

LCRA WATER MANAGEMENT PLAN

Participant Meeting

Nov. 8, 2018



FOR DISCUSSION PURPOSES ONLY

Agenda

- Timeline
- Activity since last meeting on Oct. 25
- Comments received since Oct. 25
- Model results summary
- Draft staff recommendation of WMP update
- Discussion

Timeline

- May 21 – First participant meeting
- July 12 – Second participant meeting
- Sept. 6 – Third participant meeting
- Oct. 4 – Fourth participant meeting
- Oct. 25 – Fifth participant meeting
- **Nov. 8 – Sixth participant meeting**
- December – WMP before LCRA Board for approval
- Early 2019 – Plan submitted to TCEQ

Comment Received – CWIC

- Note increase in model output for minimum combined storage
- Further consider allowing unused, allocated first season water to be used in second season
- Note increased safety margin at expense of interruptible users
- Note water rates create incentive for conservation

Comment Received – Environmental Interests

- Alleviate reduced bay inflows
- Request for salinity data and ROC presentation
- Consider firm commitment for environmental flows
- Continue monitoring flows at Wharton subsistence
- Continue assessing occurrence of pulse flows
- Clarify language for high direct bay rainfall
- Clarify process for developing revised WMP language

Comment Received – CTWC

- Compare agricultural water use to duty
- Consider firm benefit for conservation
- Reevaluate interruptible water rates
- Explain how Arbuckle Reservoir benefits upper basin
- Consider pilot program assessing drought probability
- Does proposed WMP allow more interruptible stored water to be released from Mansfield Dam?
- Provide WMP model lake elevation output

Comment Received – CTWC

- Explain how LCRA will monitor/enforce management of ordered-not-diverted water
- Provide notice about agricultural water rate process
- Provide analysis of firm yield of lakes Buchanan and Travis and actual firm use
- Consider ordering provisions
- Consider more conservative approach to water availability modeling

Comment Received – Jordan Furnans

- Provide River Operations Report every day, instead of just weekdays
- Clarify basis of cumulative inflow test

LCRA STAFF PROPOSAL



FOR DISCUSSION PURPOSES ONLY

Water Management Plan

- The basic objectives:
 - Meet firm demands without shortage
 - Maintain minimum combined storage
- The basic framework:
 - Three water supply conditions – Normal, Less Severe Drought and Extraordinary Drought
 - Two evaluation dates for interruptible water availability for agriculture
 - Look-ahead tests
 - Environmental flow criteria

Proposed WMP Updates

Item	Staff Recommendation
Hydrology	Add hydrology through 2016
Demand scenarios	<ul style="list-style-type: none">• Base demands on highest expected use for the 2020 to 2025 timeframe• Apply weather variability to all demand types
Other LCRA water rights	Add assumptions on use of LCRA's amended Garwood water right and Arbuckle Reservoir

Proposed WMP Updates – Interruptible Agriculture

Item	Staff Recommendation
Application of limits on interruptible stored water for agriculture	<ul style="list-style-type: none"> • Reduce maximum amounts of interruptible stored water available for diversion • Modify curtailed amounts of interruptible stored water • Modify combined storage trigger level for entering Less Severe Drought in first and second season • Modify trigger level for a partial curtailment of second season under Normal conditions
Limit on releases of interruptible stored water	Add maximum limit on releases of interruptible stored water
Approach for curtailing interruptible agricultural supply under different drought scenarios	Include additional test for entering Extraordinary Drought
Anytime (or mid-crop) cutoff for interruptible agricultural supply	Increase combined storage level for anytime cutoff during a crop season to 1 million acre-feet (for Normal and Less Severe Drought conditions)

Proposed WMP Update – Environment

Item	Staff Recommendation
Dedicated releases for environmental flows	Update annual and multi-year caps for dedicated releases of environmental flows
Releases for bay inflow needs	<ul style="list-style-type: none">• Continue five levels of bay inflow criteria• Update limitations on releases of water for bay inflow needs
Releases for instream flows	<ul style="list-style-type: none">• Modify combined storage trigger for switching from Base-Dry to Subsistence criteria• Modify obligation at Wharton gauge when combined storage is less than 900,000 acre-feet
Use of Arbuckle Reservoir to help meet environmental flow needs	Use water stored in Arbuckle Reservoir to help meet obligations for bay inflows

Proposed WMP Update – Environment

Item	Staff Recommendation
Decision dates for determining interruptible agricultural supply and environmental criteria	Add a Nov. 1 evaluation date for environmental flows for November through the following February
Waiver of bay inflow obligation based on bay conditions	Add provision to waive requirements to release storable inflows for bay operations criteria when bay has received significant rainfall that resulted in optimal salinity levels for a specified duration.

Proposed WMP Update – Other

Item	Staff Recommendation
Combined firm yield of lakes Buchanan and Travis	418,800 acre-feet per year
Drought Worse Than Drought of Record	Update intensity test cumulative inflow criteria based on 2008-2016 drought and duration test drought length criteria to 84 months

Recommended Operation of Arbuckle Reservoir

- Supplies water for firm and interruptible customers
- Allows 25 percent of water stored in Arbuckle to be available for agricultural irrigation in curtailment years
- Helps meet bay inflow obligation
- Allows river flows to pass by to help meet bay Threshold criteria
- Helps meet Threshold criteria when Arbuckle storage is above 20,000 acre-feet

WMP MODEL RESULTS



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WMP Model Results Recap

	Nov. 8 WAM
Minimum combined storage (acre-feet)	659,903
Percent of months storage is above 900,000 acre-feet	97 percent

WMP Model Results Recap

Water for agricultural irrigation:

	Nov. 8 WAM
	(years out of 77)
Full supply both 1st and 2nd season	58
Full supply 1st season	61
Curtailed 1st season	4
No stored water 1st season	11
Mid-crop cutoff	1
Full supply second season	58
Curtailed 2nd season	4
No stored water second season	15

WMP Model Results Recap

Attainment of instream flows at Wharton:

	Nov. 8 WAM (percent)
Base-Average	56
Base-Dry	77
Subsistence	99.8

Attainment of bay inflows:

	Nov. 8 WAM (percent)
MBHE-4	38
MBHE-3	43
MBHE-2	53
MBHE-1	69
Threshold	95

DISCUSSION



Next Steps

- Submit comments to LCRAWMP@lcra.org
- LCRA Water Operations Committee meeting on Wednesday, Nov. 14
- LCRA Board meeting on Tuesday, Dec. 11