

Southern Delivery System (SDS) Concerns & Comments

Water Quality

Water diverted from the Arkansas River should be returned to the Arkansas River with no adverse impacts on water quality:

1. Flows discharged to the Fountain Creek have a tendency to assimilate pollutants from the streambed and other sources from the aquifer and carry these additional pollutant loads to the Arkansas River. By increasing base flows in the Fountain Creek, pollution concentrations may be reduced, but the total pollutant load delivered to the Arkansas River will be increased. Under a "No Adverse Impact Policy" the water quality at the intake of the SDS system should match the water quality at the outlet to the Arkansas River be it the Fountain Creek or a discharge pipe to convey treated effluent to discharge to the Arkansas River. EIS study should include pollutant sources such as pharmaceuticals, other biological contaminants and household chemicals and by-products not currently removed by today's sewage treatment process.
2. Increased base flows resulting from additional wastewater discharges to the Fountain Creek will have an impact on sediment bed load transport. The return flow for 78 mgd pipeline would approximate 120 cfs, which would more than double daily mean flows as measured at the USGS gage in Pueblo during low flow periods. Even though these flows will have minimal impacts on flood flows the net impact of increased base flow volumes will directly impact sediment bed load transport. Fountain Creek is a sand bed stream with major problems relating to erosion and sedimentation. The sedimentation process is more dependent on the volume of flow rather than peak flow discharge rates. All trans-basin diversions contribute to additional non-native flows experienced by Fountain Creek. Sediment bed load transport far exceeds suspended sediment transport and must be addressed in any environmental impact study.

Water Quantity

1. The Arkansas River is severely impacted by sediment aggradation downstream of the Fountain Creek confluence. The Pueblo Dam has changed the nature of flood flows on the Arkansas River and interrupts the natural sediment transport process. Flood flows can no longer transport accumulated sediments downstream. Natural channel capacities have been reduced due to sediment aggradation. This will continue in the future as Fountain Creek supplies abundant sediment loads to the system. Lower reaches of the Fountain Creek in the area of the Pueblo levee system have reduced hydraulic capacities due to sediment aggradation. The original US Army Corp of

Engineer levee hydraulic capacity was designed for the 200-year event (87,000 cfs). However recent FEMA studies indicate freeboard deficiencies for the current reduced 100-yr design of 45,000cfs. A policy of no adverse impact would require that existing channel hydraulic capacities be maintained and sediment aggradation be addressed.

2. The combination of increased base flows from wastewater return flows and increased flow volumes from future development will accelerate erosion and sedimentation. Channel capacity must be preserved on the Fountain Creek channel and levee system and along the Arkansas River corridor. The EIS must address these issues!