

Water Advisory Commission



La Plata County
Colorado

Date: June 11, 2015

Policy Bulletin # 5
Subject: Hydrological Study

Policy Question: Will a County-wide ground water hydrological study: (1) tell the community anything we do not already know, or (2) be the best use of La Plata County's limited fiscal resources?

Background/Issue(s): Having heard from two local engineers, one of whom has performed the largest hydrological study in La Plata County (for the USGS), and having seen a demonstration of some of the capacities of the County's GIS system, the Commission focused its discussion on two primary areas: (1) the value of a county-wide hydrological study and (2) the value of obtaining available data for import into the County's GIS system.

Conclusion(s)/Recommendation(s): In general, the Commission regards a hydrological map of the La Plata County as something that would be of interest to have, though not something that would likely inform development, growth, or land use decisions. It does not appear a hydrological study will tell the County anything it does not already know for the following reasons:

1. Significant growth in the County is not going to be supported by groundwater. It is going to require the greater capacity of domestic water systems.
2. There may be significant variability between wells within short distances of each other due to subsurface conditions and fracture locations (wells within 10' of each other may have varying production and thus even with a county-wide study, site specific studies and well installations would need to occur to understand development potential on an individual parcel).
3. The source of water supply to various parts of the County is already generally understood (those areas served by districts, by wells, where hauling is prevalent, etc.).

Additionally, as more domestic water systems come on-line, the Commission believes the need for hydrological data will decline.

Available Data

The Commission is impressed with the ability of the County's GIS system to hold data and represent it graphically so that it is accessible to County residents. The Commission believes it would be worthwhile to pursue the collection and input of readily available data within the next 18 months. It does not advocate putting a great deal of County resources toward this; rather, the

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Page 2 of 2

Commission suggests seeking easily-available data that can be obtained with a minimum level of effort within the existing work capacities of County staff.

Key data sources relative to water supply include the Colorado Department of Public Health and Environment (“CDPHE”) and water and sanitary districts. It is possible that the Colorado Oil and Gas Commission (“COGCC”) may have some relevant data. Oil and gas companies also collect geologic information, some of which may be relevant to water supply.

The attached tables identify potential sources of data and include:

- Table 1. Data sources sorted by type of data (groundwater level, water quality, geology)
- Table 2. Data sources sorted by estimated benefit (from high to low)

The rankings in Table 2 are based generally on (1) usefulness of data; (2) reliability of data; and (3) ease of obtaining the data – digital format and publicly available.

The data sources identified as most valuable based on the aforementioned criteria include lists of CDPHE-permitted systems followed by system provider/district lists of parcels served. Additionally, COGCC requires operators to collect water quality data, which may also be readily available. For system data, it is recommended that both water and sewer system data be gathered as the two together effect development potential of a particular parcel or area.

It is noted that Division of Water Resources has data on permitted groundwater wells that is already available on the County GIS.

As stated above, relevant geological and hydrogeological data may be available through private oil and gas companies, and if the County would like to include such data in its GIS system, it will need to explore the willingness of companies to share their data.

Again, the Commission emphasizes that such information would not likely impact development, growth or land use decisions and, therefore, should not be the focus of significant County resources.

Attachments:

Table 1. Hydrologic Data to Consider for County GIS – Sorted by Data Type

Table 2. Data to Consider for County GIS – Sorted by Overall Benefit/Value

Hydrologic Data to Consider for County GIS

Table 1. Sorted by Data Type

Overall benefit/value may be adjusted as data sources are researched and assumptions updated

Data Type	Entity	Description	Digital or Manual	Reliability Level (lo, med, hi)	Level of Effort to Obtain and Input Data	Overall Benefit/Value (1-high to 3-low)	Notes
Well Location	DWR	existing	existing	existing	existing	existing	existing
GW Level	County	8-hr pump test: static water level meas.	M	med-lo	high (manually pull from land use permits)	2	lack of verifiability
GW Level	DWR	well construction reports	M	med-lo	med-hi (manually pull from online pdfs)	2	lack of verifiability, construction report can be an after-thought to drilling the well
GW Level	COGCC ?	oil and gas company studies	D?	med-hi	lo or med (assuming digital)	1	standards likely
Well Production	County	8-hr pump test: pumping rate	M	med-lo	high (manually pull from land use permits)	3	lack of verifiability, meeting code reqs can drive false recordings, pump operation set to discharge at pre-determined rate
Well Production	DWR	well construction reports	M	med-lo	med-hi (manually pull from online pdfs)	3	lack of verifiability, construction report can be an after-thought to drilling the well
Well Production	COGCC?	oil and gas company reporting	D?	med-hi	lo or med (assuming digital)	1	standards likely
Well Production	CDPHE?	public water system reporting	D?	med-hi	lo or med (assuming digital)	1	standards in place
Water Quality	County	land use permit submittal	M	low	high (manually pull from land use permits)	3	lack of sample handling, protocol and chain-of-custody
Water Quality	CDPHE	public water system reporting	D?	med-hi	lo or med (assuming digital)	1	standards in place; need raw rather than treated water data
Water Quality	COGCC	oil and gas company reporting	D?	med-hi	lo or med (assuming digital)	1	standards likely
Parcel Water Source	Water Districts	customer list	D?	hi	lo or med (assuming digital)	1	list necessary for operation
Parcel Water Source	County	land use permit	M	med-hi	high (manually pull from land use permits)	3	some parcels permitted with wells but actually haul; common knowledge largely indicates where hauling v well production is prevalent
Parcel Water Source	CDPHE	list of permitted systems	D?	hi	low	1	list publicly available
Parcel Water Source	HOA	list of taps/parcels served	M	med-hi	med	2	common knowledge largely indicates water sources for specific areas; a relatively small amount of effort, however, could provide a more detailed picture
Surface Geology	SJBH	soil pit test for OSWS permit ap	M?	med-hi	high (likely not readily available and to require manually pulling data from permits)	3	only goes to 8 feet
(Hydro)Geology	CGS/USGS	studies and models	D?	high	lo or med (assuming digital)	2	protocols established, therefore strong data; data may be more one of interest and quality than one that guides development decisions
(Hydro)Geology	O&G Companies	oil and gas company studies	D?	med-hi	high based on discussion/agreements needed; med-lo based on data import	2	protocols established, therefore strong data; data may be more one of interest and quality than one that guides development decisions
(Hydro)Geology	COGCC	oil and gas company studies	D?	med-hi	lo or med (assuming digital)	2	protocols established, therefore strong data; data may be more one of interest and quality than one that guides development decisions
(Hydro)Geology	COGCC/EPA UIC Programs	oil and gas company studies/reporting	D?	med-hi	lo or med (assuming digital)	2	protocols established, therefore strong data; data may be more one of interest and quality than one that guides development decisions
Parcel San Sewer	Sanitary Districts	customer list	D?	high	lo or med (assuming digital)	1	list necessary for operation
Parcel San Sewer	CDPHE	list of permitted systems	D?	high	low	1	list publicly available
Parcel San Sewer	SJBH	OSWS permits	?????	med-hi	high ? (likely not readily available and to require manually pulling data from permits)	3	already known to be generally wherever san districts are not located; some may have been abandoned without documentation; desired info is distance to water well and data (esp water well data) not specific enough to provide this info

Additional potential sources of data: United States Forest Service (USFS), Natural Resources Conservation Services (NRCS), United States Army Corps of Engineers (USACE)

Hydrologic Data to Consider for County GIS

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GW Level	COGCC (maybe)	oil and gas company studies	D?	med-hi	lo or med (assuming digital)	1	standards likely
Well Production	COGCC (maybe)	oil and gas company reporting	D?	med-hi	lo or med (assuming digital)	1	standards likely
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