

Appendix C SUMMARY OF CURRENT UTILIZED SAN JUAN STATEMOD OUTPUT BY SCENARIO

A summary of the San Juan StateMod model output used within the SJBHM is shown in the tables and plots below. In these summaries, the ***San Juan StateMod Historic Scenario*** is compared to the ***San Juan StateMod Baseline with Tribal Reserved Scenario***. Due to its limited usage, the ***San Juan StateMod Baseline without Tribal Reserved Scenario*** is not included in the comparisons.

In general and as expected, the San Juan StateMod Baseline scenario shows higher average depletions and lower average inflows to Navajo Reservoir and the San Juan River in New Mexico. As shown in the plots, in the San Juan StateMod Historic Scenario depletions, there is a general but weak trend of increasing depletions through time. This is more evident in the Colorado depletions below Navajo Reservoir than above. Depletions from the San Juan StateMod Baseline scenario are at higher levels throughout the model period, reflecting the use of increased demands corresponding to the development of various water uses and projects. Regarding the inflow volumes to the San Juan system from the basins in Colorado, the plots show that the San Juan StateMod Baseline scenario shows minorly decreased inflows when compared to the San Juan StateMod Historic Scenario, especially in the first third to half of the model period. This makes sense given the corresponding increases in San Juan StateMod Baseline depletions relative to San Juan StateMod Historic. It is also apparent that the relative size of the changes in inflows are smaller than the changes in depletions, reflecting that the total depletion volumes are generally on the order of 10% of the total flow volumes.

Table 1: Summary and Comparison of San Juan StateMod Output for Historic and Baseline Scenarios

	Average Annual Volume, acre-feet	Minimum Annual Volume, acre-feet	Maximum Annual Volume, acre-feet
San Juan StateMod Historic Scenario			
Total Navajo Res Inflow	954,692	156,879	2,037,910
Total Inflow to San Juan River below Navajo ¹	720,283	221,755	1,299,851
Total Colorado Depletions above Navajo Reservoir ²	145,146	85,818	176,968
Total San Juan-Chama Exports (1971-2013) ³	86,133 ³	5123 ³	167,807 ³
Total Colorado Depletions below Navajo ¹	104,371	73,274	139,271
San Juan StateMod Baseline with Tribal Reserved Scenario			
Total Navajo Res Inflow	872,888	156,826	1,848,955
Total Inflow to San Juan River below Navajo ¹	710,526	232,184	1,259,629
Total Colorado Depletions above Navajo Reservoir ²	179,622	141,468	198,650
Total San Juan-Chama Exports (1929-2013) ⁴	90,423 ⁴	3,235 ⁴	192,698 ⁴
Total Colorado Depletions below Navajo ¹	128,784	81,777	162,718
Difference, Baseline – Historic, acre-feet (% change from historic)			
Total Navajo Res Inflow	-81,805 (-9%)	-53 (0%)	-188,955 (-9%)
Total Inflow to San Juan River below Navajo ¹	-9,757 (-1%)	10,430 (5%)	-40,222 (-3%)
Total Colorado Depletions above Navajo Reservoir ²	34,476 (24%)	55,649 (65%)	21,682 (12%)
Total San Juan-Chama Exports ^{3,4}	4,290 (5%) ^{3,4}	-1888 (-37%) ^{3,4}	24,892 (15%) ^{3,4}
Total Colorado Depletions below Navajo ¹	24,414 (23%)	8,503 (12%)	23,446 (17%)
1: Not including the McElmo Basin 2: Not including the San Juan-Chama Exports 3: Historic Scenario San Juan-Chama Exports statistics from SJR operational period of 1971-2013. 4: Baseline Scenario San Juan-Chama Exports statistics from full period of 1929-2013.			

Figure 1: Annual Inflow Volumes to Navajo Reservoir by San Juan StateMod Scenario

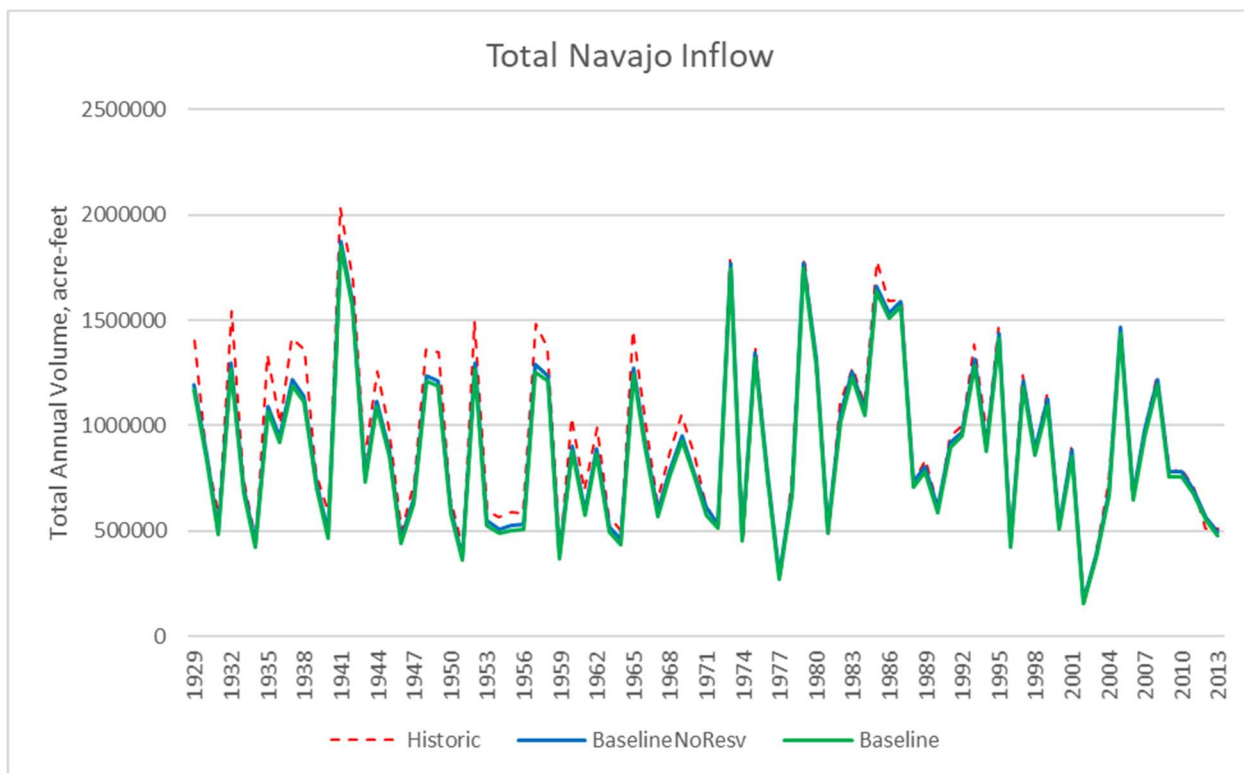


Figure 2: Annual Colorado Depletion Volumes above Navajo Reservoir by San Juan StateMod Scenario

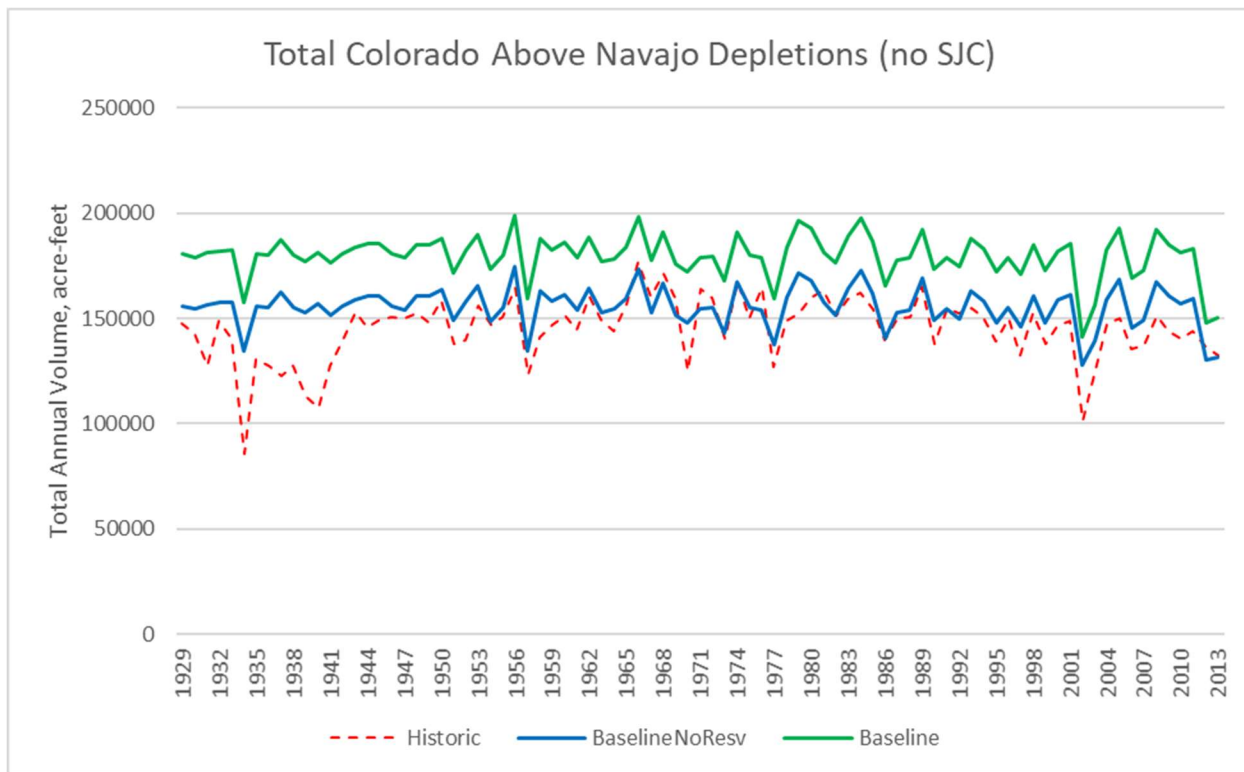


Figure 3: Annual Inflow Volumes to the San Juan below Navajo by San Juan StateMod Scenario

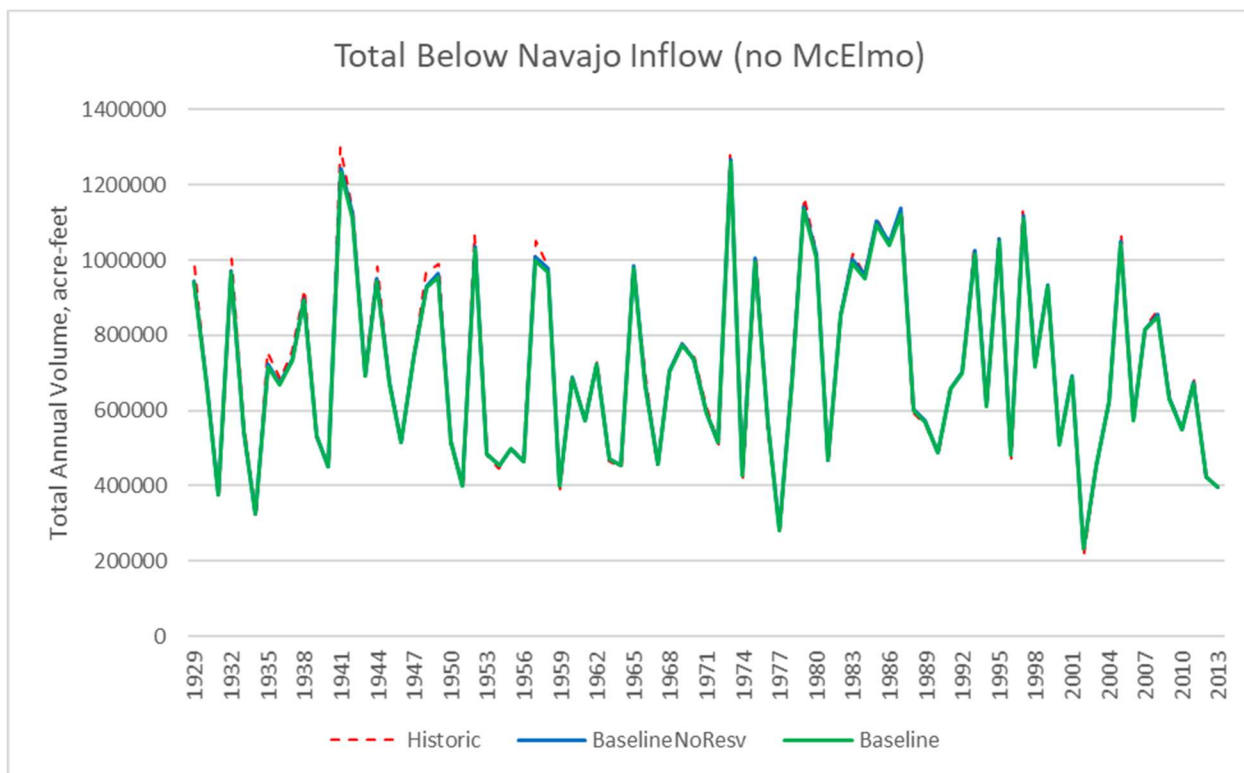


Figure 4: Annual Colorado Depletion Volumes below Navajo Reservoir by San Juan StateMod Scenario

