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**OVERVIEW OF APPENDICES**

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Included with the paper copies of the 2003 Kitsap Salmonid Refugia Study is a CD containing several appendices. This section explains what the appendices contain.

**APPENDIX A: WATERSHED DESCRIPTIONS**

Appendix A contains 2- to 22-page descriptions of 34 Kitsap streams. The descriptions typically discuss salmonid utilization, a watershed description, several photographs of key features of the watershed, and a list of references.

**APPENDIX B: SALMON DATA**

Appendix B contains the following information about salmon:

- A 12-page paper discussing salmon distribution and abundance by species in Kitsap streams. It includes charts and graphs of fish populations.
- Excel spreadsheets with 2003 Kitsap Salmonid Refugia Report Fish Scores.
- Maps from the East Kitsap Limiting Factors Analysis depicting range of salmon species in East Kitsap streams.
- Maps of the West Coast showing the status of salmon populations.
- Spreadsheets with results of spawner surveys and escapement data.

**APPENDIX C: HABITAT DATA**

Appendix C contains the following information about habitat:

- An 84-page guideline on Habitat Assessment Field Protocols for Kitsap County by Chris May., June 2002.
- An 8-page document showing the criteria WCC uses in rating habitat conditions.
- Excel spreadsheets with 2003 Kitsap Salmonid Refugia Report Habitat Scores.
- Maps from the Chico Watershed Planning process.

**APPENDIX D: WATER QUALITY AND B-IBI DATA**

Appendix D contains the following information:

- A spreadsheet showing results of Kitsap “stream bug” monitoring
- A 176-page document showing the final 1998 Section 303d list for the Kitsap Peninsula.



## APPENDIX E: RELATED SCIENTIFIC STUDIES

Appendix D contains several fact sheets, scholarly articles, major reports, and guidance documents that the author found particularly interesting and useful.

### MAJOR REPORTS/GUIDANCE DOCUMENTS

1. A 74-page report by Chris May entitled “Stream-Riparian Ecosystems In the Puget Sound Lowland Eco-Region: A Review of Best Available Science.”
2. A 180-page review by CH2M Hill of the scientific foundations of the Forests and Fish Plan for WA Forest Protection Association, April 2000.
3. The comprehensive 797-page Hood Canal Summer Chum Conservation Initiative completed by PNPTC and WDFW in April 2000.
4. The State’s 59-page Guidance on Watershed Assessment for Salmon, published by the Joint Natural Resources Cabinet, May 2001.
5. A report by DNR’s Jeff Cederholm describing the array of species which rely on salmon in our ecosystem. The 147-page report, “Pacific Salmon and Wildlife - Ecological Contexts, Relationships, and Implications for Management,” was published in 2000.
6. Evaluation of Baseline Habitat Conditions, Tri-County Urban Issues ESA Study, R2 Resource Consultants, 46 pp.
7. A 183-page report by Oregon’s IMST entitled “Recovery of Wild Salmonids in Western Oregon Lowlands.” July 2002.

### OTHER STUDIES/REPORTS

8. A 16-page paper by UW’s Charles Simenstad entitled, “Estuarine Landscape Impacts on Hood Canal and Strait of Juan de Fuca Summer Chum Salmon and Recommended Actions.” January 1998.
9. A 17-page paper by Carol Smith, Ph.D., Washington Conservation Commission, on the role of habitat for salmon populations.
10. East Kitsap Limiting Factors Analysis Baitfish Maps, 22 pp., 2000;
11. Independent Populations of Chinook Salmon in Puget Sound, NMFS TRT, April 2001. 61 pp.
12. The Functions of Riparian Buffers in Urban Watersheds, Masters Thesis, Jennifer Leavitt, 1998. 38 pp.
13. River Corridor Management Bibliography, Maryland Public Drainage Task Force, April 2000, 19 pp.

### PEER-REVIEWED ARTICLES

14. A conceptual framework for the definition of the optimal width of riparian forests, Gerd Sparovek, Agriculture, Ecosystems and Environment, 2002. 7 pp.
15. Forest Buffer Strips, Theodore Endreny, Journal of Forestry, January 2002. 6 pp.
16. Landscape-Scale Spatial Population Dynamics in Human-Impacted Stream Systems, Winsor Lowe, Environmental Management, April 2002. 9 pp.
17. Pacific Salmon, Nutrients, and the Dynamics of Freshwater and Riparian Ecosystems, Robert J. Naiman, Robert E. Bilby, et al, Ecosystems, 2000. 19 pp.
18. Quantifying the mechanical and hydrologic effects of riparian vegetation on streambank stability, Andrew Simon, Earth Surface Processes and Landforms, 2002. 20 pp.



19. Riparian aquatic interaction simulator (RAIS): a model of riparian forest dynamics for the generation of large woody debris and shade, Jeffrey J. Welty, Timothy Beechie, Rober Bilby, George Pess, et al., *Forest Ecology and Management*, 2002. 20 pp.
20. Riparian ecology and management in the Pacific coastal rain forest, Robert Naiman, Robert Bilby and Peter Bisson, *BioScience*, November 2000. 16 pp.
21. Riparian Forest Restoration, Bernard Sweeney, *Restoration Ecology*, June 2002. 9 pp.
22. Role of Adaptive Management for Watershed Councils, Geoffrey Habron, 13 pp.
23. Toward Quantifying Water Pollution Abatement in Response to Installing Buffers on Crop Land, Michael Dosskey, *Environmental Management*, 2001. 22pp.

#### FACT SHEETS/PRIMERS

24. "Ecological Principles for Managing Land Use," Ecological Society of America, 12 pp.
25. A 2-page summary of research regarding riparian zones by the Washington Forest Protection Association, February 2002.
26. A 3-page overview of the importance of nearshore habitat by Chris May.
27. Monitoring urban streams: strategies and protocols, UW Center for Streamside Studies, Fact Sheet. 2 pp.
28. A 10-page primer on salmon ecology by Chris May.
29. A 5-page primer on watershed ecology by Chris May
30. A 7-page primer on benthic monitoring by Chris May.
31. A 9-page paper on freshwater salmon habitat by Chris May.
32. A series of 4 block diagrams showing impacts of urbanization and shoreline armoring.

#### APPENDIX F: NEARSHORE

Appendix F contains the following information related to nearshore areas:

- A 92-page draft white paper for WSDOT, Ecology and WDFW entitled "Development Guidelines for Aquatic Habitat Protection and Restoration: Marine and Estuarine Modification Issues." November 2000.
- Maps from the Bainbridge Island Nearshore Assessment

#### APPENDIX G: GIS DATA

Appendix G contains the following GIS data:

- Six spreadsheets containing the results of the refugia scoring effort. These spreadsheets also contain many of the graphs presented in the body of the report.
- 13 JPEG files showing maps of Kitsap/Jefferson sub-watersheds showing how each fared in the GIS analysis if imperviousness, forest cover, riparian fragmentation, etc.
- A folder containing ArcGIS layers
- A folder containing ArcView coverages of refugia and flood prone areas

