

No. 141, Original

IN THE
SUPREME COURT OF THE UNITED STATES

◆
STATE OF TEXAS,

Plaintiff

v.

STATE OF NEW MEXICO and
STATE OF COLORADO,

Defendants

◆
DECLARATION OF MICHAEL J. SULLIVAN, P.E.

**IN SUPPORT OF JOINT MOTION OF THE STATE OF TEXAS, STATE OF NEW
MEXICO, AND STATE OF COLORADO FOR ENTRY OF CONSENT DECREE
SUPPORTING THE RIO GRANDE COMPACT**

◆
I, Michael J. Sullivan, P.E., hereby declare as follows:

Professional Background

- 1) I am over 18 years of age and have personal knowledge of the facts stated herein. I am competent to testify to the matters herein. If called to testify, I can and will testify in accordance with the following.
- 2) I have 40 years of professional experience and am a licensed professional engineer. The majority of that experience has been in water resources engineering and in water administration for the state of Colorado. I am currently the Deputy State Engineer for the State of Colorado and the Deputy Director for the Colorado Division of Water Resources (DWR). I have held this position since September 30, 2008. As Deputy State Engineer I am authorized to act for the State Engineer in all of the State Engineer’s official duties, including the administration of interstate river compacts, when the State Engineer is out of the office or when the state engineer so directs. I have acted as board member for DWR on the Colorado Water Conservation Board, and the Colorado Groundwater Commission. Between 2019 and 2022, I was appointed Board member and Secretary to the Board of Examiners of Water Well and Pump Installation Contractors.

My duties include being Chief Operating Officer for DWR. This includes planning for DWR's future, needs, developing funding requests of the legislature, managing the budget and administrative staff, supervision over the Deputy State Engineer over the Water Supply Branch, supervising the Deputy State Engineer over the Hydrographic, Dam Safety, Water Information, and Modeling Teams, and managing the Administrative Hearing Officer for DWR. Another duty is managing Compact administration for the state. I have been involved in administration, including some negotiation and litigation, on the Republican, Arkansas, South Platte, Rio Grande, Costilla, La Plata, Animas La Plata, and Upper Colorado River Compacts. I am an advisor to Colorado's Upper Colorado River Compact (UCRC) Commissioner and a member of the Engineering Committee for the UCRC. In my position as Deputy I interface with conservation districts, conservancy districts, water lobbying groups, water users and groups, legislators, federal agencies, staff of the Department of Natural Resources (DNR) and staff of the Governor of Colorado. I assist DNR in review of federal rulemaking and designation actions. As Deputy Director I was assigned the task of developing Groundwater Use Rules in the Rio Grande Basin. This multiyear effort culminated in 2019 with court approval of rules and the establishment of seven major Groundwater Management Plans covering over 4000 high capacity wells. I was also tasked with revising the water measurement rules in the Republican River Basin and in developing and promulgating the Republican River Compact Rules which were approved in April 2022 and impact over 3500 wells, surface water diversions, and internal compact compliance requirements. I manage Colorado's Conservation Reserve Enhancement Programs (CREP) for the Rio Grande and Republican Basins with the U.S. Farm Services Agency.

- 3) Prior to being appointed Deputy State Engineer and Deputy Director I was the Division Engineer for DWR in the Rio Grande Basin. I held that position from June 1, 2005 until my replacement was selected in April 14, 2009. As Division Engineer I managed a staff of 31 hydrologists, engineers, technicians, water commissioners, metering technicians, and administrative staff in administering the surface water and groundwater rights of the Rio Grande in Colorado and in ensuring that Colorado's obligations and rights under the Rio Grande and Costilla Creek Compacts were met. I worked with water users, water districts, conservation districts, and federal agencies in all water matters in the Rio Grande Basin in Colorado. As Division Engineer I was the Engineer Advisor for Colorado on the Rio Grande Compact and Engineer Advisor on the Costilla Creek Compact. As Engineer Advisor I worked with the other Engineer Advisors, Federal agencies, and the Compact Commissioners in managing the Rio Grande Compact. I attended Engineer Advisor and Compact Commission meetings. As Division Engineer I designed, initiated, and implemented Groundwater Measurement Rules for wells in the Rio Grande Basin. I also assisted in the development and approval of the first

Groundwater Management Plan that incorporated approximately 3400 wells into a program to replace stream impacts.

- 4) Prior to being appointed Division Engineer I was the Assistant Division Engineer from May 1, 1998 until June 1 2005. As Assistant Division Engineer I supervised field staff and water commissioners in the daily administration of water in the Rio Grande Basin in Colorado. I also supervised the groundwater permitting section and administrative staff in the Alamosa office. I participated in water court proceedings, testified, and provided consultations on water cases to the Referee and Water Judge. As Assistant Division Engineer I acted for the Division Engineer when he was absent. I was involved in Rio Grande and Costilla Creek Compact matters. I assisted the Division Engineer in the recurring 10 day determination of curtailment operations required to meet the annual compact obligation of Colorado. I routinely attended Engineer Advisor and Compact Commission Meetings.
- 5) I have read the United States' Memorandum in Opposition to Compacting States' Joint Motion to Enter Consent Decree and the attached declarations. I provide the following statements in reply to specific topics in those documents.

Examples where Federal Operations responded to states resolution of Compact issues

Harlan County Lake

- 6) The Republican River Compact was signed by the states of Colorado, Nebraska, and Kansas in 1942. The increase in groundwater use and its impact on streamflows into Kansas became an issue between the states in the 1990's. In *Kansas v. Nebraska and Colorado*, Original No. 126 (1998), the three Republican River Compact states litigated the issue of groundwater use impacting surface water streams and systems. The three states reached a Final Settlement Stipulation (FSS) in 2002. The FSS set out procedures to account for the impact of groundwater use on allocations by establishing new accounting procedures and new accounting points in the basin (FSS Appendix C).
- 7) I was directly involved with later litigation and settlement of compliance issues with the FSS. In response to drought conditions and the need to meet the requirements of the FSS, Nebraska constructed two pipeline projects which produced additional water for delivery to Harlan County Lake (HCL) which is a Compact accounting point in Nebraska just upstream of the Kansas border. The water delivered was to be used to meet Nebraska's compact obligation to Kansas.
- 8) HCL is an Army Corps of Engineers (ACOE) flood control project with an associated Bureau of Reclamation Irrigation Project (Bostwick). The Reclamation project provides

water to Nebraska Bostwick Irrigation District (NBID) and Kansas Bostwick Irrigation District (KBID). Originally the project water available in HCL was split equally between the two Districts. The delivery of Compact water by Nebraska into HCL intended for Kansas caused the states, Reclamation, and the districts to take further actions.

- 9) On August 24, 2016, the three states negotiated and approved a Resolution of the Republican River Compact Commission resolving issues surrounding the delivery of Compact water to HCL. This resolution gave Kansas exclusive use of the water delivered to HCL by Nebraska under Nebraska's Compact Call Year operations. To facilitate the exclusive use of the water by Kansas, the states encouraged the Districts and Reclamation to restructure the MOA between the Districts to recognize the Compact water as project water available only to KBID rather than split all stored water evenly as had been done previously (*RRCA 58th Annual Report for the year 2018*).

The 2018 RRCA Annual Report minutes has the following report from Reclamation under Agenda Item 5: Federal Reports: a. Bureau of Reclamation:

i. Craig Scott distributed the Bureau's summary report of its operations in the Republican River Basin for 2017 (Exhibit G) and noted that the report included a brief synopsis of operations through July 31 of 2018.

ii. Mr. Scott then updated the commissioners on the Bostwick Memorandum of Agreement (MOA), which includes several amendments over the past couple years in response to Nebraska's Compact Call water right administration and the RRCA 2016 resolution. The amendments were necessary to describe the water accountings and delivery of water for water stored in Harlan County Lake.

iii. One of the amendments was to ensure that 20,000 acre-feet being provided by Nebraska for 2017 compact obligations was stored in Harlan County Lake for exclusive use for Kansas Bostwick Irrigation District.

iv. The MOA was modified in May 2018 to convert stored water under Kansas Bostwick's excess capacity contract to project water. Mr. Scott reported that recently the Bostwick Irrigation Districts requested that the Bureau develop a draft for a revised MOA to address the accounting system and well as provide provisions to address the RRCA resolution that was passed in August 2016. That draft is expected to be prepared by September 2018 and the Bureau hopes to have a longterm MOA in place before the end of the year.

The MOA was completed in December of 2018. As background the MOA the agreement states in part:

12. The State of Nebraska through its Compact Call Year designation, and the Republican River Compact Administration through its August 24, 2016, Resolution have modified the operations of Harlan County Lake, and

13. The parties desire to establish separate accounts in Harlan County Lake and change the procedures that determine the annual apportionment of the available water supply of the Bostwick Division so that a specific amount of water in Harlan County Lake is designated for each party's perpetual use....

The MOA is signed by both Districts and approved by Reclamation.

Bonny Reservoir

- 10) Bonny Reservoir is a Bureau of Reclamation reservoir located on the South Fork of the Republican River a few miles west of the Colorado-Kansas state line. Storage and evaporation in the reservoir is included in the accounting for the Republican River Compact and under the 2002 FSS as depletions to Colorado's compact allocation.
- 11) On October 3, 1959, the United States, in accordance with Colorado regulations at that time, filed a Statement of Claim for water use with the Colorado State Engineer. On December 29, 1977 the United States applied to the Colorado Water Court for Division One to adjudicate a water right for Bonny Reservoir. That water right was decreed by the Colorado Water Court on October 1, 1984 and provided the reservoir with an appropriation date of December 3, 1948. The reservoir was operated for years as a flood control reservoir and maintained approximately 40,000 acre-feet of water in storage to facilitate recreation.
- 12) Up till 2002 the Republican River Compact calculated depletions only from surface water use, including storage and evaporation in reservoirs. In 2002 the FSS in No. 126 Original added the requirement to account for surface water depletions caused by groundwater use against each states' apportionment. By 2005, with a groundwater model complete and initial compact accounting available, Colorado concluded that additional water right administration was needed to assure that Colorado would not deplete water apportioned to the other compacting states.
- 13) Following many other conservation measures, by 2007 Colorado had determined that to keep Colorado in compliance with the Compact, junior surface water rights would be curtailed. On May 21, 2007, Colorado notified the Bureau of Reclamation that 2,200 acre-feet of water that had been stored needed to be released from the Bonny Reservoir for Compact compliance. The Bureau of Reclamation released the impounded water starting on May 22, 2007.

14) Curtailment of junior water rights in Colorado continued in the Republican River basin with additional releases of water required in ensuing years until, by 2012, all legally stored water in Bonny reservoir had evaporated or seeped out and the reservoir was empty. Junior surface water rights in the basin are still curtailed and Bonny reservoir continues to pass all inflows through the outlet works.

Gaging

Changing, Adding, Eliminating

15) By a 1948 resolution the Rio Grande Compact Commission (RGCC), pursuant to Article V of the compact, eliminated the San Marcial and San Acacio gages, added Elephant Butte Reservoir change in storage, and amended calculation of the New Mexico Article IV tabulation of relationship to eliminate the San Marcial Index Supply and use the new Elephant Butte Effective Index Supply.

16) The RGCC in 2016 amended its rules and regulations to specifically include the below Caballo gage. Previously this gage was not included. The RGCC also added to the 5th paragraph of the Rules the following language: *“The stream flow records for each compact stream gaging station shall be reviewed annually by the U.S. Geological Survey to ensure accuracy.”* The records of the Compact gages have long been reviewed by an outside party like the USGS to assure accuracy and the costs for that review covered by the states and subject to equalization.

17) Accounting today under the Rio Grande Compact relies on ten index gages and two reservoir gages. The list of gages and associated operators follows:

On the Rio Grande near Del Norte	CDWR
On the Conejos River near Mogote	CDWR
On the Los Pinos River near Ortiz	CDWR
On the San Antonio River at Ortiz	CDWR
On the Conejos River at its mouths near Los Sauces	CDWR
On the Rio Grande near Lobatos	CDWR
On the Rio Chama below El Vado Reservoir	USGS in cooperation with NMISC
On the Rio Grande at Otowi Bridge near San Ildefonso	USGS in cooperation with Reclamation and IBWC
Elephant Butte Reservoir	Reclamation
On the Rio Grande below Elephant Butte Reservoir	USGS as a Federal Priority Streamgage
Caballo Reservoir	Reclamation
On the Rio Grande below Caballo Reservoir	Reclamation

These key streamflow gages are reviewed by the USGS for accuracy. If the consent decree is approved the RGCC will need to include reviewing the gage for the Effective El Paso Index (EEPI) and assess its accuracy.

Costs of Review of Gage Data

- 18) The three states have determined the costs of compact gaging, including review by the USGS, and equalize costs between the states. The USGS covers some costs for its own priorities or may seek to cover some of the costs of gaging through joint funding agreements (JFA) with the RGCC. Typically, Reclamation has provided reservoir and gaging information that is normally collected as part of their operations.
- 19) In RGCC budgeting and equalization of costs between the states, gage review costs are generally included in the states' costs of operation. In the FY2020 budget for the RGCC the assessment for the below Caballo gage was estimated at \$20,595 of which a \$4,110 was covered by the United States, and the districts assessed \$16,485 which Texas provided as their cost of gaging for equalization between the three states. So the costs not assumed by the United States were assessed between the three states.
- 20) A recent cost for maintaining a gage by the USGS is evidenced by the Joint Funding Agreement with Colorado and New Mexico for gaging under the Amended Costilla Creek Compact. The cost of operating and maintaining a gage under this Costilla Joint Funding Agreement all year is \$17,600 which costs are split 44/56 between USGS and the states. This cost is consistent with the costs seen in the Amended Costilla Creek Compact Commission budgeting.

Effective El Paso Index (EEPI)

- 21) The EEPI will rely on the Rio Grande at El Paso gage as an important data input. The USGS currently carries this gage on its website and the attribution at the bottom of the webpage notes that the gage is operated in cooperation with IBWC and USGS (Water Quality Monitoring Network).
- 22) While discharge is a relatively recent addition to the USGS webpage (September 2022) there is water quality data available on that site beginning in 2008. Water quality data, when used to determine Total Maximum Daily Load (TMDL) requires accurate flow measurement.
- 23) In September 2021 the USIBWC Environmental Management and Water Accounting divisions approved the "Quality Assurance Project Plan Rio Grande Basin Monitoring Program USIBWC Clean Rivers Program" (QAPP) for FY2022 to FY2023. That plan

details where data is to be gathered, and the standards to be used in the program. Those standards include flow measurement standards set by the Texas Commission on Environmental Quality (TCEQ) SOP V1. SOP V1 states that the TCEQ flow measurement method is based on the USGS methods for flow measurement. The gage at El Paso is included as a sampling point for water quality in the clean rivers program agreement. The QAPP schedule 2022-2023 indicates that instantaneous flow data is collected along with nutrient, bacteria, and field parameters.

24) A review of the USIBWC data page for the El Paso gage indicates that the IBWC does regular ratings of streamflow during all flow regimes but rarely indicates or notes a 'goodness' of the measurement. For example, in 2022 IBWC lists 137 check measurements performed at the El Paso gage. On the webpage one can plot those instant measurements with the continuous flow data collected at that gage and see the close correlation of the measurements and the automatic data. The frequency of check measurements and the observed relation of those measurements to the gage flow indicate that IBWC has a robust measurement program in place.

25) In my observation, considering the water quality agreement in place, the associated measurement standards, and the consistent check measurements being performed at this gage, USGS review would not create a burden on the IBWC. As noted the cost of review would be covered as part of the state's equalization of costs with the exception for Colorado contained in the settlement.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed this 3th day of February 2023, at Denver, Colorado.


Michael J. Sullivan, P.E.

