Colorado River Scenario

The Adopted DFCs would withdraw water from the Colorado River at Bastrop gage. This withdrawal of groundwater would likely contribute to the Colorado River becoming non-compliant, especially in times of drought. This is contrary to State Policies on Environmental Flows. Groundwater is a significant source of freshwater for instream flows necessary to maintain the State's streams, rivers, bays and estuaries (Senate Bill 3).

Expert Witness: Myron Hess

SLIDES SUMMARIZE THE KEY ELEMENTS OF THE SCENARIO

To give the scenario more relevance, starting point conditions are those that existed on January 1, 2012.

Scenario Conditions – Current LCRA WMP (Exhibit 23): Starting January 1, 2012:

1. Highland Lakes Storage[1] was~740,000 acre-feet of water combined storage.
2. Colorado River low flow at Bastrop gage = 283 cfs; ~36 cfs[2] from GW outflow.
3. Colorado River low flow at Austin gage = 101 cfs;
4. THEN GW outflows are 20% of non-Austin gage flow (283-101=182 cfs; 36 cfs = 20%)
5. THEN Return Flows (RF) ~ 146 cfs (no precipitation).
6. IF Extreme Drought continues and lakes drop below 600,000 acre-feet.
7. THEN Interruptible water (irrigation) is cut off and Firm curtailed.
8. THEN No irrigation water April-October; Curtailment will reduce Return Flows
9. THEN Subsistence instream flows at Bastrop to Eagle Lake Gages = 120 cfs June-Feb, 500 cfs March-May (blue sucker spawning season).
10. IF GW outflow was reduced to Zero (0 cfs)
11. IF Austin gage reduced to 46 cfs (minimum wo/emergency order)
12. IF Return Flows were reduced by 20% due to curtailment to 116 cfs
13. THEN Colorado River flow at Bastrop gage ~162 cfs wo/evaporation.
14. **THEN Colorado River flow is non-compliant 3 out of 12 months (25%)**
15. IF LCRA did not release its 33,400 committed to critical instream flows due to an emergency order and Austin gage was reduced to Zero (0 cfs)
16. THEN Colorado River flow at Bastrop gage ~ 116 cfs
17. **THEN Colorado River flow is non-compliant 12 out of 12 months (100%).**

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[1] Highland Lake Storage chart (**Exhibit 22**) available on the LCRA website.

[2] 36 cfs is value used in GAM (26,100 ac-ft/yr) and approximates LCRA field measurements in 2008 (**Appendix 2 Attachment K**)

Scenario Conditions – LCRA Recently Adopted WMP (Exhibit 24): Starting January 1, 2012

1. Highland Lakes Storage[1] was~740,000 acre-feet of water combined storage.
2. Colorado River low flow at Bastrop gage = 283 cfs; ~36 cfs[2] from GW outflow.
3. Colorado River low flow at Austin gage = 101 cfs;
4. THEN GW outflows are 20% of non-Austin gage flow (283-101=182 cfs; 36 cfs = 20%)
5. THEN Return Flows (RF) ~ 146 cfs (no precipitation).
6. IF Extreme Drought continues and lakes drop below 600,000 acre-feet.
7. THEN Interruptible water (irrigation) is cut off and Firm curtailed.
8. THEN No irrigation water April-October; Curtailment will reduce Return Flows
9. THEN Subsistence instream flows at Bastrop Gage = 123-208 cfs June – Jan. and 274/275 cfs Feb, March & May.
10. IF GW outflow was reduced to Zero (0 cfs)
11. IF Austin gage reduced to 50 cfs (minimum wo/emergency order)
12. IF Return Flows were reduced by 20% due to curtailment to 116 cfs
13. THEN Colorado River flow at Bastrop gage ~166 cfs wo/evaporation.
14. **THEN Colorado River flow is non-compliant 8 out of 12 months (66%)**
15. IF LCRA did not release its 33,400 committed to critical instream flows due to an emergency order and Austin gage was reduced to Zero (0 cfs)
16. THEN Colorado River flow at Bastrop gage ~ 116 cfs
17. **THEN Colorado River flow is non-compliant 12 out of 12 months (100%).**

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[1] Highland Lake Storage chart (**Exhibit 22**) available on the LCRA website.

[2] 36 cfs is value used in GAM (26,100 ac-ft/yr) and approximates LCRA field measurements in 2008 (**Appendix 2 Attachment K**)