Skagit Flood Risk Management Working Group
Draft Meeting Notes
March 1, 2001

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Draft Meeting Notes

The fourth meeting of the Skagit Flood Risk Management Working Group was held on Thursday, March 1, 2001 from 9:00 AM to 3:30 PM in Hearing Room "B" of the County Administration Building in Mount Vernon. A copy of the agenda is included as Attachment 1 and an attendance list is included in Attachment 2. The meeting began around 9:15 am after the attendees had an opportunity to sign in, acknowledge others and take their seats.

I. Introduction and Adoption of September Draft Meeting Notes

Valerie Lee, the facilitator, began the meeting by asking participants to provide any corrections to the December meeting notes. **Jackie Vander Veen** stated that she had a clarification for Margaret Fleek's comment regarding neighborhood meetings Margaret conducted as part of the public education efforts. She also clarified that Lou Ellyn Jones was referring to potential fish benefits from year round flows in the diversion not floods on page 2. Additionally, there were spelling mistakes of Will Roozen and Chuck Bennett's names on page 19. All Working Group participants approved the suggested revisions.

II. Process Schedule and Results of Brainstorming Session

The facilitator noted that Dave Brookings would give the first presentation regarding the brainstorming session between Skagit County (the County), the US Army Corps of Engineers (the Corps), Leonard Halverson and Chuck Bennett. Before Dave presented, the facilitator presented a brief review of the facilitated process design as a point of reference. As originally contemplated, the County envisioned the consensus building process as occurring roughly in three phases:

Phase 1 – Development of a shared base of information
Phase 2 – Discussions regarding possible alternatives including environmental and endangered species issues
Phase 3 – Selection of a preferred alternative

Currently, the Working Group is in Phase 2. The group has some information from the Corps and needs to identify other information that will be helpful in the analysis of the alternatives.

The facilitator explained that the Corps and County must prepare an Environmental Impact Statement (EIS). The EIS must analyze a reasonable range of flood management alternatives including a preferred alternative. The Working Group helps support this process by providing input to the Corps and County regarding what it considers are preferred alternative(s). The Corps will also be considering scoping and public input in the process.

Additionally, the Corps must engage in a formal consultation process that is known as a Section 7 consultation under the Endangered Species Act (ESA). The Corps is required to consult with the resource agencies that have jurisdiction over endangered and threatened species regarding potential negative impacts to listed species. The Working Group can start to discuss what environmental studies should be performed and identify potential impacts from the alternatives. However, the Working Group might, instead, want the resource agencies to form a separate sub-group to examine the Working Group's alternatives for their potential impacts and to identify necessary environmental studies. The information generated by the resource agencies could then be used by the Working Group to understand the impacts and constraints of the alternatives better. The work of the resource agency sub-group might help the Working Group to reach their expected goal of identifying their preferred alternative by June.

There was some skepticism regarding the ability of the Working Group to meet the June deadline. **The facilitator** asked the group to try its best to reach this goal. She clarified that the resource agency sub-group will work in parallel with the Working Group. This sub-group would help speed the process by dealing with the technical specifics of the environmental issues.

Larry Kunzler noted that in 1979 five or six alternatives were developed for flood management. These alternatives were taken to the public for review and from that public review process a preferred alternative was developed. Larry thinks that the Working Group could meet the June deadline because, as he sees it, the group's preferred alternative is clearly the diversion. He noted that after the alternative goes to the Corps it might change.

Larry Wasserman responded that the resource agency sub-group would allow the group to reduce the list of alternatives to three or four. He thinks that equal weight should be given to these three or four alternatives until environmental studies can be completed.

The facilitator refocused the group and asked if the Working Group wanted to deal with the specifics of the science or if they would prefer to focus on the other aspects of the alternatives.

Ed Capasso noted that with the exception of the overtopping alternative, all of the alternatives had been examined in the past for their environmental impacts. **Ed** noted that the group was not starting at ground zero because of the previous studies. **The facilitator** agreed that a wealth of information exists for the Skagit but that the comfort level of the agencies regarding this information is a concern. **Dave Brookings** added that from a management perspective the County is targeting the 2004 Water Resources Development Act (WRDA) to obtain project funding. As a result, the County has worked back from the 2004 date to establish milestones and target dates, such as the June deadline for the identification of alternatives. He urged the group to strive for the June deadline. Dave also informed the group that the final environmental studies would be tailored to the specific alternatives in order to minimize spending.

Dave Burdick asked if only background information regarding environmental impacts could be collected until the Working Group narrows down the list of alternatives. **Stephen Pierce** explained that the Corps is currently at a 10% design level. Once one or two preferred alternatives are identified, the Corps will move up to a 30% design effort. Stephen noted that even though there would be one or two preferred alternatives, other alternatives have to be included in the EIS. **The facilitator** stated that having more information regarding environmental impacts might aid in the selection of one or two preferred alternatives.

Rich Johnson raised a concern that if the Working Group waits to hear from the resource agencies, they will not be able to meet the June deadline. There was a discussion in which the facilitator clarified that the Working Group would present the resource agencies with a few alternatives to examine for environmental impacts. The agencies would provide the Working Group with feedback regarding potential impacts. This process would not be linear, but interactive allowing the June deadline to be met. **Dave Brookings** added that he envisions the resource agencies helping Mike Scuderi with the environmental work and providing important information to the Working Group. **Larry Wasserman** also noted that some alternatives would fall out for environmental reasons.

The resource agencies could help to identify the environmentally unacceptable alternatives.

The facilitator moved the group to a discussion of the alternatives.

Dave Brookings gave a brief presentation on the brainstorming session among the County, Corps and a few Working Group participants. Dave noted that the December meeting was his first Working Group meeting. At first Dave was a little discouraged about how the process was going. However, he has since meet with the Corps and has been impressed by the tremendous work that they have accomplished.

Dave stated that during the December meeting the Working Group requested that the County, Corps and individuals who are familiar with the river hold a brainstorming session to generate additional alternatives for the Working Group to consider. Dave, Leonard Halverson, Chuck Bennett and Ron Malmgren were present for this brainstorming session. Dave stated that the Working Group should not consider the list of alternatives presented at today's meeting to be the final list. There can be additions to the list if the group wishes.

Finally, Dave noted that this meeting was postponed to ensure that the participants had the analysis information to review, making today's meeting more productive.

III. Alternative Analysis

Current Conditions and Purpose

Stephen Pierce distributed a correction to the presentation mailing sent out before the meeting (Attachment 3). Stephen began his presentation by explaining the impacts of a 100-year flood on the Skagit in its current condition. Stephen explained that Mount Vernon, Burlington, Sterling and Nookachamps all would be flooded. The floodwaters would extend north to the Samish River, and only La Conner would remain dry. **Chuck Bennett** noted that if several of the dikes were breeched, La Conner would be flooded.

Larry Wasserman asked if the Samish was included in the study to generate 100-year flood protection for the valley. **Stephen** replied that it was not automatically included in the project; however, some alternatives do generate protection for the Samish.

Stephen noted that the Sterling and Nookachamps area would have 25-year flood protection with the construction of a dike along Francis Road. He reviewed the project purpose laid out on page one of the handout. Stephen informed the group that he would like to receive any recommendations for the project purpose because the Corps is in the process of formalizing it. **Dave Burdick** commented that the list appeared to address only floodplain protection objectives. **Stephen** noted that this was only a short list and the complete list is more extensive.

The group discussed the need for environmental concerns to be included in the project's statement of purpose. **Larry Wasserman** noted that the flood management project posed some good opportunities for fish, such as widening the channel with dike setbacks.

Gus Tjeerdsma asked whether widening the levees would increase siltation. **Stephen Pierce** noted that siltation impacts would have to be studied in the EIS.

Expansion of Three-Bridge Corridor

Stephen Pierce explained how the three-bridge corridor would be expanded. **Bob Boudinot** and **Stephen** discussed how lengthening the corridor 500 ft could occur on one bank or be split between the two. Stephen noted that the Corps also expects to excavate the channel 20 ft. This excavation would result in 10 million yards of dredged material. **Will Roozen** mentioned that the dredging could potentially have a large impact on the environment. **Chuck Bennett** suggested that the dredged material be used down river for dike construction.

Dave Burdick asked if the flood fight in Mount Vernon was still included in the modeling. He expressed his hope that the flood management plan would eliminate the necessity of the flood-fight effort. **Chuck Bennett** and **Jackie Vander Veen** replied that the area would still have to be monitored but that the creation of a large sandbag wall would not be necessary.

Stephen Pierce stated that all of the potential alternatives, except for Alternative 6 (Samish Diversion), require the three-bridge corridor to be lengthened. For Alternative 5, there is a transitional area south of the riverbend area. Additionally for Alternative 5, the area south of the oxbow in Mount Vernon would be widened back to Wall St. For the other alternatives this area would be widened back to Ball St.

Alternative 1 – Swinomish Diversion

Stephen Pierce informed the group that under Alternative 1 the river could hold a 25-year flood. Any water levels over a 25-year flood would be let out automatically through a diversion protecting the flood plain from a 100-year flood event. **Larry Kunzler** asked if Stephen was sure that all of the flood plain would be protected. **Stephen** clarified that the Nookachamps and Sterling areas would be flooded.

Stephen noted that the diversion would include 300 acres of planted land around the ditch and the estuary around Swinomish would be approximately 900 acres. Two high level bridges would be built across the diversion: one for Highway 536 and the other for La Conner-Whitney Road. These bridges would allow people to cross the diversion, even during a flood event.

Bob Boudinot asked what would happen to the dikes that presently surround the Swinomish River. It was explained that these dikes would be removed.

Chuck Bennett and **William Roozen** inquired how far up the diversion salt water would be allowed. They asked about the likelihood that salt would move laterally into the surrounding farmlands. Will informed the group that when Drainage District #19 moved a dike on the Swinomish it had a large impact on farmland because of saltwater intrusion. The participants began a discussion regarding salt intrusion and its impact upon farmlands and fish habitat. The group mentioned a variety of methods to control salt intrusion including tide gates, clay barriers and wedges. **Larry Wasserman** noted that for the group to arrive at a consensus regarding the preferred alternative they will need to know specific design details for each alternative, such as how far up salt water is allowed to move. The environmental benefits of a diversion will be greatly altered by the presence of a tide gate.

Chuck Bennett raised the issue of water flows and how taking water from the Skagit could potentially impact fish. **Stephen Pierce** noted that the potential impact had not yet been studied.

Ed Capasso raised the issue of impacts to utilities resulting from the creation of a diversion. **Stephen Pierce** explained to the group that the drawings he was reviewing are only conceptual designs and that the exact designs of the diversion will be created at a later date. As a result, he could not answer all of the group's questions at this time.

The group discussed the design and cost of the diversion intake structure. The intake structure alone would cost $30 million and would be built to open automatically. A five-mile long dike would be constructed on each side of the diversion. A 2,000 ft wide diversion could hold 80,000 c.f.s. **Chuck Bennett** asked if the dikes were built higher could the width of the diversion be made smaller. **Stephen Pierce** responded that there are many limiting factors to the design of a diversion and that dikes can only be built so high. **Will Roozen** asked if the tide level at Swinomish was accounted for and **Stephen** confirmed that it had been taken into consideration. **Larry Wasserman** asked if the velocity of the water flow would be 5 ft per second. **Stephen** noted that 5 ft per second would be a maximum. He stated that the Corps would need to conduct a hydrograph study to identify the velocities of the river and in the diversion.

The facilitator recapped the group's discussions and wrote the major issues covered on the flip chart. She underscored that the Corps needs to know the Working Group's issues and concerns so the Corps can address them and incorporate them into the design.

Issues Regarding Alternative 1

1. Salinity intrusion
2. Velocities and water depths in the diversion
3. Stream flows
4. Water rights
5. Impacts to eelgrass
6. Structural design specifics

Alternative 2 – Small Swinomish Diversion

Stephen Pierce explained that Alternative 2 was simply a variation on Alternative 1. For Alternative 2, the diversion would be only 1,000 ft wide and the dikes along the Skagit River below the diversion intake would be setback 500 ft. The diversion would only be used in floods greater than a 50-year frequency because the Skagit River would be able to contain a 50-year flood event. For the levee setbacks no excavation would occur. The levees could be setback on one or both banks to total a 500 ft setback. The old levees could either be removed or decommissioned. Stephen noted that he did not have an estimated price for constructing the smaller inlet structure.

Larry Wasserman asked Stephen to explain the different benefits of the two alternatives. **Stephen** replied that the goal of the brainstorming was to tease out broad ideas for further analysis, so exact benefits have not yet been determined. **Larry** noted that the specifics of the designs are necessary for the resource agencies to predict impacts and benefits of the various alternatives.

Richard Smith noted that there was plenty of room to move the dikes back; it was mainly a question of whether or not to leave the existing dikes. **Chuck Bennett** noted that if the dikes were moved back trees could be planted between the dikes as a buffer.

Curt Wylie asked if the two bridges on the south fork of the Skagit would have to be widened. **Stephen Pierce** replied that the levee setback ends before the bridges because the river is able to hold a 50-year flood event south of the bridges.

William Roozen inquired about the price of building a diversion and setting back the levees. He thought that Alternative 2 might be much more costly than Alternative 1. **Stephen** informed him that Alternative 2 is important because it shows the maximum amount of water that could be accounted for through levee setbacks alone. Alternative 2 also allows for riverbank modification, which might be necessary. **The facilitator** added that the Corps needs a wide range of alternatives for consideration during the EIS.

The group confirmed that salt intrusion was a concern for Alternative 2 and that design specifics would be necessary to assess the alternative accurately.

Larry Wasserman raised the concern of impacts to eelgrass, which was mentioned to him by Terry Stevenson of the Padilla Bay Estuary. Larry suggested that the group might want to consult an eelgrass expert to address these concerns.

Dave Brookings brought up the Edgewater Dump, which is a closed dump that is located along the Skagit River. **Larry Wasserman** noted that studies have been conducted regarding the Edgewater Dump and impact/benefits to fish populations. Several of the participants had concerns regarding the need to excavate the dump if the levee were setback.

Stephen Pierce noted that for Alternative 2 $50 million would be spent on real-estate costs and for Alternative 1 $40 million would be spent. This estimate does not include condemnation. **Chuck Bennett** noted that some of the dike districts have easements that would lessen setback costs. **Dave Brookings** suggested that the cost estimates be included as a table and attached to the summaries of the alternatives.

Issues Regarding Alternative 2

1. Salinity intrusion
2. Velocities and water depths in the diversion
3. Stream flows and water rights
4. Impacts to eelgrass
5. Structural design specifics
6. Edgewater Dump

◆◆ 15-Minute Break ◆◆

Alternative 4 – Ring Dike with Overtopping

Stephen Pierce skipped Alternative 3 for the time being and moved to a discussion of Alternative 4. Alternative 4 was taken from the reconnaissance study that the Corps conducted and would establish ring dikes around Mount Vernon and Burlington. The three-bridge corridor would be widened and the river could only hold a 25-year event. Anything greater than a 25-year flood would force water into the floodplain. The release of floodwaters would not be regulated.

Curt Wylie asked if the cost–benefit ratio for Alternative 4 was high. **Stephen Pierce** replied that it was very high.

Larry Kunzler noted that this alternative was similar to the one proposed in 1979, which was voted down by 70% of the public. He said that the Samish River community is also opposed to this alternative. **Stephen Pierce** noted that he understood this alternative would give people "new water."

Larry Wasserman asked how the water would return to the channels after flooding. **Stephen** informed him that the water would go out to the bay. **Chuck Bennett** asked if the existing ditches could be used to drain water. **Stephen** stated that gated structures would have to be created for drainage. For example, there is a gated drainage system in Conway that lets water out, but not in. **Richard Smith** noted that the gated structures were south of Conway. He added that overtopping the levees south of Mount Vernon would destroy Conway unless it is ring diked. The railroads would also be negatively impacted by Alternative 4. **Stephen** added that both the railroad and the transportation corridor would be under water.

There was a brief discussion regarding the history of Alternative 4. **Bob Boudinot** informed the group that this alternative died politically in the 1990's. **Stephen Pierce**

explained that Alternative 4 was used in the reconnaissance study because it showed that there was a viable solution for the problem. He stated that the Corps has to show that there is some type of solution before it can begin a Feasibility Study for a proposed project. It was explained that the solution presented in a reconnaissance study is not necessarily the preferred solution.

Larry Kunzler raised the concern that if the ditches were used to get the fish back to the water, they could become regulated bodies of water. **Rich Johnson** noted that his big concern regarding Alternative 4 was whether or not fish would be able to return to the river. **Chuck Bennett** and **Will Roozen** agreed that Rich's concern was important. **Richard Smith** and **Curt Wylie** noted that in 1990 some fish did go over the top of the dikes and died as a result.

Alternative 3 – Ring Dikes with Selective Overtopping

Stephen Pierce moved the discussion to Alternative 3, which he explained is a simple variation of Alternative 4. Unlike Alternative 4, Alternative 3 includes a dike south of Sedro Woolley that would protect the transportation corridor. Several "bath tubs" of water would be created under this alternative including ones at Nookachamps and Sedro Woolley.

Larry Kunzler observed that the presence of a levee south of Sedro Woolley could raise the water height at Nookachamps by 4 or 6 feet. Larry asked what was the benefit for the Nookachamps area if the three-bridge corridor is widened. The widening had not been considered in 1979; and, therefore, widening may help reduce the water levels in the Nookachamps area. **Dave Burdick** agreed that the group would need to know the water depths at Nookachamps and throughout the floodplain.

Issues Regarding Alternatives 4 & 3

1. Structures to release water to the bay
2. Samish community cooperation
3. Transportation impacts
4. Fish conveyance and survival
5. Depth of water at Nookachamps

Alternative 5 – Setback Levee

Stephen Pierce explained that Alternative 5 is an extreme in which all of the water is retained within the river. The expansion of the three-bridge corridor through Mount Vernon and Burlington is the same as the other alternatives. Alternative 5 would cost $80 million in land acquisition alone making it very expensive. The levees would be set back a total of 1,000 ft, which can be done by lengthening one side or both.

Will Roozen noted that the setbacks would require only 2,300 acres to be purchased, which is a small amount of land for $80 million. **Stephen** informed Will that the price

estimate included all improvements, such as houses and structures. Alternative 5 would also take an additional six blocks of West Mount Vernon. **The facilitator** added that unlike the diversion the Corps could not be as strategic in the placement of the setbacks along the river.

Dave Brookings suggested that the Corps develop a table with the costs including those for lands and structures and the total acreage required for each alternative for the next meeting. **Stephen** informed Dave that the cost and acreage information would be preliminary. **Will Roozen** asked if the costs resulting from impacts to utilities was included. **Stephen** replied that these costs were extra and had not yet been calculated.

Richard Smith asked what the heights of the levees would be along the river system. **Stephen** informed him that levee heights would need to be studied. The Corps would create the new levee system with uniform heights to prevent the creation of any weak points along the system.

Issues Regarding Alternative 5

1. Environmental design elements
2. Clarification of acreage estimates
3. Levee height
4. Edgewood Dump

Alternative 6 – Samish Diversion

Stephen Pierce informed the group that Alternative 6 was also from the reconnaissance study and had not yet been designed. Alternative 6 had many of the same elements as Alternative 1, such as the intake structure, a developed estuary and plantings within the diversion dikes. **Dave Burdick** asked where the diversion channel connected with the Samish River. **Will Roozen** replied that it was just west of I-5. Will asked if the diversion would go under I-5 with the existing bridge. **Stephen** replied that he did not know because the design had not been completed.

Stephen noted that the main benefit of this alternative is that it accounts for flooding along the Samish as well as the Skagit.

Leonard Halverson raised the concern that this alternative had been eliminated during the first phase because it was too costly and politically infeasible. **Stephen** noted that the Corps added this alternative because it was the only one without the expansion of the three-bridge corridor. **Mike Scuderi** added that the Corps has to repeat some of the process that was previously undertaken because of regulatory requirements of an EIS. The Corps is required to consider a wide range of alternatives and screen out as many as possible. Mike stated that the screening process is the basis for the Working Group and its work. **Stephen** noted that the expansion of the three-bridge corridor alone costs $80 million.

Stephen noted that Alternative 6 would involve the acquisition of 2,000 acres, development of a gradient control and construction of an estuary. **Rich Johnson** asked if this diversion protected for only a 25-year flood. **Stephen** explained that the river itself could hold up to a 25-year event, anything over that would be sent out through the diversion, which could hold a 100-year flood event.

The group agreed that all of the issues pertaining to the other diversions should be considered for the Samish Diversion.

Gus Tjeerdsma stated that he wanted to do something for flood management because he does not want to sandbag anymore. He noted that normally the Skagit and the Samish do not flood at the same time.

Rich Johnson asked how water would get into the Samish. **Stephen Pierce** explained that one mile of dikes along the Samish would be removed.

Dave Burdick added that he was assuming that some type of levee setback would occur on the Samish for it to hold a 100-year flood from the Skagit.

Gus Tjeerdsma stated that land acquisition along the Samish would be cheaper than along the Skagit because the Samish has fewer roads.

Issues Regarding Alternative 6

1. Salinity intrusion
2. Velocities and water depths in the diversion
3. Stream flows
4. Water rights
5. Impacts to eelgrass
6. Structural design specifics

Alternative 7 - North Swinomish Diversion

Stephen Pierce explained that Alternative 7 would be a 2,000 ft-wide diversion with 10 ft dikes. It would require 2,500 acres and a 900-acre estuary would be established. **Chuck Bennett** asked how the Corps derived a 2,500-acre acquisition total. **Stephen** replied that the acquisition total included the land necessary to expand the three-bridge corridor. Stephen explained that all of the features included in Alternative 1 would be included in Alternative 7. As with Alternative 1, the diversion channel would be used in any flood greater than a 25-year event.

Larry Wasserman inquired as to why this alternative was being considered in addition to Alternative 1. **Dave Brookings** explained that the difference between Alternative 1 and 7 is that Alternative 7 puts the diversion next to Highway 20. Currently, the Washington Department of Transportation (WADOT) is examining Hwy 20 for potential improvements. By coupling the two projects, it could be possible to obtain additional

funds from WADOT to support the flood management project. Dave informed the group that the County has already met with WADOT regarding this alternative and that WADOT was enthused by the possibility of coupling the projects.

There was a brief discussion regarding whether or not there would be year-round flows through the diversion and if year-round flows would be beneficial to fish. The group also touched again on the topic of salinity intrusion from the diversion.

Larry Wasserman noted that because the area has a long history, archeological studies would likely be required before the construction could begin. **Chuck Bennett** asked if Larry was referring to burial grounds. **Larry** replied that there could be a variety of culturally and historically important sites in the area. **Stephen Pierce** added that there are both unknown and known sites in the Skagit Valley, which Dave Brookings is prioritizing. **Dave Brookings** added that nothing had been finalized. **Leonard Halverson** inquired about ranking the different alternatives for impacts to historical sites.

Mike Scuderi informed the group that the Swinomish Tribe was assisting with the archeological efforts. He stated that no matter where a project is located, there is a high chance of hitting a historical site. **Larry Wasserman** mentioned that the type of site impacted was also important because burial areas are treated differently than other sites.

Issues Regarding Alternative 7

1. Salt intrusion
2. Stream flow
3. Eel grass impacts
4. Structural design

◆◆ Lunch Break ◆◆

Before resuming after lunch Dave Brookings handed out an article that displayed how a project can be stopped or challenged if the Corps does not examine a broad range of alternatives in the EIS. **Dave Brookings** stressed to the group that it is important to think about the legal requirements and constraints involving a project of this nature.

IV. Mike Scuderi's Presentation on Environmental Studies

Mike Scuderi informed the group that because of budget constraints only a few major environmental studies could be performed. The Corps has already hired Ron Thom to help with the analysis of the diversion and to assist with the scoping efforts for environmental studies. In mid-March the Corps will be meeting with representatives from Padilla Bay to brainstorm on potential impacts to the estuary. This brainstorming effort will allow them to think of potential studies collectively.

Mike relayed to the group that the National Wetlands Inventory would be updating their maps. This was important because all of the alternatives would impact wetlands. Additionally, the project is essentially taking land out of the flood plain, which creates pressure from development. Executive Order #11988 requires the Corps to analyze the effects of inducing additional development in a flood plain. To conduct this project, the Corps will need assurances that the farmlands will remain farmlands with the help of the County.

Mike noted that an overtopping study would not be performed if the overtopping alternative was determined not to be feasible. In 1990, there was a study that examined the impacts of overtopping on fish and how fish return to the river. As a result of this study, it was assumed that there would be a 100% loss of fish. The Corps needs to hold meetings with the resource agencies to identify needed environmental studies.

Will Roozen stated that there would be major impacts to Padilla Bay if nothing was done to protect the area from a 100-year flood event. **Mike Scuderi** agreed with Will's assessment. The Corps was assessing the impacts from a no-action alternative as part of their project analyses.

Dave Brookings informed the group that he had conversations with Shirley Solomon and Commissioner Dahlstedt regarding enhancement activities. The Skagit River has a rich population of threatened salmon species. As a result, a good portion of state salmon enhancement money would be spent on enhancement activities in the Skagit, particularly in the lower delta region. Dave noted that these enhancement activities would be damaged if the river cannot hold a 100-year flood. Additionally, FEMA is constricted for disaster relief funds and would not be able to help fund repairs to mitigation projects. The potential for spending a lot of money on enhancement projects that could be destroyed during a flood needs to be taken into account.

V. Discussion of Environmental Studies and Next Steps

Political acceptability

The facilitator moved the group to a discussion of political constraints, environmental studies and next steps. She noted that because the money for environmental studies was tight, it would be beneficial to identify the alternatives that are politically dead. The facilitator noted that participants had mentioned that buying the farmers' properties makes a difference in whether or not an alternative is acceptable. She asked the group to give input on which might be the politically unacceptable alternatives.

Stephen Pierce noted that Alternative 4 does not protect the transportation corridor and individuals would not be able to get across the county. Therefore, this alternative has serious problems.

Leonard Halverson thought that Alternative 4 and 6 are bad politically. **Stephen Pierce** asked Larry if the mixing of the two rivers happened once every hundred years would it still be politically unfeasible.

Larry Wasserman noted that Alternative 6 has problems because fish are being moved from the Skagit River to the Samish River. This could prevent them from returning to spawn. Larry believed that there is great scientific uncertainty with this alternative. He asked for clarification because he thought there would be year-round flows in the diversion. **Stephen Pierce, Chuck Bennett** and **Mike Scuderi** clarified that the occurrence of year-round flows had not been determined.

Various members of the group expressed concern about moving water from one basin to another.

Curt Wylie noted that he did not believe that there was a real problem with Alternative 4 because the frequency with which a 100-year flood occurs was so low. Problems during a 30 or 50-year flood event would not be that bad with Alternative 4. Curt believed that people could deal with I-5 being slowed for a day. **Will Roozen** disagreed with Curt and noted that he has talked with several farmers and none of them liked overtopping.

Chuck Bennett asked for clarification of the differences between Alternative 3 and 4. **Stephen Pierce** replied that Alternative 4 has overtopping below Sedro Woolley. Alternative 3 has no overtopping south of Mount Vernon, which protects the transportation corridor.

Mike Scuderi noted that the Corps would need a better reason to remove an alternative than political infeasibility.

The facilitator asked where agricultural lands of long-term commercial significance under the Growth Management Act were located in Skagit County. **Margaret Fleek** explained that these lands composed almost the entire floodplain.

Richard Smith noted that for Alternatives 3 and 4 the entire riverbend area is a bathtub and water cannot get out. **Mike Scuderi** explained that for lower-level flood events the filling of those areas helps the downriver areas. He went on to explain that the area would overtop during a 25 and 50-year flood depending on the weir. **Stephen Pierce** added that the locations of the overtopped areas are given in the handout. The riverbend is one of four overtopped areas. **Richard** asked how the water gets out of the area. **Stephen** replied that it does not.

The facilitator asked if anyone liked the Samish Diversion alternative. **Gus Tjeerdsma, Chuck Bennett, Will Roozen** and **Curt Wylie** all noted that they liked that alternative.

Will Roozen noted that previously the Samish Diversion was not liked because the water was not dealt with in that area. In this alternative it is; therefore, people may like it. **Gus**

Tjeerdsma added that the Samish Diversion is more economical because land in that region is cheaper due to the presence of fewer houses.

The facilitator asked the group how they felt about the Swinomish Diversion.

Richard Smith asked if it would be easier to move water into the Swinomish than into the Samish. **Larry Wasserman** replied that the quick answer to Richard's question is yes. However, impacts to eelgrass would have to be examined. From the little information that they have concerning fish impacts, the Swinomish Diversion could be a viable alternative.

Chuck Bennett noted that if the Samish Diversion was 1,500 ft wide trees could be planted and the water would be managed. **Larry Wasserman** responded that the Samish River's salmon population is a hatchery stock population, but the Skagit is a native population. **Gus Tjeerdsma** added that the Skagit and Samish used to merge. **Dave Brookings** noted that the diversion was not based on historical maps of the area.

Leonard Halverson inquired as to how deep the Samish Diversion would have to be dredged to convey water. **Stephen Pierce** replied that he did not know. **Leonard** informed the group that the ditch would have to be very deep to convey water. **Larry Kunzler** added that in 1979 the Samish Diversion was examined and removed from the list because water simply would not flow in that direction. **Stephen** explained that in the reconnaissance study the Samish Diversion was estimated to cost $110 to $130 million. The Corps added it back to the list of alternatives because it was the only alternative that would not require an expansion of the three-bridge corridor.

The facilitator stated that Stephen Pierce had a good point. She reminded the group that the Corps needs to examine the entire suite of possible alternative for the EIS. The facilitator asked the group what they thought of setbacks from a political standpoint.

Margaret Fleek noted that Burlington is already working on setting back their levees. Burlington was planning to set back the levees 500 ft.

Leonard Halverson noted that the major problem with the setbacks is the Edgewater Dump at Mount Vernon. **Gus Tjeerdsma** added that the dump had to be addressed at some point. **Mike Scuderi** noted that the County or cities would have to pay for all of the clean-up costs before the Corps could touch the site.

Need for additional alternatives

The facilitator asked the group if the list of the alternatives represented a reasonable range of alternatives or if the group wanted to include others.

Will Roozen and **Curt Wylie** both wanted to see a consideration of a dam on the Sauk River. **The facilitator** noted that the dam was included in the analysis. **Stephen Pierce** clarified that there were two objectives for dam construction,

increasing existing storage or creating new storage. **The facilitator** asked Will and Curt if the Sauk was included in the list would they consider the list to be complete. **Will** and **Curt** both agreed that they would consider the list to be complete.

Richard Johnson agreed that the list was complete.

Larry Wasserman asked about including on the list conveyance in Dry Slough through Fir Island. There was brief discussion about the importance of Dry Slough to flood management and salmon recovery efforts. **Larry** clarified that he was only interested in an examination of Dry Slough if it was beneficial to flood management. He agreed to the list with the inclusion of Dry Slough.

Dave Brookings approved of the list of alternatives.

Mike Scuderi wanted non-structural alternatives to flood risk management to be included because it was only implied but not specified.

Larry Kunzler agreed with the list and with having non-structural options added. He added that he especially liked Alternative 7 and levee setbacks.

Ed Capasso thought that the list was complete but still wants information regarding impacts to utilities.

Fred Buckenmeyer approved.

Bob Boudinot approved.

Dave Burdick approved but thinks that Fir Island should be considered with respect to Alternative 5.

Gus Tjeerdsma approved.

Chuck Bennett approved.

Environmental impacts, transportation and costs

The facilitator asked the group to move to a discussion of potential environmental impacts. The two concerns that she has heard today are impacts to salmon and eelgrass. She asked the group for other specific environmental concerns.

Chuck Bennett asked for clarification if environmental concerns should also include cultural concerns. **Margaret Fleek** noted that cultural concerns were included in the State Environmental Protection Act checklist. **Larry Kunzler** pointed out that the Burlington Tribe buried their dead in the Nookachamps area.

Gus Tjeerdsma stated that the diversion alternatives were better environmentally than the overtopping alternatives. With overtopping there would be a problem with water carrying chemicals from the ground to the bay.

Chuck Bennett noted that with setbacks trees could be planted between the dikes.

Larry Kunzler brought up the topic of compensating landowners for their property. He warned that if this did not happened the community would develop a "not in my backyard" attitude. **The facilitator** agreed that compensation was a key issue of interest to many.

Stephen Pierce asked if the positives and negatives of the various alternatives could be listed. For example, Alternative 4 was a big negative because of the transportation concern and Alternative 3 was better than 4, but not as good as some of the others. **Dave Burdick** noted that all of the diversions have negative aspects because they would make the road impassible. **Stephen** replied that the main corridors for transportation would be protected in a flood. Bridges would be built over the diversions for transportation. **Larry Halverson** noted that with the overtopping alternatives all transportation would be impossible.

The facilitator focused the group on a discussion of cost. **Stephen Pierce** noted that the total costs were estimated and included real estate, construction management, development and maintenance. He reviewed the estimated costs for the various alternatives.

Dave Burdick noted that other costs exist that may not be included in the Corps' cost estimates, such as the costs for raising houses. If the Corps were to dump water into the floodplain deliberately, there would be impacts to buildings. **The facilitator** asked Stephen to list the alternatives in which people would be flooded. **Stephen** noted that in Alternatives 3-7 individuals would receive water on their properties. **The facilitator** pointed out that only under Alternatives 3 and 4 are people not compensated for getting water on their properties.

There was a brief discussion regarding how the project would be funded. The federal government would pay for 65% of the project and the local share would be 35%. Funds for land acquisition would come entirely from the local share but would count towards the local 35% share. The group also touched on the amount of the total project price that would be used for mitigation purposes.

The facilitator refocused the group on the topic of environmental impacts. She asked the group to think about the next steps for environmental studies. She asked the group if they were comfortable with the resource agencies forming a sub-group of the Working Group to discuss the environmental issues.

Larry Kunzler asked if legal issues were going to be included in the sub-group's work along with environmental issues. **The facilitator** replied that the legal concerns were

separate and do have to be included. Larry noted that the Shoreline Management Act might have to be accounted for if excavation occurs along the river's edge. **Larry Wasserman** pointed out that if all of the resource agencies agree that there are environmental benefits to a project, that project would be approved. **Larry Kunzler** urged the group to discuss this issue further because he was worried that the resource agencies would not be able to override a Congressional mandate. **The facilitator** noted that if the resource agencies agree to approve the project, they would have to package the agreement so that an outside party could not stop it.

Stephen Pierce noted that there would be benefits with the Samish Diversion. The Samish Diversion could be built "high and dry" to avoid environmental hurdles. Construction activities cannot happen in the channel itself. Stephen asked if the resource agencies would need details, such as the construction of a 900-acre estuary and the creation of 300 acres of developed habitat within the diversion. **The facilitator** replied that the resource agencies would need to know that type of information.

Larry Wasserman added that the resource agencies would need to see the designs because without the specific design elements an alternative could be structured in numerous ways. **Margaret Fleek** requested that the Corps should make their assumptions clear.

Dave Burdick observed that there are still legal constraints regarding water rights and stream flows. **Larry Wasserman** shared that he thought those issues could be addressed successfully. **Dave Burdick** replied that he believed that water issues are important and said that he would have a discussion within his own agency regarding them.

The facilitator agreed that agencies would need to think critically about concerns with water issues, even if they turn out to be non-issues. She suggested that the agencies brainstorm on the various issues and alternatives then have Dave Burdick return to his agency to see if there would be a water rights concern.

The group discussed Bob Boudinot's concern regarding the costs of the project and the ability of the County to raise its local share. It was noted that there are several funds that could be tapped if the flood management plan was developed in a manner inclusive of such concepts as salmon recovery. It was agreed that the costs would be examined thoroughly.

The group discussed the next steps for the resource agency sub-group. **Mike Scuderi** noted that in mid-March the Corps would meet with Padilla Bay and that the resource agency meeting could be scheduled for April. It was noted that the agencies should strive to identify the environmental concerns and studies that need to occur and discuss such issues as stream flows. **Larry Kunzler** noted that another important fact was locating where fish swim during a flood.

Larry Wasserman noted that it would take the resource agencies three or four meetings to identify the list of information that needs to be collected for the EIS. Many of the

alternatives were similar; therefore, the same information could be pertinent to more than one alternative. **Stephen Pierce** and **Dave Burdick** agreed that there were four groups of alternatives.

Larry Wasserman noted that if the cost of the environmental studies is too high, the resource agencies would make some assumptions.

The group entered into a discussion regarding cumulative effects of land-use changes to the environment versus the effects of one flooding event.

The group decided that the next Working Group meeting should be held in May with an additional meeting in June. **Will Roozen** noted that the farmers would be present even though it is during their busy season because flood risk management is an important issue. It was suggested that the next meeting be shorter to assist with the time crunch for the farmers. **The facilitator** concluded the meeting noting that the participants would be informed of a firm date for the next meeting once the County and the resource agencies have been consulted.