

**LITERATURE CITED, SELECTED BIBLIOGRAPHY,
AND GLOSSARY**

LITERATURE CITED

- Doerksen, Harvey R. 1972. *Columbia River Interstate Compact: Politics of Negotiation*. State of Washington Water Research Center. Pullman, WA.
- Montana State Board of Health. 1917-1918. *Ninth Biennial Report of the State Board of Health for 1917-1918*. Helena, MT.
- Montana State University. 1974. Earth Sciences Department. *Montana in Maps*, by Robert L. Taylor, Milton J. Edie, and Charles F. Gritzner. Bozeman, MT.: Endowment and Research Foundation.
- Montana Water Resources Board. 1968 (October). *Water Resources and Planning: Inventory Series No. 4*. Helena, MT.
- Rahn, Perry H. 1975 (November 24). "Hydrogeology of the Madison Limestone in the Powder River Basin, with Reference to the Proposed ETSI Ground Water Withdrawals." Statement on the Coal Slurry Pipeline Act of 1975, H.R. 1863, H.R. 2220, H.R. 2553, and H.R. 2896, before the Committee on Interior and Insular Affairs, House of Representatives, Washington, D.C. (Mimeographed.)
- U.S. Department of Agriculture. 1974a (February). Soil Conservation Service. *Evaporation Pond Design for Agricultural Wastewater Disposal*. Montana Technical Note: Environment No. 7. Bozeman, MT.
- _____. 1974b. Soil Conservation Service. *Mosaic of Imagery from the Earth Resources Technology Satellite - 1*. A photomosaic prepared for NASA Goddard Space Flight Center.
- U.S. Department of Commerce. 1972. National Oceanic and Atmospheric Administration, Environmental Data Service. *Climatological Data*. Annual Summary. Vol. 75, No. 13. Asheville, N.C. National Climatic Center.
- _____. 1974. *Climates of the States. Volume II: Western States*. A Water Information Center publication by officials of the National Oceanic and Atmospheric Administration.
- U.S. Department of the Interior. 1964a. Geological Survey. *Compilation of Records of Surface Waters of the United States, October 1950 to September 1960*. Part 5: *Hudson Bay and Upper Mississippi River Basins*. Water Supply Paper 1728. Washington, D.C.: U.S. Government Printing Office.
- _____. 1964b. Geological Survey. *Compilation of Records of Surface Waters of the United States, October 1950 to September 1960*. Part 6-A: *Missouri River Basin above Sioux City, Iowa*. Water Supply Paper 1729. Washington, D.C.: U.S. Government Printing Office.
- _____. 1968. Geological Survey. *Major, Sub-Major and Minor Drainage Basins*. Maps available from U.S.G.S., Denver, CO. 80225, or Washington, D.C. 20242.
- _____. 1969. Geological Survey. *Surface Water Supply of the United States 1961-65*. Part 6, Volume 1: *Missouri River Basin above Williston, North Dakota*. Water Supply Paper 1916. Washington, D.C.: U.S. Government Printing Office.
- _____. 1970. Geological Survey. *1969 Water Resources Data for Montana*. Part 1: *Surface Water Records*. Helena, MT.
- _____. 1972. Geological Survey. *1970 Water Resources Data for Montana*. Part 1: *Surface Water Records*. Helena, MT.
- _____. 1975 (April). Bureau of Reclamation. *Critical Water Problems Facing the Eleven Western States*. Washington, D.C.: U.S. Government Printing Office.

SELECTED BIBLIOGRAPHY

- Beartooth RC&D Project Program Committee. U.S. Department of Agriculture and other agencies cooperating. *Guidelines for Action: Beartooth Resource Conservation and Development Project*. Joliet, MT. 1970.
- Bitter Root Resource Conservation and Development Council. U.S. Department of Agriculture and other agencies cooperating. *Bitter Root Resource Conservation and Development Project: Guidelines for Action*. Bozeman, MT. 1973.
- Headwaters RC&D Office. U.S. Department of Agriculture and other agencies cooperating. *Project Plan: Headwaters RC&D*. Butte, MT. 1975.
- Missouri Basin Inter-agency Committee. *The Missouri River Basin Comprehensive Framework Study*. Seven volumes. Washington, D.C.: U.S. Government Printing Office, December, 1971.
- Missouri River Basin Commission. *Missouri River Basin State and Federal Water and Related Land Resource Programs: Fiscal Years 1976-1980*. Omaha, NB. October, 1975.
- Montana Department of Health and Environmental Sciences. *Water Quality Inventory and Management Plan for the Flathead River Basin, Montana*, by D. Nunnallee and M. K. Botz. Preliminary draft. Helena, MT. April, 1973.
- _____. *Water Quality Inventory and Management Plan for the Kootenai River Basin, Montana*, by D. Nunnallee and M. K. Botz. Helena, MT. December, 1974.
- _____. *Water Quality Inventory and Management Plan for the Lower Clark Fork Basin, Montana*, by D. Nunnallee and M.K. Botz. Preliminary draft. Helena, MT. September, 1975.
- _____. *Water Quality Inventory and Management Plan for the Lower Missouri River Basin, Montana*, by D. Bloom and M. K. Botz, Helena, MT. May, 1975.
- _____. *Water Quality Inventory and Management Plan for the Lower Yellowstone River Basin, Montana*, by R.W. Karp, D. Klarich, and M.K. Botz. Helena, MT. March, 1975.
- _____. *Water Quality Inventory and Management Plan for the Marias River Basin, Montana*, by W. H. Garvin and M. K. Botz. Helena, MT. May, 1975.
- _____. *Water Quality Inventory and Management Plan for the Middle Missouri River Basin, Montana*, by J. Kaiser and M.K. Botz. Helena, MT. March, 1975.
- _____. *Water Quality Inventory and Management Plan for the Middle Yellowstone River Basin, Montana*, by R.W. Karp and M.K. Botz. Helena, MT. March, 1975.
- _____. *Water Quality Inventory and Management Plan for the Milk River Basin, Montana*, by D. Bloom and M. K. Botz. Helena, MT. December, 1974.
- _____. *Water Quality Inventory and Management Plan for the Missouri-Sun-Smith River Basins, Montana*, by R. D. Braico and M. K. Botz. Helena, MT. December, 1974.
- _____. *Water Quality Inventory and Management Plan for the Musselshell River Basin, Montana*, by Jerry Kaiser and M. K. Botz. Preliminary draft. Helena, MT. February, 1976.
- _____. *Water Quality Inventory and Management Plan for the St. Mary River Basin, Montana*, By M. K. Botz. Preliminary draft. Helena, MT. April, 1976.

- _____. *Water Quality Inventory and Management Plan for the Upper Clark Fork Basin, Montana*, by E. W. Casne and M. K. Botz. Preliminary draft. Helena, MT. July, 1975.
- _____. *Water Quality Inventory and Management Plan for the Upper Missouri River Basin, Montana*, by R. D. Braico and M. K. Botz. Helena, MT. January, 1976.
- _____. *Water Quality Inventory and Management Plan for the Upper Yellowstone River Basin, Montana*, by R.W. Karp, D. Klarich, and M.K. Botz. Preliminary draft. Helena, MT. September, 1975.
- _____. *Water Quality Management Plan, Little Missouri River Basin, Montana*, by R.W. Karp and M.K. Botz. Helena, MT. September, 1973.
- Montana Department of Natural Resources and Conservation. *Annual Report to the Old West Regional Commission, June 25, 1974 to June 30, 1975, Project Number 10470022: A Study to Evaluate Potential Physical, Biological, and Water Use Impacts of Water Withdrawals and Water Development on the Middle and Lower Portions of the Yellowstone River Drainage in Montana*. Helena, MT. August, 1975.
- Montana Department of State Lands. "FY 1975 Saline-Alkali Program: Final Reports." Helena, MT. September 30, 1975. (Mimeographed.)
- Montana State (Flathead Level B) Study Team. Sponsored by the Pacific Northwest River Basins Commission and the Montana Department of Natural Resources and Conservation. *The Flathead River Basin: A Water and Related Land Resources Study*. Final draft report for agency review; subject to revision. Helena, MT. October, 1975.
- North Central Power Study Coordinating Committee. *North Central Power Study: Report of Phase I*. Two volumes. Billings, MT. October, 1971.
- Northern Great Plains Resources Program. Water Work Group. *Northern Great Plains Resources Program: Report of the Work Group on Water*. Denver, CO. December, 1974.
- _____. Management Team. *Effects of Coal Development in the Northern Great Plains: A Review of Major Issues and Consequences at Different Rates of Development*. Denver, CO. April, 1975.
- Pacific Northwest River Basins Commission. *Columbia-North Pacific Region Comprehensive Framework Study*. Twenty volumes. Vancouver, WA. September, 1972.
- U.S. Department of Agriculture. Flathead National Forest. *Flathead River Wild and Scenic River Study Report*. Kalispell, MT. July, 1973.
- _____. Montana Department of Natural Resources and Conservation cooperating. *Plan of Work: Clark Fork of the Columbia River Basin Type IV Survey*. Bozeman, MT. June, 1972.
- _____. Montana Department of Natural Resources and Conservation cooperating. *Wind-Bighorn-Clarks Fork River Basin Type IV Survey: Montana Supplement*. Portland, OR. December, 1974.
- U.S. Department of the Interior. Bureau of Outdoor Recreation. *The Impact of the Proposed Billings Water Supply Unit on the Wild, Scenic and Recreational Potential of the Yellowstone River from Gardiner to Pompey's Pillar in Montana*. Denver, CO. February, 1975.
- _____. Bureau of Outdoor Recreation. *Missouri River: A Wild and Scenic River Study*. January, 1975.
- _____. Bureau of Reclamation. *Appraisal Report on Montana-Wyoming Aqueducts*. Billings, MT. April, 1972.
- _____. Bureau of Reclamation. *Critical Water Problems Facing the Eleven Western States*. Washington, D.C.: U.S. Government Printing Office, April, 1975.
- _____. Bureau of Reclamation. *Report on Resources of Eastern Montana Basins: Pick-Sloan Missouri Basin Program*. Billings, MT. August, 1972.
- _____. Water for Energy Management Team. *Report on Water for Energy in the Northern Great Plains Area with Emphasis on the Yellowstone River Basin*. Denver, CO. January, 1975.

GLOSSARY

Acre

A unit of land containing 4,840 square yards (43,560 square feet).

Acre-foot

Enough water to cover one acre to a depth of one foot. This amount is equal to 43,560 cubic feet or 325,900 gallons.

Alluvium

Material deposited gradually by moving water.

Annual yield

The supply of water produced by a stream or watershed over a one-year period.

Aqueduct

A conduit or lined canal designed to transfer water from one point to another.

Aquifer

Water-bearing rocks or formations.

Artesian well

A well wherein the pressure of the strata is so great that it forces the water to the surface.

Channelization

The confining of a stream to a man-made channel.

Continental

Describes a climate characterized by low surface humidity, large diurnal temperature variations and pronounced temperature extremes, light but variable precipitation confined primarily to warmer seasons, and moderate prevailing wind speeds.

Cubic feet per second (cfs)

A measure of flow equal to 448.8 gallons per minute or 40 Montana miner's inches.

Diversion

The taking of water from a water body by means of a canal, pipe, ditch, or other direct means.

Drainage area

See **watershed**.

Ephemeral stream

See **intermittent stream**.

Eutrophication

The process of producing greater amounts of organic matter in a body of water than can be consumed through existing biological oxidation processes. This condition may be caused by natural or artificial fertilization in conjunction with other growth factors.

Evaporation

The process by which a substance changes from the liquid state to the gas or vapor state.

Evapotranspiration

The combination of water loss through evaporation (from soil and surface water bodies) and transpiration (from plants).

Fluvial

Pertaining to a river.

Freeze-free season

The period of the year when the temperature does not drop below 33°F or 1°C.

Glaciation

The modification of the topography by glaciers.

Humidity

The degree of moisture in the atmosphere expressed as a percentage of the atmosphere's capacity.

Hydrology

The science of the behavior of water in the atmosphere, on the earth's surface, and underground.

Impervious Rock

Rock which, being nonporous or practically so, does not allow water to soak into it or pass through it freely.

Indian summer

A period of warm or mild weather late in autumn or in early winter.

Infiltration

The downward entry of water (as into soil).

Intermittent stream

One that carries water only in times of rainfall or runoff, and remains a dry channel during the rest of the year.

Intermontane

Lying between mountains.

Mean annual streamflow

The average yearly flow of a river.

Multiobjective planning

A water-planning approach which deals with the objectives of national economic development, regional development, and environmental quality.

Multipurpose project

A project designed to serve more than one purpose; for example, one which provides irrigation, flood control, recreation, and hydroelectric power.

Nutrient

Anything which promotes growth or provides nourishment.

Per capita

Per person.

Perennial stream

A stream that carries water throughout the year, as opposed to an intermittent stream.

Permeable rock

Rock, either porous or fissured, that allows water to soak into it and pass through it freely.

Physiography

Physical geography; a description of the natural features of the surface of the earth.

Porosity

The capacity of rock or soil to hold water, usually expressed as the percentage of the soil or rock volume not occupied by soil or rock particles.

Precipitation

Any form of water, whether liquid or solid, that falls to the ground from the atmosphere.

Recharge area

An area in which an aquifer receives water by force of gravity; usually where a permeable layer lies close to the surface.

Relative humidity

The ratio of the amount of water vapor actually present in the air to the greatest amount possible at the same temperature.

Return flow

Diverted water which is not consumed and returns to a surface or ground-water body.

Riprap

A foundation or sustaining wall of stones put together without order.

Runoff

That portion of rainfall or melted snow which ultimately reaches a surface stream.

Sedimentary

Formed by deposition or accretion of grains or fragments of rock-making materials. Applied to all kinds of deposits from the waters of streams, lakes, or seas and in a more general sense to deposits of wind and ice.

Sedimentation

The process of deposition of materials from suspension in water of streams, lakes, and seas, or from the action of wind or ice.

Semi-maritime

Describes a climate reflecting modified Pacific air mass characteristics, including milder winters, cooler summers, a more even annual distribution of precipitation, higher humidity, more cloudiness in all seasons, and lighter winds than those associated with continental climates.

Semi-Pacific

See **semi-maritime**.

Sheet erosion

The removal of a fairly uniform layer of soils or materials from the land surface by the action of rainfall or runoff water.

Stratification

The layering of sediments into beds, or strata.

Thermal

Hot or warm. Often used to describe water heated by natural means.

Topography

The configuration of a surface, its relief, and the position of its natural and man-made figures.

Total dissolved solids

Minerals and other solids which form a residue after evaporation of water.

Transpiration

The emission of water vapor from the surface of plant parts.

Tributary

A stream that discharges its waters to a larger stream.

Watershed

The area from which water drains to a single point; in a natural basin, the area contributing flow to a given point on a stream (drainage area).

Water table

The top of the zone of saturation in which all rocks are saturated with water.