

COMMUNITY MONITORING



GROUNDWATER CONNECTION FACT SHEET SERIES

What is a community-based groundwater monitoring project?

The project is based on a partnership with community members, scientists and decision makers. The program relies on volunteer community members to collect water level measurements from their personal wells. The water level readings are submitted to a scientific research team, who analyze the data and provide an interpretation to residents of the community and decision makers.

A community-based groundwater monitoring project works because of the partnership between community members, scientists and decision makers.

How are volunteers recruited and selected?

Volunteers can be recruited by the County through their rural newspaper and/or personal visits. The recruitment method for volunteers will depend on the desired well locations for the study. For the Rocky View County study, specific landowners were approached for the initial watershed project in West Nose Creek; however media was used when the project expanded to the entire County. The use of media allowed for a larger population to be informed about the project, in order to try and recruit a representative sample across the County. The selection of the recruited volunteers depends on their ability to commit to the long-term monitoring project, willingness to sign an informed consent form and their well site.

The well site recruitment and selection is important to ensure various locations and depths of wells are represented within the designated study area. The well condition is also taken into consideration during the selection process. The well must not be in a well pit due to the increased dangers associated with them and must be in an area that is easily accessible all year long. It is desirable to have the information on well construction details, reported by the well driller to the regulatory agency (e.g. Alberta Environment) at the time of drilling. The wells with driller's reports provide much more useful information than the ones without.

What does community-based monitoring allow for?

The use of volunteer community members allow for a scientific study to be conducted in an area (watershed or municipality), while keeping the project costs low. Monitoring wells are expensive to drill and maintain; therefore, it is not within the budget of most municipalities to create a dense monitoring well network. The proposed solution is to use wells that have already been drilled for domestic or stock purposes. The use of these wells allow for a denser well network to be monitored, within a smaller area, in a cost effective manner. This type of network is sustainable for a long-term monitoring project that will allow for the seasonal and inter-annual fluctuations of aquifer water levels to be recorded. The baseline data collected during a long-term monitoring program in a rural setting can be used to provide locally based information on groundwater in a timely manner. In addition, this information can be used to make sustainable groundwater management decisions.

The use of community-based monitoring allows for communication with members of the community. This can provide information about changes to the landscape or land cover that might have an impact on the hydrologic processes. The local knowledge of residents who have spent years in the same location can provide insights into changes that might not be documented through a strictly scientific study. Connection with community members also allows for people to voice their concerns about water resources within their area. This communication allows for a partnership to be developed, which can benefit all participating members.

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What makes people want to participate?

Participants are generally interested in local water resources and have a desire to help gather data and assist in water resource conservation. The feedback received from participants has been focused on their desire to assist in gaining a greater understanding and allow for better management of water resources. Since water is vital for both agriculture and human residential life in rural Alberta, people are interested in what is currently happening with their groundwater and potential changes to their water levels.

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