

SUPPORTING GLOSSARY OF TERMS – GMD3 MANAGEMENT PROGRAM

Acre-foot: a water measurement unit one acre by one foot in size consisting of 325,851 gallons.

Alluvium: the gravel, sand, silt, and clay and similar unconsolidated material deposited in comparatively recent geologic time by a stream.

Appropriation right: a real property right to use water, acquired after June 1st, 1945, under the provisions of article 7 of chapter 82a of the Kansas Statutes Annotated and acts amendatory thereof and supplemental thereto, to divert from a definite water supply a maximum quantity of water at a specific rate of diversion or less for a specific use made of water, provided such water is available in excess of the requirements of all vested rights and appropriation rights of earlier date that relate to such supply in preference to all appropriations of later date. K.S.A. 82a-701 (f).

Aquatic nuisance species (ANS): animals and plants not native to Kansas that can threaten lake and river ecology, harm native or desirable species, affect water quality and disrupt economy.

Aquifer: any geological formation (a group or a part of a formation) capable of yielding water in sufficient quantities that it can be extracted for beneficial purposes. K.S.A. 82a-1021(a) (1).

Aquifer, Confined: an aquifer which is bounded above and below by formations of impermeable or relatively impermeable material.

Aquifer, Unconfined: An aquifer in an unconfined state has entirely different storage properties than an aquifer in the confined or artesian state. For a groundwater reservoir to be classified as unconfined, it must be shown that it is not confined by impermeable material and its water table cannot be confined from the effects of atmospheric pressure. Unconfined Dakota aquifer system in GMD3 means that portion of the Dakota aquifer system not overlain by Graneros shale.

Aquifer, Ogallala/High Plains: The Ogallala/High Plains (OHP) aquifer, which includes the Ogallala aquifer, is the primary source of water for western Kansas and is economically the important groundwater supply. See

<http://www.kgs.ku.edu/Publications/Bulletins/TS22/index.html>

Augmentation: a water augmentation plan is a procedure for replacing water to a stream system whose flows are overly depleted by the consumption of water.

Bedrock: a general term for solid rock that lies beneath soil, loose sediments, or other generally unconsolidated material.

Conservation, Aquifer Maintenance: Type (2) water conservation activity preserves or recharges underground reservoir storage for future wise use.

Conservation, Use Efficiency: Type (1) water conservation activity increases valued output per unit of consumed water adds present economic value and benefits as wise use.

Conserve-to-preserve factor: a calculation of added future supply that separates non-use of inaccessible or depleted water supply from choice that maintains a groundwater reservoir by reduced demand or replenished storage.

Critical well: A water supply well having high risk of excessive yield decline and water right impairment within 25 years.

Demand management: cost-effective strategies that assist members and the hydrological community in managing water risk through reducing quality or quantity need, adjusting a task to less usable water, reducing losses, shifting use timing, and increased drought resilience.

District: the Southwest Kansas Groundwater Management District No. 3, Garden City, KS.

DOC: the Division of Conservation and state conservation commission of KDA, Manhattan, KS.

Domestic use: the use of water by any person or by a family unit or household for household purposes, or for the watering of livestock, poultry, farm and domestic animals used in operating a farm, and for the irrigation of lands not exceeding a total of two (2) acres in area for the growing of gardens, orchards and lawns. K.S.A. 82a-701(c).

DWR: the Division of Water Resources, Kansas Department of Agriculture, Manhattan, KS, with local field office administrative areas containing part of the District officed in Garden City and Stafford, Kansas.

Eligible voter: A natural person 18 years of age or older, or a public or private corporation, municipality or any other legal or commercial entity that: (A) Is a landowner that owns, of record, any land, or any interest in land, comprising 40 or more contiguous acres located within the boundaries of the district and not within the corporate limits of any municipality; or (B) withdraws or uses groundwater from within the boundaries of the district in an amount of one acre-foot or more per year. Most domestic users are assumed to use

GEP Act: Groundwater Exploration and Protection Act body of well contractor, well construction and groundwater protection law administered by KDHE.

GMD Act: the Kansas groundwater management body of law described in K.S.A. 82a-1020 et seq., and amendments thereto, which provides member water users a say in the management of local supplies of groundwater for the future through their plans and projects that are consistent with the adopted management program.

GMD3: Southwest Kansas Groundwater Management District No. 3, officed in Garden City, KS representing all or parts of a 12-county hydrological community of interest in the southwest part of the state.

Groundwater: water below the surface of the earth.

Groundwater Gage: a well that is used to gage and collect data on the water quantity and quality of a local groundwater source of supply.

Groundwater Reservoir: a specific subsurface water-bearing or water depleted aquifer stratum able to receive inflow recharge water.

Hydrogeologic: those factors that deal with subsurface waters and related geologic aspects of surface waters.

Hydrogeologic parameters: numerical parameters that describe the hydrogeologic characteristics of an aquifer such as porosity, permeability, and transmissivity.

Hydrogeology: the part of geology concerned with the functions of water in modifying the earth, especially by erosion and deposition, geology of groundwater with particular emphasis on the chemistry and movement of water.

Hydrologic: of or pertaining to hydrology, that is the science dealing with water, its properties, phenomena, and distribution.

Hydrologic Community of Interest: An area of natural and constructed water infrastructure that interrelate in quality and quantity to affect existing and future water use and supply.

IGUCA: Intensive Groundwater Use Control Area per the GMD Act. (K.S.A. 82a-1036).

K.A.R.: Kansas Administrative Regulations - Standards, statements of policy or general orders of general application and having the effect of law, issued or adopted by a state agency to implement or interpret legislation enforced or administered by such state agency or official, or to govern the organization or procedure of such state agency (K.S.A. 77-415 (4)).

KCC: Kansas Corporation Commission, Topeka, Kansas.

KDA: Kansas Department of Agriculture, Manhattan, Kansas.

KDHE: Kansas Department of Health and Environment., Topeka, Kansas

KDWP&T: Kansas Department of Wildlife, Parks & Tourism, Topeka, Kansas.

KGS: Kansas Geological Survey, Lawrence, Kansas.

K.S.A.: Kansas Statutes Annotated - laws passed by the Kansas Legislature and Governor.

KSU: Kansas State University, Manhattan, Kansas.

KU: Kansas University, Lawrence, Kansas.

KWAA: Kansas Water Appropriation Act, K.S.A. 82a- 701 et seq., and amendments thereto, which protects both the people's right to use Kansas water and the state's supplies of groundwater and surface water for the future. The body of law is administered by the Kansas Department of Agriculture's Division of Water Resources, which issues permits to appropriate water, regulates usage, and keeps records of all water rights in the state.

KWO/KWA: Kansas Water Office and Water Authority with duties of water planning, State Water Plan Storage and Water Assurance from federal reservoirs.

LEMA: Local Enhanced Management Area formed under K.S.A. 82a-1041 of the GMD Act .

Member of GMD3: An eligible voter on District matters described in K.S.A. 82a-1021(a)(5).

Method: Orderliness of thought and behavior to make progress and drive change.

Navigable Stream: According to the Land Title Institute (2001), navigability (For Title Purposes) means a body of water existing naturally at the time of statehood that was used or is susceptible of being used in its ordinary condition for commerce, navigation, fisheries, and more recently in other general statewide public uses such as canoeing, swimming, and related uses.

Normal high-water mark: This is the line normally seen where high water has left debris, sand and gravel during its ordinary annual cycle, but generally absent in the Arkansas River across SW Kansas due to the distribution or elimination of annual flow cycles by man's water use activities.

Overpumping: common or slang expression referring to the unlawful pumping of groundwater in excess of the amount previously authorized by a state water right, permit or state order.

POC: Proof-Of-Concept is a small realization of an idea in order to demonstrate some elements in principle with the aim of verifying one or more concepts have practical potential.

Public Interest: Based on declarations and purposes of the GMD Act (82a-1020 et seq.), the management program document and recommendations of the elected governing body of GMD3, also known as the Board of directors, are considered the local formal expression of public interest relative to groundwater management issues and associated endeavors within the district.

Pulse flow: Rain-dependent stream (ephemeral) flow after an upstream precipitation or reservoir release event that recharges groundwater storage unless interrupted or intercepted.

RAC: Regional Advisory Committee of volunteer members appointed by the KWO/KWA to advise the agency.

Recharge: infiltration of surface water or rainfall into aquifer storage.

Return flow: surface and subsurface water that leaves the field following irrigation.

Revised Management Program: A document containing information as to the groundwater management program undertaken by the district, adopted and revised as needed to update the nature and methods for addressing groundwater supply problems of the district (K.S.A.82a-1028).

Saturated Thickness: the thickness of the portion of one or more hydraulically connected aquifers in which all pores, or voids, are filled with water. In an unconfined aquifer this is the distance between the water level and the base confining layer of the aquifer system.

Static Water Level: the depth below land surface at which the top of the groundwater is found when not affected by recent pumping drawdown effects.

Standby well: a groundwater source security well as a condition documented on the water right of a primary well to be used only when catastrophic failure of the primary well occurs and repairs are under way.

Waste of water: Any act or omission that causes loss of usable water supply or use in excess of reasonable needs or exceeds the water right to appropriate waters of the state and prejudicially and unreasonably affects the management program public interest.

Water Balance: A method of determining the amount of water in a storage area by accounting for inflow to, outflow from, and changes in storage.

Water Usability Depletion: Pollution alteration of the physical, thermal, chemical, or biological quality of, or the contamination of any water into or within the District, that renders the groundwater harmful to humans, animals, vegetation, or property or impairs the usefulness or public enjoyment of the water for any lawful or reasonable use.

Waters of the state: All surface and subsurface waters naturally occurring within the borders of the state or forming part of the border between Kansas and an adjoining state.

Water risk: The four elements of water-related risk, which are: 1) physical usable supply, 2) replenishment, 3) regulations, and 4) reputation.

WCA: water conservation area (K.S.A. 82a-745) formed through a temporary agreed-to plan that is consistent with GMD3 rules and management program.