show situation, solutions.
- Provide info near where residents shop.

***Approaches***

- Advisory Committee should be filter of ideas.
- Consider including open space planning into CFHMP effort.
- Consider moving effort along faster, more meetings every month.
- Consider starting process developing goals and objectives, then move to focus on core interests, and produce an early table of contents so that participants stay focused.
- Consider using an alternative futures approach.
- Don't reinvent the wheel.
- Include parks and recreation in solutions because there will be better buy-in.
- Let the Technical Committees drive the process, not the Advisory Committee.
- Look at an approach that includes mutual learning, building relationships, focus on interests, identifying potential partnerships.

- Multi-purpose approach will make it easier to sell to broad community.
- Need agriculture interests at the table.
- Regulator groups should not be on Advisory Committee.
- Tie in with alternative futures effort.
- Use the statement, “We need to solve your problem and in solving your problem solve my problem.”

**Comments**

- Be careful about giving the public a false sense of security about structures that might be constructed; there can always be some event that is greater than what is built.
- Confidence and trust of County and long-term role of County.
- Consider frequency of flood problems and number of people affected.
- Concern expressed about amount of effort put into this process and value of outcomes.
- Experience of living on hill versus in floodplain.
- Interest in geological perspective.
- Need early win.
- Need transparency.
- Need to break cultural stereotypes.
- Need to inform congressional delegation.
- Opportunity for mutual learning.
- Papers can be conflict oriented.
- Periodic flood-fighting events have been community building events.
- Process needs to develop goals and objectives first, hear core interests and understand the outline of the plan.
- Public education—have a representative from New Orleans and other areas share lessons learned.
- Public info vehicles—no one way to do it: Skagit Valley Herald, KAPS, KBRC, city councils, web sites, chambers of commerce, NW Business Monthly, word of mouth, TV, B-ham radio stations.
- Try to control misinformation.
- What is the purpose of the Technical Committees?

**OTHER INFORMATION FROM INTERVIEWS****Missing Participants (not part of Technical Committees)**

- BNSF
- Business

- Chambers of Commerce
- College (including interns to help effort)
- Farming community and Agricultural Advisory Committee
- Flood victims
- Homebuilders and developers
- John Riedel, PhD on the Ancient Skagit River
- Larry Kunzler
- Leonard Halverson
- NOAA Fisheries
- Rick Larsen or an individual from his office (Congressional delegation)
- Skagit Area Impact Group (Mt. Vernon, Burlington, and several dike districts)
- US Forest Service

## Information Needs

(See Attachment D for Comprehensive list from Larry Kunzler)

- 1989 CFHMP prompted by FEMA issue of 1988.
- FEMA maps—need objective correct information.
- Geological perspective.
- Hazard Mitigation Plan.
- Historic river flood flows, how long river is at the flood stage level, amount of water the current channel will hold or carry, what are the projected/modeled flood flows, especially considering climate change.
- House Bill 1418.
- Hydrodynamic model for Puget Sound.
- Mitigation section of 2003 Natural Hazards Plan.
- More information on the GI study is needed, including technical data, hydraulic analysis, and floodplain maps.
- Skagit/Chinook Recovery Plan.

## Top Projects/Actions

### ***Structural Projects***

- Additional flood storage at Lower Baker
- Address Corps dike out to Rock Island, which restricts water movement
- Avon bypass (Some thought that Fir Island bypass won't work because water will leave channel at Sterling or Avon, so pressure relief is needed at Avon). Also need to create fish habitat with any bypass

- Be careful to not overdo scale of projects
- BNSF bridge replacement
- Build dike in Crows Foot
- Get water past City of Burlington and get rid of it before it gets to Mt Vernon
- Buy out Cockreham
- Cross-island connector
- Dike setbacks tied with habitat improvements
- Expand I-5 bridge—needed if levees are set back (three bridge corridor project); very expensive
- Fir Island (1990 dike break)
- Fisheries enhancement (upstream of Sedro Woolley)
- Hamilton bypass
- Manage as much water upstream as possible
- Many expressed a need to focus on Fir Island with a “Cross Island waterway,” a dike setback and a relief point, or, conversely, returning portions or all back to natural conditions
- Middle Skagit River opportunities to pull back levees, provide storage, create habitat opportunities, let the river use its floodplain
- Channel restoration
- Mixed feelings on removing Cockreham levee
- More stream gages
- Mount Vernon downtown project
- Move to less flood prone areas
- Move Hamilton
- Need emergency overflow spillway
- Need the three Es—Engineeringly feasible, environmentally friendly, economically achievable
- Protection of the transportation corridor
- Ring dikes for Burlington and LaConner
- Riverbend bypass
- Skagit GI identified projects
- Specific City projects already in the planning stages need to be incorporated
- Storage in Nookachamps
- Storage opportunities in the upstream reservoirs

***Non-Structural Projects***

- Address flooding at Sterling
- Allow channel migration upstream from Sedro Woolley
- Clean out the river
- Create situation for cooperation among action groups, those who actually do projects, such as cities and dike districts
- Dam management—synchronize with tide going out when crest reaches Burlington.
- Enforcement of existing regulations
- Farmland preservation
- Keep agriculture
- Levee certification
- Low-impact development
- Natural river restoration
- Put new urban out of floodplain
- Restore old river flood or side channels and wetlands to increase capacity
- Use Nookachamps for flood storage
- Wild and scenic river designation above Sedro Woolley



## INTERVIEW PARTICIPANTS

| Organization  | Name              | Organization                                    | Name               |
|---|-------------------|---|--------------------|
| <b>Dike and Drainage District Technical Committee</b> |                   |   |                    |
| Dike District #1                                      | Jason Vanderkooy  | Drainage District 21                            | Dean Flaig         |
| Dike District #3                                      | David Olson       | Dike, Drainage and Irrigation District 12       | Chuck Bennett      |
| Dike District 17                                      | Daryl Hamburg     | Britt Slough SFCZ District                      | Dave Towne         |
| Dike District 22                                      | Stanley Nelson    | WA Conservation Dist. NW Region                 | Tom Slocum         |
| <b>Environmental Technical Committee</b>              |                   |   |                    |
| Marine Resources Committee                            | Neil Borman       | Skagit Fisheries Enhancement Group              | Bruce Freet        |
| Padilla Bay National Estuarine                        | Terry Stevens     | Skagit Watershed Council                        | Mary Raines        |
| Skagit Conservation District                          | Carolyn Kelly     | The Nature Conservancy                          | Bob Carey          |
| Swinomish Indian Tribal Community                     | Larry Wasserman   | Upper Skagit Indian Tribe                       | Jon-Paul Shannahan |
| Skagit River System Cooperative                       | Stan Walsh        | Seattle City Light                              | Dave Pflug         |
| Skagit Land Trust                                     | Bob Boudinot      | Puget Sound Energy                              | Miriam Decker      |
| <b>Land Use Technical Committee</b>                   |                   |   |                    |
| Bayview Area  | Jack Middleton    | Mount Vernon Chamber of Commerce                | Kristen Whitener   |
| City of Burlington                                    | Margaret Fleek    | Skagit County Planning and Development Services | Kirk Johnson       |
| Town of Concrete                                      | Jack Billman, Jr. | Sedro Woolley Chamber of Commerce               | David Brika        |
| Town of LaConner                                      | Dan O'Donnell     | Sedro-Woolley Public Works                      | Mark Freiberger    |
| City of Mount Vernon                                  | Esco Bell         | Washington Realtors                             | Jason Easton       |
| City of Anacortes                                     | Fred Buckenmeyer  | Washington State Department of Transportation   | Todd Carlson       |
| Forest Advisory Committee                             | Dave Chamberlain  | Conway Area                                     | June Kite          |
| Cockreham Island Area                                 | Ed Lipsey         | Western Washington Agricultural Association     | Mike Shelby        |
| Skagit County Emergency Management                    | Mark Watkinson    |   |                    |
| <b>Local Government</b>                               |                   |   |                    |
| Skagit County Commissioner                            | Ken Dahlstedt     | Mayor, Mount Vernon                             | Bud Norris         |
| Skagit County Commissioner                            | Sharon Dillon     | Skagit County Administrator                     | Gary Rowe          |
| Skagit County Commissioner                            | Don Munks         | Skagit County Public Works Department           | Jim Voetberg       |
| Mayor, Burlington                                     | Ed Brunz          | Public Works Director, Burlington               | Chal Martin        |
| <b>Citizens</b>                                       |                   |   |                    |
| Local Resident, Landowner in Sterling Area            | Leonard Halvorson | Local Resident, Skagit River Flood Historian    | Larry Kunzler      |

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## INTERVIEW QUESTIONS

### INTERVIEWS FOR SKAGIT CFHMP

Thank you for meeting with us/me today to talk about the development of the Skagit Comprehensive Flood Hazard Management Plan. My name is \_\_\_\_\_ and my role in the project is \_\_\_\_\_.

- History—Commission Resolution
- Reasons—Cynthia’s PowerPoint slides on boards
- Define consultant role

As we start this effort we wanted to interview a broad range of individuals and organizations to obtain a thorough understanding of perspectives, points of view, items folks are excited about, concerns they have, visions for success, and generally how participants feel that this plan can meet their needs.

We are therefore asking a series of questions of this representative range of the community in order to be able to move forward and better develop a detailed series of tasks to meet these needs.

Do you have any questions before we begin?

### Materials for Interview

- Board-mounted map with geographic area that includes major water bodies.
- Commissioner’s Resolution
- PowerPoint from Cynthia
- List of participants and roles
- List of studies and data we know exists

### Interview Questions

#### 1. Background

- a. Please describe your position/role/involvement/interest in this topic.
- b. Is your contact information correct?
- c. Please describe your understanding of what this project is and intends to accomplish.
- d. Please let us know if there are any specific areas, information, education, data that you feel you need to be an effective participant in this effort.
- e. Are there any specific studies, data, information that you know exists that should be made available to participants or used in developing this plan?
- f. Do you know of any specific individuals or organizations that are not listed that should be involved in this effort?

#### 2. Flood Planning in Skagit County

- a. What specific flood concerns do you have about the present condition here in Skagit County?

- b. What do you see as the goals and objectives of this planning effort?
- c. What past flood planning efforts do you know have been made in Skagit County by any entity—the feds, state, county, cities, dike or drainage districts, other?
  - i. How did they turn out from your perspective?
  - ii. Why did they turn out that way?
- d. Right now there are three flood planning efforts underway in Skagit County, this effort, the CFHMP; the Skagit GI by the Army Corps of Engineers; and the Natural Hazard Mitigation Plan. What do you know about these efforts and what do you know about how they tie together? (If not much knowledge, we should educate the participant)
- e. Would you mark on this map any areas where you know about a potential flood hazard solution or have flood concerns? Remember that solutions can be structural or nonstructural.
- f. If you were to select three top projects or actions to take in order to reduce flood concerns in the Skagit, what would they be?
- g. Considering the balance between environmental protections and reducing property damage, what factors do you feel should be considered in developing this plan?
- h. If you are asked to prioritize various flood control approaches or solutions, what criteria would you use in helping you evaluate what priorities should be chosen?

Examples—Benefit, likelihood of success, cost, grant or low interest loan availability, likelihood of acceptance by the impacted community, etc.
- i. How can the CFHMP planning effort best benefit the community?

### **3. Salmon**

- a. One of the goals of this planning effort is to develop policies and recommendations for county-wide flood hazard management program planning and implementation, including Skagit River flood control improvements that may also benefit salmon recovery. What are your impressions of this and do you have any factors or criteria that should be considered when addressing flood solutions or approaches and benefits to salmon recovery?
- b. Are there any specific types of projects you envision that could benefit both objectives?

### **4. Costs**

- a. What funding mechanisms for implementing flood reduction projects do you feel are realistic?
- b. In considering that flood reduction projects will require funding, to what extent do you feel the community is willing to pay for a part of the costs, provided an effort is made to maximize grant and low interest loan funding?

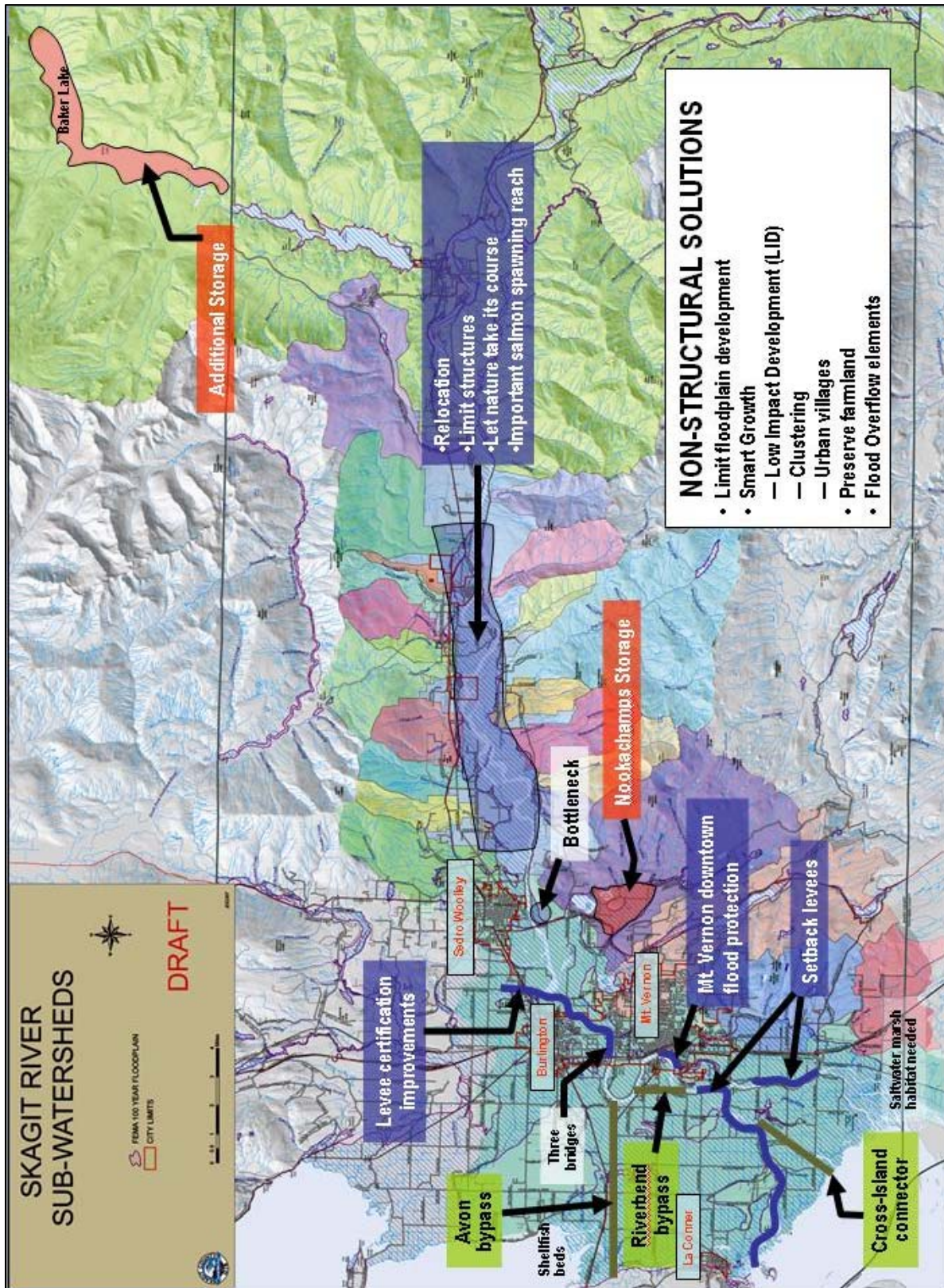
### **5. Process and Public Involvement**

- a. Please look at the organizational structure for this effort. Do you have any comments on what you think would make this effort successful?
- b. How is it easiest to communicate with you?

- c. How informed do you believe the general public is in relation to flood concerns here in Skagit County?
- d. Do you have any thoughts on how it would be best to communicate with the public at large throughout this process so that the public is kept informed and involved?
- e. How do you see the relationship between the Advisory Committee and the Technical Committees functioning and what do you think will be needed to make sure communications are clear?
- f. Do you have any questions on how this process will proceed?

**6. Any Other Questions or Comments?**

## MAP OF POTENTIAL SOLUTIONS, ISSUES, CONCERNS



## COMPREHENSIVE INFORMATION NEEDS LIST

### Skagit River Reports, Studies, Documents on Flooding and Flood Projects

Compiled by Larry J. Kunzler 1/24/99 in cooperation with the Corps of Engineers, Seattle District; appended May 23, 2008.

| Report # | Date                                  | title   |
|----------|---------------------------------------|---|
| 1.       | 11/8/1890 PE<br>12/4/1890 HD          | NOOKSACK, SKAGIT AND SNOHOMISH RIVERS, Preliminary Examination (PE) by Captain Symons, Corps of Engineers {published as House Document #38, 51 <sup>st</sup> Congress, 2 <sup>nd</sup> Session}   |
| 2.       | 12/11/1897 S<br>1/8/1898 HD           | <a href="#">SURVEY OF SKAGIT RIVER FROM ITS MOUTH TO SEDRO, WASH.</a> , Survey (S) by Capt. Harry Taylor, Corps of Engineers {published as House Document #204, 55 <sup>th</sup> Congress, 2 <sup>nd</sup> Session}                       |
| 3.       | 11/5/10 PE<br>2/29/12 S<br>8/15/12 HD | SKAGIT RIVER, WASH., FROM SEDRO WOOLLEY TO BAKER, PE by Capt. Authur Williams, Corps of Engineers, S by Major J.B. Cavanaugh, Corps of Engineers {published as House Document #909, 62 <sup>nd</sup> Congress, 2 <sup>nd</sup> Session}   |
| 4.       | 12/6/12 PE<br>1/26/14 S<br>4/30/14 HD | SKAGIT RIVER, WASH., PE by Major J. B. Cavanaugh, Corps of Engineers, S by same {published as House Document #935, 63 <sup>rd</sup> Congress, 2 <sup>nd</sup> Session}  |
| 5.       | 1915                                  | PROFILE SURVEYS IN 1915 IN SKAGIT RIVER BASIN, U.S.G.S. Water Supply Paper 419, W.H. Herron, Acting Chief Geographer  |
| 6.       | 7/1/18                                | <a href="#">SKAGIT RIVER FLOOD REPORT</a> , by James E. Stewart, Hydraulic Engineer, U.S.G.S., Tacoma, Washington<br><a href="#">[Retyped version here]</a>   |
| 7.       | 8/12/18                               | <a href="#">APPENDIX TO SKAGIT RIVER FLOOD REPORT</a> , by James E. Stewart, Hydraulic Engineer, U.S.G.S., Tacoma, Washington   |
| 8.       | 10/10/19 RE<br>1/12/20 HD             | SKAGIT RIVER, WASH., Reexamination (RE) of House Document #935 by Lt. Col. J.A. Woodruff, Corps of Engineers {published as House Document #591, 66 <sup>th</sup> Congress, 2 <sup>nd</sup> Session}                                       |
| 9.       | 8/26/22                               | <a href="#">PROPOSED FLOOD CONTROL SKAGIT RIVER</a> , by Robert Herzog, Great Northern Railway Company  |
| 10.      | 10/23                                 | <a href="#">STAGE AND VOLUME OF PAST FLOODS IN SKAGIT VALLEY AND ADVISABLE PROTECTIVE MEASURES PRIOR TO THE CONSTRUCTION OF PERMANENT FLOOD CONTROLLING WORKS</a> , by James E. Stewart, Hydraulic Engineer, U.S.G.S., Tacoma, Washington |
| 11.      | 1/31/25 PE<br>12/12/25 HD             | SKAGIT RIVER, WASH., PE by Col. W.J. Barden, Corps of Engineers {published as House Document #125, 69 <sup>th</sup> Congress, 1 <sup>st</sup> Session}  |
| 12.      | 2/8/28 PE<br>5/19/28 HD               | SKAGIT RIVER, WASH., PE by Major Jno. S. Butler, Corps of Engineers {published as House Document #311, 70 <sup>th</sup> Congress, 1 <sup>st</sup> Session}  |

| Report # | Date       | title   |
|----------|------------|---|
| 13.      | 5/18/28    | MEMORANDUM on COMPREHENSIVE SURVEY—CONFERENCE WITH MR. PARKER re potential dam sites in the Skagit Basin and river gages throughout the Northwest, author unknown   |
| 14.      | 1929       | <a href="#">Selected pages of USGS 1929 Water Supply Paper</a>  |
| 15.      | 3/17/32    | SKAGIT RIVER FLOOD CONTROL RIVER ENLARGEMENT AND DIKES, by Charles B. Smith   |
| 16.      | 5/18/32    | SKAGIT RIVER, WASH., A GENERAL PLAN FOR THE PURPOSES OF NAVIGATION AND EFFICIENT DEVELOPMENT OF ITS WATER POWER, THE CONTROL OF FLOODS, AND THE NEEDS OF IRRIGATION, by Lt. Col. C.L. Sturtevant, Corps of Engineers {published as House Document #187, 73 <sup>rd</sup> Congress, 2 <sup>nd</sup> Session}, NOTE: In this report the Corps did not recommend construction of Avon Bypass but Congress authorized that diversion project, including levees from Burlington to Sedro Woolley, in the 1936 Flood Control Act. The project was deauthorized in 1990. |
| 17.      | 8/26/35    | REPORT AND FINDINGS SKAGIT FLOOD CONTROL DISTRICT BOUNDARY COMMISSION, Commission Minutes   |
| 18.      | 3/29/37 PE | SKAGIT RIVER AND TRIBUTARIES, WASHINGTON, PE by Lt. Col. H.J. Wild, Corps of Engineers  |
| 19.      | 7/30/40 S  | SKAGIT RIVER AND TRIBUTARIES, WASHINGTON, S by Col. B.C. Dunn, Corps of Engineers   |
| 20.      | 12/1/40    | FLOOD CONTROL ECONOMIC JUSTIFICATION STUDY, AVON BY-PASS AND EXTENSION OF DIKES TO SEDRO WOOLLEY, APPRAISAL OF DAMAGES 1815 H.W. AND 1921 H.W., SKAGIT RIVER WEST OF AND INCLUDING SEDRO WOOLLEY AND SAMISH RIVER DELTA, Note: Contains elevation maps of Burlington & Clear Lake   |
| 21.      | 6/15/42    | APPENDIX B, to report on Survey for Flood Control of SKAGIT RIVER AND TRIBUTARIES, WASHINGTON, re W.P.A. FLOOD CONTROL WORK, dated 7/30/40, Corps of Engineers  |
| 22.      | 1/6/50     | REPORT ON SKAGIT RIVER FLOOD, 27-29 NOVEMBER 1949, by Col. Z.C. Itschener, Corps of Engineers   |
| 23.      | 2/1/50     | <a href="#">REPORT ON DERIVATION OF STANDARD PROJECT FLOOD for SKAGIT RIVER NEAR SEDRO WOOLLEY, WASHINGTON</a> , Corps of Engineers   |
| 24.      | 7/1/50     | FLOOD CONTROL ECONOMIC JUSTIFICATION STUDY SKAGIT RIVER, Corps of Engineers   |
| 25.      | 2/21/52 S  | SKAGIT RIVER AND TRIBUTARIES, WASHINGTON, S by Col. John Buehler, Corps of Engineers {not published, transmitted to Congress 11/28/56}  |
| 26.      | 2/21/52    | APPENDIX to SKAGIT RIVER AND TRIBUTARIES, WASHINGTON, S (Appendix to #24), Corps of Engineers   |
| 27.      | 1/1/61     | <a href="#">FLOODS IN THE SKAGIT RIVER BASIN, WASHINGTON, GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1527</a> , James E. Stewart and G. Lawrence Bodhaine   |
| 28.      | 2/8/61     | PLAN OF SURVEY, SKAGIT RIVER FLOOD CONTROL STUDY, Corps of Engineers  |

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|----------|--------------------------|---|
| 29.      | 2/8/61                   | <a href="#"><u>REPORT ON SKAGIT RIVER FLOOD CONTROL—HEARING WITH THE CORPS OF ARMY ENGINEERS</u></a> , Skagit County Dike District 12, NOTE: Includes several comment letters submitted at public hearing.  |
| 30.      | 1/18/63 PR               | SKAGIT RIVER, WASHINGTON (NAVIGATION), Preliminary Report (PR) on dredging barge channel to Concrete, by Col. Ernst Perry, Corps of Engineers   |
| 31.      | 11/22/63                 | <a href="#"><u>INFORMATION BULLETIN FOR PUBLIC HEARING, SKAGIT RIVER, WASHINGTON, PLANS FOR FLOOD CONTROL AND RECREATION IMPROVEMENTS INCLUDING FISHERIES AS ADDED PURPOSES FOR AVON BYPASS</u></a> , Corps of Engineers  |
| 32.      | 11/63 RR<br>9/25/64 SUP  | AVON BYPASS, SKAGIT RIVER, WASHINGTON, REACTIVATION REPORT (RR), with SUPPLEMENT (SUP) TO NPS REACTIVATION REPORT OF NOVEMBER 1963, Corps of Engineers  |
| 33.      | 5/20/64                  | <a href="#"><u>INTERIM REPORT OF BUREAU OF SPORT FISHERIES AND WILDLIFE</u></a> , U.S. Fish & Wildlife Service {Appendix D in #31}  |
| 34.      | 3/1/65                   | SKAGIT RIVER BASIN, WASHINGTON, FLOOD CONTROL AND OTHER IMPROVEMENTS by Colonel C.C. Holbrook, Corps of Engineers   |
| 35.      | 3/1/66                   | <a href="#"><u>SUPPLEMENT TO REVIEW REPORT ON FLOOD CONTROL AND OTHER IMPROVEMENTS ON SKAGIT RIVER, WASHINGTON</u></a> , Corps of Engineers   |
| 36.      | 7/1/66                   | FLOOD PLAIN INFORMATION STUDY, SKAGIT RIVER BASIN, WASHINGTON, SUMMARY REPORT, Corps of Engineers   |
| 37.      | 8/30/66                  | AVON BYPASS, SKAGIT RIVER, WASHINGTON, DESIGN MEMORANDUM NO. 1, SITE SELECTION, Corps of Engineers  |
| 38.      | 3/1/65 IRR<br>8/30/66 HD | SKAGIT RIVER, WASH., Interim Review Report (IRR) by Colonel C.C. Holbrook, Corps of Engineers {published as House Document #483, 89 <sup>th</sup> Congress, 2 <sup>nd</sup> Session} In the 1966 Flood Control Act, Congress authorized the projects recommended in this report: levee & channel improvements from Burlington to the mouths and addition of recreation (resident trout fishery) as a project purpose to the Avon Bypass project. These projects were deauthorized in 1995.  |
| 39.      | 4/1/66<br>(2/10/66)      | FLOOD PLAIN INFORMATION STUDY, SKAGIT RIVER BASIN, WASHINGTON, TECHNICAL REPORT, Corps of Engineers   |
| 40.      | 1967??                   | WATERSHED INVESTIGATION REPORTS ON GAGES SLOUGH, Soil Conservation Service, Forest Service & USDA, {prepared to support Puget Sound and Adjacent Waters Comprehensive Study}  |
| 41.      | 6/1/71                   | COMPREHENSIVE STUDY OF WATER AND RELATED LAND RESOURCES, PUGET SOUND AND ADJACENT WATERS, STATE OF WASHINGTON, Summary Report and 15 Appendices bound separately, by Puget Sound Task Force of the Pacific Northwest River Basins Commission, NOTE: This report recommended: 100,000 ac. Ft. of flood control storage @ Upper Baker and 134,000 ac. Ft. @ Lower Sauk, Avon Bypass @ 60,000 cfs. with the 1966 levee & channel improvements project @ 120,000 cfs., a Nookachamps Creek levee, 100-year levees for Sedro Woolley and Hamilton, and flood plain management & warning measures. If the Skagit system were to be included in the Wild and Scenic Rivers system, the Lower Sauk dam would be deleted from this plan and Avon Bypass increased to 100,000 cfs. Report was sent to Congress in 1974. |



| Report # | Date                    | title  |
|----------|-------------------------|--|
| 42.      | 3/1/75                  | PUBLIC BROCHURE, ALTERNATIVES AND THEIR PROS AND CONS, ADDITIONAL FLOOD CONTROL AT UPPER BAKER, Draft #4 by Frank Urabeck, Corps of Engineers  |
| 43.      | 6/10/75 AR<br>5/9/77 HD | UPPER BAKER PROJECT, SKAGIT RIVER BASIN, WASHINGTON, Puget Sound and Adjacent Waters Authorization Report (AR) including Final Environmental Impact Statement, by Colonel Raymond J. Eineigl, Corps of Engineers {published as House Document #149, 95 <sup>th</sup> Congress, 1 <sup>st</sup> Session}, NOTE: This report recommended 74,000 ac. ft. (58,000 new) of flood control storage in Upper Baker Dam with compensation to the dam owner for lost power revenues from the Federal system. Project was authorized by Congress in 1977 and the flood control storage was first available during the 1977-1978 flood season. |
| 44.      | 1/1/76                  | POST FLOOD REPORT, SKAGIT RIVER BASIN, December 1975 Flood, by Ernie Sabo, Corps of Engineers  |
| 45.      | 3/1/76                  | SKAGIT RIVER FLOODING, AN OVERVIEW, Skagit County Rural Development Committee  |
| 46.      | 4/22/76                 | ENVIRONMENTAL EVALUATION FOR SKAGIT RIVER BASIN EMERGENCY LEVEE REPAIRS, SKAGIT COUNTY, WASHINGTON, Corps of Engineers   |
| 47.      | 6/1/77                  | REPORT ON FLOODS OF DECEMBER 1975 AND JANUARY 1976, PUGET SOUND, WASHINGTON COASTAL, AND EASTERN SLOPE CASCADE RIVER BASINS, WASHINGTON, Corps of Engineers {revised 9/20/77}  |
| 48.      | 3/1/78                  | SKAGIT RIVER LEVEE & CHANNEL IMPROVEMENTS, PUBLIC BROCHURE, DRAFT 1, by Forest Brooks, Corps of Engineers  |
| 49.      | 12/20/78                | STUDYGRAM for PUBLIC WORKSHOP, SKAGIT RIVER LEVEE & CHANNEL IMPROVEMENTS, by Forest Brooks, Corps of Engineers   |
| 50.      | 4/6/79                  | FINAL REVISED REPORT ON EFFECTS OF FLOOD LEVEE PROJECT ON FISH & WILDLIFE RESOURCES, U.S. Fish & Wildlife Service {Summary and Recommendations contained in FEIS}  |
| 51.      | 4/30/79                 | DRAFT ENVIRONMENTAL IMPACT STATEMENT, SKAGIT RIVER LEVEE IMPROVEMENT PROJECT, Corps of Engineers   |
| 52.      | 6/11/79                 | SKAGIT RIVER, WASHINGTON, ADDENDUM TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT, DATED MAY 1979, Corps of Engineers   |
| 53.      | 6/79                    | SKAGIT RIVER LEVEE IMPROVEMENTS, PUBLIC BROCHURE, DRAFT 2, by Forest Brooks, Corps of Engineers  |
| 54.      | 7/26/79                 | SKAGIT RIVER WASHINGTON, GENERAL DESIGN MEMORANDUM, LEVEE IMPROVEMENTS, MAIN REPORT VOL. 1 OF 2, by LTC Maxey B. Carpenter, Jr., Corps of Engineers  |
| 55.      | 7/26/79                 | SKAGIT RIVER, WASHINGTON, GENERAL DESIGN MEMORANDUM, LEVEE IMPROVEMENTS, APPENDICES VOL. 2 OF 2, Corps of Engineers  |
| 56.      | 7/26/79                 | SKAGIT RIVER WASHINGTON, FINAL ENVIRONMENTAL IMPACT STATEMENT, Corps of Engineers  |
| 57.      | 1981                    | <a href="#">RECOMMENDATION FOR A FLOOD CONTROL PLAN FOR THE SKAGIT RIVER BASIN</a> , Skagit County Flood Control Committee   |

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|----------|----------|--|
| 58.      | 11/27/81 | FLOOD INSURANCE STUDY, TOWN OF HAMILTON, WASHINGTON, SKAGIT COUNTY, prepared for Federal Emergency Management Agency by Corps of Engineers                               |
| 59.      | 12/81    | <a href="#">SKAGIT RIVER DAM FAILURE INUNDATION STUDY</a> , Prepared for City of Seattle—Dept of Lighting, by Hydrocomp, Inc   |
| 60.      | 1/5/82   | FLOOD INSURANCE STUDY, CITY OF SEDRO WOOLLEY, WASHINGTON, SKAGIT COUNTY, prepared for Federal Emergency Management Agency by Corps of Engineers                          |
| 61.      | 1/19/82  | FLOOD INSURANCE STUDY, TOWN OF LYMAN, WASHINGTON, SKAGIT COUNTY, prepared for Federal Emergency Management Agency by Corps of Engineers                                  |
| 62.      | 2/2/82   | FLOOD INSURANCE STUDY, TOWN OF CONCRETE, WASHINGTON, SKAGIT COUNTY, prepared for Federal Emergency Management Agency by Corps of Engineers                               |
| 63.      | 12/1/82  | <a href="#">ANALYSIS OF FLOODING IN THE SKAGIT RIVER DELTA AREA</a> , by Federal Emergency Management Agency, prepared by Dames & Moore                                  |
| 64.      | 6/13/83  | GAGES SLOUGH ANALYSIS OF THE FLOODWAY ISSUE, Larry J. Kunzler  |
| 65.      | 6/14/84  | SKAGIT COUNTY FLOOD INSURANCE STUDY, FINAL COORDINATION MEETING, Federal Emergency Management Agency and Corps of Engineers  |
| 66.      | 6/18/84  | FLOOD INSURANCE STUDY, TOWN OF LA CONNER, WASHINGTON, SKAGIT COUNTY, prepared for Federal Emergency Management Agency by Corps of Engineers and Dames & Moore            |
| 67.      | 7/3/84   | FLOOD INSURANCE STUDY, CITY OF MOUNT VERNON, WASHINGTON, SKAGIT COUNTY, by Federal Emergency Management Agency   |
| 68.      | 7/3/84   | FLOOD INSURANCE STUDY, CITY OF BURLINGTON, WASHINGTON, SKAGIT COUNTY, prepared for Federal Emergency Management Agency by Corps of Engineers and Dames & Moore           |
| 69.      | 10/17/84 | FLOOD INSURANCE STUDY, SKAGIT COUNTY, WASHINGTON, UNINCORPORATED AREAS, prepared for Federal Emergency Management Agency by Corps of Engineers and Dames & Moore         |
| 70.      | 9/29/89  | FLOOD INSURANCE STUDY, SKAGIT COUNTY, WASHINGTON, UNINCORPORATED AREAS, prepared for Federal Emergency Management Agency by Corps of Engineers and Dames & Moore—Revised |
| 71.      | 2/1/89   | <a href="#">BAKER DAM FAILURE INUNDATION STUDY</a> , prepared for Puget Sound Power and Light Company by Hydrocomp, Inc.   |
| 72.      | 4/1/89   | SKAGIT COUNTY COMPREHENSIVE FLOOD CONTROL MANAGEMENT PLAN, prepared for Skagit County Public Works Dept. by Brown and Caldwell   |
| 73.      | 1/1/91   | NOVEMBER 1990: A PRELIMINARY ASSESSMENT OF FLOOD DAMAGE TO THE SKAGIT RIVER FISHERIES RESOURCES, Skagit System Cooperative   |
| 74.      | 5/1/91   | SKAGIT RIVER VALLEY, THE DISASTER WAITING TO HAPPEN, by Larry Kunzler  |
| 75.      | 7/18/91  | FLOOD SUMMARY REPORT—NOOKSACK, SKAGIT AND SNOHOMISH RIVER BASINS—NOVEMBER 1990 EVENTS, by Corps of Engineers   |

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|----------|------------|---|
| 76.      | 7/1/92     | THE NOVEMBER 1990 FLOODS IN WESTERN WASHINGTON, USA, R. D. Harr & T. W. Cundy, University of Washington   |
| 77.      | 12/1/92    | KELLER ROHRBACK SKAGIT RIVER FLOOD ANALYSIS, DRAFT REPORT, Kramer, Chin & Mayo, Inc.  |
| 78.      | 4/1/93     | DRAFT RECONNAISSANCE REPORT, SKAGIT RIVER, WASHINGTON, FLOOD DAMAGE REDUCTION STUDY, Draft #1, Corps of Engineers {Internal Draft for Study Team Review}          |
| 79.      | 5/1/93     | DRAFT RECONNAISSANCE REPORT, SKAGIT RIVER, WASHINGTON, FLOOD DAMAGE REDUCTION STUDY, Draft #2, Corps of Engineers {Final Draft}                                   |
| 80.      | 4/9/2003   | <a href="#">PIE Assessment of Additional Flood Control Storage at Baker River Project</a>   |
| 81.      | 2/14/2004  | <a href="#">James E. Stewart Skagit River Flood Reports And Assorted Documents: A Citizen Critical Review Whitepaper</a><br><a href="#">Whitepaper Appendix E</a> |
| 82.      | 3/10/2004  | <a href="#">DRAFT Upper and Lower Baker Dams Probable Maximum Flood Study Report</a>  |
| 83.      | 5/3/2004   | <a href="#">USGS Investigations of Floods on the Skagit River</a>   |
| 84.      | 6/7/2004   | <a href="#">USGS Response To Whitepaper</a>   |
| 85.      | 8/27/2004  | <a href="#">PIE Technical Memorandum: Analysis of Flood Control Storage at Baker River Project</a>  |
| 86.      | 8/27/2004  | <a href="#">PIE Technical Memorandum: Analysis of Flood Control Storage at Baker River Project</a>  |
| 87.      | 11/16/2004 | <a href="#">Draft Evaluation of Flood Peaks Est. by USGS</a> (without Appendices, See Jarrett Review under USGS; See also "Whitepaper" under LJK Documents)       |
| 88.      | 2/10/2005  | <a href="#">Surface-Water Specialist Mark Mastin Letter to Skagit County Public Works Director Chal Martin</a>  |
| 89.      | 2/14/2005  | <a href="#">Review &amp; Comments</a> of "Draft Evaluation of Flood Peaks Estimated by USGS" by Robert D. Jarrett, Ph.D., USGS, National Research Program         |
| 90.      | 9/05       | <a href="#">NFIP Insurance Report as of September 2005</a>  |
| 91.      | 2/10/2006  | <a href="#">An Evaluation of Flood Frequency Analyses for the Skagit River, Skagit County, Washington</a>   |
| 92.      | 7/23/2006  | <a href="#">James E. Stewart Skagit River Flood Reports And Assorted Documents: A Citizen Critical Review Whitepaper</a> , Updated and Republished                |
| 93.      | 10/26/2006 | <a href="#">USGS Response to Updated Whitepaper</a>   |
| 94.      | 2/2007     | <a href="#">Skagit River Hydrology Independent Technical Review Draft Report</a>  |
| 95.      | 2/8/2007   | <a href="#">Cover Letter to Carl Cook, Director of FEMA Region X</a><br><a href="#">Preliminary Investigation into Historic Flood Marks in the "Smith" House</a>  |
| 96.      | 2/12/2007  | <a href="#">FEMA response to Hamilton Smith House Report</a>  |
| 97.      | 2/22/2007  | <a href="#">Skagit River Basin, Washington Revised Flood Insurance Study—Draft Hydraulics Summary</a>   |
| 98.      | 3/27/2007  | <a href="#">Skagit River Hydrology Independent Technical Review</a>   |

| <b>Report #</b> | <b>Date</b> | <b>title</b>  |
|-----------------|-------------|---|
| 99.             | 4/2007      | <a href="#">nhc Skagit River Hydrology Independent Technical Review Final Report</a>  |
| 100.            | 5/19/2007   | <a href="#">Cockreham Island Buy-Out Feasibility Study Executive Summary</a>  |
| 101.            | 8/9/2007    | <a href="#">Skagit River Revised Flood Insurance Study Levee Scenario Discussion</a>  |
| 102.            | 6/4/2007    | <a href="#">Pacific International Engineering Technical Memorandum Hydraulic Analysis—Smith House Flood Stages</a>  |
| 103.            | 6/7/2007    | <a href="#">Hromadka &amp; Associates: An Independent Technical Review—Comments on Flood Frequency Analyses for the Skagit River, Skagit County, Washington</a>               |
| 104.            | 8/10/2007   | <a href="#">Re-evaluation of the 1921 Peak Discharge at Skagit River near Concrete, Washington</a>  |
| 105.            | 8/15/2007   | <a href="#">Hromadka &amp; Associates An Independent Technical Review—Comments on Flood Frequency Analyses for the Skagit River, Skagit County, Washington (Final Report)</a> |
| 106.            | 8/17/2007   | <a href="#">WJE Smith House Forensic Report</a>   |
| 107.            | 11/17/2007  | <a href="#">Preliminary Historical Investigation of East Concrete and Crofoot Addition Flood Levels</a>   |
| 108.            | 12/04/07    | <a href="#">Historic Flood Flows of the Skagit River</a>  |
| 109.            | 2/14/2008   | <a href="#">Corps of Engineers Seattle District Flood Risk Assessment</a>   |
| 110.            | 2/28/2008   | <a href="#">Cultural Resources Assessment for the Mount Vernon Downtown Flood Protection Project</a>  |