

List of Acronyms and Terms

Acre-ft	Acre foot
APHA	American Public Health Association
ASR	Aquifer Storage Recovery
AWEP	Agricultural Water Enhancement Program
BMP	Best Management Practices
CCN	Certificates of Convenience and Necessity
Cfs	Cubic foot per second
Cfu/100mL	Colony forming units per 100 milliliters
COC	Chain of Custody
CRP	Clean Rivers Program
DFC	Desired Future Condition
DOC	Demonstration of Capability
EDAP	Economically Distressed Areas Program
EPA	United States Environmental Protection Agency
EQUIP	Environmental Quality Incentives Program
ETJ	Extraterritorial Jurisdiction
GAM	Groundwater Availability
GBC	Guadalupe Basin Coalition
GBNRC	Guadalupe Basin Natural Resources Center
GBRA	Guadalupe-Blanco River Authority
GBRT	Guadalupe-Blanco River Trust
GCD	Groundwater Conservation District
GIS	Geographic Information System
GMA	Groundwater Management Area
GPS	Global Positioning System
GTA	Groundwater Technical Assistance
HGCD	Headwaters Groundwater Conservation District
INELA	Institute for National Environmental Laboratory Accreditation
KCEHD	Kerr County Environmental Health Department
LIMS	Laboratory Information Management System
MAG	Managed Available Groundwater
MOU	Memorandum of Understanding
NELAC	National Environmental Laboratory Accreditation Conference
NELAP	National Environmental Laboratory Accreditation Program
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
OSSF	On Site Sewage Facility
PO	Purchase Order

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PT	Proficiency Test
PWPG	Plateau Water Planning Group
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QC	Quality Control
RWPG	Regional Water Planning Group
SOP	Standard Operating Procedure
SWCD	Soil and Water Conservation District
SWQM	Surface Water Quality Monitoring
SWQMIS	Surface Water Quality Monitoring Information System
TCEQ	Texas Commission on Environmental Quality
TD	Technical Director
TMDL	Total Maximum Daily Load
TMDL-IP	Total Maximum Daily Load – Implementation Plan
TNI	The NELAC Institute
TPDES	Texas Pollutant Discharge Elimination System
TPWD	Texas Parks and Wildlife Department
TSSWCB	Texas State Soil and Water Conservation Board
TWDB	Texas Water Development Board
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WAM	Water Availability Model

Acronym and Terms Dictionary

Acre-ft – Acre foot: A unit of volume often used when referring to large scale water resources like reservoir volume or the amount of surface water rights withdrawals. It is the volume of water required to cover 1 acre of land (43,560 square feet) to a depth of 1 foot and is equal to 325,851 gallons.

APHA – American Public Health Association: The UGRA environmental laboratory follows some APHA drinking water testing methods.

ASR – Aquifer Storage Recovery: The injection of treated surface water in the aquifer for storage during times when water is abundant, and recovery of the water during times when it is needed. A specific set of hydrologic conditions must exist for a viable ASR facility. The City of Kerrville currently operates two ASR facilities that were constructed when UGRA still oversaw this utility.

AWEP – Agricultural Water Enhancement Program: A voluntary conservation initiative that provides financial and technical assistance to agricultural producers to implement agricultural water enhancement activities on agricultural land for the purposes of conserving surface and ground water and improving water quality. As part of the Environmental Quality Incentives Program (**EQIP**), AWEP operates through contracts with producers to plan and implement conservation practices in project areas established through partnership agreements. Under AWEP, the Natural Resources Conservation Service (**NRCS**) enters into partnership agreements with eligible entities that want to promote ground and surface water conservation or improve water quality on agricultural lands.

BMP – Best Management Practices: Any structure, program or activity that is designed to protect environmental quality and prevent pollution. Many are required by law.

CCN – Certificates of Convenience and Necessity: Certificates issued by the Texas Commission on Environmental Quality (**TCEQ**) to retail water or sewer providers that grant a defined area to a utility in which it can serve. Some entities, like investor owned utilities, are required to obtain a CCN before service can be provided. Other entities, like municipalities, can operate a retail water or sewer utility without a CCN.

Cfs – Cubic foot per second: (also cu ft/s, cusec and ft³/s) is a volumetric flow rate unit which is equivalent to a volume of 1 cubic foot flowing every second. It is often used to describe stream flow rates.

Cfu/100mL – Colony forming units per 100 milliliters: The units used when reporting bacteria test results. It refers to the number of bacteria colonies in the 100 milliliter water sample.

COC – Chain of Custody: A form used by the environmental laboratory to identify a sample for analysis and document the details necessary to produce quality assured data.

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CRP – Clean Rivers Program: A state fee-funded program for water quality monitoring, assessment, and public outreach. The CRP is a collaboration of 15 partner agencies and the Texas Commission on Environmental Quality (TCEQ). UGRA is subcontracted by the Guadalupe-Blanco River Authority to sample 10 Kerr County sites four times per year for field, bacteria, and conventional parameters.

DFC – Desired Future Condition: When used in the context of groundwater management it refers a quantifiable future groundwater condition. These conditions, called metrics, can be a particular groundwater level, level of water quality, volume of spring flows, etc. The chosen conditions serve as management goals and answer the question of what you want your aquifer to look like in the future. Based on the chosen desired future condition, the Texas Water Development Board (TWDB) determines how much groundwater is available for withdrawal. These volumes in turn become the permitting targets for the groundwater districts and will be used in the state's regional water planning process.

DOC – Demonstration of Capability: A form used by the environmental laboratory to document that an analyst has received adequate training to perform a specific test or procedure.

EDAP – Economically Distressed Areas Program: A Texas Water Development Board (TWDB) program that provides grants, loans, or a combination grant/loan for water and wastewater services in economically distressed areas or when present facilities are inadequate to meet residents' minimal needs. Fundable projects also include measures to prevent future substandard development. UGRA has applied for a grant/loan to provide water supply to residents in the Center Point area.

EPA – United States Environmental Protection Agency: A federal government agency whose mission is to protect human health and the environment through environmental science, research, education and assessment efforts.

EQUIP – Environmental Quality Incentives Program: A voluntary conservation program for farmers and ranchers that promotes agricultural production and environmental quality as compatible national goals. EQIP offers financial and technical help to assist eligible participants install or implement structural and management practices on eligible agricultural land.

ETJ – Extraterritorial Jurisdiction: The legal ability of a government to exercise authority beyond its normal boundaries.

GAM – Groundwater Availability Model: The process of developing and using computer programs to estimate future trends in the amount of water available in an aquifer and is based on hydrogeologic principles, actual aquifer measurements, and stakeholder guidance.

GBC – Guadalupe Basin Coalition: A voluntary association of businesses, Chambers of Commerce, and governmental entities in counties along the Guadalupe and San Marcos rivers that are bonded by a common concern for the sustained viability of the Guadalupe and San Marcos rivers both economically and environmentally. UGRA is a non voting member of the GBC.

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GBNRC – Guadalupe Basin Natural Resources Center: The building where the UGRA offices are located. The building is owned by the State of Texas, but UGRA is the perpetual steward of the property.

GBRA – Guadalupe-Blanco River Authority: Provides stewardship for the water resources in its ten-county statutory district, which includes Kendall, Comal, Hays, Caldwell, Guadalupe, Gonzales, DeWitt, Victoria, Calhoun and Refugio counties.

GBRT – Guadalupe-Blanco River Trust: A 501(c)(3) nonprofit land trust organization that was developed to conserve land in the Guadalupe River watershed for its natural, recreational, scenic, historic and productive value. It was founded in 2001 by the Guadalupe-Blanco River Authority and UGRA has also partnered with the Trust. Currently, Director Kercheville serves as a trustee on the GBRT board.

GCD – Groundwater Conservation District: Local authorities created by the legislature required to develop and implement groundwater management plans that must be submitted to the Texas Water Development Board (**TWBD**) for approval. There are 95 groundwater districts in Texas and the Headwater Groundwater Conservation District (**HGCD**) is the GCD in Kerr County.

GIS – Geographic Information System: A system that captures, stores, analyzes, manages, and presents data that is linked to location. Technically, a GIS is a system which includes mapping software and its application to remote sensing, land surveying, aerial photography, mathematics, photogrammetry, geography, and tools that can be implemented with GIS software.

GMA – Groundwater Management Area: The Texas Water Development Board (**TWDB**) designated Groundwater Management Area boundaries in response to legislation passed in 2001 with the objective to delineate areas considered suitable for management of groundwater resources. There are 16 GMAs covering the entire state and Kerr County is in GMA 9. A GMA should ideally coincide with the boundaries of a groundwater reservoir or a subdivision of a groundwater reservoir, but it may also be defined by other factors, including the boundaries of political subdivisions. GMAs are tasked with establishing desired future conditions (**DFC**) for the relevant aquifers within the management area.

GPS – Global Positioning System: A U.S. space-based global navigation satellite system. It provides reliable positioning, navigation, and timing services to worldwide users on a continuous basis in all weather, day and night, anywhere on or near the Earth. GPS has become a widely used to aid navigation worldwide.

GTA – Groundwater Technical Assistance: A section of the Groundwater Resources Division of the Texas Water Development Board. The purpose of the section is to provide technical information to Texans on the groundwater resources of the state.

HGCD – Headwaters Groundwater Conservation District: Part of the Hill Country Priority Groundwater Management Area and was created by the Texas Legislature in January 1991. The District was organized to protect the underground water resources of Kerr County. It registers

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and permits wells drilled in the county and investigates the aquifers to determine appropriate plans for future development.

INELA – Institute for National Environmental Laboratory Accreditation: Organization established to assist **NELAC**'s move towards self-sufficiency. INELA is a not-for-profit educational and scientific voluntary consensus organization whose mission is to foster the generation of environmental laboratory data of known and documented quality through the development of performance standards for accreditation of environmental laboratories.

KCEHD – Kerr County Environmental Health Department: Kerr County Department responsible for providing for the health, safety, and welfare of Kerr County residents and the environment. They do this by ensuring that all on-site sewage facilities (OSSF) systems are installed in accordance with the State's rules and regulations and that all OSSF complaints are investigated. KCEHD staff also actively enforces solid waste public nuisances, illegal dumping, and illegal burning laws as outlined in Texas State Codes.

LIMS – Laboratory Information Management System: The environmental laboratory's database that stores sample test information and results.

MAG – Managed Available Groundwater: The desired future condition (**DFC**) is used to develop a volumetric number of water available to withdraw from the aquifers – the managed available groundwater. The MAG allows the groundwater districts to issue permits only up to the total amount of groundwater available to support the **DFC**.

MOU – Memorandum of Understanding: A document describing a bilateral or multilateral agreement between parties.

NELAC – National Environmental Laboratory Accreditation Conference: A cooperative association of state and federal agencies formed to establish and promote mutually acceptable performance standards for the operation of environmental laboratories. The standards cover both analytical testing of environmental samples and the laboratory accreditation process. As of July 1, 2008 any data reported to the State of Texas needs to be generated by a NELAC accredited lab. The UGRA environmental laboratory is NELAC accredited.

NELAP – National Environmental Laboratory Accreditation Program: The program that implements the **NELAC** standards.

NPDES – National Pollutant Discharge Elimination System - Water pollution degrades surface waters making them unsafe for drinking, fishing, swimming, and other activities. As authorized by the Clean Water Act, the NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

NRCS – Natural Resource Conservation Service: An agency of the U.S. Department of Agriculture (**USDA**) formerly known as the Soil Conservation Service that provides assistance to private landowners and managers to conserve their soil, water, and other natural resources.

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OSSF – On Site Sewage Facility: Wastewater systems designed to treat and dispose of effluent on the same property that produces the wastewater. A septic tank and drainfield combination is the oldest and most common type of OSSF, although newer aerobic and biofilter units exist which represent scaled down versions of municipal sewage treatments. OSSFs account for approximately 25% of all domestic wastewater treatment in the United States.

PO – Purchase Order: All UGRA purchases must be accompanied by an approved purchase order form.

PT – Proficiency Test: A blind test purchased from a **NELAC** approved provider. The environmental laboratory must pass two PTs per year for each of our **NELAC** certified tests.

PWPG – Plateau Water Planning Group: Kerr County's Regional Water Planning Group (**RWPG**) also known as Region J.

QA – Quality Assurance: Refers to the planned and systematic procedures to determine whether the data produced is meeting specified requirements.

QA/QC – Quality Assurance/Quality Control: The entire quality system to ensure only the highest quality data is produced.

QAPP – Quality Assurance Project Plan: A state approved plan outlining the specific monitoring plan and quality objectives for a surface water quality monitoring program. All surface water quality data submitted to the Texas Commission on Environmental Quality (**TCEQ**) must be collected under an approved QAPP. UGRA abides by QAPPs for the **CRP** and **TMDL** programs.

QC – Quality Control: A procedure or set of procedures intended to ensure that data produced adheres to a defined set of quality criteria or meets the requirements of the client or customer.

RWPG – Regional Water Planning Group: Texas is divided into 16 regional planning areas that are responsible for preparing and adopting a regional water plan for their area – surface water and groundwater – to ensure each county in the region has sufficient water to sustain its projected population and economic needs. RWPG use groundwater availability models (**GAM**) and surface water availability models (**WAM**) to plan water supply and/or conservation projects. There has been a conflict recently because subsequent legislation created Groundwater Management Areas (**GMA**s) and tasked them with developing desired future conditions (**DFC**) for their area. The RWPGs must now include these conditions in their regional water plans but have not had a say in their development.

SWCD – Soil and Water Conservation District: A subdivision of state government (**TSSWCB**) brought into existence by a vote of the landowners within the boundaries of a district. It is administered by a board of five directors who are elected by their fellow landowners. SWCD directors must have knowledge of the conservation problems in their district and have the ability to organize people and resources for effective action in conserving soil and water, thereby making the land more productive. Kerr County is SWCD #217.

SOP – Standard Operating Procedure: A set of instructions outlining the step by step process needed to accurately complete sample analysis or collection. All UGRA lab technicians are trained to follow the SOPs for the testing they conduct.

SWQM – Surface Water Quality Monitoring: A Texas Commission on Environmental Quality (TCEQ) program that monitors the quality of surface water to evaluate physical, chemical, and biological characteristics of aquatic systems. Water quality is monitored in relation to human health concerns, ecological condition, and designated uses. The data collected under this program provides a basis for effective policies that promote the protection, restoration, and wise use of surface water in Texas.

SWQMIS – Surface Water Quality Monitoring Information System: The Texas Commission on Environmental Quality (TCEQ) database that stores surface water quality data used for monitoring and assessment. Data must meet specific objectives outlined in the Quality Assurance Project Plan (QAPP) in order to be included in SWQMIS

TCEQ – Texas Commission on Environmental Quality: The environmental agency for the State of Texas regulating air, water, and the safe management of wastes.

TD – Technical Director: A laboratory position with specific qualifications outlined by the National Environmental Accreditation Conference (NELAC). All NELAC certified labs must maintain at least one qualified Technical Director and Deputy TD.

TMDL – Total Maximum Daily Load: A calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards. Section 303(d) of the Clean Water Act requires states to develop lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet the water quality standards set by the states. Once a water body is listed as impaired, the law requires that the states develop TMDLs for these waters. A four miles reach of the Upper Guadalupe River in Kerrville was listed as impaired due to high E. coli bacteria levels in 2002 and a TMDL was adopted in 2007.

TMDL-IP – Total Maximum Daily Load – Implementation Plan: Once a TMDL is adopted by the state and EPA, a plan must be developed to identify the pollution reduction strategies necessary to achieve the desired load reductions and a detailed plan for implementation. The Texas Commission on Environmental Quality (TCEQ) is responsible for developing the implementation plan. UGRA received a three-year grant under section 319 of the Clean Water Act to develop an implementation plan at the local level in conjunction with a local stakeholder group.

TNI – The NELAC Institute: A 501(c)(3) non-profit organization whose mission is to foster the generation of environmental data of known and documented quality through an open, inclusive, and transparent process that is responsive to the needs of the community. TNI provides guidance for the NELAC certification process.

TPDES – Texas Pollutant Discharge Elimination System: A regulatory program to control discharges of pollutants to surface waters. The state of Texas assumed the authority to

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administer the National Pollutant Discharge Elimination System (**NPDES**) program in Texas on Sept. 14, 1998. NPDES is a federal regulatory program to control discharges of pollutants to surface waters of the United States. The Texas Commission in Environmental Quality (**TCEQ**) TPDES program now has federal regulatory authority over discharges of pollutants to Texas surface water, with the exception of discharges associated with oil, gas, and geothermal exploration and development activities, which are regulated by the Railroad Commission of Texas.

TPWD – Texas Parks and Wildlife Department: The state agency to manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.

TSSWCB – Texas State Soil and Water Conservation Board: The state agency that administers Texas’ soil and water conservation law and coordinates conservation and nonpoint source pollution abatement programs throughout the State. TSSWCB offers technical assistance to the state’s 217 soil and water conservation districts (**SWCDs**).

TWDB – Texas Water Development Board: The state agency that provides leadership, planning, financial assistance, information, and education for the conservation and responsible development of water for Texas.

USDA – United States Department of Agriculture: A federal government agency responsible for developing and executing policy on farming, agriculture, and food. It aims to meet the needs of farmers and ranchers, promote agricultural trade and production, work to assure food safety, protect natural resources, foster rural communities and end hunger in the United States and abroad.

USGS – United States Geological Survey: A scientific agency of the United States government with no regulatory responsibility. The USGS provides reliable scientific information in four main disciplines: biology, geography, geology, and hydrology.

WAM – Water Availability Model: The process of developing and using computer programs to estimate future trends in the amount of water available. They incorporate stream flow and reservoir levels over a historical period of record and adhere to the prior appropriation doctrine, which governs Texas’ water right priority system. WAMs are the fundamental tools used to determine surface water availability for water rights permitting, and contain information about water rights in each respective river basin.