

## SDS DEIS Issues Paper

### SDS Cumulative Impacts to Pueblo Reservoir Volumes

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The Alternatives studied in the Southern Delivery System (SDS) Draft Environmental Impact Statement (DEIS) deliver water rights owned by the SDS Participants (Colorado Springs, Fountain, Security, and Pueblo West) north to their respective customer service areas. Except for the No Action Alternative, all of the Alternatives include the increased use of long-term excess capacity storage contracts in Pueblo Reservoir. Consequently, all of the Alternatives impact the amount of water stored in Pueblo Reservoir and water flows in the Arkansas River.

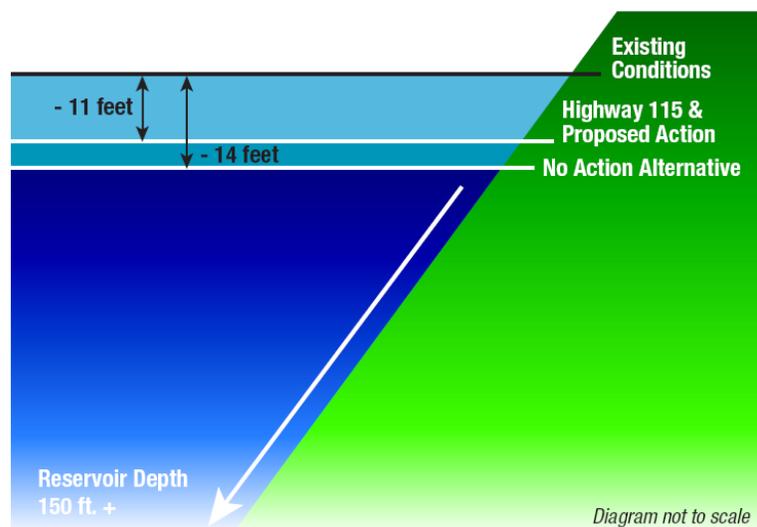
The following discussion is based on cumulative effects analysis. Cumulative effects incorporate additional changes in the watershed that are not directly attributed to any SDS Alternatives. Cumulative effects include projected 2046 water demands by non-SDS participants as well as growth and other expected actions outside the boundaries of the Project Participants' service areas.

Direct effects are those impacts that are directly attributed to the SDS Alternatives such as water use in the Project Participants' communities in the year 2046, construction impacts or additional storage in Pueblo Reservoir. The cumulative effects scenario presents a more complete picture of impacts to Pueblo Reservoir because it represents the best estimates of future activities and development throughout the entire watershed. The DEIS evaluated existing conditions and those anticipated under a number of possible future scenarios.

#### Key DEIS Findings:

- The Proposed Action Alternative would have water levels in Pueblo Reservoir about 3 feet higher on average than the No Action Alternative when looking at cumulative impacts, but 11 feet lower than Existing Conditions. The lower level compared to Existing Conditions is due to water use by the SDS project and the increased use of Fry-Ark and non-Fry-Ark water by non-SDS participant municipal entities in the future.
- The No Action Alternative would have water levels in Pueblo Reservoir about 14 feet lower on average than Existing Conditions. Most of this decrease is attributed to the increased use by municipal water users in the Southeastern District, not Project Participants. These impacts are not identified in the direct effects analysis since it focuses only on the actions of Project Participants.
- The Highway 115 Alternative would have water levels in Pueblo Reservoir about 3 feet higher on average than the No Action Alternative when looking at cumulative impacts, but 11 feet lower than Existing Conditions.

Pueblo Reservoir  
Schematic Water Level Comparisons  
Cumulative Effects



## **Pueblo Reservoir Volumes:**

Pueblo Reservoir is located on the mainstem of the Arkansas River, and is the largest reservoir in the Fryingpan-Arkansas (Fry-Ark) Project. The reservoir is a key component in Arkansas River operations. The reservoir was built for the purpose of providing water storage for agricultural use and for numerous municipalities, as well as flood control storage. Factors that contribute to changes in reservoir storage volumes include: Arkansas River operational changes, local weather conditions, snow levels in contributing watersheds, and the needs of the growing number of water users above and below Pueblo Reservoir. With or without the SDS project, the general trend under all projected future conditions is storage levels lower than Existing Conditions.

### ***Existing Conditions***

- Colorado Springs, Fountain, Security, and Pueblo West have 12,000 acre feet of annual storage contracts in Pueblo Reservoir.
- The average annual volume of water stored in Pueblo Reservoir is 173,700 acre feet.

### ***No Action Alternative (Alternative 1)***

- Pueblo West would have 1,000 acre feet of annual capacity storage contracts in Pueblo Reservoir. The reduced storage by Project Participants would result in lower storage levels than for Existing Conditions or the Action Alternatives.
- The average annual volume of water stored in Pueblo Reservoir for the No Action Alternative would be 130,000 acre feet, compared to 173,700 acre feet for Existing Conditions and would result in water levels dropping over 14 feet compared to the Existing Conditions.

### ***Proposed Action Alternative (Alternative 2) and Highway 115 Alternative (Alternative 7)***

There would be more water in Pueblo Reservoir under any of the Action Alternatives (Alternatives 2-7) than there would be under the No Action Alternative (Alternative 1).

- Colorado Springs, Fountain, Security, and Pueblo West would have 42,000 acre feet of annual capacity storage contracts in Pueblo Reservoir.
- The average annual volume of water stored in Pueblo Reservoir for the Proposed Action Alternative would be 140,100 acre feet and 138,300 acre feet for the Highway 115 Alternative, compared to 173,700 acre feet for Existing Conditions and 130,000 acre feet for the No Action Alternative. Water levels would be expected to be about 11 feet lower than Existing Conditions for the Proposed Action and about 12 feet lower than Existing Conditions for the Highway 115 Alternative. Both the Proposed Action Alternative and the Highway 115 Alternative increased levels in Pueblo Reservoir by about 3 feet higher than the No Action Alternative.