

## AGENDA ITEM MEMO

**BOARD MEETING DATE:** December 7, 2023

**TO:** Board Members

**THROUGH:** Jeff Walker, Executive Administrator  
Ashley Harden, General Counsel  
Matt Nelson, Deputy Executive Administrator, Office of Planning

**FROM:** Sarah Lee, Manager, Regional Water Planning  
Heather Rose, Planner, Regional Water Planning

**SUBJECT:** Amendment to the 2022 State Water Plan

### **ACTION REQUESTED**

Consider amending the 2022 State Water Plan to incorporate an amendment to the 2021 Region H Regional Water Plan to add a water management strategy and associated project for the Lower Neches Valley Authority.

### **BACKGROUND**

This proposed second amendment to the 2022 State Water Plan incorporates a minor amendment to the 2021 Region H Regional Water Plan. Through this amendment, Region H included the Devers Pump Station Relocation recommended water management strategy for the Lower Neches Valley Authority. The associated project would include development of a new intake structure located on the Trinity River, a high-capacity pump station, and discharge structures to connect the pump station to the Devers Canal System. The minor amendment to the 2021 Region H Regional Water Plan was approved on October 5, 2023.

### **KEY ISSUES**

1. Detailed changes resulting from the proposed state water plan amendment are outlined in the attachment. Most notably, the 2022 State Water Plan total capital cost will increase by \$17.6 million. The rounded total capital cost of \$80 billion remains unchanged. Water management strategy supply volumes are increased by 9,000 acre-feet/year in 2030-2070.
2. A public hearing on amending the 2022 State Water Plan was held on November 14, 2023.

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Jeff Walker, Executive Administrator

3. No public comments were received on the proposed amendment to the 2022 State Water Plan.
4. If approved, this proposed amendment will be incorporated into the 2022 State Water Plan as Amendment No. 2.

**RECOMMENDATION**

The Executive Administrator recommends adoption of this 2022 State Water Plan Amendment to incorporate data from the Region H Regional Water Plan minor amendment in accordance with 31 TAC §357.51 and §358.4.

Attachment: Draft Water for Texas 2022 State Water Plan: Proposed Amendment No. 2



**Water for Texas 2022 State Water Plan: Proposed Amendment No.2**

The following changes are made to the 2022 State Water Plan as a result of a minor amendment to the 2021 Region H Regional Water Plan (RWP).

This state water plan amendment adds one recommended water management strategy and associated project to include the Devers Pump Station Relocation for the Lower Neches Valley Authority (LNVA). The amendment adds \$17,570,019 in capital costs to the 2021 Region H RWP. This additional strategy will provide approximately 9,000 acre-feet per year in additional water supply to irrigation water user groups.

The following 2022 State Water Plan tables are revised to incorporate data from the amendment. Updated values are highlighted. The amendment has minimal visible impact on select 2022 State Water Plan figures.

The online [Interactive State Water Plan](#) will display resulting data changes following board action on the amendment.

**Table 5-1. Texas' projected annual existing water supply (acre-feet)**

Source	2020	2030	2040	2050	2060	2070	Percent change
Surface water	7,223,000	7,175,000	7,144,000	7,117,000	7,098,000	7,071,000	-2
Groundwater	8,912,000	7,638,000	6,869,000	6,407,000	6,092,000	6,023,000	-32
Reuse	620,000	640,000	661,000	676,000	704,000	714,000	15
<b>Texas<sup>a</sup></b>	<b>16,755,000</b>	<b>15,453,000</b>	<b>14,674,000</b>	<b>14,200,000</b>	<b>13,894,000</b>	<b>13,808,000</b>	<b>-18</b>

<sup>a</sup> Does not reflect some portions of existing supplies that are associated with purely saline water sources such as untreated seawater.

**Table B-3. Annual surface water existing supplies by river and coastal basin (acre-feet)**

Surface water basin	2020	2030	2040	2050	2060	2070	Percent change
Brazos	1,028,398	1,027,522	1,027,471	1,024,880	1,021,226	1,016,537	-1
Brazos-Colorado	18,146	18,146	18,146	18,146	18,146	18,146	0
Canadian	37,884	37,851	37,818	37,784	37,750	37,716	0
Colorado	850,792	849,674	848,806	846,861	847,167	845,952	-1
Colorado-Lavaca	4,289	4,289	4,289	4,289	4,289	4,289	0
Cypress	188,035	183,161	182,029	181,321	180,470	179,575	-5
Guadalupe	172,627	169,329	166,256	166,874	169,350	169,365	-2
Lavaca	78,055	78,136	78,136	78,136	78,136	78,136	0
Lavaca-Guadalupe	297	297	297	297	297	297	0
Neches	495,915	500,538	503,810	506,896	510,377	514,747	4
Neches-Trinity	88,962	88,962	88,962	88,962	88,962	88,962	0
Nueces	118,408	116,486	114,285	112,076	109,878	107,379	-9
Nueces-Rio Grande	926	926	926	926	926	926	0
Red	170,041	166,889	164,581	162,546	160,859	154,978	-9
Rio Grande	943,633	944,086	941,201	941,050	941,819	941,943	0
Sabine	591,377	573,717	573,540	573,113	572,665	576,570	-3
Sabine-Louisiana	343	343	343	343	343	343	0
San Antonio	52,444	52,445	52,445	52,446	52,455	52,455	0
San Antonio-Nueces	444	444	444	444	444	444	0
San Jacinto	187,038	187,816	188,218	187,201	187,441	187,646	0
San Jacinto-Brazos	35,989	35,989	35,989	35,989	35,989	35,989	0
Sulphur	121,575	121,149	121,323	121,616	121,803	121,938	0
Trinity	2,031,960	2,010,899	1,989,066	1,969,192	1,951,323	1,931,379	-5
Trinity-San Jacinto	5,537	5,537	5,537	5,537	5,537	5,537	0
<b>Texas<sup>a</sup></b>	<b>7,223,115</b>	<b>7,174,631</b>	<b>7,143,918</b>	<b>7,116,925</b>	<b>7,097,652</b>	<b>7,071,249</b>	<b>-2</b>

<sup>a</sup> Does not reflect some portions of existing supplies that are associated with purely saline water sources such as untreated seawater.

**Table 7.1 - Annual volume of recommended water management strategies by region (acre-feet)**

<b>Region</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
A	155,000	295,000	529,000	616,000	618,000	658,000
B	10,000	14,000	38,000	43,000	45,000	49,000
C	129,000	361,000	588,000	830,000	1,075,000	1,336,000
D	83,000	149,000	161,000	175,000	192,000	221,000
E	82,000	118,000	130,000	146,000	150,000	156,000
F	79,000	141,000	166,000	171,000	176,000	182,000
G	119,000	291,000	353,000	396,000	443,000	492,000
H	251,000	987,000	1,421,000	1,735,000	1,855,000	1,951,000
I	24,000	251,000	272,000	285,000	295,000	279,000
J	13,000	26,000	26,000	26,000	26,000	26,000
K	251,000	297,000	373,000	418,000	476,000	565,000
L	199,000	429,000	551,000	596,000	692,000	737,000
M	141,000	219,000	296,000	372,000	440,000	508,000
N	24,000	255,000	266,000	271,000	278,000	282,000
O	119,000	199,000	249,000	236,000	239,000	242,000
P	16,000	17,000	17,000	17,000	17,000	17,000
<b>Texas<sup>a</sup></b>	<b>1,695,000</b>	<b>4,049,000</b>	<b>5,436,000</b>	<b>6,333,000</b>	<b>7,017,000</b>	<b>7,701,000</b>

<sup>a</sup> Statewide totals may vary between tables due to rounding.

**Table 7-2. Capital costs, by required online decade, of all recommended water management strategy projects by region (million dollars)**

Region	2020	2030	2040	2050	2060	2070	Total capital cost <sup>a</sup>	Number of projects <sup>b</sup>
A	\$308	\$584	\$88	\$49	\$5	\$113	\$1,147	65
B	\$212	\$1	\$443	\$0	\$0	\$0	\$656	20
C	\$4,363	\$5,482	\$4,796	\$7,437	\$4,061	\$3,793	\$29,932	506
D	\$157	\$295	\$39	\$118	\$31	\$90	\$730	103
E	\$371	\$243	\$569	\$320	\$0	\$0	\$1,503	39
F	\$439	\$954	\$66	\$171	\$6	\$0	\$1,636	111
G	\$2,169	\$2,377	\$426	\$496	\$5	\$13	\$5,486	221
H	\$4,124	\$9,183	\$4,125	\$1,279	\$907	\$451	\$20,069	819
I	\$871	\$1,466	\$726	\$11	\$31	\$6	\$3,111	59
J	\$70	\$150	\$0	\$0	\$0	\$0	\$220	45
K	\$1,539	\$1,484	\$873	\$173	\$15	\$510	\$4,594	162
L	\$1,176	\$1,592	\$1,019	\$132	\$203	\$0	\$4,122	57
M	\$1,033	\$511	\$206	\$188	\$39	\$25	\$2,002	134
N	\$166	\$3,110	\$0	\$0	\$0	\$0	\$3,276	64
O	\$184	\$118	\$275	\$1	\$104	\$126	\$808	26
P	\$26	\$56	\$340	\$0	\$0	\$0	\$422	12
<b>Texas</b>	<b>\$17,208</b>	<b>\$27,606</b>	<b>\$13,991</b>	<b>\$10,375</b>	<b>\$5,407</b>	<b>\$5,127</b>	<b>\$79,714</b>	<b>2,443</b>

<sup>a</sup> Capital costs represent approximations based on anticipated online dates. Projects with capital costs that would occur over multiple decades are reported as a single, total capital cost in the project's online decade and may therefore differ from those presented in the regional water plans.

<sup>b</sup> Some projects are associated with multiple sponsors.

**Table 7-3. Annual volume of recommended water management strategies by strategy type (acres-feet)**

<b>Water management strategy type</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Agricultural conservation	535,000	757,000	1,066,000	1,142,000	1,151,000	1,197,000
Aquifer storage & recovery	19,000	132,000	155,000	162,000	180,000	193,000
Conjunctive use	5,000	57,000	65,000	64,000	64,000	67,000
Direct potable reuse	12,000	34,000	44,000	57,000	61,000	62,000
Drought management	87,000	110,000	129,000	140,000	149,000	158,000
Groundwater desalination	19,000	97,000	123,000	124,000	154,000	157,000
Groundwater wells & other	255,000	418,000	543,000	604,000	665,000	705,000
Indirect reuse	58,000	209,000	510,000	560,000	648,000	739,000
Industrial conservation	23,000	32,000	35,000	37,000	39,000	44,000
Municipal conservation	220,000	395,000	530,000	675,000	822,000	977,000
New major reservoir	60,000	324,000	468,000	658,000	793,000	866,000
Other direct reuse	51,000	179,000	202,000	232,000	265,000	305,000
Other strategies	8,000	44,000	52,000	57,000	67,000	78,000
Other surface water	345,000	1,080,000	1,323,000	1,629,000	1,766,000	1,960,000
Seawater desalination	0	179,000	190,000	192,000	192,000	192,000
<b>Texas<sup>a</sup></b>	<b>1,697,000</b>	<b>4,047,000</b>	<b>5,435,000</b>	<b>6,333,000</b>	<b>7,016,000</b>	<b>7,700,000</b>

<sup>a</sup> Statewide totals may vary between tables due to rounding.

**Table 7-5. Weight-averaged unit costs (dollars per acre-foot)\* of strategy water supplies by region and strategy type in 2070**

<b>Water management strategy type</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>	<b>P</b>	<b>Texas</b>
Agricultural conservation	\$66	\$83	\$307	na	\$39	\$0	\$1,330	\$132	na	\$0	\$151	na	\$315	\$3,597	\$450	\$200	\$181
Aquifer storage & recovery	\$391	na	\$99	\$99	\$212	na	\$418	\$3,256	na	\$148	\$2,109	\$221	na	\$171	\$824	na	\$664
Conjunctive use	na	na	na	na	\$251	na	\$235	\$1,060	na	na	na	na	na	na	na	na	\$814
Direct potable reuse	\$1,228	na	na	na	na	\$2,443	\$606	na	na	\$6	\$1,961	\$1,980	\$1,709	na	na	na	\$1,505
Drought management**	na	na	na	na	na	na	na	na	na	\$0	\$66	\$358	\$55	\$0	na	\$100	\$169
Groundwater desalination	na	na	na	na	\$818	\$403	\$1,540	\$4,927	na	\$294	\$2,995	\$1,227	\$1,085	\$1,088	na	na	\$1,080
Groundwater wells & other	\$355	\$396	\$408	\$383	\$710	\$340	\$407	\$481	\$173	\$154	\$523	\$435	\$85	\$93	\$174	na	\$402
Indirect reuse	na	\$698	\$273	\$1,032	na	\$269	\$275	\$326	\$435	na	\$214	na	na	na	na	na	\$297
Industrial conservation	na	\$385	\$147	\$0	na	\$0	\$0	na	na	na	\$109	na	\$2,983	\$0	\$0	\$0	\$292
Municipal conservation	\$779	\$356	\$103	\$679	\$92	\$663	\$546	\$584	\$398	\$408	\$999	\$625	\$582	\$502	\$332	\$1,990	\$515
New major reservoir	na	\$384	\$625	\$540	na	na	\$659	\$411	\$281	na	\$715	\$97	na	na	\$518	na	\$511
Other direct reuse	na	na	\$278	na	\$479	\$201	\$384	\$525	na	\$56	\$1,036	\$625	\$354	\$157	\$1,407	na	\$630
Other strategies	na	na	\$899	na	\$307	\$10	na	\$1,560	na	\$0	\$1,618	na	\$10	na	na	na	\$1,066
Other surface water	na	\$828	\$527	\$199	\$290	\$80	\$521	\$271	\$475	\$244	\$143	\$621	\$2,890	\$229	\$783	na	\$521
Seawater desalination	na	na	na	na	na	na	na	\$1,293	na	na	na	na	\$3,188	\$1,364	na	na	\$1,371

\* Unit costs include a mixture of projects, some of which will be beyond their debt service period by 2070.

\*\* Unit costs for drought management strategies represent possible costs to municipal water users from foregone consumer surplus of imposed reduced water use rather than capital expended to produce water supply.

na = not applicable or not available.



**Table 7-6. Statewide weight-averaged unit costs (dollars per acre-foot)\* of strategy water supplies by strategy type 2020–2070**

<b>Water management strategy type</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Agricultural conservation	\$284	\$273	\$202	\$188	\$186	\$181
Aquifer storage & recovery	\$437	\$666	\$904	\$609	\$509	\$664
Conjunctive use	\$1,724	\$1,729	\$1,986	\$1,147	\$903	\$814
Direct potable reuse	\$1,321	\$1,456	\$1,402	\$1,587	\$1,590	\$1,504
Drought management**	\$70	\$119	\$168	\$168	\$169	\$169
Groundwater desalination	\$920	\$1,618	\$1,430	\$899	\$994	\$1,080
Groundwater wells & other	\$599	\$659	\$592	\$523	\$439	\$402
Indirect reuse	\$391	\$697	\$541	\$391	\$266	\$297
Industrial conservation	\$680	\$597	\$513	\$339	\$311	\$292
Municipal conservation	\$675	\$607	\$503	\$498	\$519	\$515
New major reservoir	\$114	\$598	\$818	\$678	\$521	\$511
Other direct reuse	\$962	\$892	\$865	\$483	\$559	\$630
Other strategies	\$10	\$2,128	\$2,016	\$1,073	\$1,055	\$1,066
Other surface water	\$744	\$1,030	\$981	\$578	\$548	\$521
Seawater desalination	na	\$2,402	\$2,394	\$1,440	\$1,383	\$1,371

\* Unit costs include a mixture of projects, some of which will be beyond their debt service period by 2070.

\*\* Unit costs for drought management strategies represent possible costs to municipal water users from foregone consumer surplus of imposed reduced water use rather than capital expended to produce water supply.

na = not applicable or not available.