SELECTED REFERENCES FOR THE PUGET-WILLAMETTE LOWLAND REGIONAL AQUIFER-SYSTEM ANALYSIS, PUGET SOUND LOWLAND, WASHINGTON

By M. A. Jones

A Contribution of the
Regional Aquifer-System
Analysis Program

U.S. GEOLOGICAL SURVEY

Open-File Report 90-584

Tacoma, Washington
1991

DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information write to:

District Chief
U.S. Geological Survey
1201 Pacific Avenue - Suite 600
Tacoma, Washington 98402

Copies of this report can be purchased from:

U.S. Geological Survey
Books and Open-File Reports Section
Box 25425 Federal Center
Denver, Colorado 80225

CONTENTS

ILLUSTRATIONS

SELECTED REFERENCES FOR THE PUGET-WILLAMETTE LOWLAND REGIONAL AQUIFER-SYSTEM ANALYSIS, PUGET SOUND LOWLAND, WASHINGTON

By M. A. Jones

ABSTRACT

The Puget-Willamette Lowland regional aquifer system is located in western Washington, western Oregon, and a small part of southwestern British Columbia, Canada. The regional aquifer system is composed of two distinct aquifer systems or subareas, the Puget Sound Lowland and the Willamette Valley. The Puget-Willamette Lowland is chosen as one of the regional aquifers being studied under the U.S. Geological Survey's nationwide Regional Aquifer-System Analysis Program. This study is the first comprehensive regional assessment of the ground-water resources of the Puget-Willamette Lowland.

As a preliminary step in the comprehensive study, a literature search was made and bibliographies compiled of selected references on the hydrology for each of the subareas. This report provides a bibliography for the Puget Sound Lowland aquifer system. It includes studies of the ground-water resources, glacial geology, geochronology, geophysics, structural geology and tectonics, surface water, evapotranspiration, and other pertinent subjects.

INTRODUCTION

The Puget-Willamette Lowland regional aquifer system is located in western Washington, western Oregon, and a small part of southwestern British Columbia, Canada (fig. 1). It extends from the Frasier River in British Columbia to just south of the town of Cottage Grove in Lane County, Oregon. The Puget-Willamette Lowland regional aquifer system is composed of two distinct aquifer systems or subareas, the Puget Sound Lowland and the Willamette Valley. The areal extent of the principal aquifer units for the study in the Puget Sound Lowland is defined by outcrop of Quaternary sediments. The areal extent for the Willamette Valley includes the recent alluvium, basin fill, and Tertiary volcanics belonging to the Columbia River Basalt Group.

Background

The U.S. Geological Survey initiated a national RASA (Regional Aquifer-System Analysis) program in 1978 in response to congressional concerns about the availability and quality of the Nation's ground water. The RASA program was designed to aid in the effective management of important ground-water resources by providing information on the geohydrology and geochemistry of regional aquifer systems, and by providing analytical capabilities necessary to assess management alternatives. The Puget-Willamette Lowland was chosen as one of the regional aquifers to be studied in this program. This study is the first comprehensive regional assessment of the ground-water resources of the Puget-Willamette Lowland.

In order to meet the overall RASA program goals, the major objectives of this study are the following: (1) to describe the geologic framework; (2) to describe the hydrogeologic characteristics of the regional aquifer system; (3) to describe the regional ground-water flow system within each subarea and the major controls on the system; (4) to describe the regional water budget on the basis of estimates of the water budget for selected areas; (5) to describe the water-quality characteristics of the system and the geochemical interactions that occur within it; and (6) to provide analytical capabilities to assess water-management strategies and to allow for a synthesis of information on the ground-water flow systems.

Purpose and Scope

As a preliminary step in the comprehensive study of the Puget-Willamette Lowland, a literature search was made and bibliographies compiled for each of the subareas. The purpose of this report is to provide a bibliography of selected references on the hydrology of the Puget Sound Lowland aquifer system. This bibliography emphasizes the ground-water resources and includes studies of the glacial geology, geochronology, geophysics, structural geology and tectonics, surface water, evapotranspiration, and other pertinent subjects. It also includes selected ground-water studies that were done in glaciated areas throughout the United States.

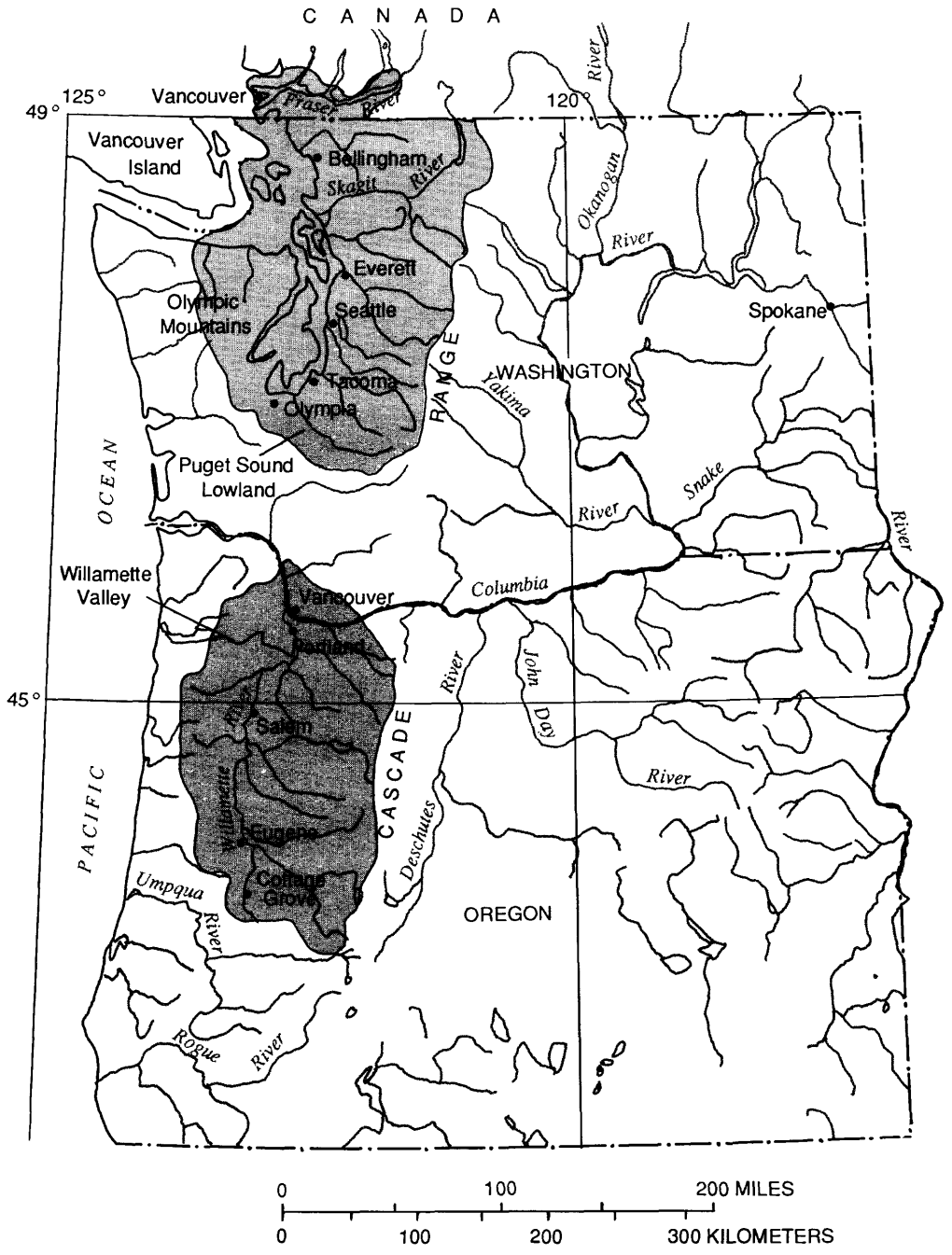

Figure 1.--Location of the Puget Sound Lowland and the Willamette Valley, which make up the Puget-Willamette Lowland regional aquifer-system study area.

Organization

The bibliography consists of two parts: an Author Index and a Subject Index. The Author Index includes a complete citation for each entry and is arranged alphabetically by author. The Subject Indexes are listed alphabetically, and in each Subject Index the citations are arranged alphabetically by author. For simplicity and to avoid redundancy, only the author and date of the citation are listed under the Subject Index.

AUTHOR INDEX

Anderson, E.I., 1948, Floods of the Puyallup and Chehalis River basins, Washington: U.S. Geological Survey Water-Supply Paper 968-B, 124 p.

Anderson, F.E., 1967, Stratigraphy of late Pleistocene and Holocene sediments from the Strait of Juan de Fuca: Seattle, Washington, University of Washington Department of Oceanography, Doctor of Philosophy thesis, 168 p.

Anderson, F.E., 1968, Seward terminus of the Vashon continental glacier in the Strait of Juan de Fuca: Marine Geology 6, p. 419-438.

Anderson, H.W., Jr., 1968, Ground-water resources of Island County, Washington: Washington Department of Water Resources Water-Supply Bulletin 25, part II, 317 p.

Anderson, J.B., and Molinia, B.F., 1989, Glacial-marine sedimentation: Short course in geology volume 9: Washington, D.C., American Geophysical Union, 127 p.

Armstrong, J.E., 1976, Surficial geology map of Mission, British Columbia: Geological Survey of Canada, Map 1485A, scale 1:50,000, 1 sheet.

Armstrong, J.E., 1977, Surficial geology map of Chilliwack, British Columbia: Geological Survey of Canada, Map 1487A, scale 1:50,000, 1 sheet.

Armstrong, J.E., Crandell, D.R., and Easterbrook, D.J., 1965, Late Pleistocene stratigraphy and chronology in southwestern British Columbia and northwestern Washington: Geological Society of America Bulletin, v. 79, p. 321-330.

Armstrong, J.E., and Hicock S.R., compilers, 1976a, Surficial geology map of New Westminster, British Columbia: Geological Survey of Canada, Map 1484A, scale 1:50,000, 1 sheet.

Armstrong, J.E., and Hicock, S.R., compilers, 1976b, Surficial geology map of Vancouver, British Columbia: Geological Survey of Canada, Map 1486A, scale 1:50,000, 1 sheet.

Arnold, R., 1902, Bibliography of the literature referring to the geology of Washington: Washington Geological Survey Annual Report for 1901, part 6, p. 323-338.

Artim, E.R., 1973, Geology in land use planning: Department of Natural Resources Information Circular 47, 2 plates, 18 p.

Atwater, T., 1970, Implications of plate tectonics for the Cenozoic evolution of western North America: Geological Society of America Bulletin, v. 81, p. 3515-3536.

Balzarini, M.A., 1983, Paleoecology of late Pleistocene glacial-marine sediments in northwestern Washington and southwestern British Columbia, *in* Molinia, B.F., ed., Glacial-marine sedimentation: New York, Plenum Press, p. 571-593.

Barber, L.B., II, 1987, Influence of geochemical heterogeneity in a sand and gravel aquifer on the transport of nonionic organic solutes: Methods of sediment characterization, *in* Franks, B.J., ed., U.S. Geological Survey program on toxic waste--ground water contamination: Proceedings of the third technical meeting, Pensacola, Florida, March 23-27, 1987: U.S. Geological Survey Open-File Report 87-109, p. B-45 to B-51.

Barber, L.B., II, Thurman, E.M., and Schroeder, M.P., 1986, Identification of trace organic substances in sewage-contaminated ground water, Cape Cod, Massachusetts, *in* Ragone, S.E., ed., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the second technical meeting, Cape Cod, Massachusetts, October 21-25, 1985: U.S. Geological Survey Open-File Report 86-481, p. B-19 to B-20.

Barnosky, C.W., Anderson, P.M., and Bartlein, P.J., 1987, The northwestern U.S. during deglaciation, Vegetational history and paleoclimatic implications, *in* The geology of North America: Geological Society of America, v. K-3, p. 289-321.

Beven, K.J., and Kirby, M.J., 1979, A physically based, variable contributing area model of basin hydrology: Hydrology Science Bulletin, v. 24, no. 1, p. 43-69.

Beverage, J.P., and Swecker, M.N., 1969, Estuarine studies in Upper Grays Harbor, Washington: U.S. Geological Survey Water-Supply Paper 1873-B, 90 p.

Black, T.A., 1979, Evapotranspiration from Douglas fir stands exposed to soil water deficits: Water Resources Research, v. 15, no. 1, p. 164-170.

Black, T.A., and McNaughton, K.G., 1972, Average Bowen-ratio methods of calculating evapotranspiration applied to a Douglas fir forest: Boundary-Layer Meterology, v. 2, no. 4, p. 466-475.

Black, T.A., Tan, C.S., and Nnyamah, J.U., 1980, Transpiration rate of Douglas fir trees in thinned and unthinned stands: Canadian Journal of Soil Science, v. 60, p. 625-631.

Black and Veatch, 1987, Remedial investigation report, Tacoma landfill, Tacoma, Washington, v. 1: Tacoma, Washington, Black and Veatch, unpaginated.

Blair, H.O., 1929, Underground water resources in the vicinity of Tacoma: Journal of American Water Works Association, v. 21, p. 1185-1195.

Blake, Dean, 1937, Movement and effects of an unstable tropical air mass aloft over the far west, August 7th-13th, 1936: Bulletin of the American Meterological Society, v. 17, no. 12, p. 360-364.

Blunt, D.J., Easterbrook, D.J., and Rutter, N.W., 1987, Chronology of Pleistocene sediments in the Puget Lowland, Washington: Washington Division of Geology and Earth Resources Bulletin 77, p. 321-353.

Bodhaine, G.L., and Thomas, D.M., 1964, Magnitude and frequency of floods in the United States--Part 12, Pacific Slope basins in Washington and upper Columbia River basin: U.S. Geological Survey Water-Supply Paper 1687, 337 p.

Booth, D.B., 1984, Glacier dynamics and the development of glacial landforms in eastern Puget Lowland, Washington: Seattle, Washington, University of Washington, Doctor of Philosophy thesis, 1:100,000 scale map, 1 plate, 217 p.

Booth, D.B., 1987, Timing and processes of deglaciation along the southern margin of the Cordilleran ice sheet, *in* The Geology of North America: Geological Society of America, v. K-3, p. 71-90.

Bortleson, G.C., 1978, Preliminary water-quality characterization of lakes in Washington: U.S. Geological Survey Water-Resources Investigations Report 77-94, 31 p.

Bortleson, G.C., Dion, N.P., and McConnell, J.B., 1974, A method for the relative classification of lakes in the State of Washington from reconnaissance data: U.S. Geological Survey Water-Resources Investigations Report 37-74, 35 p.

Bortleson, G.C., Dion, N.P., McConnell, J.B., and Nelson, L.M., 1976a, Reconnaissance data on lakes in Washington--Clallam, Island, Jefferson, San Juan, Skagit, and Whatcom Counties: Washington Department of Ecology Water-Supply Bulletin 43, v. 1, 248 p.

Bortleson, G.C., Dion, N.P., McConnell, J.B., and Nelson, L.M., 1976b, Reconnaissance data on lakes in Washington--Clark, Cowlitz, Grays Harbor, Lewis, Pacific, Skamania, and Thurston Counties: Washington Department of Ecology Water-Supply Bulletin 43, v. 4, 197 p.

Bortleson, G.C., Dion, N.P., McConnell, J.B., and Nelson, L.M., 1976c, Reconnaissance data on lakes in Washington--King and Snohomish Counties: Washington Department of Ecology Water-Supply Bulletin 43, v. 2, 424 p.

Bortleson, G.C., Dion, N.P., McConnell, J.B., and Nelson, L.M., 1976d, Reconnaissance data on lakes in Washington--Kitsap, Mason, and Pierce Counties: Washington Department of Ecology Water-Supply Bulletin 43, v. 3, 259 p.

Bortleson, G.C., and Foxworthy, B.L., 1974, Relative susceptibility of lakes to water-quality degradation in the southern Hood Canal area, Washington: U.S. Geological Survey, Map I-853-B, scale 1:62,500.

Bortleson, G.C., Higgins, G.T., and Hill, G.W., 1974, Data on selected lakes in Washington, part 2: Washington Department of Ecology Water-Supply Bulletin 42, part 2, 145 p.

Bortleson, G.C., Higgins, G.T., McConnell, J.B., and Innes, J.K., 1976, Data on selected lakes in Washington: Washington Department of Ecology Water-Supply Bulletin 42, part 3, 143 p.

Bovee, K.D., 1982, A guide to stream habitat analyses using the Instream Flow Incremental Methodology: U.S. Department of the Interior, Fish and Wildlife Service, Washington D.C., Instream Flow Information Paper No. 12, FWS/OBS-82/26, 248 p.

Bretz, J Harlan, 1910, A preliminary paper on the glacial lakes of Puget Sound: Journal of Geology, v. 18, no. 5.

Bretz, J Harlan, 1911, Terminal moraine of the Puget Sound glacier: Journal of Geology, v. 19, no. 2.

Bretz, J Harlan, 1913, Glaciation of the Puget Sound region: Washington Geological Survey Bulletin 8, 244 p.

Briggs, W.P., and Church, P.E., 1938, Valley fog caused largely by decrease of pressure: Bulletin of the American Meteorological Society, v. 19, p. 430-433.

Brown, R.D., Jr., 1970, Geological map of the north-central part of the Olympic Peninsula, Washington: U.S. Geological Survey Open-File Report 70-43, scale 1:62,000, 2 sheets.

Brown and Caldwell, 1985, Clover/Chambers Creek geohydrologic study: Seattle, Washington, Brown and Caldwell, unpaginated.

Burgdoff, G.J., and Richard, B.H., 1984, Geophysical exploration of buried valley systems in southwestern Ohio for ground water resources, *in* Nielsen, D.M., and Curl, Mary, eds., NWWA/EPA conference on surface and borehole geophysical methods in ground-water investigations, San Antonio, 1984: National Water Well Association, p. 176-205.

Burns, R.E., 1962, A model of sedimentation in small sill-less embayed estuaries of the Pacific Northwest: Seattle, Washington, University of Washington Department of Oceanography, Doctor of Philosophy thesis, 177 p.

Burns, R.E., 1985, The shape and form of Puget Sound: Puget Sound Books, A Washington Sea Grant Publication: Seattle, Washington, University of Washington Press, 100 p.

Byers, H.G., 1902, The water resources of Washington: Potable and mineral water: Washington Geological Survey Annual Report 1901, v. 1, part v., 11 p.

Cady, W.M., 1975, Tectonic setting of the Tertiary volcanic rocks of the Olympic Peninsula, Washington: U.S. Geological Survey Journal Research, v. 3, p. 573-582.

Cady, W.M., Sorensen, M.L., and MacLeod, N.S., 1972, Geologic map of the Brothers quadrangle, Jefferson, Mason, and Kitsap Counties, Washington: U.S. Geological Survey Geologic Quadrangle Map GQ-969, scale 1:62,500, 1 sheet.

Carpenter, A.B., 1937, Behavior of a warm front on the Oregon-Washington coast: Bulletin of the American Meterological Society, v. 17, no. 11, p. 319-320.

Carr, J.R., and Associates, 1983, Vashon/Maury Island Water Resources Study: Tacoma, Washington, Carr and Associates, unpaginated.

Carr, J.R., and Associates, 1988, Report on the 1987-88 test drilling program: Tacoma, Washington, Carr and Associates, unpaginated.

Carr, J.R., Schmidt, R.G., and Ritzi, R.W., 1983, Water resource management planning criteria for Vashon/Maury Island, Washington: A case study, *in* Nielsen, D.M., and Aller, Linda, eds., Proceedings of the NWWA western regional conference on ground water management, San Diego, 1983: National Water Well Association, p. 317-325.

Carson, R.J., 1970, Quaternary geology of south-central Olympic Peninsula, Washington: Seattle, Washington, University of Washington, Doctor of Philosophy thesis, 67 p.

Carson, R.J., 1976, Geologic map of north-central Mason County, Washington: Washington Division of Geology and Earth Resources Open-File Report 76-2, scale 1:62,500, 1 sheet.

Carson, R.J., Smith, Mackey, and Foxworthy, B.L., 1975, Geologic conditions related to waste-disposal planning in the southern Hood Canal area, Washington: U.S. Geological Survey Miscellaneous Investigations Map I-853-D, scale 1:62,500, 1 sheet.

Ceazan, M.L., Smith, R.L., and Thurman, E.M, 1986, Fate of ammonium in a sewage-contaminated ground water, Cape Cod, Massachusetts, *in* Ragone, S.E., ed., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the second technical meeting, Cape Cod, Massachusetts, October 21-25, 1985: U.S. Geological Survey Open-File Report 86-481, p. B-29 to B-30.

Ceazan, M.L., Thurman, E.M., and Smith, R.L., 1987, The role of cation exchange in the transport of ammonium and nitrate in a sewage-contaminated aquifer, *in* Franks, B.J., ed., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the third technical meeting, Pensacola, Florida, March 23-27, 1987: U.S. Geological Survey Open-File Report 87-109, p. B-53 to B-58.

Chase, Marvin, 1921, Monthly and yearly summaries of hydrometric data in the State of Washington, 1878-1920: Department of Conservation and Development, Division of Water Resources Water-Supply Bulletin, no. 1, 140 p.

Cheney, E.S., 1987, Major Cenozoic faults in the northern Puget Lowland of Washington, *in* Schuster, J.E., ed., Selected papers on the geology of Washington: Washington Division of Geology and Earth Resources Bulletin 77, p. 149-168.

Chrzastowski, M.J., 1980, Submarine features and bottom configuration in the Port Townsend quadrangle, Puget Sound region, Washington: U.S. Geological Survey Water-Resources Investigations Report 80-14, scale 1:100,000, 1 plate.

Chrzastowski, M.J., 1983, Historical changes to Lake Washington and route of the Lake Washington ship canal, King County, Washington: U.S. Geological Survey Water-Resources Investigations Report 81-1182, scale 1:24,000, 9 p.

Church, P.E., 1940, Type curves and duration of snow cover in Washington: Yearbook of Associated Pacific Coast Geography, v. 6, p. 21-25.

Church, P.E., 1941, Type curves and variability of annual snowfall: State of Washington: Transactions of the American Geophysical Union, part 1, p. 159-170.

Church, P.E., 1942, Climates of the Pacific Northwest, *in* Freeman, O.W., and Martin, H.H., eds., The Pacific Northwest, Chapter 4: New York, John Wiley and Sons, p. 104-125.

Church, P.E., and Stephens, E.T., 1941, Abstract on influence of the Cascade and Rocky Mountains on the temperature during the westward spread of polar air: Bulletin of the American Meterological Society, v. 17, no. 11, p. 319-320.

Clague, J.J., 1976, Quadra sand and its relation to the late Wisconsin glaciation of southwest British Columbia: Canadian Journal of Earth Sciences, v. 13, p. 803-815.

Cline, D.R., 1969, Availability of ground water in the Federal Way area, King County, Washington: U.S. Geological Survey Open-File Report, 60 p.

Cline, D.R., 1974, A ground-water investigation of the Lummi Indian Reservation area, Washington: U.S. Geological Survey Open-File Report, 91 p.

Cline, D.R., Jones, M.A., Dion, N.P., Whiteman, K.J., and Sapik, D.B., 1982, Preliminary survey of ground-water resources for Island County, Washington: U.S. Geological Survey Water-Resources Investigations Report 82-561, 46 p.

Collias, E.E., and Barnes, C.A., 1964, Physical and chemical data for Puget Sound and approaches, September 1956 - December 1957: Seattle, Washington, University of Washington, Department of Oceanography Technical Report 110, p. 1-167.

Collias, E.E., and Duxbury, A.C., 1971, Bibliography of literature: Puget Sound marine environment: Seattle, Washington, University of Washington, Department of Oceanography Special Report 49, unpaginated.

Collias, E.E., McGary, N., and Barnes, C.A., 1974, Atlas of physical and chemical properties of Puget Sound and its approaches: Seattle, Washington, University of Washington Press, 235 p.

Collings, M.R., 1971, A proposed streamflow-data program for Washington State: U.S. Geological Survey Open-File Report, 48 p.

Collings, M.R., 1973, Generalization of stream-temperature data in Washington: U.S. Geological Survey Water-Supply Paper 2029-B, 45 p.

Collings, M.R., 1974, Generalization of spawning and rearing discharges for several Pacific salmon species in western Washington: U.S. Geological Survey Open-File Report, 39 p.

Collings, M.R., and Hidaka, F.T., 1974, Low-flow characteristics of streams in the Willapa Bay drainages, Washington: U.S. Geological Survey Water-Resources Investigations Report 8-74, 12 p.

Collings, M.R., Smith, R.W., and Higgins, G.T., 1970, The hydrology of four streams in western Washington as related to several Pacific salmon species: U.S. Geological Survey Open-File Report, 158 p.

Collings, M.R., Smith, R.W., and Higgins, G.T., 1972, The hydrology of four streams in western Washington as related to several Pacific salmon species: U.S. Geological Survey Water-Supply Paper 1968, 109 p.

Crabb, G.A., Jr., 1950, Solar radiation investigations in Michigan: Michigan State College, Agricultural Experiment Station Technical Bulletin 222, 153 p.

Crandell, D.R., 1965, The glacial history of western Washington and Oregon, *in* Wright, H.E., Jr., and Frey, D.G., eds., The Quaternary of the United States: Princeton, New Jersey, Princeton University Press, p. 341-353.

Crandell, D.R., Mullineaux, D.R., and Waldron, H.H., 1958, Pleistocene sequence in the southeastern part of the Puget Sound lowland, Washington: American Journal of Science, v. 256, p. 384-397.

Crandell, D.R., Mullineaux, D.R., and Waldron, H.H., 1965, Age and origin of the Puget Sound trough in western Washington: U.S. Geological Survey Professional Paper 525-B, p. B132 to B136.

Cummans, J.E., 1977, Low-flow characteristics of streams on the Kitsap Peninsula and selected adjacent islands, Washington: U.S. Geological Survey Open-File Report 76-704, 19 p.

Cummans, J.E., 1981, Low-flow characteristics of streams in the Deschutes River basin, Washington: U.S. Geological Survey Open-File Report 81-639, 20 p.

Cummans, J.E., and Nassar, E.G., 1975, Low-flow characteristics of streams in the Grays Harbor drainages, Washington: U.S. Geological Survey Open-File Report, 27 p.

Danes, Z.F., Bonno, M.M., Brau, E., Gilham, W.D., Hoffman, T.F., Johansen, D., Jones, M., Halfait, B., Masten, J., and Teague, G.O., 1965, Geophysical investigation of the southern Puget Sound area, Washington: Journal of Geophysical Research, v. 70, no. 22, p. 5573-5580.

Dawson, W.A., and Tilley, L.J., 1972, Measurement of salt-wedge excursion distance in the Duwamish River estuary, Seattle, Washington, by means of the dissolved-oxygen gradient: U.S. Geological Survey Water-Supply Paper 1873-D, 27 p.

Day, P.C., 1930, The daily, monthly, and annual normals of precipitation in the United States, based on the 50-year period, 1878 to 1927 inclusive, *in* Monthly weather review supplement no. 34: U.S. Department of Agriculture Weather Bureau, 101 p.

Dethier, D.P., 1982, Chemical characteristics for western Washington rivers, 1961-1980: U.S. Geological Survey Open-File Report 82-185, 46 p.

Dickinson, W.R., 1976, Sedimentary basins developed during evolution of Mesozoic-Cenozoic arc-trench systems in western North America: Canadian Journal of Earth Sciences, v. 13, p. 1268-1283.

Dinicola, R.S., 1990, Characterization and simulation of rainfall-runoff relations for headwater basins in western King and Snohomish Counties, Washington: U.S. Geological Survey Water-Resources Investigations Report 89-4052, 52 p.

Dion, N.P., 1974, A proposal for the investigation of possible ground-water contamination in the Bangor area, Kitsap County, Washington: U.S. Geological Survey Open-File Report, 24 p.

Dion, N.P., and Lum, W.E., II, 1977, Municipal, industrial, and irrigation water use in Washington, 1975: U.S. Geological Survey Open-File Report 77-308, 34 p.

Dion, N.P., Olsen, T.D., and Payne, K.L., 1988, Preliminary evaluation of the ground-water resources of Bainbridge Island, Kitsap County, Washington: U.S. Geological Survey Water-Resources Investigations Report 87-4237, 82 p.

Dion, N.P., and Sumioka, S.S., 1984, Seawater intrusion into coastal aquifers in Washington, 1978: Washington Department of Ecology Water-Supply Bulletin 56, 13 p.

Dion, N.P., Sumioka, S.S., and Winter, T.C., 1983, General hydrology and external sources of nutrients affecting Pine Lake, King County, Washington: U.S. Geological Survey Water-Resources Investigations Report 83-4057, 29 p.

Domack, E.W., 1983, Facies of late Pleistocene glacial-marine sediments on Whidbey Island, Washington: An isostatic glacial-marine sequence, *in* Molnia, B.F., ed., Glacial-marine sedimentation, New York, Plenum Press, p. 535-570.

Drainage and Land Stabilization Technical Committee, 1970a, Comprehensive study of water and related land resources Puget Sound and adjacent waters, Washington, Appendix III, Hydrology and natural environment: Puget Sound Task Force of the Pacific Northwest River Basins Commission, 205 p.

Drainage and Land Stabilization Technical Committee, 1970b, Comprehensive study of water and related land resources Puget Sound and adjacent waters, Washington, Appendix XIV, Watershed management: Puget Sound Task Force of the Pacific Northwest River Basins Commission, 288 p.

Drewry, David, 1986, Glacial geologic processes: Baltimore, Maryland, Edward Arnold, publisher, 276 p.

Drost, B.W., 1977, Preliminary assessment of the water resources of the Tulalip Indian Reservation, Washington: U.S. Geological Survey Open-File Report 76-495, 89 p.

Drost, B.W., 1979a, Progress report on water resources of the Tulalip Indian Reservation, Washington: U.S. Geological Survey Water-Resources Investigations Report 78-31, 39 p.

Drost, B.W., 1979b, Water resources of the Swinomish Indian Reservation, Washington: U.S. Geological Survey Water-Resources Investigations Report 79-12, 83 p.

Drost, B.W., 1982, Water resources of the Gig Harbor Peninsula and adjacent areas, Washington: U.S. Geological Survey Water-Resources Investigations Report 81-1021, 148 p.

Drost, B.W., 1983a, Impact of changes in land use on the ground-water system in the Sequim-Dungeness Peninsula, Clallam County, Washington: U.S. Geological Survey Water-Resources Investigations Report 83-4094, 61 p.

Drost, B.W., 1983b, Water resources of the Tulalip Indian Reservation, Washington: U.S. Geological Survey Water-Resources Investigations Report 82-648, 153 p.

Drost, B.W., 1985, Appraisal of ground-water conditions and potential for seawater intrusion at Taholah, Quinault Indian Reservation, Washington: U.S. Geological Survey Water-Resources Investigations Report 84-4361, 26 p.

Drost, B.W., 1986, Water resources of Clallam County, Washington, phase 1 report: U.S. Geological Survey Water-Resources Investigations Report 83-4227, 263 p.

Drost, B.W., and Lombard, R.E., 1978, Water in the Skagit River basin, Washington: Washington Department of Ecology Water-Supply Bulletin 47, 247 p.

Easterbrook, D.J., 1966, Radiocarbon chronology of late Pleistocene deposits in northwest Washington: Science, v. 152, no. 3723, p. 764-767.

Easterbrook, D.J., 1968, Pleistocene stratigraphy of Island County, Washington: Washington Department of Water Resources Water-Supply Bulletin 25, part 1, 34 p.

Easterbrook, D.J., 1973, Map showing percolation rates of earth materials in western Whatcom County, Washington: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-854-A, scale 1:62,500, 1 plate.

Easterbrook, D.J., 1976a, Geologic map of western Whatcom County, Washington: U.S. Geological Survey Miscellaneous Investigations Map I-854-B, scale 1:62,000, 1 plate.

Easterbrook, D.J., 1976b, Map showing engineering characteristics of geologic materials, western Whatcom County, Washington: U.S. Geological Survey Miscellaneous Investigations Map I-854-D, scale 1:62,500, 1 plate.

Easterbrook, D.J., Crandell, D.R., and Leopold, E.B., 1967, Pre-Olympia stratigraphy and chronology in the Central Puget Lowland, Washington: Geological Society of America Bulletin, v. 78, p. 13-20.

Ebbert, J.C., Bortleson, G.C., Fuste, L.A., and Prych, E.A., 1987, Water quality in the lower Puyallup River valley and adjacent uplands, Pierce County, Washington: U.S. Geological Survey Water-Resources Investigations Report 86-4154, 199 p.

Ebbert, J.C., and Payne, K.L., 1985, The quality of water in the principal aquifers of southwestern Washington: U.S. Geological Survey Water-Resources Investigations Report 84-4093, 59 p.

Ebbert, J.C., Poole, J.E., and Payne, K.L., 1985, Data collected by the U.S. Geological Survey during a study of urban runoff in Bellevue, Washington, 1979-82: U.S. Geological Survey Open-File Report 84-064, 256 p.

Eddy, P.A., 1966, Geology and ground-water resources of the lower Chehalis River valley and adjacent areas, Grays Harbor County, Washington: Washington Division of Water Resources Water-Supply Bulletin 30, 70 p.

Eddy, P.A., 1973, Geohydrology of the Chehalis River valley, Elma to Oakville, Grays Harbor County, Washington: Washington Department of Ecology Geohydrologic Monograph 3, scale 1:48,000, 1 sheet.

Embrey, S.S., 1987, The relation of streamflow to habitat for anadromous fish in the Stillaguamish River basin, Washington: U.S. Geological Survey Water-Resources Investigations Report 86-4326, 115 p.

Embrey, S.S., 1991, Available habitat for salmon and steelhead trout in the lower Puyallup, White and Carbon Rivers in western Washington: U.S. Geological Survey Water-Resources Investigations Report 89-4125, 62 p.

Engebretson, D.C., Cox, A., and Gordon, R.G., 1985, Relative motions between oceanic and continental plates in the Pacific Basin: Geological Society of America Special Paper 206, 59 p.

Fischer, H.B., 1968, Methods for predicting dispersion coefficients in natural stream, with applications to the lower reaches of the Green and Duwamish Rivers, Washington: U.S. Geological Survey Professional Paper 582-A, 27 p.

Fitterman, D.V., 1986a, Transient electromagnetic sounding for ground water: Geophysics, v. 51, no. 4, p. 995-1005.

Fitterman, D.V., 1986b, Transient electromagnetic sounding in the Michigan Basin for ground water evaluation, *in* Surface and borehole geophysical methods and ground water instrumentation conference and exposition, Denver, 1986: National Water Well Association, p. 334-353.

Fitterman, D.V., 1987, Examples of transient sounding for ground-water exploration in sedimentary aquifers: Ground Water, v. 25, no. 6, p. 685-692.

Foxworthy, B.L., 1972, Emergency ground-water and irrigation water use in Washington, 1970: U.S. Geological Survey Open-File Report, 48 p.

Foxworthy, B.L., 1979, Summary appraisals for the nation's ground-water resources - Pacific Northwest region: U.S. Geological Survey Open-File Report, Basic-Data Contribution 1, 1 pl.

Foxworthy, B.L., and Nassar, E.G., 1975, Flood hazards in the Seattle-Tacoma urban complex and adjacent areas, Washington: U.S. Geological Survey Open-File Report, Basic-Data Contribution 5, 1 pl.

Foxworthy, B.L., and Richardson, Donald, 1973, Climatic factors related to land-use planning in the Puget Sound basin, Washington: U.S. Geological Survey Miscellaneous Geological Investigations Map I-851A, scale 1:1,000,000, 1 sheet.

Frank, Dave, 1980, Availability, distribution, and uses of data from wells, springs, and test holes in the Port Townsend quadrangle, Puget Sound region, Washington: U.S. Geological Survey Open-File Report 80-430, scale 1:100,000, 1 plate.

Frizzell, V.A., Jr., Tabor, R.W., Booth, D.B., Ort, K.M., and Waitt, R.B., Jr., 1984, Preliminary geologic map of the Snoqualmie Pass quadrangle, Washington: U.S. Geological Survey Open-File Report 84-693, 43 p., scale 1:100,000, 1 plate.

Fritschen, L.J., and Doraiswamy, P., 1973, Dew: An addition to the hydrologic balance of Douglas Fir: American Geophysical Union, v. 9, no. 4, p. 891-894.

Gabanski, Gilbert, Julik, Joe, and Bassou, Oulgout, 1984, Assessment of buried aquifers in Minnesota using computer-generated wenner electric sounding curves, *in* Nielsen, D.M., and Curl, Mary, eds., NWWA/EPA conference on surface and borehole geophysical methods in ground water investigations, San Antonio, 1984: National Water Well Association, p. 107-127.

Gagne, R.M., Pullan, S.E., and Hunter, J.A., 1985, A shallow seismic reflection method for use in mapping overburden stratigraphy, *in* NWWA/EPA conference on surface and borehole geophysical methods in ground water investigations, Fort Worth, 1985: National Water Well Association, p. 132-145.

Galster, R.W., and Coombs, H.A., 1979, Cascade ice border dams: Geologic setting, *in* Galster, R.W., compiler, Engineering geology in Washington, volume 1: Washington Division of Geology and Earth Resources Bulletin 78, p. 203-208.

Garabedian, S.P., 1985, Abstract on effect of correlation between distribution coefficients and hydraulic conductivity on the macrodispersivity of non-conservative solutes: EOS, Transactions, American Geophysical Union, v. 66, no. 46, p. 903.

Garabedian, S.P., LeBlanc, D.R., Hess, K.M., and Quadri, R.D., 1987, Natural-gradient tracer test in sand and gravel: Results of spatial moments analysis, Cape Cod, Massachusetts, *in* Franks, B.J., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the third technical meeting, Pensacola, Florida, March 23-27, 1987: U.S. Geological Survey Open-File Report 87-109, p. B-13 to B-16.

Garabedian, S.P., LeBlanc, D.R., Quadri, R.D., Hess, K.M., Stollenwerk, K.G., and Wood, W.W., 1986, Design and implementation of a large-scale natural-gradient tracer test, Cape Cod, Massachusetts, *in* Ragone, S.E., ed., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the second technical meeting Cape Cod, Massachusetts, October 21-25, 1985: U.S. Geological Survey Open-File Report 86-481, p. B-13 to B-17.

Garling, M.E., Molenaar, Dee, and others, 1965, Water resources and geology of the Kitsap Peninsula and certain adjacent islands: Washington Division of Water Resources Water-Supply Bulletin 18, 309 p.

Garrett, A.A., and Walters, K.L., 1960, The status of ground-water investigations in the State of Washington: U.S. Geological Survey Open-File Report, 61 p.

Gay, L.W., 1972, Energy-flux studies in a coniferous forest ecosystem, *in* Franklin, J.F., Dempster, L.J., and Waring, R.H., eds., Proceedings--research on coniferous forest ecosystems--a symposium: Pacific Northwest Forest and Range Experimental Station, Portland, Oregon, p. 243-253.

Gerlach, A.C., 1943, Precipitation of western Washington, part I, text, part II, plates: Seattle, Washington, University of Washington, Doctor of Philosophy thesis, 190 p.

Ghatge, S.L., and Pasicznyk, D.L., 1986, Integrated geophysical methods used in the determination of bedrock topography, *in* Surface and borehole geophysical methods and ground water instrumentation conference and exposition, Denver, 1986: National Water Well Association, p. 601-624.

Giles, D.G., Black, T.A., and Spittlehouse, D.L., 1984, Determination of growing season soil water deficits on a forested slope using water balance analysis: Canadian Journal Forest Research, v. 15, p. 107-114.

Gilliom, R.J., 1983, Estimation of nonpoint-source loadings of phosphorus for lakes in the Puget Sound region, Washington: U.S. Geological Survey Water-Supply Paper 2240, 74 p.

Gilmer, T.H., Harmon, E.J., and Kronig, D.M., 1986, Estimation of alluvial aquifer characteristics from resistivity soundings, *in* Surface and bore-hole geophysical methods and ground water instrumentation conference and exposition, Denver, 1986: National Water Well Association, p. 163-186.

Gladwell, J.S., 1970, Runoff generation in western Washington as a function of precipitation and watershed characteristics: Pullman, Washington, Washington State University, College of Engineering Research Division, Bulletin 319, 341 p.

Gower, H.D., 1978, Tectonic map of the Puget Sound region, Washington, showing locations of faults, principal folds, and large-scale quaternary deformation: U.S. Geological Survey Open-File Report 78-426, scale 1:250,000, 1 plate, 90 p.

Gower, H.D., 1980, Bedrock geologic and Quaternary tectonic map of the Port Townsend area, Washington: U.S. Geological Survey Open-File Report 80-1174, scale 1:100,000, 1 plate, 9 p.

Gower, H.D., and Pease, M.H., Jr., 1965, Geology of the Montesano quadrangle, Washington: U.S. Geological Survey Map GQ-374, scale 1:62,500, 1 plate.

Gower, H.D., Yount, J.C., and Crosson, R.S., 1985, Seismotectonic map of the Puget Sound region, Washington: U.S. Geological Survey Map I-1613, scale 1:250,000, 1 plate, 15 p.

Graumilch, L.J., 1985, Long-term records of temperature and precipitation in the Pacific Northwest derived from tree rings: Seattle, Washington, University of Washington College of Forest Resources, Doctor of Philosophy thesis, 128 p.

Graumilch, L.J., 1987, Precipitation variation in the Pacific Northwest (1675-1975) as reconstructed from tree rings: Annals of the Association of American Geographers, v. 77, no. 1, p. 19-29.

Griffin, W.C., and others, 1962, Water resources of the Tacoma area, Washington: U.S. Geological Survey Water-Supply Paper 1499-B, p. B1-B101.

Griffin, W.C., Watkins, F.A., Jr., and Swenson, H.A., 1956, Water resources of the Portland, Oregon, and Vancouver, Washington, area: U.S. Geological Survey Circular 372, 45 p.

Grimstad, Peder, and Carson, R.J., 1981, Geology and ground-water resources of eastern Jefferson County, Washington: Washington Department of Ecology Water-Supply Bulletin 54, 125 p.

Grisak, G.E., and Cherry, J.A., 1975, Hydrogeologic characteristics and response of fractured till and clay confining a shallow aquifer: Canadian Geotechnical Journal, v. 12, p. 23-43.

Grisak, G.E., Cherry, J.A., Vonhof, and Bleumle, J.P., 1976, Hydrogeologic and hydrochemical properties of fractured till in the interior plains region, *in* Legget, R.F., ed., Glacial till: Royal Society of Canada, Special Publication, p. 304-335.

Grover, N.C., and Parker G.L., 1940, Summary of records of surface waters of Washington, 1919-35: U.S. Geological Survey Water-Supply Paper 870, 456 p.

Haase, P.C., 1987, Glacial stratigraphy and landscape evolution of the north-central Puget lowland, Washington: Seattle, Washington, University of Washington, Master of Science thesis, 73 p.

Haeni, F.P., 1986a, Application of continuous seismic-reflection methods to hydrologic studies: Ground Water, v. 24, no. 1, p. 23-31.

Haeni, F.P., 1986b, Application of seismic-refraction methods in ground-water modeling studies in New England: Geophysics, v. 51, no. 2, p. 236-249.

Haeni, F.P., 1986c, The use of electromagnetic methods to delineate vertical and lateral lithologic changes in glacial aquifers, *in* Surface and borehole geophysical methods and ground water instrumentation conference and exposition, Denver, 1986: National Water Well Association, p. 259-282.

Haeni, F.P., 1988a, Application of seismic-refraction techniques to hydrologic studies: U.S. Geological Survey Techniques of Water-Resources Investigations Book 2, Chapter D2, 86 p.

Haeni, F.P., 1988b, Evaluation of the continuous seismic-reflection method for determining the thickness and lithology of stratified drift in the glaciated northeast, *in* Randall, A.D., and Johnson, I.A., eds., Regional aquifer systems of the United States, the northeast glacial aquifers, Syracuse, 1987: American Water Resources Association Monograph Series no. 11, p. 63-82.

Haeni, F.P., and Melvin, R.L, 1984, High resolution continuous seismic-reflection study of a stratified drift deposit in Connecticut, *in* Nielsen, D.M., and Curl, Mary, eds., NWWA/EPA conference on surface and borehole geophysical methods in ground water investigations, San Antonio, 1984: National Water Well Association, p. 237-256.

Hall, J.B., and Othburg, K.L., 1974, Thickness of unconsolidated sediments, Puget lowland, Washington: Washington Department of Natural Resources Geologic Map GM-12, scale 1:250,000, 1 plate, 3 p.

Halstead, E.C., 1986, Ground water supply--Fraser lowland, British Columbia: Environment Canada, National Hydrology Research Institute Paper no. 26, IWD Scientific Series no. 145, 80 p.

Hansen, A.J., Jr., and Molenaar, Dee, 1976, Availability of ground water in the area surrounding the Trident submarine construction facility, Kitsap County, Washington: U.S. Geological Survey Open-File Report 76-351, 30 p.

Hansen, A.J., Jr., and Bolke, E.L., 1980, Ground-water availability on the Kitsap Peninsula, Washington: U.S. Geological Survey Water-Resources Investigations Open-File Report 80-1186, 65 p.

Hansen, B.P., 1986, Use of continuous seismic-reflection methods in a hydrologic study in Massachusetts--A case study, *in* Surface and borehole geophysical methods and ground water instrumentation conference and exposition, Denver, 1986: National Water Well Association, p. 381-397.

Hansen, B.S., and Easterbrook, D.J., 1974, Stratigraphy and palynology of late Quaternary sediments in the Puget lowland, Washington: Geological Society of America Bulletin, v. 85, p. 587-602.

Hansen, H.P., and Mackin, J.H., 1949, A pre-Wisconsin forest succession in the Puget lowland, Washington: American Journal of Science, v. 247, p. 833-855.

Harding, S.T., Agena, W.F., Nickols, D., and Lee, M., 1989, Small-boat multi-channel, high-resolution seismic reflection survey in Puget Sound and the Strait of Juan de Fuca, *in* Proceedings of the 21st Annual Offshore Technology Conference, Houston, Texas, May 1-4, 1989: OTC 5943, v. 1, 1989, p. 593-598.

Harding, S.T., Barnhard, T.P., and Urban, T.C., 1988, Preliminary data from the Puget Sound multichannel seismic-reflection survey: U.S. Geological Survey Open-File Report 88-698, Preliminary, no interpretation, 16 seismic profiles.

Harding, S.T., Urban, T.C., and Barnhard, T.P., 1988, Preliminary evidence of possible Quaternary fault in Puget Sound, Washington, from a multichannel marine seismic reflection survey, *in* Hays, W.W., ed., Workshop on evaluation of earthquake hazards and risk in the Puget Sound and Portland areas, Olympia, 1988, proceedings of conference XLII: U.S. Geological Survey Open-File Report 88-541, p. 178-193.

Hart Crowser and Associates, 1986, Groundwater resource evaluation of existing and new supply areas Tacoma, Washington: Seattle, Washington, Hart Crowser and Associates, Inc., unpaginated.

Hart Crowser and Associates, 1988a, Hydrogeologic report, Judd Hill production well 6C, City of Lacey, Washington: Seattle, Washington, Hart Crowser, unpaginated.

Hart Crowser and Associates, 1988b, Hydrogeologic report, Pleasant Glade test well, City of Lacey, Washington: Seattle, Washington, Hart Crowser, unpaginated.

Hart Crowser and Associates, 1989a, Hydrogeologic report, Hawks Prairie production well, City of Lacey, Washington: Seattle, Washington, Hart Crowser, unpaginated.

Hart Crowser and Associates, 1989b, Hydrogeologic report, Long Lake test well, City of Lacey, Washington: Hart Crowser, unpaginated.

Harvey, R.W., and George, L.H., 1986, Bacterial distribution and transport in a plume of sewage-contaminated ground water, Cape Cod, Massachusetts, *in* Ragone, S.E., ed., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the second technical meeting Cape Cod, Massachusetts, October 21-25, 1985: U.S. Geological Survey Open-File Report 86-481, p. B-25 to B-26.

Harvey, R.W., George, L.H., Smith, R.L., LeBlanc, D.R., Garabedian, S.P., and Howes, B.L., 1987, Transport of bacteria through a contaminated freshwater aquifer, Cape Cod, Massachusetts, *in* Franks, B.J., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the third technical meeting, Pensacola, Florida, March 23-27, 1987: U.S. Geological Survey Open-File Report 87-109, p. B-29 to B-31.

Hasbrouck, W.P., 1986, Shallow shear-wave reflections within the Panoche Fan area, central San Joaquin Valley, California, *in* Surface and borehole geophysical methods and ground-water instrumentation conference and exposition, Denver, 1986: National Water Well Association, p. 437-448.

Haushild, W.L., and LaFrance, D.E., 1978, Low-flow characteristics of streams on the Olympic Peninsula, Washington: U.S. Geological Survey Open-File Report 77-812, 25 p.

Haushild, W.L., and Stoner, J.D, 1973, Predicted effects of proposed navigation improvements on residence time and dissolved oxygen of the salt wedge in the Duwamish River estuary, King County, Washington: U.S. Geological Survey Open-File Report, 15 p.

Heeley, R.W., and Marshall, B.A., 1985, The use of geophysical techniques in an accelerated search for ground water in the Connecticut River Valley, Massachusetts, *in* NWWA/EPA conference on surface and borehole geophysical methods in ground-water investigations, Fort Worth, 1985: National Water Well Association, p. 249-264.

Henry, George, Jr., 1984, Use of the gravity method in mapping bedrock topography, *in* Nielsen, D.M., and Curl, Mary, eds., NWWA/EPA conference on surface and borehole geophysical methods in ground water investigations, San Antonio, 1984: National Water Well Association, p. 220-236.

Hess, K.B., 1986, Sewage plume in a sand and gravel aquifer, Cape Cod, Massachusetts, *in* National Water Summary 1986: U.S. Geological Survey Water-Supply Paper 2325, p. 87-92.

Hess, K.M., Wolf, S.H., LeBlanc, D.R., Garabedian, D.P., and Celia, M.A., 1987, Natural-gradient tracer test in sand and gravel: Preliminary results of laboratory and field measurements of hydraulic conductivity, Cape Cod, Massachusetts, *in* Franks, B.J., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the third technical meeting, Pensacola, Florida, March 23-27, 1987: U.S. Geological Survey Open-File Report 87-109, p. B-23 to B-24.

Hess, P.J., 1986, Ground-water use in Canada, 1981: Environment Canada National Hydrology Research Institute Paper No. 28, 43 p.

Hidaka, F.T., 1972a, Low-flow characteristics of streams in the Puget Sound region, Washington: U.S. Geological Survey Open-File Report, 55 p.

Hidaka, F.T., 1972b, Low flows and temperatures of streams in the Seattle-Tacoma urban complex and adjacent areas, Washington: U.S. Geological Survey Open-File Report, basic-data contribution 1, 11 p.

Hidaka, F.T., 1973, Low-flow characteristics of streams in the Puget Sound region, Washington: U.S. Geological Survey Open-File Report, 55 p.

Hidaka, F.T., and Garrett, A.A., 1967, Evaluation of seepage from Chester Morse Lake and masonry pool, King County, Washington: U.S. Geological Survey Water-Supply Paper 1839-J, 26 p.

Higgins, G.T., and Hill, G.W., 1973, Analyses and summary of temperatures of streams in Washington prior to 1968: State of Washington Department of Ecology Miscellaneous Report No. 73-003, 139 p.

Hoekstra, Pieter, and Cline, Harold, 1986, Time domain electromagnetic (TDEM) soundings for deep ground water investigation, *in* Surface and borehole geophysical methods and ground water instrumentation conference and exposition, Denver, 1986: National Water Well Association, p. 241-258.

Huntley, David, and Black, R.F., 1979, Determination of hydrologic parameters for glacial tills in Connecticut: U.S. Department of Commerce, National Technical Information Service PB-297 578, 18 p.

Huntting, M.T., Bennett, W.A.G., Livingston, V.E., Jr., and Moen, W.S., 1961, Geologic map of Washington: Washington Division of Mines and Geology Geologic Map, scale 1:500,000, 2 sheets.

Hydrology and Hydraulics Committee, 1968, River mile index: Stillaguamish River, Skagit River, Samish River, Nooksack River, Puget Sound basin--British Columbia, Washington: Vancouver, Washington, Pacific Northwest River Basins Commission, 42 p.

Hydrology and Hydraulics Committee, 1969a, River mile index: Deschutes River, Nisqually River, Puyallup River, Green River, Lake Washington, Snohomish River, Puget Sound basin, Washington: Vancouver, Washington, Pacific Northwest River Basins Commission, 53 p.

Hydrology and Hydraulics Committee, 1969b, River mile index: Elwah River, Dungeness River, Little Quilcene River, Big Quilcene River, Dosewallips River, Duckabush River, Hamma Hamma River, Skokomish River, west Puget Sound basin, Washington: Vancouver, Washington, Pacific Northwest River Basins Commission, 21 p.

James, I.C., II, and LeBlanc, D.R., 1985, Movement and fate of contaminants from treated sewage infiltrated to ground water, Cape Cod, Massachusetts: U.S. Geological Survey Yearbook, Fiscal Year 1984, p. 99-102.

Johansson, Per-Olof, 1987, Estimation of groundwater recharge in sandy till with two different methods using groundwater level fluctuations: Journal of Hydrology 90, p. 183-198.

Johnson, D.G., 1987, Use of ground-penetrating radar for determining depth to the water table on Cape Cod, Massachusetts, *in* Proceedings of the first national outdoor action conference on aquifer restoration, ground-water monitoring and geophysical methods, Las Vegas, 1987: National Water Well Association, p. 541-554.

Jones, M.A., 1985, Occurrence of ground water and potential for seawater intrusion, Island County, Washington: U.S. Geological Survey Water-Resources Investigations Report 85-4046, 6 sheets.

Joseph, N.L., 1989, Geologic guide book for Washington and adjacent areas: Washington Division of Geology and Earth Resources Information Circular 86, 369 p.

Keller, C.K., Van Der Kamps, G., and Cherry, J.A., 1989, A multiscale study of the permeability of a thick clayey till: Water Resources Research, v. 25, no. 11, p. 2299-2317.

Kelliher, F.M., Black, T.A., and Price, D.T., 1986, Estimating the effects of understory removal from a Douglas fir forest using a two-layer canopy evapotranspiration model: Water Resources Research v. 22, no. 13, p. 1891-1899.

Keuler, R.F., 1980, Some potential effects of spilled petroleum on shorelines of the Port Townsend Quadrangle, central Puget Sound region, Washington: U.S. Geological Survey Open-File Report 80-724, 1 plate, 22 p.

Keys, S.W., 1988, Borehole geophysics applied to ground-water hydrology: U.S. Geological Survey Open-File Report 87-539, 305 p.

Kipp, K.L., 1987, Preliminary one-dimensional simulation of ammonium and nitrate in the Cape Cod sewage plume, *in* Franks, B.J., ed., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the third technical meeting, Pensacola, Florida, March 23-27, 1987: U.S. Geological Survey Open-File Report 87-109, p. B-43 to B-44.

Korsec, M.A., compiler, 1987a, Geologic map of the Mount Adams quadrangle, Washington: Washington Division of Geology and Earth Resources Open-File Report 87-5, scale 1:100,000, 1 plate, 39 p.

Korsec, M.A., compiler, 1987b, Geologic map of the Hood River quadrangle, Washington: Washington Division of Geology and Earth Resources Open-File Report 87-6, scale 1:100,000, 1 plate, 40 p.

Kriens, B.J., 1988, Tectonic evolution of the Ross Lake area, northwest Washington-southwest British Columbia: Cambridge, Massachusetts, Harvard University, Doctor of Philosophy thesis, 214 p.

Kunigk, W.A., 1934, The development of large capacity deep wells of Tacoma: Journal of American Water Works Association, v. 21, p. 1185-1195.

Laenen, Antonius, and Solin, G.L., 1978, Rainfall-runoff data for selected basins, Portland, Oregon, and Vancouver, Washington, 1973-77: U.S. Geological Survey Open-File Report 78-291, 48 p.

Landes, Henry, 1905, Preliminary report on the underground waters of Washington: U.S. Geological Survey Water-Supply Paper III, 85 p.

Lange, A.L., McEuen, R.B., and Gustafson, E.P., 1986, The application of active and passive electrical methods to ground-water monitoring, *in* Surface and borehole geophysical methods and ground water instrumentation conference and exposition, Denver, 1986: National Water Well Association, p. 87-116.

Lankston, R.W., Lankston, M.M., and West, L.M., 1985, Seismic profiling in the Cedar River Basin, western Washington, *in* NWWA/EPA conference on surface and borehole geophysical methods in ground-water investigations, Fort Worth, 1985: National Water Well Association, p. 146-164.

Lapham, W.W., 1989, Use of temperature profiles beneath streams to determine rates of vertical ground-water flow and vertical hydraulic conductivity: U.S. Geological Survey Water-Supply Paper 2337, 35 p.

Lea, P.D., 1984, Pleistocene glaciation at the southern margin of the Puget Lobe, western Washington: Seattle, Washington, University of Washington, Master of Science thesis, 96 p.

LeBlanc, D.R., ed., 1984a, Movement and fate of solutes in a plume of sewage-contaminated ground water, Cape Cod, Massachusetts: U.S. Geological Survey toxic waste ground-water contamination program, Tucson, 1984: U.S. Geological Survey Open-File Report 84-475, 180 p.

LeBlanc, D.R., 1984b, Sewage plume in a sand and gravel aquifer Cape Cod, Massachusetts: U.S. Geological Survey Water-Supply Paper 2218, 28 p.

LeBlanc, D.R., 1986, Abstract on preliminary results of a natural-gradient tracer test in a sand and gravel aquifer, Cape Cod, Massachusetts: EOS, Transactions, American Geophysical Union, v. 67, no. 16, p. 286.

LeBlanc, D.R., Garabedian, S.P., Quadri, R.D., Morin, R.H., Teasdale, W.E., and Paillet, F.L., 1986, Hydrologic controls on solute transport in a plume of sewage-contaminated ground water, Cape Cod, Massachusetts, *in* Ragone, S.E., ed., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the second technical meeting Cape Cod, Massachusetts, October 21-25, 1985: U.S. Geological Survey Open-File Report 86-481, p. B-7 to B-12.

LeBlanc, D.R., Garabedian, S.P., Wood, W.W., Hess, K.M., and Quadri, R.D, 1987, Natural-gradient tracer test in sand and gravel: Objective, approach, and overview of tracer movement, *in* Franks, B.J., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the third technical meeting, Pensacola, Florida, March 23-27, 1987: U.S. Geological Survey Open-File Report 87-109, p. B-9 to B-12.

Lee, D.R., 1977, A device for measuring seepage flux in lakes and estuaries: Limnology and Oceanography, v. 22, p. 140-147.

Lee, D.R., 1985, Method for locating sediment anomalies in lakebeds that can be caused by groundwater flow: Journal of Hydrology, v. 79, p. 187-193.

Liesch, B.A., 1955, Records of wells, water levels, and quality of ground water, Sammamish Lake area, King County, Washington: U.S. Geological Survey Open-File Report, 193 p.

Liesch, B.A., Price, C.E., and Walters, K.L., 1963, Geology and ground-water resources of northwestern King County, Washington: Washington Division of Water Resources Water-Supply Bulletin 20, 241 p.

Littler, J.D., Aden, J.T., and Johnson A.F., 1981, Survey of ground-water and surface-water quality for the Chambers Creek/Clover Clark drainage basin: Washington State Department of Social and Health Services, Health Services Division of Water Supply and Waste Section LD-11, 103 p.

Livingston, V.E., Jr., 1971, Geology and mineral resources of King County, Washington: U.S. Geological Survey Bulletin 63, 6 plates, 200 p.

Logan, R.L., compiler, 1987a, Geologic map of the Chehalis River and Westport quadrangles, Washington: Washington Division of Geology and Earth Resources Open-File Report 87-8, scale 1:100,000, 1 plate, 16 p.

Logan R.L., compiler, 1987b, Geologic map of the south half of the Shelton and the south half of the Copalis Beach quadrangle, Washington: Washington Division of Geology and Earth Resources Open-File Report 87-9, scale 1:100,000, 1 plate, 15 p.

Lum, W.E., II, 1979, Water resources of the Port Madison Indian Reservation, Washington: U.S. Geological Survey Water-Resources Investigations Report 78-112, 73 p.

Lum, W.E., II, 1980, Water resources of the Port Gamble Indian Reservation, Washington: U.S. Geological Survey Water-Resources Investigations Report 79-66, 52 p.

Lum, W.E., II, 1984, Availability of ground water from the alluvial aquifer on the Nisqually Indian Reservation, Washington: U.S. Geological Survey Water-Resources Investigations Report 83-4185, 42 p.

Lum, W.E., II, Alvord, R.C., and Drost, B.W., 1984, Availability of water from the alluvial aquifer in part of the Green River valley, King County, Washington: U.S. Geological Survey Water-Resources Investigations Report 83-4178, 40 p.

Lum, W.E., II, and Turney, G.L., 1985, A preliminary evaluation of hydrology and water quality near the Tacoma landfill, Pierce County, Washington: U.S. Geological Survey Water-Resources Investigations Report 84-4351, 35 p.

Lum, W.E., II, and Walters, K.L., 1976, Reconnaissance of ground-water resources of the Squaxin Island Indian Reservation, Washington: U.S. Geological Survey Open-File Report 76-382, 49 p.

Luzier, J.E., 1964, Ground-water supply for Mount Rainier National Park headquarters site near Ashford, Washington: U.S. Geological Survey Open-File Report, 26 p.

Luzier, J.E., 1969, Geology and ground-water resources of southwestern King County, Washington: Washington Department of Water Resources Water-Supply Bulletin 28, 260 p.

MacLeod, N.S., Tiffin, D.L., Snavely, P.D., Jr., and Currie, R.G., 1977, Geologic interpretation of magnetic and gravity anomalies in the Strait of Juan de Fuca, U.S.--Canada: Canadian Journal of Earth Science, v. 14, p. 223-238.

Mangum, A.W., and others, 1912, Reconnaissance soil survey of the western part of the Puget Sound basin, Washington, *in* Field operations of the Bureau of Soils 1910: U.S. Department of Agriculture, Bureau of Soils Twelfth Report, p. 1491-1545, 4 maps.

Manson, C.J., 1984, Index to geological and geophysical mapping of Washington 1899-1983: Washington Division of Geology and Earth Resources Information Circular 77, 83 p.

Manson, C.J., 1986, Thesis on Washington geology 1901-1985: Washington Division of Geology and Earth Resources Information Circular 80, 409 p.

Manson, C.J., 1988, Seismic hazards of western Washington and selected adjacent areas--bibliography and index 1955, June 1988: Washington Division of Geology and Earth Resources Open-File Report 88-4, 1039 p.

McDonald, M.G., and Harbaugh, A.W., 1984, A modular three-dimensional finite-difference ground-water flow model: U.S. Geological Survey Techniques of Water-Resources Investigations Book 6, Chapter A1, 528 p.

McFarland, C.R., 1981, Oil and gas exploration in Washington 1900-1981: Washington Department of Natural Resources Information Circular 67R, 119 p.

McNaughton, K.G., and Black, T.A., 1973, A study of evapotranspiration from a Douglas fir forest using the energy balance approach: Water Resources Research, v. 9., no. 6, p. 1579-1590.

Miller, R.D., and Pessl, Fred, Jr., 1986, Map showing unconsolidated deposits grouped on the basis of texture, Port Townsend quadrangle, Puget Sound region, Washington: U.S. Geological Survey Miscellaneous Investigations Map I-1198-D, scale 1:100,000, 1 plate.

Molenaar, Dee, 1961, Flowing artesian wells in Washington State: Washington Division of Water Resources Water-Supply Bulletin 16, 115 p.

Molenaar, Dee, and Cummans, J.E., 1973, Water resources of the Skokomish Indian Reservation, Washington: U.S. Geological Survey Open-File Report, 58 p.

Molenaar, Dee, Grimstad, Peder, and Walters, K.L., 1980, Principal aquifers and well yields in Washington: Washington Department of Ecology Geohydrologic Multicolor Monograph 5, scale 1:1,000,000, 1 plate.

Molenaar, Dee, and Noble, J.B., 1970, Geology and related ground-water occurrence, southeastern Mason County, Washington: Washington Department of Water Resources Water-Supply Bulletin 29, 145 p.

Morrissey, D.J., Haeni, F.P., and Tepper, D.H., 1985, Continuous seismic-reflection profiling of a glacial-drift deposit on the Saco River, Maine and New Hampshire, *in* The second annual eastern regional ground water conference Portland, Maine, July 16-18, 1985: National Water Well Association, p. 277-296.

Muffler, L.J.P., Weaver, C.S., and Blackwell, D.D., eds., 1989, Proceedings of workshop XLIV Geological, geophysical and tectonic setting of the Cascade Range: U.S. Geological Survey Open-File Report 89-178, 706 p.

Mullineaux, D.R., 1965, Renton quadrangle, King County, Washington: U.S. Geological Survey Map GQ-405, scale 1:24,000, 1 plate.

Mundorff, M.J., 1964, Geology and ground-water resources of Clark County, Washington, with a description of a major alluvial aquifer along the Columbia River: U.S. Geological Survey Water-Supply Paper 1600, 268 p.

Mundorff, M.J., Weigle, J.M., and Holmberg, G.D., 1955, Ground water in the Yelm area, Thurston and Pierce Counties, Washington: U.S. Geological Survey Circular 356, 58 p.

Myers, D.A., 1970, Availability of ground water in western Cowlitz County, Washington: Washington Department of Ecology Water-Supply Bulletin 35, 63 p.

Myers, D.A., and Cummans, J.E., 1973, Water resources of the Nisqually Indian Reservation, Washington: U.S. Geological Survey Open-File Report, 30 p.

Nassar, E.G., 1973, Low-flow characteristics of streams in the Pacific Slope basins and lower Columbia River basin, Washington: U.S. Geological Survey Open-File Report, 68 p.

Nelson, L.M., 1971, Sediment transport by streams in the Snohomish River basin, Washington, October 1967 - June 1969: U.S. Geological Survey Open-File Report, 44 p.

Nelson, L.M., 1974, Sediment transport by streams in the Deschutes and Nisqually River basins, Washington, November 1971 - June 1973: U.S. Geological Survey Open-File Report, 73 p.

Newcomb, R.C., 1947, Ground water of the south bar area, Grays Harbor, Washington: U.S. Geological Survey Open-File Report, 12 p.

Newcomb, R.C., 1952, Ground-water resources of Snohomish County, Washington: U.S. Geological Survey Water-Supply Paper 1135, 133 p.

Newcomb, R.C., Sceva, J.E., and Stromme, Olaf, 1949, Ground-water resources of western Whatcom County, Washington: U.S. Geological Survey Open-File Report, 134 p.

Noble, J.B., 1960, A preliminary report on geology and ground-water resources of the Sequim-Dungeness area, Clallam County, Washington: Washington Division of Water Resources Water-Supply Bulletin 11, 43 p.

Noble, J.B., and Wallace, E.F., 1966, Geology and ground-water resources of Thurston County, Washington: Washington Division of Water Resources Water-Supply Bulletin 10, v. 2, 141 p.

Nnyamah, J.U., and Black, T.A., 1977, Rates and patterns of water uptake in a Douglas-fir forest: Soil Science Society, American Journal, v. 41, p. 972-979.

O'Brien, K.M., and Stone, W.J., 1985, Role of geological and geophysical data in modeling an alluvial basin, southwest New Mexico, *in* NWWA/EPA conference on surface and borehole geophysical methods in ground-water investigations, Fort Worth, 1985: National Water Well Association, p. 198-214

Olmstead, T.L., 1969, Geotechnical aspects and engineering properties of glacial till in the Puget Lowland, Washington, *in* Proceedings of the 7th Annual Engineering Geology and Soils Engineering Symposium: Moscow, Idaho, p. 223-233.

Pacific Northwest River Basins Commission, 1970, Comprehensive framework study of water and related lands, Appendix V, v. 2, Water resources: Vancouver, Washington, 1022 p.

Pacific Northwest River Basins Commission, 1971a, Comprehensive framework study of water and related lands, Appendix VII, Flood control: Vancouver, Washington, 396 p.

Pacific Northwest River Basins Commission, 1971b, Comprehensive framework study of water and related lands, Appendix VIII, Land measures and watershed protection: Vancouver, Washington, 725 p.

Pacific Northwest River Basins Commission, 1971c, Comprehensive framework study of water and related lands, Appendix IX, Irrigation: Vancouver, Washington, 343 p.

Pacific Northwest River Basins Commission, 1971d, Comprehensive framework study of water and related lands, Appendix XI, Municipal and industrial water supply: Vancouver, Washington, 256 p.

Pacific Northwest River Basins Commission, 1972, Comprehensive framework study of water and related lands, Appendix XVI, Comprehensive framework plans: Vancouver, Washington, 592 p.

Pacific Northwest River Basins Commission, 1981, Irrigated lands in the Pacific Northwest, 1980: Vancouver, Washington, unpaginated.

Pardee, J.T., 1931, Report on the occurrence of artesian water at the United States Navy Yard, Kitsap County, Washington: U.S. Geological Survey Open-File Report, 10 p.

Parker, G.G., Jr., 1971, Municipal, industrial, and irrigation water use in Washington, 1970: U.S. Geological Survey Open-File Report, 21 p.

Parker, G.G., Jr., 1974a, Public water supplies in the Seattle-Tacoma urban complex and adjacent areas, Washington: U.S. Geological Survey Open-File Report, Basic-Data Contribution 3, 1 pl.

Parker, G.G., Jr., 1974b, Surface-water investigations on the Lummi Indian Reservation, Washington: U.S. Geological Survey Open-File Report, 69 p.

Parker, G.G., Jr., 1974c, Urbanized areas served by sewers and septic tanks in the Seattle-Tacoma urban complex and adjacent areas, Washington: U.S. Geological Survey Open-File Report, Basic-Data Contribution 4, 1 pl.

Parker, G.L., and Lasley, Lee, 1923, Summary of Hydrometric data in Washington, 1878-1919: U.S. Geological Survey Water-Supply Paper 492, 363 p.

Pearson, H.E., and Dion, N.P., 1979, Water resources of the Nisqually Lake area, Pierce County, Washington: U.S. Geological Survey Water-Resources Investigations Report 78-101, 34 p.

Pessl, Fred, Jr., 1982, Unpublished preliminary draft copy of the depth to bedrock in the Port Townsend 30-by-60 minute quadrangle, Washington: U.S. Geological Survey, scale 1:100,000, 1 plate.

Pessl, Fred, Jr., Dethier, D.P., Booth, D.B., and Minard, J.P., 1989, Surficial geologic map of the Port Townsend 30-by-60 minute quadrangle, Puget Sound Region, Washington: U.S. Geological Survey, Miscellaneous Investigations Series Map I-1198-F, scale 1:100,000, 1 plate.

Petersen, R.C., Wagner, J.R., Hemphill-Haley, M.A., Weller, L.N., Kilbury, R., and Champlin, J.B.F., 1986, Resistivity mapping of a complex aquifer system at a hazardous waste site in the Salinas Valley, California, *in* Surface and borehole geophysical methods and ground water instrumentation conference and exposition, Denver, 1986: National Water Well Association, p. 187-202.

Phillips, W.M., compiler, 1987a, Geologic map of the Mount St. Helens quadrangle, Washington: Washington Division of Geology and Earth Resources Open-File Report 87-4, scale 1:100,000, 1 plate, 59 p.

Phillips, W.M., compiler, 1987b, Geologic map of the Vancouver quadrangle, Washington: Washington Division of Geology and Earth Resources Open-File 87-10, scale 1:100,000, 1 plate, 41 p.

Piper, A.M., 1930, Water supply of the United States Penitentiary at McNeil Island, Washington: U.S. Geological Survey Open-File Report, 52 p.

Piper, A.M., and Larocque, G.A., Jr., 1938, Ground water in the Tacoma area, Washington, progress report no. 1: U.S. Geological Survey Open-File Report, 105 p.

Price, D.T., Black, T.A., and Kelliher, F.M., 1985, Effects of salal understory removal on photosynthetic rate and stomatal conductance of young Douglas-fir trees: Canadian Journal Forest Research, v. 16, p. 90-97.

Price, Don, Hart, D.H., and Foxworthy, B.L, 1965, Artificial recharge in Oregon and Washington, 1962: U.S. Geological Survey Water-Supply Paper 1594-C, 65 p.

Prych, E.A., and Ebbert, J.C., 1986, Quantity and quality of storm runoff from three urban catchments in Bellevue, Washington: U.S. Geological Survey Water-Resources Investigations Report 86-4000, 85 p.

Puget Sound Water Quality Authority, 1989, Puget Sound water quality management plan: State of Washington, Puget Sound Water Quality Authority, 270 p.

Randall, A.D., and Johnson, I.A., eds., 1988, Regional aquifer systems of the United States, the northeast glacial aquifers, Syracuse, 1987: American Water Resources Association Monograph Series no. 11, 156 p.

Reichert, W.H., 1978, Annotated guide to sources of information on the geology, minerals, and ground-water resources of the Puget Sound region, Washington, King County section: Washington Department of Natural Resources Information Circular 61, 63 p.

Reynolds, R.J., and Williams, H.H., 1988, Continuous seismic-reflection profiling of glacial drift along the Susquehanna, Chemung, and Chenango Rivers, south-central New York and north-central Pennsylvania, *in* Randall, A.D., and Johnson, I.A., eds., Regional aquifer systems of the United States, the northeast glacial aquifers, Syracuse, 1987: American Water Resources Association Monograph Series no. 11, p. 83-103.

Richardson, Donald, 1962, Drainage-area data for western Washington: U.S. Geological Survey Open-File Report, 244 p.

Richardson, Donald, 1965, Effect of logging on runoff in upper Green River basin, Washington: U.S. Geological Survey Open-File Report, 45 p.

Richardson, Donald, Bingham, J.W., and Madison, R.J., 1968, Water resources of King County, Washington: U.S. Geological Survey Water-Supply Paper 1852, 74 p.

Ritzi, R.W., Jr., 1983, The hydrogeologic setting and water resources of Vashon and Maury Islands, King County, Washington: Dayton, Ohio, Wright State University, Master of Science thesis, 115 p.

Ritzi, R.W., Schmidt, R.G., and Carr, J.R., 1983, Using computer methods in island water resource management, Vashon and Maury Island, Washington, *in* Nielsen, D.M., and Aller, Linda, eds., Proceedings of the NWWA western regional conference on ground water management, San Diego, 1983: National Water Well Association p. 304-312

Roberts, R.W., 1974, Marine sedimentological data of the inland waters of Washington State (Strait of Juan De Fuca and Puget Sound): Seattle, Washington, University of Washington, Department of Oceanography, Special Report no. 56, 120 p.

Robinson, J.W., 1946, Typical wells and springs of the Tacoma area, Washington: U.S. Geological Survey Open-File Report, 37 p.

Robinson, J.W., and Piper, A.M., 1942, Water levels in observation wells and stages of certain lakes of the Tacoma area, Washington: U.S. Geological Survey Open-File Report, 277 p.

Roddick, J.A., Muller, J.E., and Okulitch, A.V., 1979, Fraser River, British-Columbia-Washington: Geological Survey of Canada Map 1386A, scale 1:100,000, 2 plates, sheet 92.

Rogers, W.P., 1970, A geological and geophysical study of the central Puget Sound lowland: Seattle, Washington, University of Washington, Doctor of Philosophy thesis, 9 plates, 123 p.

Sabol, M.A., Turney, G.L., and Ryals, G.N., 1988, Evaluation of available data on the geohydrology, soil chemistry, and groundwater chemistry of Gas Works Parks and surrounding region, Seattle, Washington: U.S. Geological Survey Water-Resources Investigations Report 87-4045, 49 p.

Salisbury and Dietz, Inc., 1980, Geology of the Concrete quadrangle, Washington: U.S. Department of Energy, scale 1:250,000, 1 plate.

Santos, J.F., and Stoner, J.D., 1972, Physical, chemical, and biological aspects of the Duwamish River estuary, King County, Washington: U.S. Geological Survey Water-Supply Paper 1873-C, 74 p.

Sapik, D.B., 1988, Documentation of a steady-state saltwater-intrusion model for three-dimensional ground-water flow, and users guide: U.S. Geological Survey Open-File Report 87-526, 174 p.

Sapik, D.B., Bortleson, G.C., Drost, B.W., Jones, M.A., and Prych, E.A., 1989, Ground-water resources and simulation of flow in aquifers containing freshwater and seawater, Island County, Washington: U.S. Geological Survey Water-Resources Investigations Report 87-4182, 4 sheets.

Sceva, J.E., 1950, Preliminary report on the ground-water resources of southwestern Skagit County, Washington: U.S. Geological Survey Open-File Report, 40 p.

Sceva, J.E., 1957, Geology and ground-water resources of Kitsap County, Washington: U.S. Geological Survey Water-Supply Paper 1413, 178 p.

Sceva, J.E., Wegner, D.E., and others, 1955, Records of wells and springs, water levels, and quality of ground water in central Pierce County, Washington: U.S. Geological Survey Open-File Report, 261 p.

Schasse, H.W., compiler, 1987a, Geologic map of the Centralia quadrangle, Washington: Washington Division of Geology and Earth Resources Open-File Report 87-11, scale 1:100,000, 1 plate, 28 p.

Schasse, H.W., compiler, 1987b, Geologic map of the Mount Rainier quadrangle, Washington: Washington Division of Geology and Earth Resources Open-File Report 87-16, scale 1:100,000, 1 plate, 46 p.

Shannon and Wilson, Inc., 1986, Conceptual hydrocarbon recovery plan, contaminant area "C", McChord Air Force Base: Shannon and Wilson Inc., 18 p.

Signor, D.C., Growitz, D.J., and Kam, William, 1970, Annotated bibliography on artificial recharge of ground water, 1955-67: U.S. Geological Survey Water-Supply Paper 1990, 141 p.

Skibitzke, H.E., and Bowen, R.A., 1983, Present-day modeling of source and direction of ground water movement, *in* Nielsen, D.M., and Aller, Linda, eds., Proceedings of the NWWA western regional conference on ground-water management, San Diego, 1983: National Water Well Association, p. 95-103.

Skoda, L., and Robertson, J.C., compilers, 1973, Water use Strait of Georgia–Puget Sound Basin: Environment Canada Lands Directorate, Environmental Management Services, Ottawa, Canada, scale 1:500,000, 1 plate.

Smith, Mackey, 1972, Stratigraphy and chronology of the Tacoma area, Washington: Bellingham, Washington, Western Washington State College Master of Science thesis, 38 p.

Snavely, P.D., Jr., 1988, Tertiary geologic framework, neotectonics, and petroleum potential of the Oregon-Washington continental margin, *in* Scholl, D.S., Grantz, A., and Vedder, J.G., eds., Geology and resource potential of the continental margin of western North America and adjacent ocean basins - Beaufort Sea to Baja, California: Circum-Pacific Council for Energy and Mineral Resources Earth Science Series 6, p. 305-335.

Snavely, P.D., Jr., Gower, H.D., and Yount, J.C., 1976, High resolution seismic profiles adjacent to Whidbey and Fidalgo Islands, Washington: U.S. Geological Survey Open-File Report 76-187, 1 plate, no interpretation.

Snavely, P.D., Jr., Gower, H.D., Yount, J.C., Tagg, A.R., Lee, J.W., and Lander, D.R., 1977, High resolution seismic profiles in Hood Canal and southern Puget Sound, Washington: U.S. Geological Survey Open-File Report 77-195, 2 plates, no interpretation, 1 p.

Snohomish County, 1974, Water quality management plan for the Stillaquamish River basin, Volume II: Snohomish County, Washington, 136 p.

Spence, William, 1988, Anomalous subduction and the origins of stresses at Cascadia: A review, *in* Hays, W.W., ed., Workshop on "Evaluation of Earthquake Hazards and Risk in the Puget Sound and Portland areas": U.S. Geological Survey Open-File Report 88-541, p. 114-148.

Spittlehouse, D.L., and Black, T.A., 1979, Determination of forest evapotranspiration using Bowen ratio and eddy correlation measurements: Journal of Applied Meteorology, v. 18, no. 5, p. 647-653.

Spittlehouse, D.L., and Black, T.A., 1981a, A growing season water balance model applied to two Douglas fir stands: Water Resources Research, v. 17, no. 6, p. 1651-1656.

Spittlehouse, D.L., and Black, T.A., 1981b, Measuring and modeling forest evapotranspiration: Canadian Journal of Chemical Engineering, v. 59, p. 173-180.

Stephenson, G.R., and Freeze, R.A, 1974, Mathematical simulation of subsurface flow contributions to snowmelt runoff, Reynolds Creek Watershed, Idaho: Water Resources Research, v. 10., no. 2, p. 284-294.

Stewart, J.E., and Bodhaine, G.L., 1961, Floods in Skagit River basin, Washington: U.S. Geological Survey Water-Supply Paper 1527, 66 p.

Stierman, D.J., Ruedisili, L.C., and Stangl, J.M., 1986, The application of surface geophysics to mapping hydrogeologic conditions of a glaciated area in northwest Ohio, *in* Surface and borehole geophysical methods and ground-water instrumentation conference and exposition, Denver, 1986: National Water Well Association, p. 581-599.

Stoffel, K.L., 1981, Stratigraphy of pre-Vashon Quaternary sediments applied to the evaluation of a proposed major tectonic structure in Island County, Washington: U.S. Geological Survey Open-File Report 81-2921, 53 p.

Stollenwerk, K.G., and Grove, D.B., 1987, Natural-gradient tracer test in sand and gravel: Nonconservative transport of molybdenum, Cape Cod, Massachusetts, *in* Franks, B.J., ed., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the third technical meeting, Pensacola, Florida, March 23-27, 1987: U.S. Geological Survey Open-File Report 87-109, p. B-19 to B-22.

Stoner, J.D., 1972, Determination of mass balance and entrainment in the stratified Duwamish River estuary, King County, Washington: U.S. Geological Survey Water-Supply Paper 1873-F, 17 p.

Strahorn, A.T., and Watson, E.B., 1915, Soil survey of the Hood River-White Salmon River area, Oregon-Washington, *in* Field operations of the Bureau of Soils 1912: U.S. Department of Agriculture Bureau of Soils Fourteenth Report, p. 2047-2064.

Stuart, D.J., 1965, Gravity data and bouguer-gravity map for western Washington: U.S. Geological Survey Open-File Report, scale 1:500,000, 1 plate, 52 p.

Sumioka, S.S., and Dion, N.P., 1985, Trophic classification of Washington lakes using reconnaissance data: Washington Department of Ecology Water-Supply Bulletin 57, 320 p.

Sweet, Edwards, and Associates, 1986, Evaluation of recharge potential and existing facilities and sites, supplement to groundwater recharge proposal, South Tacoma Channel: Tacoma, Washington, Sweet, Edwards and Associates, unpaginated.

Swift, C.H., III, 1976, Estimation of stream discharges preferred by steelhead trout for spawning and rearing in western Washington: U.S. Geological Survey Open-File Report 75-155, 50 p.

Swift, C.H., III, 1979, Preferred stream discharges for salmon spawning and rearing in Washington: U.S. Geological Survey Open-File Report 77-422, 51 p.

Sugden, D.E., and John, B.S., 1976, Glaciers and landscape: New York, John Wiley and Sons, 375 p.

Tabor, R.W., Booth, D.B., Vance, J.A., Ford, A.B., and Ort, M.H., 1989, Geological map of the Sauk River 30-by-60 minute quadrangle, Washington: U.S. Geological Survey Open-File Report 88-692, scale 1:100,000, 2 sheets, 50 p.

Tabor, R.W., and Cady, W.M., 1978, Geologic map of the Olympic Peninsula, Washington: U.S. Geological Survey Miscellaneous Investigations Series Map I-994, scale 1:125,000, 2 sheets.

Tabor, R.W., Frizzell, V.A., Jr., Booth, D.B., Whetten, J.T., Waitt, R.B., Jr., and Zartman, R.E., 1982, Geologic map of the Skykomish River quadrangle, Washington: U.S. Geological Survey Open-File Report 82-747, scale 1:100,000, 1 sheet, 31 p.

Tabor, R.W., Yeats, R.S, and Sorensen, M.L., 1972, Geologic map of the Mount Angeles quadrangle, Calallam and Jefferson Counties, Washington: U.S. Geological Survey Quadrangle Map GQ-958, scale 1:62,000, 1 sheet.

Tan, C.S., and Black, T.A., 1976, Factors affecting the canopy resistance of a Douglas-fir forest: Boundary-Layer Meteorology, v. 10, p. 475-488.

Thorson, R.M., 1979, Isostatic effects of the last glaciation in the Puget lowland, Washington: Seattle, Washington, University of Washington, Doctor of Philosophy thesis, 154 p.

Thorson, R.M., 1980, Ice-sheet glaciation of the Puget lowland, Washington, during the Vashon Stade (late Pleistocene): Quaternary Research, v. 13, no. 3, p. 303-321.

Thorson, R.M., 1989, Glacio-isostatic response of the Puget Sound area, Washington: Geological Society of America Bulletin, v. 101, p. 1163-1174.

Thurman, E.M., 1987, A conceptual chemical process model for sewage contamination of a sand and gravel aquifer: U.S. Geological Survey program on toxic waste--ground-water contamination, *in* Franks, B.J., U.S. Geological Survey program on toxic waste--ground-water contamination: Proceedings of the third technical meeting, Pensacola, Florida, March 23-27, 1987: U.S. Geological Survey Open-File Report 87-109, p. B-37 to B-42.

Thurman, E.M., Barber, L.B., II, and LeBlanc, D.R., 1985, Movement and fate of detergents in ground water; A field study: Contaminant Hydrology, v. 1, no. 1, p. 143-161.

Todd, M.R., 1939, The glacial geology of the Hamma Hamma Valley and its relation to the glacial history of the Puget Sound basin: Seattle, Washington, University of Washington, Master of Science thesis, 48 p.

Tracy, J.V., 1978, Ground-water resources of the North Beach Peninsula, Pacific County, Washington: U.S. Geological Survey Open-File Report 77-647, 45 p.

Tracy, J.V., and Dion, N.P., 1976, Evaluation of ground-water contamination from cleaning explosive projectile casings at the Bangor Annex, Kitsap County, Washington, phase II: U.S. Geological Survey Water-Resources Investigations Report 62-75, 44 p.

Turney, G.L., and Goerlitz, D.F., 1988. Ground-water contamination at an inactive coal and oil gasification plant site, Gas Works Park, Seattle, Washington: U.S. Geological Survey Water-Resources Investigations Report 88-4224, 31 p.

U.S. Department of Commerce, 1964, United States census of agriculture, v. 1, Counties and state economic areas: U.S. Department of Commerce, 389 p.

U.S. Department of Commerce, 1987, Preliminary bathymetric maps for Puget Sound: U.S. Department of Commerce National Oceanic and Atmospheric Association, scale 1:100,000, 8 plates.

U.S. Department of Housing and Urban Development, 1977, Flood insurance study, Whatcom County, Washington: U.S. Department of Housing and Urban Development Federal Insurance Administration, 27 p.

U.S. Geological Survey, 1949, Index of surface-water records, part 12, Pacific Slope basins in Washington and upper Columbia River basin, to September 30, 1938: U.S. Geological Survey Circular 60, 17 p.

U.S. Geological Survey, 1951, Index of surface water records, part 12, Pacific Slope basins in Washington and upper Columbia River basin, to September 30, 1950: U.S. Geological Survey Circular 102, 19 p.

U.S. Geological Survey, 1964, Compilation of records of surface waters of the United States, October 1950 to September 1960--Part 12: U.S. Geological Survey Water-Supply Paper 1736, 415 p.

U.S. Geological Survey, 1971, An evaluation of ground-water conditions in the vicinity of the Bel Bay development, Lummi Indian Reservation, Washington: U.S. Geological Survey Open-File Report, 29 p.

U.S. Geological Survey, 1976, Hydrologic unit map-1974, State of Washington: U.S. Geological Survey Hydrologic Unit Map-1974, scale 1:500,000, 1 sheet.

U.S. Geological Survey, 1977, Aeromagnetic map of northern and eastern parts of the Puget Sound area, Washington: U.S. Geological Survey, scale 1:100,000, 1 plate.

U.S. Geological Survey, 1979a, Land use and land cover, 1975, Tacoma, Washington: U.S. Geological Survey Land Use Series Map L-1, scale 1:100,000, 1 plate.

U.S. Geological Survey, 1979b, Land use and land cover, 1973-75, Port Townsend, Washington: U.S. Geological Survey Land Use Series Map L-2, scale 1:100,000, 1 plate.

U.S. Geological Survey, 1979c, Land use and land cover, 1973-74, Bellingham, Washington: U.S. Geological Survey Land Use Series Map L-3, scale 1:100,000, 1 plate.

U.S. Geological Survey, 1979d, Land use and land cover, 1975, Seattle, Washington: U.S. Geological Survey Land Use Series Map L-4, scale 1:100,000, 1 plate.

U.S. Geological Survey, 1980a, Land use and land cover, 1973, Cape Flattery, Washington, United States; British Columbia, Canada: U.S. Geological Survey Land Use Series Map L-117, scale 1:250,000, 1 plate.

U.S. Geological Survey, 1980b, Land use and land cover, 1973 Copalis Beach, Washington; Oregon: U.S Geological Survey Land Use Series Map L-119, scale 1:125,000, 1 plate.

U.S. Geological Survey, 1980c, Land use and land cover, 1973-1976, Concrete, Washington: U.S. Geological Survey Land Use Series Map L-178, scale 1:250,000, 1 plate.

U.S. Geological Survey, no date-a, Annual ground water levels and artesian pressure in observation wells in the United States, part 5, Northwestern states: U.S. Geological Survey Water-Supply Papers, Government printing office.

U.S. Geological Survey, no date-b, Annual ground- and surface-water supply in the United States, part 12, Pacific Slope basins in Washington and upper Columbia River basin: Water-Supply Papers, Government printing office.

Van Denburgh, A.S., 1965, Chemical distinction between ground water of four sedimentary units on the Kitsap Peninsula and adjacent islands, Washington: U.S. Geological Survey Professional Paper 525-d, p. D219.

Van Denburgh, A.S., and Santos, J.F., 1965, Ground water in Washington: Its chemical and physical quality: Washington Division of Water Resources Water-Supply Bulletin 24, 93 p.

Vanderwal, K.S., 1985, Compositional and textural variations in the Vashon till and underlying drifts in the northern and central Puget lowland, Washington: Seattle Washington, University of Washington, Master of Science thesis, 110 p.

Van Winkle, Walton, 1914, Quality of the surface waters of Washington: U.S. Geological Survey Water-Supply Paper 339, 105 p.

Veatch, F.M., Kimmel, G.E., and Johnston, E.A., 1966, Surface- and ground-water conditions during 1959-61 in part of Flett Creek basin, Tacoma, Washington: U.S. Geological Survey Open-File Report, 45 p.

Voss, C.I., 1984, SUTRA, saturated-unsaturated transport, a finite-element simulation model for saturated-unsaturated fluid-density-dependent ground-water flow with energy transport or chemically-reactive single-species solute transport: U.S. Geological Survey Water-Resources Investigations Report 84-4369, 409 p.

Waldron, H.H., 1961, Geology of the Poverty Bay quadrangle, Washington: U.S. Geological Survey Map GQ-158, scale 1:24,000, 1 plate.

Waldron, H.H., 1962, Geology of the Des Moines quadrangle, Washington: U.S. Geological Survey Map GQ-374, scale 1:62,500, 1 plate.

Waldron, H.H., 1967, Geology of the Duwamish Head quadrangle, King and Kitsap Counties, Washington: U.S. Geological Survey Map GQ-706, scale 1:24,000, 1 plate.

Wallace, E.F., and Molenaar, Dee, 1961, Geology and ground-water resources of Thurston County, Washington, v. 1: Washington Division of Water Resources Water-Supply Bulletin 10, 254 p.

Walsh, T.J., compiler, 1987, Geologic map of the south half of the Tacoma quadrangle, Washington: Washington Division of Geology and Earth Resources Open-File Report 87-3, scale 1:100,000, 1 plate, 10 p.

Walsh, T.J., Korosec, M.A., Phillips, W.M., Logan, R.L., and Schasse, H.W., 1987, Geologic map of Washington--southwest quadrant: Washington State Department of Natural Resources Geological Map GM-34, scale 1:100,000, 1 plate, 28 p.

Walters, K.L., 1963, Highly productive aquifers in the Tacoma area, Washington, *in* Geological Survey research, 1963, short papers in geology, hydrology, and topography: U.S. Geological Survey Professional Paper 450-E, p. E157 to E158.

Walters, K.L., 1965, Ground-water supply for a new Navy installation at Zelatched Point, Jefferson County, Washington: U.S. Geological Survey Open-File Report, 45 p.

Walters, K.L., 1970, Water supplies for selected sites in Olympic National Park, Washington: U.S. Geological Survey Open-File Report, 72 p.

Walters, K.L., 1971, Reconnaissance of sea-water intrusion along coastal Washington, 1966-68: Washington Department of Ecology Water-Supply Bulletin 32, 208 p.

Walters, K.L., Haushild, W.L., and Nelson, L.M., 1979, Water resources of the Lower Elwha Indian Reservation, Washington: U.S. Geological Survey Water-Resources Investigations Report 79-82, 55 p.

Walters, K.L., and Kimmel, G.E., 1968, Ground-water occurrence and stratigraphy of unconsolidated deposits, central Pierce County, Washington: Washington Department of Water Resources Water-Supply Bulletin 22, 428 p.

Walters, R.A., and Meier, M.F., 1989, Variability of glacier mass balance in western North America, *in* Peterson, D.H., ed., Aspects of climate variability in the Pacific and western Americas, Geophysical Monograph 55: American Geophysical Union, p. 365-374.

Washburn, R.L., 1954, Preliminary investigation of ground water in East Sound area, Orcas Island, San Juan County, Washington: U.S. Geological Survey Open-File Report, 26 p.

Washburn, R.L., 1957, Ground water in the Lummi Indian Reservation, Whatcom County, Washington: U.S. Geological Survey Open-File Report, 31 p.

Washington Department of Ecology, 1975, Geology and water resources of the San Juan Islands, San Juan County, Washington: Washington Department of Ecology Water-Supply Bulletin 46, 171 p.

Washington Department of Ecology, 1981, Inventory of dams in the State of Washington: Washington State Department of Ecology, WDOE-81-18, 142 p.

Washington Division of Water Resources, 1960, Water resources of the Nooksack River basin and certain adjacent streams: Washington Division of Water Resources Water-Supply Bulletin 12, 187 p.

Washington Division of Water Resources, 1964, Miscellaneous stream-flow measurements in the State of Washington, 1890 to January 1961: Washington Division of Water Resources Water-Supply Bulletin 23, 292 p.

Washington Public Supply System, 1981, Final safety analysis report, Chapter 2.5 Geology, and seismology figure 2.5-2: Washington Public Supply System, 1 sheet.

Watkins, F.A., 1951, Water levels and artesian pressure in observation wells in the United States in 1948, part 5, Northwestern states, Washington: U.S. Geological Survey Water-Supply Paper 1130, p. 150-167.

Weaver, C.E., 1937, Tertiary stratigraphy of western Washington and northwestern Oregon: University of Washington Publications in Geology, v. 4, 166 p.

Wegner, D.E., 1956, Preliminary investigation of ground water in the Grayland watershed, Grays Harbor and Pacific Counties, Washington: U.S. Geological Survey Open-File Report, 32 p.

Weigle, J.M., and Foxworthy, B.L., 1962, Geology and ground-water resources of west-central Lewis County, Washington: Washington Division of Water Resources Water-Supply Bulletin 17, 248 p.

Weigle, J.M., and Washburn, R.L., 1956, Records of wells and springs, water levels, and quality of ground water in Lewis County, Washington: U.S. Geological Survey Open-File Report, 352 p.

Welch, E.B., 1969a, Factors initiating phytoplankton blooms and resulting effects on dissolved oxygen in Duwamish River estuary, Seattle, Washington: U.S. Geological Survey Water-Supply Paper 1873, 62 p.

Welch, E.B., 1969b, Factors initiating phytoplankton blooms and resulting effects on dissolved oxygen in Duwamish River estuary, Seattle, Washington: University of Washington, Doctor of Philosophy thesis, 102 p.

Whetten, J.T., Carroll, P.R., Gower, H.D., Brown, E.H., and Pessl, Fred, Jr., 1988, Bedrock geologic map of the Port Townsend quadrangle, Puget Sound region, Washington: U.S. Geological Survey, Miscellaneous Investigations Series Map I-1198-G, scale 1:100,000, 1 plate.

Whiteman, K.J., Molenaar, Dee, Bortleson, G.C., and Jacoby, J.M., 1983, Occurrence, quality, and use of ground water in Orcas, San Juan, Lopez, and Shaw Islands, San Juan County, Washington: U.S. Geological Survey Water-Resources Investigations Report 83-4019, scale 1:62,500, 12 sheets.

Williams, J.R., 1967, Movement and dispersion of fluorescent dye in the Duwamish River Estuary, Washington: U.S. Geological Survey Professional Paper 575-B, p. B245 to B249.

Williams, J.R., 1984, Principal surface-water inflow to Puget Sound, Washington: U.S. Geological Survey Water-Resources Investigations Report 84-4090, 6 sheets.

Williams, J.R., 1987, Estimates of streamflow characteristics for selected small streams, Baker River basin, Washington: U.S. Geological Survey Water-Resources Investigations Report 87-4006, 28 p.

Williams, J.R., Pearson, H.E., and Wilson, J.D., 1985a, Streamflow statistics and drainage-basin characteristics for the Puget Sound region, volume I, Western and southern Puget Sound: U.S. Geological Survey Open-File Report 84-144-A, 330 p.

Williams, J.R., Pearson, H.E., and Wilson, J.D., 1985b, Streamflow statistics and drainage-basin characteristics for the Puget Sound region, volume II, Eastern Puget Sound from Seattle to the Canadian border: U.S. Geological Survey Open-File Report 84-144-B, 420 p.

Williams, R.C., 1968, Water resources of King County, Washington: U.S. Geological Survey Water-Supply Paper 1852, 74 p.

Williams, R.E., and Farvolden, R.N., 1969, The influence of joints on the movement of groundwater through glacial till: Journal of Hydrology 5, p. 163-170.

Williams, R.W., Laramie, R.M., and Ames, J.J., 1975, A catalog of Washington streams and salmon utilization, Volume 1, Puget Sound region: Washington State Department of Fisheries, Olympia, Washington, 19 chapters.

Willis, Baily, 1898, Drift phenomena of Puget Sound: Bulletin of the Geological Society of America, v. 9, p. 111-162, plates 6-10.

Winter, T.C., 1975, Delineation of buried glacial-drift-aquifers: U.S. Geological Survey Journal of Research, v. 3, no. 2, Mar-Apr., p. 137-148.

Wolock, D.M., and Price, C.V., 1989, Effects of resolution of digital elevation model data on topographically based hydrologic model: EOS, v. 70, no. 43, p. 1091 (abstract).

Woodward-Clyde Consultants, 1988, Fort Lewis landfill no. 5 remedial investigation/feasibility study, sampling and analysis plan: Seattle, Washington, Woodward-Clyde Consultants, unpaginated.

Wright, D.L., Olhoeft, G.R., and Watts, R.D., 1984, Ground-penetrating radar studies on Cape Cod, *in* Nielsen, D.M., and Curl, Mary, eds., NWWA/EPA conference on surface and borehole geophysical methods in ground water investigations, San Antonio, 1984: National Water Well Association, p. 666-680.

Yount, J.C., Dembroff, G.R., and Barats, G.M., 1985, Map showing depth to bedrock in Seattle 30-by-60 minute quadrangle, Washington: U.S. Geological Survey Miscellaneous Field Investigations Map MF-1692, scale 1:100,000, 1 plate, 12 p.

Zapico, M.M., Vales, Samuel, and Cherry, J.A., 1987, A wireline piston core barrel for sampling cohesionless sand and gravel below the water table: Ground Water Monitoring Review, v. 3, p. 74-82.

page 39 follows

Anderson, F.E., 1967 and 1968

Armstrong, J.E., 1976, 1977

Armstrong, J.E., Drandell, D.R., and Easterbrook, D.J., 1965

Armstrong, J.E., and Hicock, S.R., 1976a,b

Artim, E.R., 1973

Atwater, T., 1970

Balzarini, M.A., 1983

Blunt, D.J., Easterbrook, D.J., and Rutter, N.W., 1987

Booth, D.B., 1984 and 1987

Bretz, J Harlan, 1910, 1911, and 1913

Brown, R.D., Jr., 1970

Cady, W.M., 1975

Cady, W.M., Sorensen, M.L., and MacLeod, N.S., 1972

Carson, R.J., 1970 and 1976

Carson, R.J., Smith, Mackey, and Foxworthy, B.L., 1975

Cheney, E.S., 1987

Clague, J.J., 1976

Crandell, D.R., 1965

Crandell, D.R., Mullineaux, D.R., and Waldron, H.H., 1958 and 1965

Dickinson, W.R., 1976

Domack, E.W., 1983

SUBJECT INDEX

Bibliographies

Evapotranspiration

Geology and Tectonics of the Puget Sound Region--Cont.

Easterbrook, D.J., 1966, 1968 and 1976a

Easterbrook, D.J., Crandell, D.R., and Leopold, E.B., 1967

Engebretson, D.S., Cox, A., and Gordon, R.G., 1985

Frizzell, V.A., Jr., Tabor, R.W., Booth, D.B., Ort, K.M., and Waitt, R.B., Jr., 1984

Galster, R.W., and Coombs, H.A., 1979

Garling, M.E., Molenaar, Dee, and others, 1965

Gower, H.D., 1978, and 1980

Gower, H.D., and Pease, M.H., Jr., 1965

Gower, H.D., Yount, J.C., and Crosson, R.S., 1985

Grimstad, Peder, and Carson, R.J., 1981

Haase, P.C., 1987

Hall, J.B., and Othburg, K.L., 1974

Halstead, E.C., 1986

Hansen, B.S., and Easterbrook, D.J., 1974

Hansen, H.P., and Mackin, J.H., 1949

Huntting, M.T., Bennett, W.A.G., Livingston, V.E., Jr., and Moen, W.S., 1961

Joseph, N.L, 1989

Korsec, M.A., 1987a,b

Kriens, B.J., 1988

Lea, P.D., 1984

Liesch, B.A., Price, C.E., and Walters, K.L., 1963

Livingston, V.E., Jr., 1971

Logan, R.L., 1987a,b

Luzier, J.E., 1969

Molenaar, Dee, and Noble, J.B., 1970

Mullineaux, D.R., 1965

Mundorff, M.J., 1964

Noble, J.B., 1960

Noble, J.B., and Wallace, E.F., 1966

Olmstead, T.L., 1969

Pessl, Fred, Jr., 1982

Pessl, Fred, Jr., Dethier, D.P., Booth, D.B., and Minard, J.P., 1989

Phillips, W.M., 1987a,b

Roddick, J.A., Muller, J.E., and Okulitch, A.V., 1979

Salisbury and Dietz, Inc., 1980

Sceva, J.E., 1957

Schasse, H.W., 1987a,b

Smith, Mackey, 1972

Snavely, P.D., Jr., 1988

Spence, William, 1988

Stephenson, G.R., and Freeze, R.A., 1974

Stoffel, K.L., 1981

Tabor, R.W., Booth, D.B., Vance, J.A., Ford, A.B., and Ort, M.H., 1989

Tabor, R.W., and Cady, W.M., 1978

Tabor, R.W., Frizzell, V.A., Jr., Booth, D.B., Whetten, J.T., Waitt, R.B., Jr., and Zartman, R.E., 1982

Tabor, R.W., Yeats, R.S., and Sorensen, M.L., 1972

Thorson, R.M., 1979, 1980, and 1989

Todd, M.R., 1939

Waldron, H.H., 1961, 1962, and 1967

Wallace, E.F., and Molenaar, Dee, 1961

Walsh, T.J., 1987

Walsh, T.J., Korsec, M.A., Phillips, W.M., Logan, R.L., and Schasse, H.W., 1987

Walters, K.L., 1963

Walters, K.L., and Kimmel, G.E., 1968

Washington Department of Ecology, 1975

Weaver, C.E., 1937

Weigle, J.M., and Foxworthy, B.L., 1962

Whetten, J.T., Carroll, P.R., Gower, H.D., Brown E.H., and Pessl, Fred, 1988

Willis, Baily, 1898

Yount, J.C., Dembroff, G.R., and Barats, G.M., 1985

Geophysics

Burgdoff, G.J., and Richard, B.H., 1984

Danes, Z.F., Bonno, M.M., Brau, E., Gilham, W.D., Hoffman, T.F., Johansen, D., Jones, M., Halfait, B., Masten, J., and Teague, G.O., 1965

Fitterman, D.V., 1986a,b and 1987

Gabanski, Gilbert, Julik, Joe, and Bassou, Oulgout, 1984

Geophysics--Cont

Gagne, R.M., Pullan, S.E., and Hunter, J.A., 1985

Ghatge, S.L., and Pasicznyk, D.L., 1986

Gilmer, T.H., Harmon, E.J., and Kronig, D.M., 1986

Gower, H.D., Yount, J.C., and Crosson, R.S., 1985

Haeni, F.P., 1986a,b,c and 1988a,b

Haeni, F.P., and Melvin, R.L., 1984

Hansen, B.P., 1986

Harding, S.T., Agena, W.F., Nickols, D., and Lee, M., 1989

Harding, S.T., Barnhard, T.P., and Urban, T.C., 1988

Harding, S.T., Urban, T.C., and Barnhard, T.P., 1988

Hasbrouck, W.P., 1986

Heeley, R.W., and Marshall, B.A., 1985

Henry, George, Jr., 1984

Hoekstra, Pieter, and Cline, Harold, 1986

Johnson, D.G., 1987

Keys, S.W., 1988

Lange, A.L., McEuen, R.B., and Gustafson, E.P., 1986

Lankston, R.W., Lankston, M.M., and West, L.M., 1985

MacLeod, N.S., Tiffin, D.L., Snavely, P.D., Jr., and Currie, R.G., 1977

Morrissey, D.J., Haeni, F.P., and Tepper, D.H., 1985

Muffler, L.J.P., Weaver, C.S., and Blackwell, D.D., 1989

O'Brien, K.M., and Stone, W.J., 1985

Petersen, R.C., Wagner, J.R., Hemphill-Haley, M.A., Weller, L.N., Kilbury, R., and Champlin, J.B.F., 1986

Geophysics--Cont

Reynolds, R.J., and Williams, H.H., 1988

Rogers, W.P., 1970

Snavely, P.D., Jr., Gower, H.D., and Yount, J.C., 1976

Snavely, P.D., Jr., Gower, H.D., Yount, J.C., Tagg, A.R., Lee, J.W., and Leader, D.R., 1977

Stierman, D.J., Ruedisili, L.C., and Stangl, J.M., 1986

Stuart, D.J., 1965

U.S. Geological Survey, 1977

Washington Public Supply System, 1981

Winter, T.C., 1975

Wright, D.L., Olhoeft, G.R., and Watts, R.D., 1984

Miscellaneous Studies Related to Glacial Geology

Anderson, J.B., and Molinia, B.F., 1989

Artim, E.R., 1973

Barber, L.B., II, 1987

Barber, L.B., II, Thurman, E.M., and Schroeder, M.P., 1986

Ceazan, M.L., Smith, R.L., and Thurman, E.M., 1986

Ceazan, M.L., Thurman, E.M., and Smith, R.L., 1987

Drewry, David, 1986

Garabedian, S.P., 1985

Garabedian, S.P., LeBlanc, D.R., Hess, K.M., and Quadri, R.D., 1987

Garabedian, S.P., LeBlanc, D.R., Quadri, R.D., Hess, K.M., Stollenwerk, K.G., and Wood, W.W., 1986

Grisak, G.E., and Cherry, J.A., 1975

Miscellaneous Studies Related to Glacial Geology--Cont.

Grisak, G.E., Cherry, J.A., Vonhof, and Bleumle, J.P, 1976

Harvey, R.W., and George, L.H., 1986

Harvey, R.W., George, L.H., Smith, R.L., LeBlanc, D.R., Garabedian, S.P., and Howes, B.L., 1987

Hess, K.B., 1986

Hess, K.M., Wolf, S.H., LeBlanc, D.R., Garabedian, D.P., and Celia, M.A., 1987

Huntley, David, and Black, R.F., 1979

James, I.C., II, and LeBlanc, D.R., 1985

Johansson, Per-Olof, 1987

Keller, C.K., Van Der Kamps, G., and Cherry, J.A., 1989

Kipp, K.L., 1987

LeBlanc, D.R., 1984a,b and 1986

LeBlanc, D.R., Garabedian, S.P., Quadri, R.D., Morin, R.H., Teasdale, W.E., and Paillet, F.L., 1986

LeBlanc, D.R., Garabedian, S.P., Wood, W.W., Hess, K.M., and Quadri, R.D., 1987

Randall, A.D., and Johnson, I.A., 1988

Skibitzke, H.E., and Bowen, R.A., 1983

Stollenwerk, K.G., and Grove, D.B., 1987

Sugden, D.E., and John, B.S., 1976

Thurman, E.M., 1987

Thurman, E.M., Barber, L.B., II, and LeBlanc, D.R., 1985

Williams, R.E., and Farvolden, R.N., 1969

Miscellaneous Studies Related to Puget Sound

Barnosky, C.W., Anderson, P.M., and Bartlein, P.J., 1987

Blake, Dean, 1937

Briggs, W.P., and Church, P.E., 1938

Burns, R.E., 1962 and 1985

Carpenter, A.B., 1937

Chase, Marvin, 1921

Chrzastowski, M.J., 1980 and 1983

Church, P.E., 1940, 1941, and 1942

Church, P.E., and Stephens, E.T., 1941

Collias, E.E., McGary, N., and Barnes, C.A., 1974

Day, P.C., 1930

Dethier, D.P., 1982

Drainage and Land Stabilization Technical Committee, 1970a,b

Easterbrook, D.J., 1973 and 1976b

Foxworthy, B.L., 1972

Foxworthy, B.L., and Richardson, Donald, 1973

Galster, R.W., and Coombs, H.A., 1979

Gerlach, A.C., 1943

Graumilch, L.J., 1985 and 1987

Haushild, W.L., and Stoner, J.D., 1973

Hidaka, F.T., and Garrett, A.A., 1967

Keuler, R.F., 1980

Laenen, Antonius, and Solin, G.L., 1978

Miscellaneous Studies Related to Puget Sound--Cont.

Landes, Henry, 1905

Lee, D.R., 1977 and 1985

Mangum, A.W., and others, 1912

McFarland, C.R., 1981

Miller, R.D., and Pessl, Fred, Jr., 1986

Pacific Northwest River Basins Commission, 1970 and 1971a-d

Parker, G.G., Jr., 1971, and 1974a,c

Parker, G.L., and Lasley, Lee, 1923

Price, Don, Hart, D.H., and Foxworthy, B.L., 1965

Puget Sound Water Quality Authority, 1989

Roberts, R.W., 1974

Skoda, L., and Robertson, J.C., 1973

Strahorn, A.T., and Watson, E.B., 1915

U.S. Department of Commerce, 1964 and 1987

U.S. Department of Housing and Urban Development, 1977

U.S. Geological Survey, 1976, 1979a-d, 1980a-c

Vanderwal, K.S., 1985

Walters, R.A., and Meier, M.F., 1989

Watkins, F.A., 1951

Zapico, M.M., Vales, Samuel, and Cherry, J.A., 1987

Surface Water

Anderson, E.I., 1948

Bodhaine, G.L., and Thomas, D.M., 1964

Bortleson, G.C., 1978

Bortleson, G.C., Dion, N.P., and McConnell, J.B., 1974

Bortleson, G.C., Dion, N.P., McConnell, J.B., and Nelson, L.M., 1976a-d

Bortleson, G.C., and Foxworthy, B.L., 1974

Bortleson, G.C., Higgins, G.T., and Hill, G.W., 1974

Bortleson, G.C., Higgins, G.T., McConnell, J.B., and Innes, J.K., 1976

Bovee, K.D., 1982

Chrzastowski, M.J., 1983

Collias, E.E., and Barnes, C.A., 1964

Collings, M.R., 1971, 1973, and 1974

Collings, M.R., and Hidaka, F.T., 1974

Collings, M.R., Smith, R.W., and Higgins, G.T., 1970 and 1972

Cummans, J.E., 1977 and 1981

Cummans, J.E., and Nassar, E.G., 1975

Dawson, W.A., and Tilley, L.J., 1972

Dinicola, R.S., 1990

Ebbert, J.C., Poole, J.E., and Payne, K.L., 1985

Embrey, S.S., 1987 and 1990

Fischer, H.B., 1968

Foxworthy, B.L., and Nassar, E.G., 1975

Gilliom, R.J., 1983

Surface Water--Cont.

Gladwell, J.S, 1970

Grover, N.C., and Parker, G.L., 1940

Haushild, W.L., and LaFrance, D.E., 1978

Hidaka, F.T., 1972a,b and 1973

Higgins, G.T., and Hill, G.W., 1973

Hydrology and Hydraulics Committee, 1968 and 1969a,b

Lapham, W.W., 1989

Nassar, E.G., 1973

Nelson, L.M., 1971 and 1974

Pacific Northwest River Basins Commission, 1971a-c, 1981

Parker, G.G., Jr., 1974b

Pearson, H.E., and Dion, N.P., 1979

Prych, E.A., and Ebbert, J.C., 1986

Richardson, Donald, 1962 and 1965

Santos, J.F., and Stoner, J.D., 1972

Snohomish County, 1974

Stewart, J.E., and Bodhaine, G.L., 1961

Stoner, J.D., 1972

Sumioka, S.S., and Dion, N.P., 1985

Swift, C.H., III, 1976 and 1979

U.S. Geological Survey, 1949, 1951, 1964, no date-b

Van Winkle, Walton, 1914

Veatch, F.M., Kimmel, G.E., and Johnston, E.A., 1966

Surface Water--Cont.

Washington Department of Ecology, 1981

Washington Division of Water Resources, 1964

Welch, E.G., 1969a,b

Williams, J.R., 1967, 1984, and 1987

Williams, J.R., Pearson, H.E., and Wilson, J.D., 1985a,b

Williams, R.W., Laramie, R.M., and Ames, J.J., 1975

Water Resources With Emphasis on Ground Water

Anderson, H.W., Jr., 1968

Beven, K.J., and Kirby, M.J., 1979

Beverage, J.P., and Swecker, M.N., 1969

Blair, H.O., 1929

Brown and Caldwell, 1985

Byers, H.G., 1902

Carr, J.R., and Associates, 1983

Carr, J.R., Schmidt, R.G., and Ritzi, R.W., 1983

Cline, D.R., 1969 and 1974

Cline, D.R., Jones, M.A., Dion, N.P., Whiteman, K.J., and Sapik, D.B., 1982

Dion, N.P., 1974

Dion, N.P., and Lum, W.E., II, 1977

Dion, N.P., Olsen, T.D., and Payne, K.L., 1988

Dion, N.P., and Sumioka, S.S., 1984

Dion, N.P., Sumioka, S.S., and Winter, T.C., 1983

Water Resources With Emphasis on Ground Water--Cont.

Drost, B.W., 1977, 1979a,b, 1982, 1983a,b, 1985, and 1986

Drost, B.W., and Lombard, R.E., 1978

Easterbrook, D.J., 1968

Ebbert, J.C., Bortleson, G.C., Fuste, L.A., and Prych, E.A., 1987

Ebbert, J.C., and Payne, K.L., 1985

Eddy, P.A., 1966 and 1973

Foxworthy, B.L., 1979

Frank, Dave, 1980

Garling, M.E., Molenaar, Dee, and others, 1965

Garrett, A.A., and Walters, K.L., 1960

Griffin, W.C., and others, 1962

Griffin, W.C., Watkins, F.A., Jr., and Swenson, H.A., 1956

Grimstad, Peder, and Carson, R.J., 1981

Halstead, E.C., 1986

Hansen, A.J., Jr., and Bolke, E.L., 1980

Hansen, A.J., Jr., and Molenaar, Dee, 1976

Hart Crowser and Associates, 1986

Hess, P.J., 1986

Jones, M.A., 1985

Liesch, B.A., 1955

Liesch, B.A., Price, C.E., and Walters, K.L., 1963

Lum, W.E., II, 1979, 1980, and 1984

Lum, W.E., II, Alvord, R.C., and Drost, B.W., 1984

Water Resources With Emphasis on Ground Water--Cont.

Lum, W.E., II, and Turney, G.L., 1985

Lum, W.E., II, and Walters, K.L., 1976

Luzier, J.E., 1969

McDonald, M.G., and Harbaugh, A.W., 1984

Molenaar, Dee, and Cummans, J.E., 1973

Molenaar, Dee, Grimstad, Peder, and Walters, K.L., 1980

Molenaar, Dee, and Noble, J.B., 1970

Mundorff, M.J., 1964

Mundorff, M.J., Weigle, J.M., and Holmberg, G.D., 1955

Myers, D.A., 1970

Myers, D.A., and Cummans, J.E., 1973

Newcomb, R.C., 1947 and 1952

Newcomb, R.C., Sceva, J.E., and Stromme, Olaf, 1949

Noble, J.B., 1960

Noble, J.B., and Wallace, E.F., 1966

Pacific Northwest River Basins Commission, 1970, 1971d, 1972

Pardee, J.T., 1931

Piper, A.M., 1930

Piper, A.M., and Larocque, G.A., Jr., 1938

Richardson, Donald, Bingham, J.W., and Madison, R.J., 1968

Ritzi, R.W., Jr., 1983

Ritzi, R.W., Schmidt, R.G., and Carr, J.R., 1983

Robinson, J.W., 1946

Water Resources With Emphasis on Ground Water--Cont.

Sabol, M.A., Turney, G.L., and Ryals, G.N., 1988

Sapik, D.B., 1988

Sapik, D.B., Bortleson, G.C., Drost, B.W., Jones, M.A., and Prych, E.A., 1989

Sceva, J.E., 1950 and 1957

Sceva, J.E., Wegner, D.E., and others, 1955

Tracy, J.V., 1978

Tracy, J.V., and Dion, N.P., 1976

Turney, G.L., and Goerlitz, D.F., 1988

U.S. Geological Survey, 1971

Van Denburgh, A.S., 1965

Van Denburgh, A.S., and Santos, J.F., 1965

Veatch, F.M., Kimmel, G.E., and Johnston, E.A., 1966

Voss, C.I., 1984

Wallace, E.F., and Molenaar, Dee, 1961

Walters, K.L., 1963, 1970, and 1971

Walters, K.L., Haushild, W.L., and Nelson, L. M., 1979

Walters, K.L., and Kimmel, G.E., 1968

Washburn, R.L., 1954 and 1957

Washington Department of Ecology, 1975

Washington Division of Water Resources, 1960

Wegner, D.E., 1956

Weigle, J.M., and Foxworthy, B.L., 1962

Weigle, J.M., and Washburn, R.L., 1956

Water Resources With Emphasis on Ground Water--Cont.

Whiteman, K.J., Molenaar, Dee, Bortleson, G.C., and Jacoby, J.M., 1983

Williams, R.C., 1968

Wolock, D.M., and Price, C.V., 1989

Well Field Data

Black and Veatch, 1987

Brown and Caldwell, 1985

Carr, J.R., and Associates, 1988

Frank, Dave, 1980

Hart Crowser and Associates, 1986, 1988a,b, and 1989a,b

Kunigk, W.A., 1934

Liesch, B.A., 1955

Littler, J.D., Aden, J.T., and Johnson, A.F., 1981

Luzier, J.E., 1964

Molenaar, Dee, 1961

Robinson, J.W., 1946

Robinson, J.W., and Piper, A.M., 1942

Sceva, J.E., Wegner, D.E., and others, 1955

Shannon and Wilson, Inc., 1986

Sweet, Edwards, and Associates, 1986

U.S. Geological Survey, no date-a

Walters, K.L., 1965

Watkins, F.A., 1951

Woodward-Clyde Consultants, 1988

☆U.S. GOVERNMENT PRINTING OFFICE: 1991 - 592-564/43029