

TO: Board Members

THROUGH: Kevin Patteson, Executive Administrator
Les Trobman, General Counsel
Jeff Walker, Deputy Executive Administrator, Water Supply & Infrastructure

FROM: Sarah Backhouse, Planner, Regional Water Planning

DATE: December 4, 2015

SUBJECT: Approval of the 2016 Region A Regional Water Plan

ACTION REQUESTED

Approve the 2016 Regional Water Plan for the Panhandle (Region A) Regional Water Planning Area.

BACKGROUND

In accordance with §16.051 of the Texas Water Code (TWC), the Texas Water Development Board (TWDB) is required to develop and adopt a comprehensive state water plan every five years that incorporates the regional water plans developed and approved in accordance with TWC §16.053. Pursuant to 31 TAC §357.50, regional water planning groups are required to submit their adopted regional water plans to the Board for approval every five years.

In accordance with 31 TAC §357.50, the Board is required to consider approval of submitted regional water plans and may approve a regional water plan (RWP) only after it has determined that the RWP complies with statute and rules including TWC §16.053, 31 TAC Chapters 355, 357, and 358.

In accordance with TWC §16.053, the Board may approve a regional water plan only after it has determined that:

- all interregional conflicts involving the regional water planning area, if any, have been resolved;
- the plan includes water conservation practices and drought management measures; and
- the plan is consistent with long-term protection of the state's water resources, agricultural resources, and natural resources.

Our Mission : Board Members

To provide leadership, information, education, and support for planning, financial assistance, and outreach for the conservation and responsible development of water for Texas :
: Bech Bruun, Chairman | Kathleen Jackson, Member
:
: Kevin Patteson, Executive Administrator

The Executive Administrator (EA) has conducted a review of the final adopted Region A Regional Water Plan related to all applicable legal and contractual requirements including related to the following key issues:

1. Determinations of whether the plans were developed according to the general provisions for planning included in statute, rule, and guidance.
2. Determination that there are no interregional conflicts associated with the plan.
3. Determination that environmental planning criteria, including consideration of environmental flow standards adopted by the Texas Commission on Environmental Quality, related to instream and bay and estuary inflows were followed appropriately in evaluations of water management strategies utilizing surface water.
4. Determination that existing and recommended water supplies would be available under a repeat of the historic drought of record.
5. Determination that impacts to agricultural resources were quantified.
6. Determination that cost estimates developed in the plan were prepared in general accordance with the provisions of the contract.
7. Determination that water conservation and drought management was considered as a means to meet all identified water needs.
8. Determination that all comments received by the regional water planning groups on the initially prepared plans from the TWDB have been satisfactorily addressed.
9. Determination that, in aggregate, the plan was found to meet the requirements related to:
 - consideration of a balance of economic, social, and ecological viability as well as consideration of the interests of the state and entities providing water.
 - providing for the orderly development, management, and conservation of water resources and preparation for and response to drought conditions in order that sufficient water will be available at a reasonable cost to ensure public health, safety, and welfare, and further economic development.
10. Determination that the plan is consistent with long-term protection of:
 - state and regional water resources
 - state and regional agricultural resources
 - state and regional natural resources

Summary data of the projected population, existing supplies, demands, needs, and strategy supplies for the water user groups in the Region A Regional Water Planning Area are included as Attachment 1. The water management strategy projects recommended in the 2016 Region A Regional Water Plan are included as Attachment 2.

KEY ISSUES

The recommended strategies in the 2016 Region A Regional Water Plan meet all identified needs in the plan except for approximately 93,000 acre-feet per year associated with irrigation use in 2020 and approximately 500 acre-feet per year associated with Potter County-Other in 2070. These needs were left unmet by the planning group due to limited, feasible water supply options. An unmet need in a regional plan does not prevent an associated entity from pursuing development of additional water supplies. In some instances, the underlying future increase in demand associated with an unmet need may actually shift to a less water-scarce location.

For the unmet municipal needs in 2070, the planning group anticipates that the unincorporated area around Amarillo will incorporate by the 2070 decade, will be served by the City, and will have sufficient water supplies protective of the public health and safety of Potter County-Other residents.

The total cost of the recommended projects in the 2016 Region A Regional Water Plan is \$865.6 million.

The EA has verified that the plan was formally adopted on November 17, 2015.

The EA has reviewed the adopted 2016 Region A Regional Water Plan and determined that the plan complies with statute and rules.

The EA has reviewed the Region A Regional Water Plan for interregional conflicts and has found none.

RECOMMENDATION

The Executive Administrator recommends approval of the 2016 Region A Regional Water Plan.

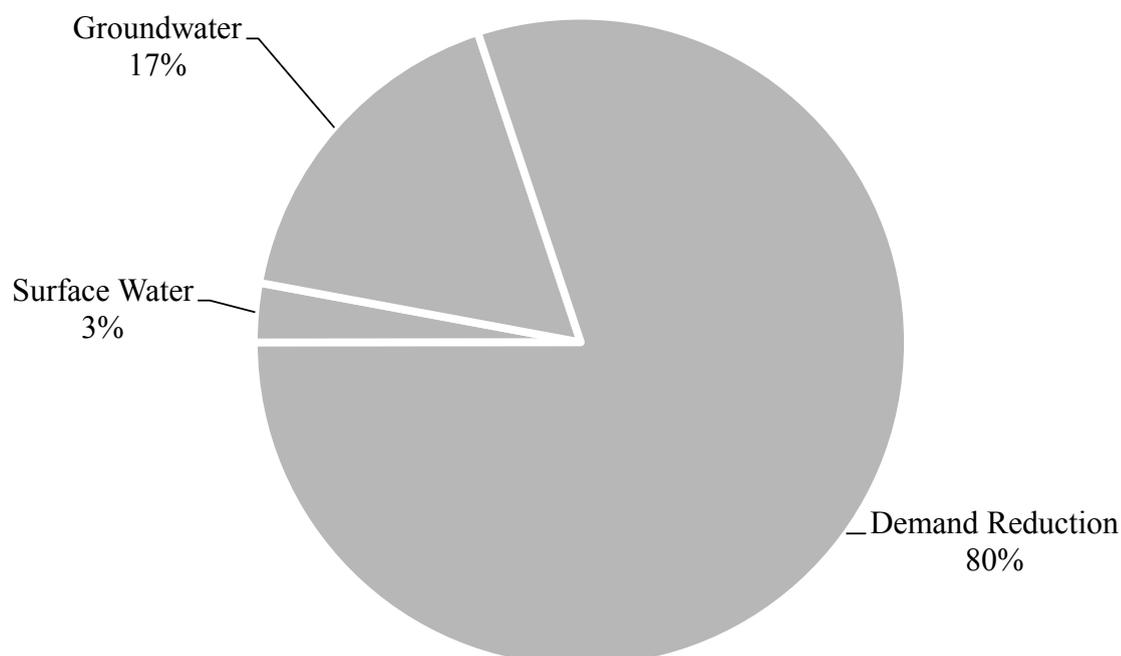
Attachment 1 – Summary of the Water User Groups in the 2016 Region A Regional Water Plan

Attachment 2 – Recommended water management strategy projects

Summary of Water User Groups in the 2016 Region A Regional Water Plan

Year	2020	2030	2040	2050	2060	2070
Population Projections	419,000	461,000	504,000	547,000	592,000	639,000
Existing Water Supply	1,573,000	1,450,000	1,322,000	1,182,000	1,050,000	921,000
Municipal	80,000	86,000	93,000	100,000	108,000	117,000
County-Other	12,000	13,000	14,000	15,000	16,000	17,000
Manufacturing	50,000	53,000	55,000	58,000	61,000	65,000
Mining	11,000	10,000	7,000	4,000	3,000	3,000
Irrigation	1,513,000	1,426,000	1,312,000	1,167,000	1,021,000	875,000
Steam Electric Power	27,000	29,000	31,000	33,000	37,000	41,000
Livestock	41,000	41,000	43,000	45,000	47,000	49,000
Total Water Demands	1,734,000	1,658,000	1,555,000	1,422,000	1,293,000	1,167,000
Municipal	9,000	22,000	36,000	49,000	63,000	76,000
County-Other	1,000	2,000	3,000	3,000	4,000	5,000
Manufacturing	4,000	7,000	10,000	14,000	18,000	23,000
Mining	0	0	0	0	0	0
Irrigation	157,000	185,000	193,000	180,000	165,000	149,000
Steam Electric Power	0	0	0	0	0	0
Livestock	0	0	0	0	0	0
Total Water Needs	171,000	216,000	242,000	246,000	250,000	253,000
Municipal	34,000	64,000	74,000	78,000	79,000	90,000
County-Other	3,000	3,000	4,000	5,000	5,000	6,000
Manufacturing	5,000	7,000	11,000	18,000	20,000	23,000
Irrigation	137,000	235,000	402,000	453,000	491,000	518,000
Total Strategy Supplies	179,000	309,000	491,000	554,000	595,000	637,000

Recommended water management strategies by water resource (2070)



Sponsor Region	Sponsor	Recommended Water Management Strategy Project	Capital Cost	Online Decade
A	AMARILLO	DEVELOP CARSON COUNTY WELL FIELD (OGALLALA AQUIFER) - AMARILLO	\$37,528,000	2040
A	AMARILLO	DEVELOP POTTER COUNTY WELL FIELD (OGALLALA AQUIFER) - AMARILLO	\$53,397,000	2020
A	AMARILLO	DEVELOP ROBERTS COUNTY WELL FIELD (OGALLALA AQUIFER) - AMARILLO	\$170,217,000	2070
A	BOOKER	DEVELOP OGALLALA AQUIFER SUPPLIES - BOOKER	\$1,489,400	2040
A	BORGER	DEVELOP NEW WELL FIELD (OGALLALA AQUIFER) - BORGER	\$26,070,400	2020
A	CACTUS	DEVELOP NEW WELL FIELD (OGALLALA AQUIFER) - CACTUS	\$18,191,900	2020
A	CANADIAN	MUNICIPAL CONSERVATION - CANADIAN	\$2,294,900	2020
A	CANADIAN RIVER MUNICIPAL WATER AUTHORITY	ASR - CRMWA	\$67,649,300	2030
A	CANADIAN RIVER MUNICIPAL WATER AUTHORITY	EXPANSION OF ROBERTS COUNTY WELL FIELD (OGALLALA AQUIFER) IN 2024 - CRMWA2	\$250,299,000	2024
A	CANADIAN RIVER MUNICIPAL WATER AUTHORITY	REPLACE CAPACITY OF ROBERTS COUNTY WELL FIELD (OGALLALA AQUIFER) IN 2030 - CRMWA	\$8,267,250	2030
A	CANADIAN RIVER MUNICIPAL WATER AUTHORITY	REPLACE CAPACITY OF ROBERTS COUNTY WELL FIELD (OGALLALA AQUIFER) IN 2040 - CRMWA	\$16,533,500	2040
A	CANYON	DEVELOP DOCKUM/OGALLALA AQUIFER SUPPLIES - CANYON	\$11,614,100	2020
A	CHILDRESS	MUNICIPAL CONSERVATION - CHILDRESS	\$4,098,000	2020
A	CLAUDE	DEVELOP OGALLALA AQUIFER SUPPLIES - CLAUDE	\$2,891,100	2040
A	CLAUDE	MUNICIPAL CONSERVATION - CLAUDE	\$721,800	2020
A	COUNTY-OTHER, HALL	NEW GROUNDWATER SOURCE - HALL COUNTY OTHER (TURKEY)	\$1,345,300	2020
A	COUNTY-OTHER, HALL	ADVANCED TREATMENT - HALL COUNTY OTHER (LAKEVIEW)	\$1,600,800	2020
A	COUNTY-OTHER, HALL	NEW GROUNDWATER SOURCE - HALL COUNTY OTHER (BRICE-LESLEY)	\$299,300	2020
A	COUNTY-OTHER, HALL	NEW GROUNDWATER SOURCE - HALL COUNTY OTHER (ESTELLINE)	\$141,100	2020
A	COUNTY-OTHER, HALL	MUNICIPAL CONSERVATION - HALL COUNTY OTHER	\$660,000	2020
A	COUNTY-OTHER, POTTER	DEVELOP DOCKUM AQUIFER SUPPLIES - POTTER COUNTY OTHER	\$3,345,600	2020
A	COUNTY-OTHER, POTTER	DEVELOP OGALLALA AQUIFER SUPPLIES - POTTER COUNTY OTHER	\$3,979,400	2030
A	COUNTY-OTHER, POTTER	MUNICIPAL CONSERVATION - POTTER COUNTY OTHER	\$13,409,600	2020
A	COUNTY-OTHER, RANDALL	DEVELOP OGALLALA AQUIFER SUPPLIES - RANDALL COUNTY OTHER	\$5,299,300	2030
A	DALHART	DEVELOP OGALLALA AQUIFER SUPPLIES - DALHART	\$4,197,900	2020
A	DUMAS	DEVELOP OGALLALA AQUIFER SUPPLIES - DUMAS	\$12,544,700	2020
A	FRITCH	MUNICIPAL CONSERVATION - FRITCH	\$1,367,000	2020
A	GREENBELT MUNICIPAL & INDUSTRIAL WATER AUTHORITY	DEVELOP OGALLALA AQUIFER IN DONLEY COUNTY - GREENBELT MIWA	\$12,617,000	2020
A	GRUVER	DEVELOP OGALLALA AQUIFER SUPPLIES - GRUVER	\$1,385,600	2040
A	GRUVER	MUNICIPAL CONSERVATION - GRUVER	\$964,600	2020
A	IRRIGATION, ARMSTRONG	IRRIGATION CONSERVATION - ARMSTRONG COUNTY	\$154,200	2020
A	IRRIGATION, CARSON	IRRIGATION CONSERVATION - CARSON COUNTY	\$2,047,700	2020
A	IRRIGATION, CHILDRESS	IRRIGATION CONSERVATION - CHILDRESS COUNTY	\$268,700	2020
A	IRRIGATION, COLLINGSWORTH	IRRIGATION CONSERVATION - COLLINGSWORTH COUNTY	\$659,600	2020
A	IRRIGATION, DALLAM	IRRIGATION CONSERVATION - DALLAM COUNTY	\$13,596,900	2020
A	IRRIGATION, DONLEY	IRRIGATION CONSERVATION - DONLEY COUNTY	\$885,200	2020
A	IRRIGATION, GRAY	IRRIGATION CONSERVATION - GRAY COUNTY	\$782,700	2020
A	IRRIGATION, HALL	IRRIGATION CONSERVATION - HALL COUNTY	\$372,500	2020
A	IRRIGATION, HANSFORD	IRRIGATION CONSERVATION - HANSFORD COUNTY	\$4,959,300	2020
A	IRRIGATION, HARTLEY	IRRIGATION CONSERVATION - HARTLEY COUNTY	\$12,696,300	2020
A	IRRIGATION, HEMPHILL	IRRIGATION CONSERVATION - HEMPHILL COUNTY	\$70,100	2020
A	IRRIGATION, HUTCHINSON	IRRIGATION CONSERVATION - HUTCHINSON COUNTY	\$1,470,800	2020
A	IRRIGATION, LIPSCOMB	IRRIGATION CONSERVATION - LIPSCOMB COUNTY	\$735,600	2020
A	IRRIGATION, MOORE	IRRIGATION CONSERVATION - MOORE COUNTY	\$5,258,000	2020
A	IRRIGATION, OCHILTREE	IRRIGATION CONSERVATION - OCHILTREE COUNTY	\$2,104,300	2020
A	IRRIGATION, OLDHAM	IRRIGATION CONSERVATION - OLDHAM COUNTY	\$144,700	2020
A	IRRIGATION, POTTER	IRRIGATION CONSERVATION - POTTER COUNTY	\$126,000	2020
A	IRRIGATION, RANDALL	IRRIGATION CONSERVATION - RANDALL COUNTY	\$661,700	2020
A	IRRIGATION, ROBERTS	IRRIGATION CONSERVATION - ROBERTS COUNTY	\$219,000	2020
A	IRRIGATION, SHERMAN	IRRIGATION CONSERVATION - SHERMAN COUNTY	\$8,123,100	2020
A	IRRIGATION, WHEELER	IRRIGATION CONSERVATION - WHEELER COUNTY	\$301,500	2020
A	LAKE TANGLEWOOD	DEVELOP OGALLALA AQUIFER SUPPLIES - LAKE TANGLEWOOD	\$2,976,400	2020
A	LAKE TANGLEWOOD	MUNICIPAL CONSERVATION - LAKE TANGLEWOOD	\$492,000	2020
A	MANUFACTURING, MOORE	DEVELOP NEW WELL FIELD (OGALLALA AQUIFER) - MANUFACTURING MOORE COUNTY	\$11,244,800	2050
A	MANUFACTURING, RANDALL	DEVELOP OGALLALA AQUIFER SUPPLIES - RANDALL COUNTY MANUFACTURING	\$746,000	2020
A	MCLEAN	DEVELOP OGALLALA AQUIFER SUPPLIES - MCLEAN	\$789,400	2020
A	MCLEAN	MUNICIPAL CONSERVATION - MCLEAN	\$669,900	2020
A	MEMPHIS	DEVELOP OGALLALA AQUIFER SUPPLIES - MEMPHIS	\$1,183,900	2050
A	MEMPHIS	MUNICIPAL CONSERVATION - MEMPHIS	\$470,000	2020
A	MIAMI	MUNICIPAL CONSERVATION - MIAMI	\$373,200	2020
A	PAMPA	DEVELOP OGALLALA AQUIFER SUPPLIES - PAMPA	\$8,618,100	2030
A	PANHANDLE	DEVELOP OGALLALA AQUIFER SUPPLIES - PANHANDLE	\$3,217,800	2020
A	PANHANDLE	MUNICIPAL CONSERVATION - PANHANDLE	\$1,559,800	2020
A	PERRYTON	DEVELOP OGALLALA AQUIFER SUPPLIES - PERRYTON	\$10,584,100	2020
A	SHAMROCK	MUNICIPAL CONSERVATION - SHAMROCK	\$1,301,900	2020
A	SPEARMAN	DEVELOP OGALLALA AQUIFER SUPPLIES - SPEARMAN	\$3,665,600	2050
A	STINNETT	DEVELOP OGALLALA AQUIFER SUPPLIES - STINNETT	\$908,000	2050
A	STINNETT	MUNICIPAL CONSERVATION - STINNETT	\$1,212,200	2020
A	STRATFORD	MUNICIPAL CONSERVATION - STRATFORD	\$1,489,900	2020
A	SUNRAY	DEVELOP OGALLALA AQUIFER SUPPLIES - SUNRAY	\$3,526,100	2030
A	SUNRAY	MUNICIPAL CONSERVATION - SUNRAY	\$1,822,300	2020
A	TCW SUPPLY INC	DEVELOP OGALLALA AQUIFER SUPPLIES - TCW SUPPLY	\$3,890,200	2020
A	TCW SUPPLY INC	MUNICIPAL CONSERVATION - TCW SUPPLY	\$1,346,700	2020
A	TEXLINE	DEVELOP OGALLALA AQUIFER SUPPLIES - TEXLINE	\$1,056,000	2050
A	TEXLINE	MUNICIPAL CONSERVATION - TEXLINE	\$464,500	2020
A	VEGA	MUNICIPAL CONSERVATION - VEGA	\$608,100	2020
A	WELLINGTON	DEVELOP SEYMOUR AQUIFER SUPPLIES - WELLINGTON	\$2,589,800	2020
A	WELLINGTON	ADVANCED TREATMENT (NITRATE REMOVAL) - WELLINGTON	\$3,679,700	2020
A	WELLINGTON	MUNICIPAL CONSERVATION - WELLINGTON	\$1,533,900	2020
A	WHEELER	DEVELOP OGALLALA AQUIFER SUPPLIES - WHEELER	\$2,795,600	2020
A	WHITE DEER	MUNICIPAL CONSERVATION - WHITE DEER	\$704,400	2020
Total			\$865,578,050	