# Water Management Plan Update

Participant Meeting April 23, 2025



#### Agenda

- Review comments received after first
   participant meeting
- Review updates to demands
- Discuss naturalized flows
  - What naturalized flows are
  - How naturalized flows are used in the modeling
- Discuss the Water Availability Model (WAM)
  - What the WAM is
  - How modeling is performed
- Discussion and questions



# Response to Comments

## **Response to Comments**

- Preparing written response for comments
  - Will post on www.lcra.org
- Will discuss comments regarding information presented at the March 27 meeting
- Will continue to consider participant input throughout the update process

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## **Comments Received**

- Received from three commenters
- Numerous topics including:
  - Water demands
  - Environmental flows
  - Potential changes to how and when WMP is updated

#### **Comments Received – Process Related (For Future Discussion)**

- Make substantial changes to allocation of water for interruptible agriculture and the environment
- The WMP works, please do not make drastic changes
- Update the WMP on a more frequent basis

#### **Comments Received – Naturalized Flows**

- Extend hydrology through 2024
  - We will use naturalized flows data through 2023 as approved by TCEQ
- Will reservoir evaporation study data be used in the WAM?
  - LCRA expects to continue using the TWDB-approved data.

#### **Comments Received – Water Demands**

- Why is the City of Austin high demand lower than in 2020 WMP?
  - Austin wholesale customers are now included in the Firm Other category instead of included in the City of Austin's demands
  - Used the average of the three highest GPCDs since 2011, not the 2011 GPCD
- Why are the City of Cedar Park's projected demands for 2032 similar to 2023 usage?
  - Demand table updated to include wholesale customers
  - Cedar Park population anticipated to plateau as the community nears build out

#### **Comments Received –** Water Demands

 Demands associated with Brazos River Authority contract and the Brushy Creek Regional Utility Authority (BCRUA)

– Three LCRA contracts in Williamson County

(in acre-feet)	Cedar Park	Leander	Brazos River Authority
Max Available Quantity	23,000	31,000	25,000
2032 High Projection	19,479	18,665	8,800

- BRA contract currently supplies water to Round Rock, Liberty Hill and Georgetown
  - Round Rock, Liberty Hill and Georgetown also receive non-Colorado River basin supplies
- Brushy Creek Regional Utility Authority distributes water from Lake Travis to various entities:
  - Cedar Park, Leander and BRA customers: Round Rock, Liberty Hill, Georgetown

#### **Comment Received – Water Demands**

- Provide percentages of water usage for each firm customer contract
  - Will be included in written response
- Conditions under which Garwood Irrigation Division will no longer be able to purchase agricultural interruptible water from LCRA
  - LCRA provides water consistent with the Garwood Purchase Agreement
  - Interruptible stored water cut off if combined storage is below 600,000 acre-feet and Drought Worse Than Drought of Record is declared

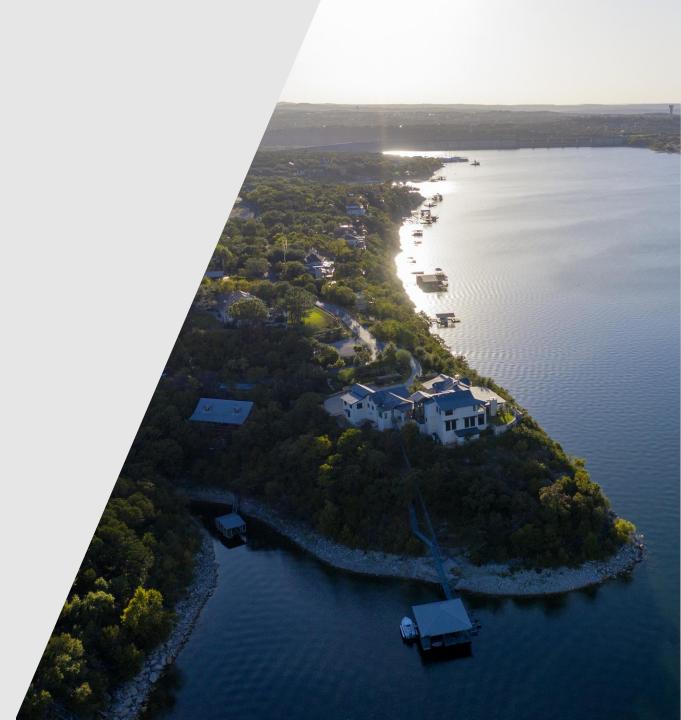
#### **Comments Received – Environmental Flows**

- Confirm that all releases for the state-threatened Blue Sucker fish are appropriate for current regulatory status
  - LCRA no longer makes designated releases for the Blue Sucker
  - Needs for the Blue Sucker are considered along with other habitat needs
- When run-of-river flows meet Matagorda Bay environmental needs, confirm that those flows are sufficient for the Blue Sucker fish
  - Instream flows and Bay inflows are evaluated separately

#### **Comments Received – Environmental Flows (For Discussion at June Meeting)**

- Reduce the percentage of inflows to be released from upper basin lake storage for bay criteria
- Apply bay threshold level when combined storage falls to 1.3 million acre-feet

# **Update to Water Demands**



#### Preliminary Projected 2032 Demands

#### Summation correction for Municipal/Manufacturing - Other

	Normal (a-f/year)	High (a-f/year)
Municipal/Manufacturing		
City of Austin	183,200	207,100
Other	159,000	182,600
Steam-Electric		
LCRA	14,500	19,700
City of Austin Power Plants	7,300	10,300
STP	39,400	39,400
Bastrop Energy Center	2,300	2,300
Agriculture		
Lakeside	85,700	140,200
Garwood	81,900	100,000
Pierce Ranch	24,100	30,000
Gulf Coast	110,000	151,000

#### LCRA Projected Firm Demands and Recent LCRA Firm Customer Use

Customer name	High Projected Use 2032	Normal Projection Use 2032	2022 Actual Water Use	2023 Actual Water Use
	a-f	a-f	a-f	a-f
1 City of Austin Municipal <sup>a,b,c</sup>	207,051	183,241	175,431	174,06
2 South Texas Nuclear Project, Consumptive Use <sup>b</sup>	39,400	39,400	38,991	38,76
3 LCRA Generation <sup>b</sup>	19,700	14,400	13,426	10,66
4 City of Leander	18,665	15,625	11,932	12,34
5 City of Cedar Park	19,479	18,619	16,304	16,51
6 City of Pflugerville	14,939	13,019	8,897	7,11
7 HIF	11,264	11,264	0	
8 Travis County WCID 17	10,800	9,558	9,326	8,94
Austin Energy at FPP <sup>b,c,d</sup>	10,300	7,300	7,138	5,43
OQ Chemicals Corp	10,600	8,872	7,054	4,91
1 West Travis County PUA	9,808	9,376	8,548	6,64
2 Underground Services Markham, LP	9,300	7,784	7,156	5,36
3 Brazos River Authority	8,800	7,788	3,214	4,84
Domestic Use, Landscape Irrigation and				
4 Temporary Use	6,000	5,022	4,395	4,79
5 City of Dripping Springs <sup>e</sup>	3,914	3,276		
6 City of Marble Falls	3,301	2,921	1,827	1,79
7 Travis County MUD 4	3,958	3,321	3,236	3,25
8 Lakeway MUD	2,822	2,405	2,718	2,38
9 Travis County WCID 10 <sup>a</sup>	2,616	2,315		
O City of Horseshoe Bay	2,586	2,033	2,620	2,31
1 Wells Branch MUD <sup>a</sup>	2,558	2,144		
2 City of Lago Vista	2,496	2,209	1,708	1,60
3 Bastrop Energy Center	2,300	2,300	2,153	2,24
4 Firm Other <sup>a, f</sup>	38,701	31,454	18,492	9,08

Total	461,358	405,646	344,566	323,096
Total Non Austin MUN & IND Only Total	182,607	159,005	107,427	91,924

a. Some City of Austin wholesale demands are expected to transition to raw water contracts with LCRA. These demands are reflected in "Firm Other" for 2032.

b. Natural lake evaporation from STP, LCRA and Austin reservoirs is modeled as an additional demand, except for Lake Fayette where natural evaporation is included in the reported demand.

c. There are additional 2032 demands for City of Austin Municipal (2,900 a-f/year) and Sand Hill Energy Center (1,250 a-f/year) that are met by direct reuse.

d. Decker Power Plant no longer has steam-electric cooling, therefore Decker water use for year 2022 and 2023 is not reported here for a better comparison to projected 2032 demands.

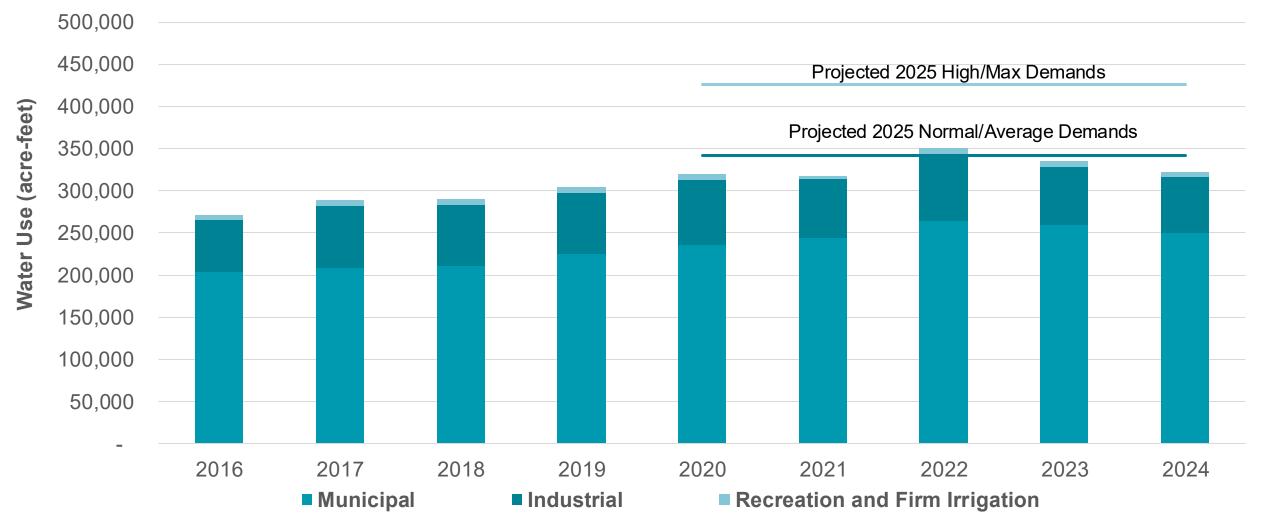
e. City of Dripping Springs was included in "Firm Other" for 2022 and 2023 Actual Water Use.

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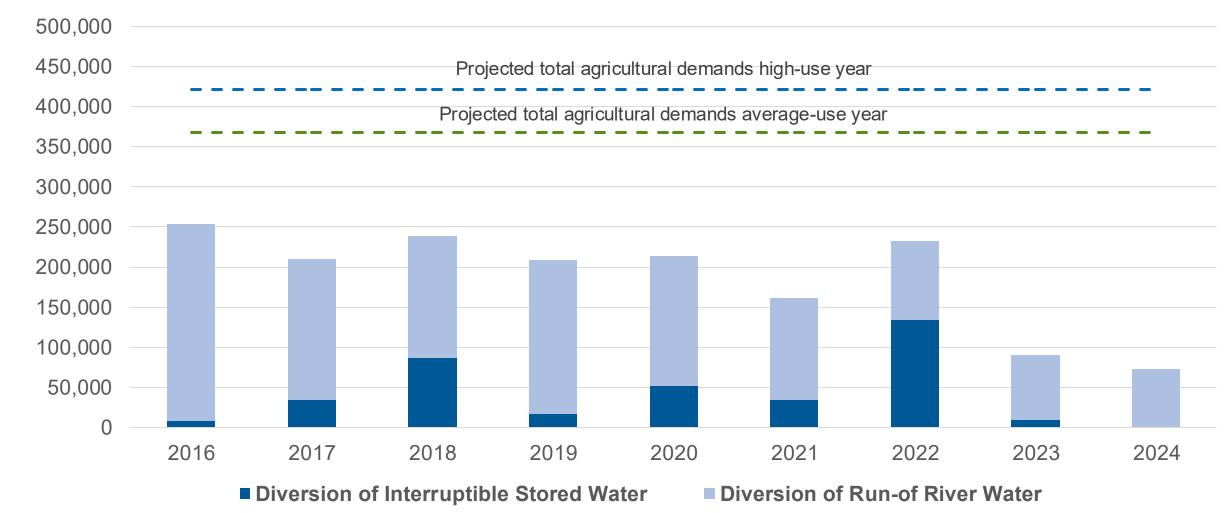
## **Customer Contract Quantity/Usage**

	Contract Amount	2023 Actual	% Usage of Contract
Customer name	(MAQ) a-f/year	Water Use a-f	Amount a-f
City of Austin Municipal	325,000	174,060	
South Texas Nuclear Project, Consumptive Use	40,000	38,765	
LCRA Generation	23,000	10,667	
City of Leander	31,000	12,349	
City of Cedar Park	23,000	16,517	
City of Pflugerville	24,000	7,110	30%
HIF	12,642	0	0%
Travis County WCID 17	11,300	8,945	79%
Austin Energy at FPP	7,500	5,434	72%
OQ Chemicals Corp	8,748	4,917	56%
West Travis County PUA	13,950	6,644	48%
Underground Services Markham, LP	11,621	5,362	46%
Brazos River Authority	25,000	4,844	19%
Domestic Use, Landscape Irrigation and			
Temporary Use	6,000	4,791	80%
City of Marble Falls	7,000	1,799	26%
Travis County MUD 4	4,316	3,255	75%
Lakeway MUD	3,069	2,389	78%
City of Horseshoe Bay	4,450	2,315	52%
City of Lago Vista	4,500	1,600	36%
Bastrop Energy Center	3,220	2,246	70%

#### Municipal, Industrial, Recreation and Firm Irrigation Use From Lakes Buchanan and Travis and Colorado River



#### Use of Interruptible Stored Water and Run-of-River at the Four Downstream Agricultural Operations



\* In 2023 and 2024, interruptible stored water was cut off to operations other than Garwood Agricultural Division.

# Naturalized Flows

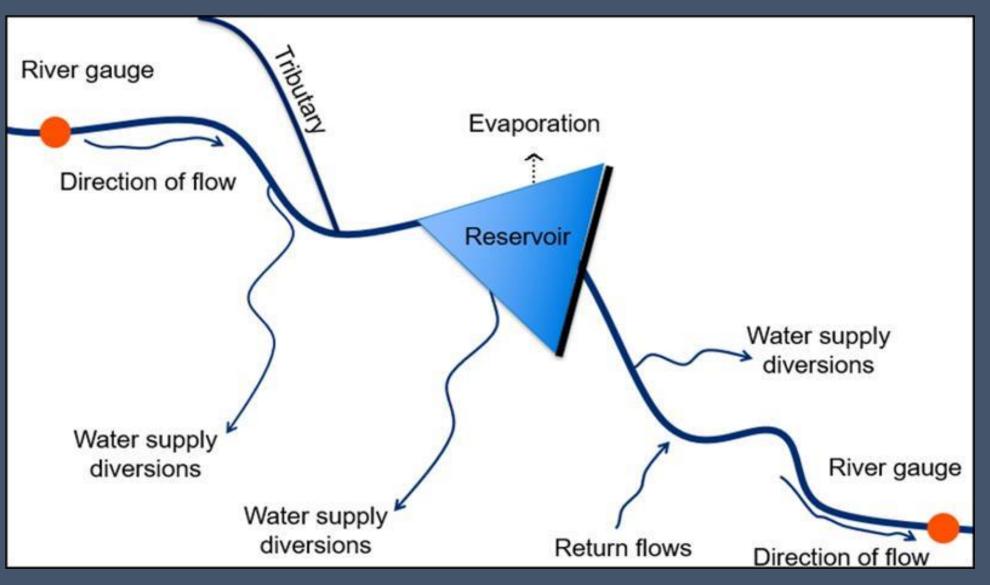
## **Naturalized Flows**

- What the streamflow would have been in the absence of human activities
- Allows examination of new management scenarios and projects, given a repeat of the Colorado River basin WAM period of record
- Naturalized flows are used in:
  - Texas Commission on Environmental Quality permitting model
  - Regional and state water planning
  - LCRA WMP model
  - LCRA Firm Yield model

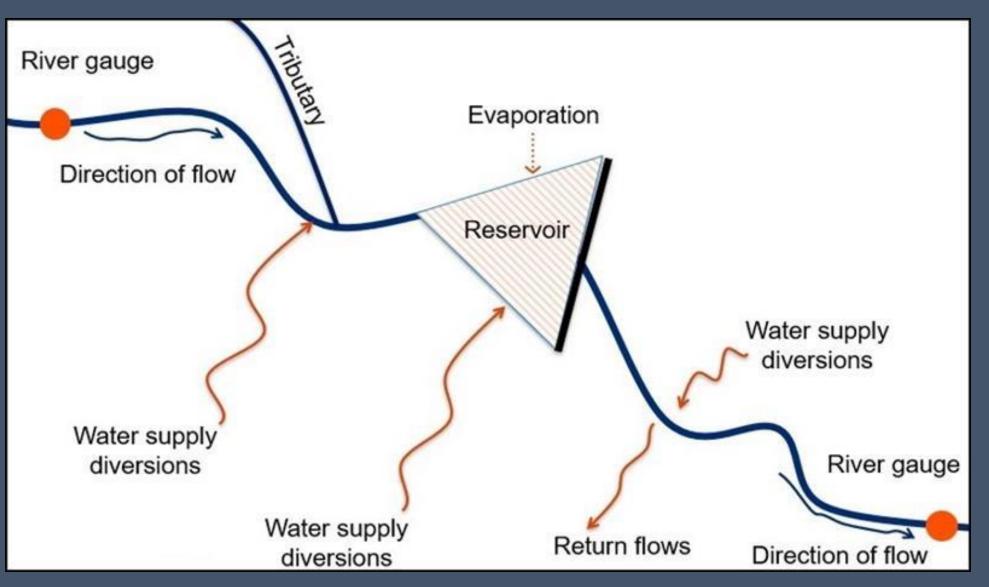
## **Extension of Naturalized Flows Through 2023**

- Includes entire basin
- Added 2017-2023 to the flow dataset
  - Dataset now from 1940-2023
- Incorporated data and other information from Texas Water Development Board, Army Corps of Engineers, utilities and others
- Collaborated with TCEQ for data acquisition and quality control

#### **Gauged Flow Elements**



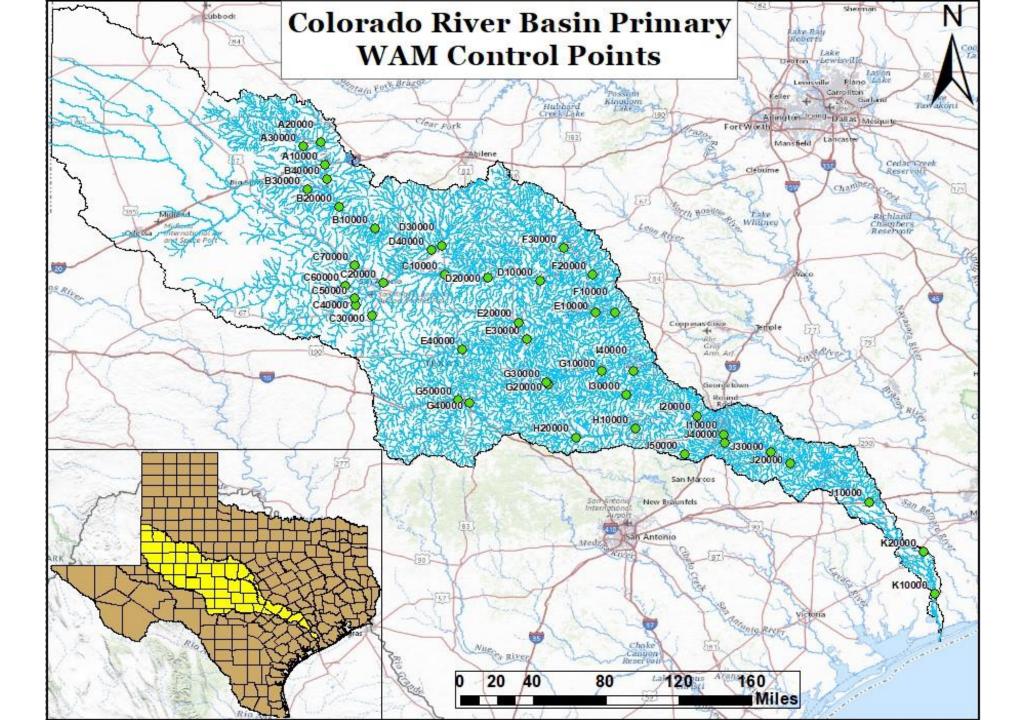
#### **Naturalized Flow Elements**



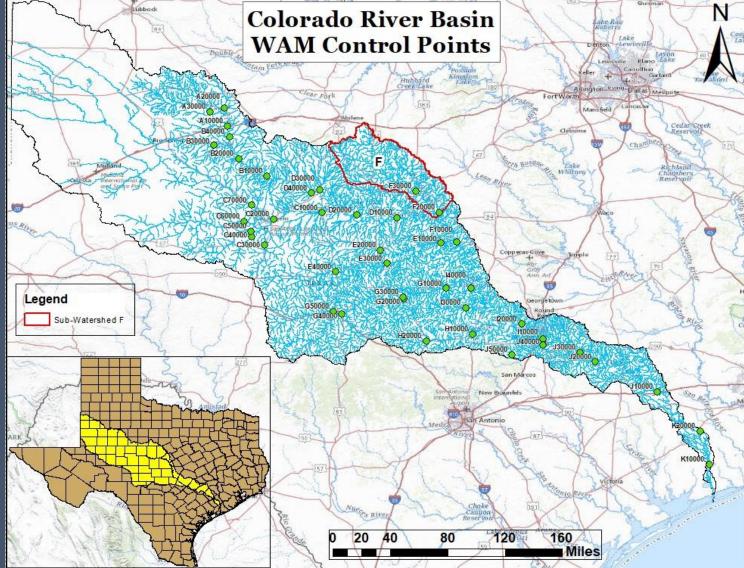
#### What Are Naturalized Flows?

- Gauge flow
- + Diversions
- Return flows
- + Reservoir evaporation
- + Change in reservoir storage

Historic adjustment



#### Location of Pecan Bayou Near Mullin USGS 08143600



#### Pecan Bayou Near Mullin USGS 08143600 - May 2023

Gauge*		Diversions*		Return Flows*		Net Reservoir Evaporation*		Reservoir Content Change*		Total Naturalized Flow*
		Brown County WID 1 and more than 100 other water rights		City of Brownwood Wastewater Treatment Plant		Lake Brownwood, Hords Creek Lake, Lake Coleman, Clyde Lake		Lake Brownwood, Hords Creek Lake, Lake Coleman, Clyde Lake		
3,741	+	936	-	228	+	-298	+	22,328	=	26,479
*In acre-feet										

#### Pecan Bayou Near Mullin USGS 08143600 - July 2022

Gauge*		Diversions*		Return Flows*		Net Reservoir Evaporation*		Reservoir Content Change*		Total Naturalized Flow*
		Brown County WID 1 and more than 100 other water rights		City of Brownwood Wastewater Treatment Plant		Lake Brownwood, Hords Creek Lake, Lake Coleman, Clyde Lake		Lake Brownwood, Hords Creek Lake, Lake Coleman, Clyde Lake		
0	+	2,965	-	162	+	6,310	+	-8,738	=	375
*In acre-feet										

## **Summary on Naturalized Flows**

- Naturalized flows used in Water Availability Modeling
  - Allows the effect of new management scenarios and projects to be examined across the period of record

## **Questions?**

# LCRA's Water Availability Model (WAM)

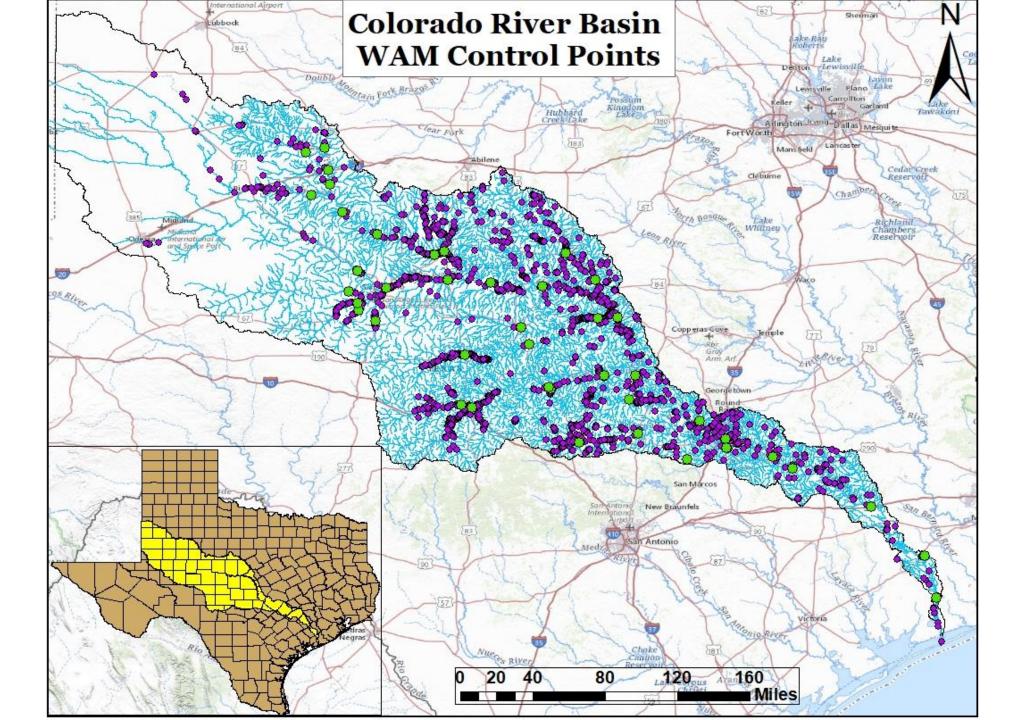
#### **Background on WAM**

#### • What is WRAP and what is WAM?

- Water Rights Analysis Package: Software package
- Water Availability Model: A basin-specific model
- Bottom line: It's "just" a basin-wide streamflow mass balance calculation

#### • Why was it developed?

- Required by statute, TCEQ maintains a WAM for every Texas river basin and coastal river basin for use in water rights administration
- Texas A&M develops and maintains the WRAP
- Who uses it?
  - TCEQ, water supply planners, TWDB and water providers



## **Background on WAM**

#### How does it work?

- The WAM steps through a repeat of historical hydrology 1940-2023
  - One month at a time (monthly timestep)
  - One water right at a time (priority loop)

#### What's the result?

- Likely outcomes under new water management operations
  - Diversion volumes, reservoir storage volumes, streamflow volumes

## LCRA WMP WAM

- Major differences from TCEQ's permitting WAM:
  - LCRA firm customers set to 2032 demands
  - Includes expected 2032 return flows (wastewater treatment plant discharges)
  - "Super cut-off" sets all water rights upstream of Lake Travis to a senior priority
  - Reliable downstream flow limits
- More information in 2020 WMP Appendix A: Technical Papers at www.lcra.org/watermanagementplan

## LCRA WMP WAM

- Summary Results (provided in context of the period of record and drought of record)
  - Firm demands met
  - Reservoir volumes (minimums and frequencies)
  - Instream flows and Matagorda Bay inflows
  - Water supplied for agricultural customers
- Detailed Results of monthly volumes

#### WATER MANAGEMENT PLAN – SCENARIO RUNS *PERIOD-OF-RECORD* RESULTS SUMMARY Prepared for 2020 WMP Update

	PERIOD-OF-RECORD RESULTS		
	(1940 - 2016)	1-4-2019	
	DEMAND CATEGORY / PARAMETER	Run	UNITS
	DEMAND CATEGORY / PAIDINE ER		GINITS
REF	Firm Demands		
	Maximum Firm Demand:	389,425	ac-ft
	Maximum Firm Supply:	389,425	ac-ft
REF	Lake Level		
[1]	% of months combined storage below 900,000 ac-ft	3%	
[2]	% of months combined storage below 600,000 ac-ft	0%	
[3]	Minimum combined storage in lakes Buchanan and Travis	661,879	ac-ft
REF	Interruptible Irrigation - All Divisions		
[4]	Number of years first crop partially curtailed	5	yr
[5]	Number of years no stored water available for first crop	11	yr
[6]	Number of years first crop cut-off mid-season	1	
[7]	Number of years second crop partially curtailed	4	yr
[8]	Number of years no stored water available for second crop	15	yr
[9]	Number of years second crop cut-off mid-season	0	
055	Endermontal Day and Educar (DDE)		
REF [10]	Environmental - Bay and Estuary (B&E) Average annual Matagorda Bay inflow volume	1,610,105	ac-ft
[10]	Average monthly salinity in Matagorda Bay	1,010,105	ppt
[11]	Max # of sequential months Matagorda Bay salinity exceeds 27.5 ppt	22	ppt
[12]	max # or sequencial months matagorda bay sainity exceeds 27.5 ppt	21	
[13]	% of months Threshold inflow criteria are met (Goal 100%)	95%	
[23]	a contract of the second second second	55%	
[14]	% of months Subsistence IF criteria met at Columbus (Goal 100%)	100%	

Model Version for January 4, 2019

01/07/2018 End of month LCRA combined system storage (Lakes Buchanan and Travis)	
03:35 PM	

2010 1.50 2011 1,750 2012 1,093 2013 1.000 2014 835. 671 2016 AVG

MAX

MN

a.					age (Lakes I			,			NOR LESS S	
											EXTRAD	
									13		LDDK-	
	JAN	PER .	MAR	APR	MAT	3.0	844	AUG	322	OCT	NOV	DEC
60	1,971,754	1,976,425	1,953,714	1,006,717	1,952,496	1.951.496	1.053.490	1,921,982	1,852,737	1,634,296	1.945.474	1,996,717
41	1,996,717	1,996,717	1,996,717	1,996,717	1,953,496	1,951,496	1,951,496	1,901,908	1,888,857	1,953,496	1,955,016	1,956,562
42	1,941,982	1,925,350	1,900,915	1,996,717	1,953,496	1,939,043	1,860,752	1,875,858	1,913,397	1,951,496	1,975,349	1,977,770
43	1,959,964	1,917,395	1,919,578	1,892,287	1,814,402	1,813,525	1,748,977	1,654,540	1,628,706	1,903,060	1,589,487	1,590,000
44	1,655,116	1,724,322	1,792,194	1,782,356	1,951,495	1,981,128	1,839,687	1,866,123	1,852,480	1,857,782	1,856,530	1,912,374
MS	1,996,717	1,996,717	1,996,717	1,996,717	1,953,496	1,913,277	1,901,941	1,803,355	1,818,842	1,824,854	1,804,411	1,799,316
46	1,830,123	1,852,030	1,858,721	1,896,315	1,953,496	1,885,011	1,788,138	1,703,956	1,714,359	1,756,189	1,751,851	1,781,645
47	1,933,863	1,957,306	1,991,605	1,996,717	1,944,325	1,882,623	1,754,388	1,650,786	1,570,260	1,513,902	1,506,299	1,515,824
HI	1,503,093	1,496,883	1,485,377	1,473,357	1,454,442	1,443,640	1,422,082	1,325,456	1,277,294	1,241,884	1,211,612	1,192,228
AG KG	1,152,398	1,236,278	1,781,202	1,414,258	1,300,499	1408.129	1,431,683	1,382,593	1,348,332	1,337,043	1,114,212	1,305,996
51	1,022,437	1,011,876	And a lot	and her	1,034,212	1.110.000	1.061.071	1.001.214	961,894	815,205	880.134	808.542
87	\$55,967	\$45,764	821.537	\$74,212	878.817	538,258	804.042	882 150	1.775-215	1,719,204	2,753,880	1.845.403
6.3	1.876.006	1 887 847	1.885.142	1,805,085	1,930,568	1.829.610	1,723,294	1,551,401	1,608,457	1,639,729	1,609,992	1.588.298
84	1.577.898	1,546,760	1,499,872	1536584	1.529.326	1.171.881	1257.409	1 152 001	1.075.929	1.048.412	1 (50 155	1.001.697
83	1,034,219	1.038.838	1.003.743	964,341	1.353.610	1.425.065	1,441,283	1.442.202	1.567,100	1.561.702	1.536,011	1.511.677
6.6	1,490,997	1,484,170	1.454.577	1,401,895	1,601,388	1.467.552	1,361,534	1,266,724	1,385,344	1,148,055	1,121,519	1,100,704
57	1,065,955	1,085,403	4.110.704	1,004,278	1,312,496	1,011,498	1,912,758	1,872,986	1,865,883	1,953,495	1,996,717	1,996,717
58	1,996,717	1,996,717	1,996,717	1,996,717	1,953,496	1,951,495	1,895,441	1,851,046	1,884,710	1,926,334	1,946,025	1,950,586
69	1,959,204	1,972,708	1,958,979	1,975,888	1,941,595	1,951,496	1,951,495	1,816,928	1,879,485	1,953,496	1,965,059	1,986,836
60	1,996,717	1,996,717	1,996,717	1,996,717	1,953,496	1,805,532	1,826,535	1,931,674	1,899,063	1,951,496	1,961,748	1,996,717
61	1,996,717	1,996,717	1,996,717	1,990,962	1,538,805	1,953,496	1,951,496	1,911,917	1,912,875	1,928,428	1,937,433	1,929,980
962	1,933,671	1,905,472	1,895,436	1,883,265	1,801,085	1,759,688	1,700,356	1,618,722	1,588,669	1,625,664	1,652,660	1,606,642
120	1,593,926	1,581,676	1,556,368	1,523,470	1,505,030	1,400,128	1,294,081	1,210,138	1,161,631	1,136,173	1,157,898	1,155,248
64	1,166,236	1,193,058	1,793,504	1,112,222	1,182,884	1,118,671	1,054,919	1,040,277	1,482,414	1,550,970	1,569,158	1,576,106
60	1,801,960	1,904,170	1,998,504	1,807,393	1,953,496	1,951,496	1,881,819	1,807,282	1,799,063	1,789,340	1,807,598	1,852,483
67	1,374,701	1,728,825	1,097,750	1.664.825	1,027,052	1.488.327	1,427,087	1.349.533	1,358,665	1,752,120	1,401,367	1,401,827
63	1,996,717	1,996,717	1,996,717	1,004,717	1,953,495	1.951.496	1,945,341	1.881.275	1,856,246	1.812.139	1,821,710	1,814,073
63	1,799,707	1,792,218	1,793,294	1,877,430	1.917.522	1.872.580	1,791,663	1,752,868	1,730,132	1,953,496	1.979.263	1,996,717
π	1,996,717	1,996,717	1,996,717	1,996,717	1,953,496	1.948.519	1,878,842	1,812,680	1,796,278	1,781,484	1,764,811	1,759,040
71	1,746,253	1,731,281	1,702,827	1,682,685	1,594,428	1,447,912	1.440.000	1,722,255	1.851.851	1,852,496	10051-101	1,996,757
72	2,996,757	1,006,717	1,971,261	1,946,605	1,953,496	1,896,202	1,825,485	1,792,447	1,761,024	1,751,988	1,756,210	1,750,921
73	1,767,516	1,807,241	1,820,415	1,829,408	1,780,212	1,758,818	1,793,147	1,789,931	1,777,927	1,953,496	1,965,018	1,967,843
74	1,979,840	1,968,480	1,948,645	1,919,120	1,953,496	1,880,460	1,778,025	1,953,496	1,953,496	1,951,498	1,995,717	1,996,717
75	1,996,717	1,995,717	1,996,717	1,996,717	1,953,496	1,253,496	1,951,496	1,926,006	1,901,296	1,887,039	1,871,689	1,867,304
TIS.	1,858,087	1,841,685	1,828,844	1,852,122	1,809,997	1,763,018	1,951,496	1,900,922	1,941,355	1,953,496	1,976,828	1,990,848
77	1,996,717	1,995,717	1,996,717	1,996,717	1,953,496	1,908,340	1,825,044	1,761,186	1,709,141	1,681,121	1,677,509	1,670,000
173	1,569,232	1,678,325	1,665,752	1,541,548	1,577,344	1,488,578	1,381,396	1,690,969	1,746,274	1,723,287	1,741,412	1,751,806
09	1,791,995	1,868,211	1,951,929	1,996,717	1,952,496	1,851,496	1,950,429	1,946,231	1,899,549	1,868,387	1,849,159	1,839,599
80	1,827,903	1,815,219	1,798,768	1,769,373	1,781,281	1,675,881	1,567,275	1,461,591	1,753,974	1,767,137	1,768,463	1,780,623
#1 #7	1,783,798	1,784,078	1,842,729	1,809,003	1,836,150	1,251,496	1,828,726	1,890,358	1,871,498	1,953,498	1,957,105	1,953,953
67 63	1,942,185	1,990,400	1,911,463	1,916,737	1,821,824	1,950,419	1,896,964	1,821,988	1,763,338	1,729,458	1,720,533	1,711,664
64	1,517,428	1,496,992	1,746,000	1,7 10,083	1,760,427	2,748,799	1 177 675	1,041,117	1.000.1.00	1,223,330	1,172,402	1,372,039
85	1353.205	1.621.509	1,723,290	1.740.221	1,711,294	1.014.117	1.629.291	1.5.35.307	1.488.289	1.679.044	1,699,140	1.730.971
200	1,730,239	1,795,448	1,785,921	1,762,475	1,783,004	1.951.496	1.871.848	1,815,329	1.850.714	1.953.496	1,979,272	1,996,717
87	1,996,717	1,996,717	1,096,717	1,996,717	1,953,496	1,951,496	1,950,549	1,915,196	1,008,433	1,930,390	1,945,872	1,956,701
125	1,948,202	1,938,615	1,820,854	1,891,534	1,843,671	1,798,385	1,821,617	1,731,419	1,680,164	1,646,045	1,620,409	1,609,861
89	1,821,665	1,649,961	1,054,103	1,633,135	1,679,159	1,675,680	1,584,342	1,488,741	1,427,171	1,393,858	1,378,000	1,367,197
90	1,360,358	1,368,196	1.407,000	LHELMEL	1,876,045	1,751,554	1,798,046	1,761,479	1,800,065	1,791,910	1,803,250	1,790,755
-	1.843.034	1,865,441	1,845,478	1,832,983	1,772,185	1,749,025	1,689,229	1,454,197	1,681,386	1,702,839	1,732,862	1,996,717
			1,996,717	1,996,717	1,953,496	1,951,496	1,946,245	1,806,978	1,909,363	1,934,342	1,961,702	1,995,022
92	1,996,717	1,996,717										
22	1,996,717 1,996,717	1,996,717	1,996,717	1,996,717	1,953,496	1,929,950	1,892,137	1,741,858	1,717,021	1,709,718	1,706,742	1,705,488
9/2 9/3 9/4	1,996,717 1,996,717 1,717,149	1,996,717	1,996,717	1,996,717 1,714,542	1,951,701	1,857,192	1,772,485	1,741,858	1,700,647	1,726,222	1,760,604	1,844,860
92 93 94	1,996,717 1,996,717 1,717,149 1,840,521	1,996,717 1,738,075 1,898,030	1,996,717 1,749,745 1,949,408	1,996,717 1,714,543 1,996,717	1,951,701	1,857,192	1,772,485	1,741,858 1,718,151 1,811,544	1,703,647	1,726,222 1,780,985	1,760,604	1,844,860
92 93 94 95 96	1,996,717 1,996,717 1,717,149 1,880,521 1,755,809	1,996,717 1,738,075 1,998,030 1,742,004	1,996,717 1,740,746 1,949,408 1,720,512	1,996,717 1,714,541 1,996,717 1,881,799	1,951,701 1,953,496 1,547,312	1,857,192 1,953,018 1,477,973	1,772,485 1,891,111 1,404,289	1,741,858 1,718,151 1,811,544 1,301,386	1,701,647 1,787,136 1,438,548	1,726,222 1,760;985 1,644,701	1,760,604 1,769,992 1,685,058	1,844,860 1,771,530 1,744,320
92 93 94 95 95 95 97	1,996,717 1,996,717 1,717,149 1,880,521 1,755,809 1,756,880	1,996,717 1,738,075 1,898,030 1,742,004 1,996,717	1,896,717 1,746,746 1,949,408 1,720,512 1,896,717	1,996,717 1,714,541 1,996,717 1,681,799 1,996,717	1,951,701 1,953,496 1,567,312 1,953,496	1,857,192 1,953,018 1,477,973 1,953,496	1,772,485 1,891,111 1,404,289 1,911,496	1,741,858 1,718,151 1,811,544 1,301,386 1,547,288	1,701,647 1,787,136 1,438,548 1,909,503	1,726,222 1,760,985 1,644,701 1,905,736	1,760,604 1,769,902 1,686,058 1,907,355	1,844,860 1,771,530 1,744,320 1,931,003
92 93 94 95 95 95 95 95	1,996,717 1,996,717 1,717,149 1,880,521 1,755,809	1,996,717 1,738,075 1,998,030 1,742,004	1,996,717 1,740,746 1,949,408 1,720,512	1,996,717 1,714,541 1,996,717 1,881,799	1,951,701 1,953,496 1,547,312	1,857,192 1,953,018 1,477,973	1,772,485 1,891,111 1,404,289	1,741,858 1,718,151 1,811,544 1,301,386	1,701,647 1,787,136 1,438,548	1,726,222 1,760;985 1,644,701	1,760,604 1,769,992 1,685,058	1,844,860 1,771,530 1,744,320
92 93 94 95 95 95 95 95	1,986,717 1,996,717 1,717,149 1,880,523 1,755,809 1,758,880 1,954,091 1,927,313	1,996,717 1,738,075 1,996,030 1,742,004 1,996,717 1,996,717 1,996,717	1,996,717 1,740,746 1,949,408 1,720,512 1,996,717 1,996,717	1,996,717 1,714,542 1,996,717 1,986,717 1,996,717 1,996,717 1,960,714	1,851,701 1,853,496 1,987,312 1,853,496 1,826,494	1,857,192 1,953,018 1,477,973 1,953,496 1,820,502	1,772,485 1,861,111 1,404,289 1,951,486 1,746,039	1,741,858 1,718,151 1,811,544 1,301,386 1,947,288 1,738,817 1,720,867	1,701,647 1,787,136 1,418,548 1,909,503 1,718,266	1,726,222 1,780,985 1,644,701 1,925,738 1,808,518	1,760,604 1,769,992 1,685,058 1,907,355 1,879,576	1,844,860 1,771,530 1,744,320 1,931,003 1,909,891
92 93 94 95 95 95 95 95 95 95 95 95 95 95 95 95	1,986,717 1,986,717 1,717,146 1,880,521 1,755,809 1,758,880 1,954,091 1,927,313 1,549,389	1,996,717 1,738,075 1,898,030 1,742,004 1,996,717 1,996,717	1,996,717 1,749,746 1,949,408 1,720,512 1,996,717 1,996,717 1,978,277	L,996,717 L,714,543 L,996,717 L,996,717 L,996,717 L,996,717	1,951,701 1,953,496 1,953,496 1,953,496 1,926,494 1,953,496	1,857,192 1,953,018 1,477,973 1,953,496 1,820,502 1,885,120	1,772,485 1,881,111 1,404,289 1,911,486 1,746,039 1,806,029	1,741,858 1,718,151 1,811,544 1,301,386 1,547,288 1,736,827	1,701,647 1,787,136 1,418,548 1,909,503 1,718,246 1,853,850	1,726,222 1,780,985 1,644,701 1,905,736 1,808,518 1,620,131	1,760,604 1,769,982 1,686,058 1,907,855 1,879,576 1,588,854	1,844,860 1,771,530 1,744,320 1,931,003 1,909,891 1,568,915 1,996,717
92 93 94 95 95 95 95 95 95 95 95 95 91 90	1,986,717 1,986,717 1,717,146 1,880,521 1,755,809 1,758,880 1,954,091 1,927,313 1,549,389	1,996,717 1,738,075 1,998,030 1,742,004 1,996,717 1,996,717 1,996,717 1,990,198 1,550,691	1,936,717 1,740,746 1,949,408 1,720,512 1,996,717 1,996,717 1,978,277 1,531,652	1,986,717 1,714,543 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717	1,851,701 1,851,496 1,567,312 1,853,498 1,853,498 1,853,498 1,853,498 1,454,373	1,857,192 1,953,018 1,477,973 1,951,496 1,830,502 1,885,120 1,494,912	1,772,485 1,841,111 1,404,289 1,911,486 1,741,039 1,804,029 1,332,221	1,741,858 1,718,151 1,811,544 1,390,386 1,947,289 1,738,827 1,725,867 1,346,806	1,701,847 1,787,138 1,438,548 1,908,503 1,718,248 1,813,850 1,191,299	1,726,222 1,760,985 1,644,703 1,925,736 1,806,538 1,620,131 1,249,634	1,760,604 1,709,982 1,686,058 1,907,355 1,879,576 1,588,864 1,986,885	1,844,860 1,771,530 1,744,320 1,931,003 1,909,891 1,568,915
92 93 94 95 95 95 96 97 98 98 90 00	1,996,717 1,996,717 1,717,149 1,880,521 1,715,809 1,758,880 1,954,091 1,927,313 1,549,589 1,996,717	1,996,717 1,738,075 1,898,030 1,742,004 1,996,717 1,996,717 1,996,717 1,950,091 1,550,691 1,996,717	1,936,717 1,740,746 1,949,408 1,720,512 1,996,717 1,996,717 1,978,277 1,531,652 1,996,717	1,986,717 1,714,543 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717	1,951,701 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496	L,857,192 L,953,018 L,477,973 L,953,496 L,880,502 L,885,120 L,494,912 L,871,771	1,772,485 1,881,111 1,404,289 1,913,486 1,746,039 1,804,029 1,332,221 1,785,333	1,741,858 1,718,151 1,811,544 1,391,386 1,947,289 1,738,817 1,725,867 1,346,806 1,738,826	1,703,547 1,787,136 1,418,548 1,909,503 1,718,246 1,813,850 1,191,299 1,727,543	1,726,222 1,780,985 1,644,701 1,905,736 1,808,518 1,620,131 1,246,634 1,723,880	1,762,654 1,769,992 1,686,058 1,907,355 1,979,576 1,588,864 1,986,865 1,990,193	1,844,860 1,771,530 1,744,320 1,931,003 1,909,891 1,568,915 1,996,717 1,957,711
92 93 94 95 95 95 97 98 97 98 97 98 97 98 97 98 97 98 97 98 97 98 97 97 98 97 97 98 97 97 97 97 97 97 97 97 97 97 97 97 97	1,986,757 1,986,757 1,717,549 1,810,521 1,755,809 1,755,809 1,954,091 1,954,091 1,954,091 1,954,091 1,966,711 1,966,721 1,966,721	1,996,717 1,738,075 1,896,030 1,742,004 1,996,717 1,996,717 1,996,717 1,950,831 1,996,717 1,977,536 1,996,717 1,977,536	1,996,717 1,746,748 1,946,408 1,720,512 1,996,717 1,996,717 1,978,277 1,936,717 1,936,717 1,986,717 1,986,304 1,996,717	1,984,717 1,774,543 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,985,208 1,984,717	1,951,701 1,953,496 1,957,496 1,955,496 1,955,496 1,955,496 1,955,496 1,955,496 1,955,496 1,955,496	1,857,152 1,953,018 1,477,973 1,851,486 1,820,562 1,885,120 1,484,512 1,871,771 1,854,650 1,521,685 1,953,486	1,772,485 1,881,111 1,484,289 1,911,486 1,746,009 1,804,029 1,932,221 1,785,103 1,951,105 1,951,105 1,951,105	1,741,858 1,718,151 1,811,544 1,901,386 1,947,089 1,738,827 1,726,856 1,738,526 1,738,526 1,978,526 1,978,526 1,951,455 1,951,456	1,700,847 1,787,138 1,438,548 1,900,503 1,718,266 1,918,260 1,191,260 1,727,563 1,800,100 1,780,960 1,915,864	1,726,222 1,780,985 1,644,701 1,905,736 1,808,518 1,620,131 1,246,634 1,723,880 1,947,089	1,762,604 1,769,982 1,684,058 1,907,355 1,979,576 1,588,865 1,986,885 1,950,193 1,961,980 1,961,767 1,994,717	1,844,860 1,771,530 1,744,320 1,931,003 1,909,891 1,568,915 1,996,717 1,957,711 1,974,795
92 93 94 95 95 95 95 95 95 95 95 95 95 95 95 95	1,996,757 1,996,757 1,717,549 1,718,805 1,758,805 1,758,800 1,954,091 1,954,091 1,954,091 1,954,091 1,966,717 1,966,717 1,966,717	1,996,717 1,738,075 1,998,030 1,742,004 1,996,717 1,996,717 1,900,183 1,550,681 1,996,717 1,973,536 1,996,717	1,996,717 1,740,746 1,940,408 1,720,512 1,996,717 1,996,717 1,978,277 1,531,852 1,996,717 1,965,364 1,996,717	1,986,717 1,774,543 1,986,717 1,986,717 1,986,717 1,986,717 1,986,754 1,520,483 1,580,483 1,986,117 1,985,206	1,951,701 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496	1,857,152 1,851,018 1,477,973 1,951,496 1,805,012 1,885,110 1,494,912 1,871,771 1,874,600 1,913,695	1,772,485 1,881,111 1,404,289 1,911,496 1,911,496 1,804,029 1,804,029 1,913,201 1,913,496 1,965,195	1,741,858 1,714,151 1,811,544 1,301,386 1,947,288 1,738,836 1,738,836 1,738,836 1,738,836 1,944,158 1,944,158	1,700,647 1,787,136 1,438,540 1,909,500 1,715,246 1,813,850 1,191,219 1,727,543 1,891,100 1,788,960	1,726,222 1,760,945 1,944,701 1,905,736 1,806,518 1,620,131 1,249,534 1,723,880 1,947,269 1,628,396	1,762,604 1,769,962 1,685,058 1,907,355 1,578,576 1,588,854 1,988,855 1,962,193 1,962,193 1,962,190	1,844,867 1,771,530 1,744,320 1,931,003 1,909,391 1,568,915 1,996,717 1,957,711 1,977,795 1,787,540
92 93 94 95 95 97 98 97 98 97 98 97 98 97 98 97 98 97 98 97 98 97 98 97 98 97 98 97 97 98 97 97 98 97 97 98 97 97 95 97 95 95 95 95 95 95 95 95 95 95 95 95 95	1,996,757 1,996,757 1,717,549 1,810,553 1,755,806 1,758,800 1,954,091 1,954,091 1,954,091 1,960,727 1,966,721 1,966,721 1,966,721 1,966,721 1,966,721 1,966,727 1,966,727	1,996,717 1,738,075 1,998,710 1,742,004 1,996,717 1,996,717 1,996,717 1,996,717 1,996,717 1,973,518 1,996,717 1,973,518 1,996,717 1,974,289 1,996,717	1,996,717 1,746,746 1,946,703 1,720,512 1,996,717 1,978,777 1,978,777 1,978,777 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717	1,984,717 1,774,543 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,985,208 1,984,717	1,951,701 1,953,496 1,957,496 1,955,496 1,955,496 1,955,496 1,955,496 1,955,496 1,955,496 1,955,496	1,857,152 1,953,018 1,477,973 1,851,486 1,820,562 1,885,120 1,484,512 1,871,771 1,854,650 1,521,685 1,953,486	1,772,485 1,881,111 1,943,289 1,944,289 1,944,039 1,934,039 1,932,221 1,798,313 1,913,486 1,944,038 1,944,038 1,944,008 1,842,911 1,417,901	1,714,1838 1,713,151 1,811,544 1,907,288 1,718,827 1,720,867 1,736,838 1,738,838 1,738,838 1,738,838 1,758,875 1,954,158 1,954,055 1,838,405 1,838,405	1,701,847 1,787,138 1,810,540 1,713,246 1,811,850 1,191,299 1,727,541 1,891,100 1,789,860 1,784,859 1,754,859 1,754,859 1,754,859 1,276,858	1,725,222 1,780,985 1,644,701 1,805,538 1,620,131 1,245,538 1,620,131 1,245,538 1,723,880 1,947,089 1,828,523 1,928,523 1,723,955 1,260,404	1,762,604 1,768,932 1,681,058 1,967,355 1,581,854 1,985,865 1,962,193 1,962,193 1,962,193 1,962,197 1,984,717 1,706,507 1,212,504	1,844,860 1,771,530 1,744,320 1,931,003 1,908,915 1,996,717 1,957,711 1,974,795 1,787,540 1,996,717 1,986,717 1,986,717 1,280,237
92 93 94 95 95 97 98 97 98 99 00 01 02 01 02 03 04 05 05 07	1,996,757 1,996,757 1,717,349 1,880,753 1,755,809 1,758,880 1,954,091 1,954,091 1,954,091 1,964,757 1,966,731 1,966,731 1,966,731 1,966,741 1,966,745 1,956,445	1,996,717 1,738,075 1,996,717 1,742,004 1,996,717 1,996,717 1,900,183 1,550,631 1,996,717 1,977,536 1,996,717 1,874,289 1,996,717 1,856,508	1,996,717 1,740,748 1,949,408 1,720,512 1,996,717 1,996,717 1,978,277 1,978,277 1,978,277 1,964,364 1,996,717 1,929,140 1,996,717 1,996,717 1,996,717 1,996,717	1,984,717 1,774,543 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717 1,984,717	1,951,701 1,957,496 1,957,496 1,952,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,952,496 1,952,496	1,857,150 1,953,018 1,953,018 1,953,935 1,955,955 1,955,055 1,955,055 1,951,095 1,951,095 1,951,095 1,951,095 1,951,095 1,951,095 1,952,005	1,772,485 1,882,111 1,464,289 1,911,486 1,744,009 1,804,029 1,911,486 1,911,486 1,942,911 1,417,501 1,417,501 1,417,501	1,741,858 1,713,151 1,811,544 1,703,386 1,747,089 1,718,827 1,720,867 1,720,867 1,720,457 1,945,806 1,953,406 1,853,466 1,853,466	1,701,847 1,787,138 1,818,548 1,918,560 1,918,266 1,918,266 1,918,266 1,918,266 1,918,266 1,915,864 1,915,864 1,915,864 1,915,864 1,915,864 1,918,986 1,918,986	1,725,222 1,760,985 1,964,703 1,805,736 1,805,518 1,620,131 1,245,826 1,527,380 1,547,089 1,527,380 1,527,385 1,528,523 1,772,395 1,250,404 1,953,446	1,762,604 1,769,992 1,681,058 1,977,555 1,978,576 1,988,854 1,988,855 1,962,190 1,862,190 1,862,767 1,994,717 1,994,717 1,994,717 1,232,504 1,954,196	1,844,860 1,771,530 1,744,320 1,909,891 1,909,891 1,909,891 1,909,717 1,909,717 1,909,717 1,909,717 1,909,717 1,909,717 1,909,717 1,909,717 1,909,717 1,909,717 1,909,717
92 93 94 95 95 95 95 95 96 97 98 90 01 01 02 01 02 03 04 05 05 05 05	1,986,757 1,986,757 1,717,149 1,717,149 1,755,806 1,758,806 1,758,806 1,956,701 1,966,731 1,966,731 1,966,731 1,966,731 1,966,731 1,966,731 1,966,731 1,966,731 1,966,731 1,966,731 1,966,731 1,966,731 1,966,731 1,966,731	1,996,717 1,738,075 1,986,030 1,742,004 1,996,717 1,996,717 1,996,717 1,996,717 1,996,717 1,996,717 1,996,717 1,804,289 1,996,717 1,804,289 1,996,717 1,804,588 1,395,613 1,925,944	1,996,717 1,746,746 1,946,703 1,720,512 1,996,717 1,978,777 1,978,777 1,978,777 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717	1,996,717 1,774,543 1,996,717 1,996,717 1,996,717 1,996,717 1,996,717 1,996,717 1,995,205 1,980,717 1,985,2194 1,986,717	1,951,901 1,957,496 1,957,496 1,952,496 1,952,496 1,952,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496	1,857,152 1,953,018 1,477,973 1,253,486 1,820,562 1,885,120 1,484,912 1,871,771 1,851,496 1,821,496 1,821,496 1,821,496 1,834,686	1,772,485 1,881,111 1,943,289 1,944,289 1,944,039 1,934,039 1,932,221 1,798,313 1,913,486 1,944,038 1,944,038 1,944,008 1,842,911 1,417,901	1,714,1838 1,713,151 1,811,544 1,907,288 1,718,827 1,720,867 1,736,838 1,738,838 1,738,838 1,738,838 1,758,875 1,954,158 1,954,055 1,838,405 1,838,405	1,703,847 1,787,138 1,633,548 1,908,503 1,718,246 1,353,850 1,352,286 1,727,541 1,880,100 1,788,940 1,754,930 1,754,930 1,754,930 1,255,466 1,553,466 1,638,036	1,725,222 1,780,985 1,644,701 1,805,538 1,620,131 1,245,538 1,620,131 1,245,538 1,723,880 1,947,089 1,828,523 1,928,523 1,723,955 1,260,404	1,762,60H 1,702,902 1,608,028 1,907,355 1,977,578 1,988,865 1,980,193 1,980,193 1,980,193 1,980,193 1,980,193 1,980,193 1,980,193 1,980,193 1,980,194 1,970,907 1,212,594 1,974,194 1,974,194	1,844,860 1,771,530 1,744,120 1,903,801 1,909,801 1,909,801 1,909,717 1,967,711 1,977,716 1,977,716 1,977,716 1,977,716 1,977,716 1,977,716 1,977,716 1,977,716 1,977,716 1,977,716 1,977,716 1,977,717 1,977,716 1,977,717 1,977,9777 1,977,9777 1,9777,9777
92 93 94 95 95 95 97 98 97 98 97 98 90 01 02 01 03 05 05 05 07 09 03	1,996,717 1,986,717 1,717,186,717 1,717,186,717 1,757,100 1,758,000 1,758,000 1,758,000 1,758,000 1,958,711 1,968,711 1,968,711 1,968,711 1,968,711 1,968,711 1,968,411 1,968,411 1,968,411 1,968,411 1,954,210 1,356,455 1,355,455 1,355,455 1,355,455	1,996,717 1,738,035 1,898,030 1,742,004 1,996,717 1,996,717 1,996,717 1,996,717 1,996,717 1,996,717 1,973,538 1,996,717 1,873,538 1,996,717 1,856,538 1,996,717 1,856,538 1,945,611 1,925,814 1,925,578	1,996,717 1,749,740 1,949,408 1,720,512 1,996,717 1,996,717 1,978,277 1,978,277 1,978,277 1,984,517 1,986,717 1,984,524 1,996,717 1,984,524 1,996,717 1,984,517 1,984,517 1,984,517 1,984,517 1,984,517 1,984,517 1,984,717	1,996,717 1,714,542 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717 1,985,174 1,985,184 1,986,717 1,985,208 1,986,717 1,985,208 1,986,717 1,985,208 1,986,717 1,985,208 1,986,717 1,985,208 1,986,717 1,985,208 1,986,717 1,985,208 1,986,717 1,985,208 1,986,717 1,985,208 1,986,717 1,985,208 1,986,717	1,951,701 1,951,495 1,952,496 1,952,496 1,952,496 1,952,496 1,953,496 1,953,496 1,953,496 1,953,496 1,952,496 1,956	1,857,152 1,953,018 1,953,018 1,953,986 1,850,552 1,886,510 1,484,512 1,871,771 1,454,630 1,551,695 1,954,486 1,955,785 1,854,486 1,555,785 1,854,486 1,555,785	1,772,485 1,882,111 1,484,289 1,911,486 1,746,039 1,832,039 1,932,201 1,798,319 1,951,486 1,960,185 1,941,008 1,824,911 1,417,921 1,417,921 1,417,921 1,417,921 1,417,921	1,741,153 1,712,151 1,811,54 1,901,186 1,901,186 1,712,187 1,720,187 1,720,187 1,720,187 1,720,153 1,731,475 1,914,153 1,914,155 1	1,703,847 1,787,138 1,908,503 1,908,503 1,918,288 1,918,289 1,192,583 1,192,583 1,192,584 1,727,583 1,923,584 1,753,886 1,753,886 1,253,866 1,533,866 1,533,866 1,533,866 1,533,866 1,533,866 1,533,866 1,533,866 1,533,866 1,533,866 1,533,866 1,533,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,866 1,553,856 1,555,856	1,726,222 1,300,985 1,644,701 1,905,736 1,804,518 1,804,518 1,246,834 1,723,890 1,547,089 1,828,833 1,828,833 1,723,955 1,280,409 1,905,486 1,426,489 1,208,748	1,762,60H 1,762,602 1,604,028 1,907,355 1,879,576 1,984,865 1,980,193 1,963,180 1,863,180 1,863,180 1,863,180 1,863,180 1,864,747 1,994,717 1,702,907 1,232,504 1,974,196 1,374,897 1,300,803	1,844,860 1,771,530 1,744,300 1,909,891 1,909,891 1,909,757 1,996,717 1,977,710 1,996,717 1,980,717 1,080,217 1,080,217 1,217,816 1,953,104 1,355,504
91 92 93 93 94 95 96 97 99 99 99 99 90 90 90 90 90 90 90 90 90	1,986,717 1,986,717 1,717,146 1,717,146 1,717,146 1,725,406 1,755,406 1,755,406 1,755,406 1,755,406 1,956,717 1,866,711 1,860,717 1,866,712 1,466,442 1,966,472 1,456,455 1,944,210 1,312,5145	1,996,717 1,730,075 1,940,075 1,940,717 1,940,717 1,940,717 1,940,717 1,950,631 1,950,631 1,950,717 1,471,536 1,950,717 1,404,239 1,946,611 1,555,644 1,325,544 1,325,544 1,325,544	1,996,717 1,749,740 1,949,408 1,720,512 1,996,717 1,978,277 1,978,277 1,978,277 1,978,277 1,966,717 1,966,717 1,966,717 1,966,717 1,966,717 1,966,717 1,966,717 1,966,717 1,966,717 1,966,717 1,978,277 1,977,2777 1,977,2777 1,977,2777 1,977,2777 1,9777,2777 1,9777,277	1,996,717 1,714,540 1,996,717 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717 1,986,717 1,985,208 1,985,109 1,986,117 1,986,	1,951,701 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496	1,857,182 1,953,018 1,457,973 1,953,973 1,452,948 1,853,952 1,454,952 1,454,952 1,454,952 1,954,965 1,955,755	1,772,485 1,881,111 1,484,285 1,981,486 1,984,039 1,804,039 1,804,039 1,804,039 1,804,039 1,804,039 1,804,039 1,804,039 1,804,039 1,814,008 1,911,405 1,911,405 1,911,405 1,911,405 1,912,404	1,741,858 1,713,151 1,811,544 1,703,386 1,747,089 1,718,827 1,720,867 1,720,867 1,720,457 1,945,806 1,953,406 1,853,466 1,853,466	1,703,847 1,787,138 1,431,548 1,909,503 1,713,248 1,953,850 1,711,249 1,727,543 1,911,299 1,727,543 1,911,299 1,714,939 1,714,939 1,714,939 1,754,938	1,726,222 1,700,985 1,644,701 1,905,738 1,806,538 1,620,131 1,248,834 1,723,880 1,947,089 1,828,936 1,838,833 1,723,985 1,808,833 1,723,985 1,250,404 1,953,485 1,406,499 1,206,767	1,702,604 1,702,605 1,684,705 1,987,255 1,972,576 1,984,865 1,982,190 1,802,190 1,802,190 1,802,190 1,804,747 1,994,717 1,702,907 1,712,693 1,712,693	1,844,860 1,771,530 1,744,320 1,841,020 1,968,815 1,968,815 1,968,815 1,968,717 1,857,715 1,957,715 1,957,715 1,957,740 1,966,717 1,217,816 1,955,100 1,765,069
92 93 94 95 96 97 98 97 98 97 98 97 98 97 98 90 91 01 02 03 04 05 05 06 07 08 05 07 08 05 01 01 01 01 01 01 01 01 01 01 01 01 01	1,986,7137 1,986,7137 1,717,148 1,810,521 1,755,880 1,758,800 1,954,535 1,954,535 1,966,713 1,966,713 1,966,713 1,966,713 1,966,713 1,966,713 1,966,713 1,966,413 1,966,413 1,956,413 1,956,413 1,956,413 1,956,415 1,956,415 1,956,415	1,998,717 1,728,075 1,742,075 1,998,717 1,990,717 1,990,717 1,990,717 1,990,717 1,990,717 1,990,717 1,990,717 1,990,717 1,990,717 1,990,717 1,996,717 1,996,717 1,996,717 1,996,718 1,996,717 1,955,984 1,105,538 1,955,984	1,996,717 1,146,746 1,146,448 1,700,512 1,196,717 1,971,277 1,971,277 1,971,277 1,971,277 1,971,277 1,971,277 1,964,364 1,996,717 1,964,364 1,996,717 1,944,612 1,954,612 1,951,666 1,1695,770	L (984,7137 L,734,542) L,984,2137 L,984,2137 L,984,7137 L,984,7137 L,984,7137 L,984,7137 L,984,714 L,984,7137 L,984,7147 L,984,7147 L,984,7147 L,984,7147 L,984,7147 L,984,7147 L,984,7147 L,984,7147 L,984,7147	1,351,701 1,351,495 1,557,495 1,552,496 1,552,496 1,553,496 1,455,495 1,455,496	1,817,192 1,951,018 1,951,018 1,951,946 1,820,552 1,885,110 1,494,012 1,871,771 1,834,630 1,521,695 1,951,496 1,955,755 1,952,496 1,655,755 1,952,496 1,655,755	1,772,485 1,881,111 4,404,289 1,851,486 1,944,289 1,852,486 1,844,289 1,832,221 1,789,213 1,971,486 1,840,185 1,841,006 1,824,911 1,417,801 1,852,314 1,957,349 1,957,349 1,952,334	1,741,858 1,734,153 1,734,153 1,734,155 1,735,155	1,701,647 1,707,186 1,707,206 1,702,	1,726,222 1,760,045 1,844,731 1,805,736 1,805,538 1,805,538 1,821,830 1,721,880 1,732,880 1,732,880 1,732,880 1,732,880 1,732,880 1,732,880 1,732,880 1,732,890 1,232,890 1,232,890 1,232,890 1,232,890	1,762,624 1,762,624 1,684,028 1,907,255 1,977,575 1,984,885 1,992,190 1,904,885 1,992,190 1,904,717 1,702,907 1,212,594 1,974,296 1,370,807 1,370,807 1,370,807 1,370,807 1,370,807 1,370,803	1,644,860 1,771,530 1,744,320 1,901,003 1,900,801 1,900,901 1,900,917 1,900,717 1,907,711 1,976,711 1,976,711 1,976,717 1,996,717 1,996,717 1,996,717 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,996,717 1,217,530 1,217,
92 93 94 95 96 97 98 98 98 98 98 98 98 98 98 98 98 98 98	1,986,7137 1,986,7137 1,986,7137 1,717,148 1,880,521 1,755,8800 1,854,091 1,954,091 1,954,091 1,954,091 1,954,091 1,955,091 1,960,717 1,960,917 1,	1,998,717 1,728,075 1,742,075 1,948,0100 1,742,004 1,998,717 1,900,181 1,998,717 1,900,181 1,998,717 1,998,717 1,998,717 1,998,717 1,998,717 1,998,717 1,998,518 1,998,511 1,925,544 1,125,544 1,125,544	1,946,717 1,740,746 1,740,746 1,750,512 1,956,717 1,957,917 1,957,	L996,127 L736,427 L986,277 L986,7777 L986,777 L986,777 L986,777 L9	1,951,701 1,951,496 1,952,496 1,952,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,952,496 1,952,496 1,952,496 1,955,196 1,955,196	1,857,182 1,953,018 1,953,018 1,477,971 1,953,496 1,485,502 1,485,102 1,484,012 1,484,012 1,484,012 1,484,012 1,857,016 1,955,705 1,955,705 1,955,705 1,955,956	1,772,485 1,861,111 1,862,239 1,351,486 1,351,486 1,352,251 1,352,251 1,352,251 1,352,251 1,352,251 1,352,186 1,365,185 1,361,485 1,357,361 1,357,351 1,352,354 1,352,354	1,741,858 1,718,151 1,811,544 1,803,386 1,947,386 1,947,386 1,948,518 1,948,518 1,958,456 1,958,456 1,958,456 1,958,456 1,958,456 1,958,456 1,958,456 1,958,456 1,958,456 1,958,514 1,958,514 1,958,514	1,700,447 1,747,136 1,741,548 1,900,500 1,715,248 1,851,850 1,151,298 1,152,280 1,152,280 1,152,540 1,952,840 1,253,846 1,553,846 1,553,846 1,553,846 1,553,846 1,553,846 1,553,846 1,553,846	1,726,222 1,705,045 1,444,701 1,426,736 1,426,531 1,426,531 1,426,531 1,426,531 1,426,531 1,427,346 1,427,346 1,427,346 1,428,346 1,428,464 1,454,464 1,454,464 1,454,464 1,454,464	1,700,604 1,700,902 1,007,902 1,007,905 1,000,905	1,844,860 1,774,130 1,744,130 1,901,003 1,900,891 1,900,991 1,990,717 1,997,711 1,977,750 1,787,540 1,996,717 1,986,517 1,986,517 1,986,517 1,986,510 1,996,
92 93 94 95 95 96 97 96 96 97 96 96 97 96 97 96 90 90 90 90 90 90 90 90 90 90 90 90 90	1,986,733 1,986,733 1,986,733 1,712,148 1,880,521 1,755,806 1,758,806 1,958,691 1,958,691 1,968,733 1,968,733 1,968,733 1,968,733 1,968,743 1,968,743 1,968,445 1,958,452 1,954,236 1,355,455 1,954,245 1,255,455,455,455,455,455,455,455,455,455	1,998,717 1,728,075 1,742,075 1,980,120 1,742,004 1,998,717 1,900,133 1,900,	1,996,717 1,740,746 1,970,912 1,970,912 1,996,717 1,997,717 1,997,917 1,997,917 1,997,917 1,997,917 1,997,917 1,997,917 1,997,917 1,997,917 1,997,917 1,997,917 1,997,917 1,997,917 1,977,917	1,996,717 1,724,542 1,986,717 1,986,	1,552,701 1,852,466 1,957,102 1,957,466 1,957,466 1,952,966 1,952,966 1,956	1,857,182 1,953,018 1,953,018 1,953,496 1,825,502 1,825,502 1,825,602 1,824,600 1,824,600 1,824,600 1,824,600 1,824,600 1,824,600 1,824,600 1,824,600 1,824,600 1,824,600 1,824,600 1,825,400 1,855,400 1,255,4000 1,255,4000 1,255,40000000000000000000000000000000000	1,772,485, 1,881,111 1,881,111 1,881,213 1,881,886 1,981,215 1,981,215 1,981,215 1,981,215 1,981,105 1,981,105 1,981,985 1,981,215	1,741,853 1,712,851 1,713,151 1,707,286 1,730,286 1,730,287 1,730,817 1,730,817 1,730,817 1,750,587 1,750,587 1,250,567 1,250,567 1,250,567 1,250,567 1,250,567 1,250,567 1,250,567 1,250,567	1,701,447 1,787,136 1,787,136 1,787,503 1,735,246 1,735,246 1,735,246 1,735,246 1,737,546 1,737,546 1,735,446 1,735,456 1,755,456 1,435,056 1,435,056 1,435,056 1,435,056 1,435,056 1,435,056	1,728,222 1,700,045 1,944,730 1,945,736 1,945,736 1,945,736 1,945,936 1,945,936 1,947,049 1,947,049 1,947,049 1,947,049 1,947,049 1,945,445 1,952,445 1,952,445 1,952,445 1,952,445 1,952,936	1,700,004 1,700,004 1,900,003 1,907,955 1,907,955 1,907,955 1,908,905 1,902,190 1,902,190 1,902,190 1,902,190 1,902,190 1,902,190 1,902,007 1,902,	1,844,857 1,774,130 1,744,130 1,744,130 1,908,951 1,908,951 1,908,951 1,908,951 1,908,951 1,908,951 1,908,954 1,908,954 1,908,954 1,908,956 1,908,
92 93 94 95 96 97 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 97 98 98 98 98 98 98 98 98 98 98 98 98 98	1,986,7137 1,986,7137 1,986,7137 1,717,148 1,880,521 1,755,8800 1,854,091 1,954,091 1,954,091 1,954,091 1,954,091 1,955,091 1,960,717 1,960,917 1,	1,998,717 1,728,075 1,742,075 1,948,0100 1,742,004 1,998,717 1,900,181 1,998,717 1,900,181 1,998,717 1,998,717 1,998,717 1,998,717 1,998,717 1,998,717 1,998,518 1,998,511 1,925,544 1,125,544 1,125,544	1,946,717 1,740,746 1,740,746 1,750,512 1,956,717 1,957,917 1,957,	L996,127 L736,427 L986,277 L986,7777 L986,777 L986,777 L986,777 L9	1,951,701 1,951,496 1,952,496 1,952,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,952,496 1,952,496 1,952,496 1,955,196 1,955,196	1,857,182 1,953,018 1,953,018 1,477,971 1,953,496 1,485,502 1,485,102 1,484,012 1,484,012 1,484,012 1,484,012 1,857,016 1,955,705 1,955,705 1,955,705 1,955,956	1,772,485 1,861,111 1,862,239 1,351,486 1,351,486 1,352,251 1,352,251 1,352,251 1,352,251 1,352,251 1,352,186 1,365,185 1,361,485 1,357,361 1,357,351 1,352,354 1,352,354	1,741,858 1,718,151 1,811,544 1,801,386 1,947,386 1,947,386 1,948,518 1,948,518 1,958,456 1,958,456 1,958,456 1,958,456 1,958,456 1,958,456 1,958,456 1,958,456 1,958,456 1,958,514 1,958,514 1,958,514	1,700,447 1,747,136 1,741,548 1,900,500 1,715,248 1,851,850 1,151,298 1,152,280 1,152,280 1,152,540 1,952,840 1,253,846 1,553,846 1,553,846 1,553,846 1,553,846 1,553,846 1,553,846 1,553,846	1,726,222 1,705,045 1,444,701 1,426,736 1,426,531 1,426,531 1,426,531 1,426,531 1,426,531 1,427,346 1,427,346 1,427,346 1,428,346 1,428,464 1,454,464 1,454,464 1,454,464 1,454,464	1,700,604 1,700,902 1,007,902 1,007,905 1,000,905	1,844,850 1,774,130 1,744,130 1,941,100 1,901,901 1,900,191 1,900,290 1,900,191 1,900,290

#### **Detailed Results** Example

1,693,224 1,756,003 1,714,229 1,732,575 1,743,890 1,754,075 1,856,203 1,814,383 1,823,852 1,641,283 1,661,291 1,675,358

1,996,717 1,996,717 1,996,717 1,995,717 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496 1,953,496



## **Next Steps**

- Responses to comments from the previous meeting will be posted next week
- Comment period open throughout the update process
  - Submit comments related to this meeting to LCRAWMP@lcra.org
     by May 14
- Third participant meeting: June 25
  - Present initial modeling results



March 27, 2025	First participant meeting
April 23, 2025	Second participant meeting
June 25, 2025	Third participant meeting
July 23, 2025*	Fourth participant meeting
Aug. 26, 2025*	Fifth participant meeting
October 2025	Sixth participant meeting
January 2026	Present staff recommendation on WMP updates to LCRA Board
Spring 2026	Request LCRA Board approval
Summer 2026	Submit to TCEQ for approval

\*Tentative dates

**Questions?** 

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