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Division of Water Rights

To: Water Rights Division Staff

From: Kent L. Jones, P.E. 
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Date: December 28, 2018

Subject: **POLICY FOR BEAVER DAM ANALOGUE (BDA) CONSTRUCTION**

With increased activity in constructing man-made, small impoundments on natural streams, often referred to as Beaver Dam Analogues (BDA), it has come to the attention of the Division of Water Rights that there is a significant concern as to the effect these BDAs are having on existing water rights. Downstream users are concerned that by impounding water with a BDA, water that flowed naturally down the stream to the water right holders is now stopped from flowing to them. Even though it is a small amount of water, it is still taking water away from the downstream users. Usually BDA projects proposes to do several of these small impoundments on the same stream which collectively add to the amount of water lost to the system. In addition, they assert that the impoundments allow water to seep into the surrounding riparian area providing water for additional vegetative growth and increased evapotranspiration. It is asserted that this would diminish the amount of water flowing to satisfy downstream water right holders and impair their water rights.

Proponents for the use of BDAs are of the opinion that these impoundments are small and create limited impact to the stream flow and downstream water right holders. They assert that the BDA's actually enhance the stream channel and the streamflow by allowing the water to seep into the riparian areas which allows the water to return to the stream over an extended time period. This in turn helps the stream flow longer than it would if the water went down the channel unimpeded. They further assert that with the BDAs, stream erosion is diminished and riparian zones are healthier. Evidence has been presented that these BDA areas have helped prevent fire damage during wildfire events and have helped restore damaged streams impacted by runoff from these burn areas. Further explanation detailed how many of these structures are temporary in nature and may be washed away in flooding events encountered though the annual water cycle.

The State Engineer is responsible for the general administrative supervision of the waters of the state and the measurement, appropriation, apportionment, and distribution of those waters. We are concerned about protecting the water rights



of others in any decision we make. As such, we are deeply concerned about anyone impounding or diverting water to the detriment of those entitled to the use of that water. That being the case, we realize that there are times when streams are greatly impacted by flooding or other events that affect the channels ability to carry water and allow for the best use of the water. There are times when it is in the best interest of the public and the water right holders to allow natural streams to be modified to protect water rights, land interests, and the natural stream environment.

Having considered the information and concerns as well as the responsibilities of the State Engineer, the following policy for BDA construction will be implemented immediately:

1. Statute states that anyone in the state "...may not alter the beds or banks of any natural stream without first obtaining the written approval of the state engineer." (UCA 73-3-29(1). It further states, "[t]he state engineer may approve the application, in whole or in part, with any reasonable terms to protect vested water rights, any public recreation use, the natural stream environment, or aquatic wildlife." (UCA 73-3-29(4)(c). With these requirements, any BDA construction in the state will require that a stream channel alteration permit be filed with and approved by the Division of Water Rights.
2. The Region Engineer having the responsibility for the area where the BDA is to be constructed shall be responsible to make a determination if water rights will be impacted or not by the proposed construction. Where it is determined that existing water rights may be impacted by the BDA construction and impoundment of water, a water right will have to be obtained through some type of arrangement to compensate downstream users for the impairment. A Temporary Change Application for a water right to cover the anticipated impacts to others will have to be filed with and approved by the Division of Water Rights prior to the construction of the BDA. The right to use the water obtained shall be for enough water to cover anticipated impacts to downstream water users from the implementation of the project.

It is assumed that impacts to the system will be stabilized during the one year time frame the Temporary Change Application is in effect. If a constructed BDA has been destroyed so that it doesn't function properly and the desire is to rebuild or reinstall the BDA, the appropriate applications will have to be filed and approved prior to the reconstruction of the BDA. The person doing the project shall have the responsibility and liability for the installed BDA. If it is determined by the Regional Engineer that no water rights will be impaired, the only approval required from the Division of Water Rights is a stream channel alteration permit.

3. In areas affected by wildfire events or another similar incidence where it is critical to stabilize channels and help diminish debris flows, no water right will be required. In these instances, a stream channel alteration permit approval is all that will be required from the Division of Water Rights prior to doing the work. A contingency for emergency situations is included in Section 73-3-29(2) which may at times be applicable for these projects.

This policy does not preclude anyone from asserting damages for claims of impaired water rights due to the BDA construction. Care should be taken in any decisions made to minimize the risk of impairment. Any resolution to a claim of impairment will have to be pursued in a court of appropriate jurisdiction and would be the responsibility of the impaired party to initiate.

The State Engineer is of the opinion that the implementation of this policy is an appropriate measure to protect vested water rights, public recreation, the natural stream environment, and aquatic wildlife. The stream alteration permit process is the appropriate mechanism to identify if further water right mitigation measures are necessary and is therefore critical to the BDA project process.