

Appendix D: The Draft Skagit River Flood Risk Management General Investigation

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The Draft Skagit River Flood Risk Management General Investigation study (GI, or “Draft Skagit GI”; USACE 2014) was prepared by the U.S. Army Corps of Engineers (USACE).

The study focused on identifying potential solutions for managing flood risk in the Skagit River basin. To do that, existing flood risk was modeled as well as the potential changes in flooding associated with possible management actions (elevating dikes, diverting flood flows through a bypass channel, etc.). Environmental consequences of the top-ranking management actions were also evaluated. Skagit County was the non-federal sponsor of the study.

The study is labeled ‘Draft’ because the report was never finalized. The GI study lasted from about 1993 through 2015 when Skagit County withdrew, citing concerns about cost overruns and specific aspects of the analysis (Berentson 2015).

The Draft Skagit GI included substantial work to understand past floods, improve modeling of current flooding, and evaluate proposed management actions. It can therefore be a helpful reference for information. Indeed, the current study used the flood frequency estimates as input to the hydraulic model (see Appendix A). However, the Draft Skagit GI document is long and it can be difficult to locate key information. This section briefly lists some of the key sections of relevance to the current report that may be of interest for further reading.

GI MAIN REPORT

(File name: *SkagitGI-Draft-FR-EIS-MAY2014.pdf*)

This is the main summary of the work, including background and purpose, management “alternatives” that were evaluated, the results of the analysis to assess their strengths and weaknesses, and the draft conclusions of the study. About half of the 242 page report is devoted to the analysis of the strengths and weaknesses of each alternative.

GI APPENDIX B – HYDRAULICS AND HYDROLOGY

(File name: *SkagitGI-AppB-HH-MAY2014.pdf*)

This appendix of the GI contains technical details that were used in our hydraulic modeling, and provides background on their assessment of proposed management alternatives.

Appendix B combines four separate reports:

- Hydraulic Analysis, Final Report (p.6)
- Hydraulic Technical Documentation (p. 283)
- Hydrology Technical Documentation (p.382)
- Sediment Budget and Fluvial Geomorphology (p.449)

The Hydrology Technical Documentation report was particularly important for our analysis. It describes the analysis of the Skagit Basin hydrology and how the peak flows for each flood frequency were developed. This included accounting for the effect of dams on flows, as well as the relative magnitudes of peak flows on each tributary. These peak flow hydrographs were used as input for the flood simulations in the current study.

LIST OF ALL GI APPENDICES

- A-Planning
- B-Hydraulics and Hydrology
- C-Economics
- D-Environmental
- E-Geotech
- F-Real-Estate
- G-Cost Estimate
- H-Civil Design
- I-Public Involvement

All materials, along with presentations for the public meeting and two commissioner meetings, are available on the Skagit County website: <https://www.skagitcounty.net/Departments/PublicWorksSalmonRestoration/main.htm>