From: Swanda, Marvin R
To: Aycock, Gordon L; Scott, Craig D
Subject: RE: Analysis of Forecasted SW CBCU
Date: Tuesday, August 31, 2010 12:08:04 PM

I am sure this is a stupid question, but was the SW use corrected for the Ks use on KBID? In other words we are looking at HCL storage but some of that goes to Ks.

From: Aycock, Gordon L
Sent: Tuesday, August 31, 2010 11:21 AM
To: Scott, Craig D; Swanda, Marvin R
Subject: RE: Analysis of Forecasted SW CBCU

I looked at the data and recreated what DNR had done to get their forecast equation. Actually it looks quite reasonable and in most cases works to our benefit. There are a couple of years where their method will under forecast the SW use by a small percentage but in most cases it over forecasts the use which then results in stricter GW controls than needed. They used 1999-2005 for the correlation which is a small data set. Looking at the full 15 years of data back to 1995 and including 2006- 2009 all of these additional years fall below the curve with the exception of 1997 and 1998. DNR forecast equation would over forecast all of the additional years except for 1997 and 1998.

I looked at a couple of ways that the forecast method might be improved. If we added 1997 and 1998 it would increase the data set while still providing essentially the same R2 value. If 1996 it lower the R2 value as this year is an outlier. Using 1997-2005 result in less under forecasting as you can see in the attached spreadsheet (I added to Craig spreadsheet). We could as that they consider doing this but we risk opening it up to added more years which would drive things the direction of the equation to more years that are under forecast.

As for as under forecasting SW use in Compact Call years I don't know if this is a real problem as in these years the surface water use and the rapid response GW use will be curtailed anyway.

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From: Scott, Craig D
Sent: Monday, August 30, 2010 2:17 PM
To: Swanda, Marvin R; Aycock, Gordon L
Subject: Analysis of Forecasted SW CBCU

Gordon, attached is a quick analysis of NE's forecasted SW CBCU vs what was actual consumed. Interestingly, there are some years that surface water would have used more than forecasted. Two of those years would have been Compact call years (2002-03).

During the past 4 years SW use has been conderibly less than what would have been allowed under the forecast method. The decrease in use is probably is a result of the IDs delivering less than they historically would of and less users taking surface water.

It seems that SW use becomes more critical when total reservoir content is less than 300, 000. Also during dry years, SW tends to divert all the natural flows in the streams, leaving less water to pass

Compact gages to add to the CWS.

Craig