Appendix E: Model

Commented [SL1]: Note: in final version, this will have a table of contents, and the terminology in the tables will be CCWA and SLOFCWCD instead of SBC and SLO.

Integrated Resource Planning Analysis Approach

The consulting team developed the Coastal Branch Integrated Regional Planning (CBIRP) Analysis Tool (Model) to analyze the SWP role in meeting Central Coast water demands. The initial analysis conducted for this report is not a comprehensive integrated water resources management (IWRM). A comprehensive IWRM analysis should consider all local and imported water supplies and management tools available to water agencies, incorporate available conveyance facilities and reservoirs (including groundwater) in a time series review to assess water supply adequacy to meet needs, and consider measures to reduce water demand, such as water conservation and recycling.

The integrated resource planning analysis using the Model described here is less comprehensive in scope than a full IWRM analysis and focusses primarily on the role of the SWP in meeting Central Coast water management needs. While it does optimize use of water supplies from the SWP, whether they are part of the allocated SWP water supply or are from other sources, the Model does not evaluate optimization opportunities for local water supplies or operations. Water management in the Central Coast has multiple local and regional water supply sources available, including water supplies from the Santa Ynez River, Santa Maria River, Salinas River, and other local watersheds. Additionally, several large groundwater basins in the Central Coast provide long term storage and local supplies based on local recharge sources. The SWP provides a supplemental supply to the Central Coast, augmenting local water supplies and local water management measures.

The Consultant Team initially investigated integrated resource planning for water supplies in the Central Coast using Linear Programming (LP) to represent SWP water operations within the Model. LP has been used for many years to solve water resources problems and its use is well documented within the literature. The benefits of using LP, compared to other optimization techniques, are that a model within the LP framework can be defined easily, provides a global optimal solution to the problem being analyzed and provides insight on which constraints can be adjusted to provide more benefits. However, LP software tends to require tremendous computing resources to solve large problems and may need to be solved many times if paired with simulation models to check the accuracy of the resulting optimal solution. Initial runtimes for the Model exceeded 1 hour using an LP, therefore, the Consultant Team considered using Network Flow Programming (NFP) as a replacement for a LP formulation. Because NFP is used to solve a subset of LP problems that fit its unique formulation, the result is significantly smaller computer memory requirements. In addition, software used to solve NFPs is generally more efficient than general LP software. However, NFP cannot directly model competing resources of different types in the same way that LP can. For example, solving a reservoir problem that has competing objectives to enhance downstream temperature control while maximizing flood control benefits and power production would likely require many more NFP models and iterations of those models than would be required for a general LP implementation. While other Operations Research techniques, such as Dynamic Programming or Non-linear Programming, may be better suited to the task of solving highly non-linear problems, the Consultant Team believes the simplicity of implementing a NFP model to solve water resources problems generally out-weigh the challenges associated with defining a model that can appropriately represent complex real-world problems as a series of linear equations.

The Model was rewritten to use a NFP model to represent the operations of the Coastal Branch of the California Aqueduct. A NFP model is simply a series of flow arcs connected by nodes. Each node can be thought of as a continuity equation and the arcs are the variables for the equations. A basic requirement for the NFP modeling approach used in the Model is that continuity at each node (or equation) must be conserved – that is, the sum of the arcs that flow into each node must equal the sum of the flow for the arcs that flow out

of each node. Reservoir and conveyance project operations are easily adapted to NFP modeling since they already are represented by continuity equations. Generally, even contract terms and power production can be converted into a form that can be solved with a NFP model.

Several scenarios[1] have been analyzed using the Model and each scenario requires multiple iterative solutions of the NFP model before a final solution is determined. For example, some of the operations modeled include water losses that are functions of other NFP model arcs (variables). In order to estimate such conditions, the NFP model must be solved and then the losses are computed based on the solution and the appropriate arcs are "fixed" (their upper and lower bounds are set to the same value) to represent the losses and the NFP model is solved again. This continues until an acceptable solution is achieved. The process of estimating losses and other parameters is performed by logic within the Model; the Model then adjusts the various costs and arc boundary conditions (upper and lower arc flow bounds) and then re-runs the NFP model as needed to obtain an optimal operation for the Coastal Branch.

The NFP model is solved using an algorithm called SuperK. SuperK was developed in the early 1970s by R.S. Barr, University of Texas, F. Glover, University of Colorado, and D. Klingman, University of Texas. SuperK implements the Ford-Fulkerson Out-of-Kilter algorithm to solve NFP minimum cost problems and has been found to be very efficient for problems that fit its structure. It has been used for solving many water resources management problems and was the primary compute engine in the California Department of Water Resources' CalSim and DWR Sim models. It was also used by DWR's Division of Operations and Maintenance to schedule energy transmission for the State Water Project (SWP) and simulate hourly operations of many features of the SWP including the Oroville Complex.

NFP is a special case of Linear Programming (LP) where the problem that is being evaluated can be represented as a minimum cost transportation or allocation model. As long as all the "widgets" in the model are the same (i.e., electricity, vehicles, or water), then a NFP can be defined to represent the problem being addressed.

The Model has a study horizon of 98 years with an annual time-step. In other words, the NFP model within the Model does not solve one year at a time but instead represents all 98 years together and solves for the operations of the Coastal Branch for the entire study horizon at the same time. Each year is broken into two sub-periods: an October through April "off-peak" sub-period and a May through September "on-peak" sub-period. These two sub-periods were chosen to provide appropriate detail about turnout deliveries along the Coastal Branch while keeping the NFP model to a reasonable size. The sub-periods are also represented in the NFP model. In its current form, the NFP model has over 20,000 arcs (or decision variables) and over 6,000 nodes (or equations) and takes less a few seconds to solve for each iteration. To complete a scenario, the Model may require many iterative solutions of the NFP model; however, a complete run of the Model takes less than ten seconds.

How the Model represents water management along the Coastal Branch

The Model focuses on the operations of the Coastal Branch but includes other aspects of the Coastal Branch Contractors' water management activities. The Model uses DWR's CalSim II model output for SWP allocations and San Luis Reservoir operations to define the upstream boundary inputs for operations of the Coastal Branch. These parameters represent the available SWP water supply that can be delivered to the Coastal Branch Contractors during each year. It is assumed the SWP has the capacity to directly deliver water to the Coastal Branch Contractors if there is sufficient contracted water supply to meet their demands. The NFP model within the Model is divided into six basic parts to represent the various operations of the SWP and Coastal Branch; (1) SWP Table A allocations to the Coastal Branch Contractors, (2) San Luis Reservoir operations, (3)

[1] The term scenario is used in describing the development of the Model. The term portfolio is used for the discussion of the five specific scenarios (portfolios) analyzed in this study.

non-SWP storage/exchange programs that are external to the Central Coast service area, (4) water transfers with other Contractors and purchases from the Dry Year Purchase Program, (5) Coastal Branch operations and (6) operation of Lake Cachuma.

The remainder of this section describes how the Model deals with the following topics:

- Coastal Branch Operations
- SWP Table A Allocations
- San Luis Reservoir Operations
- Non-SWP Storage and Exchange Programs
- Water Transfers
- Lake Cachuma

Coastal Branch Operations

The conveyance is divided into six reaches with each reach ending at a primary turnout point along the aqueduct. The primary turnouts included in the NFP model represent either a single turnout or an aggregation of smaller physical turnouts. The final reach ends with a turnout to Lake Cachuma. Each turnout has a defined demand pattern, but the NFP model is allowed to deliver less water to the turnout if there isn't sufficient water supply or conveyance capacity to meet the turnout demand. The first three reaches flow through San Luis Obispo County and have turnouts to SLOFCWCD service areas. The remaining three reaches flow through the Santa Barbara County and have turnouts to the CCWA service areas with the final reach terminating at Lake Cachuma.

The conveyance through the first three reaches is represented by four sets of flow arcs; two sets represent the flow for CCWA through the Coastal Branch and the other two sets represent the flow for SLOFCWCD. Each set is made up of two flow arcs; one that represents flow for the Contractor using its own portion of the conveyance capacity and the other representing flow for the Contractor using the other Contractor's portion of the conveyance capacity. One set of flow arcs represents operations during the October through April time period and the other represents operations during the May through September time period. The conveyance through the final three reaches is represented by two sets of flow arcs; only CCWA has operations in this portion of the Coastal Branch.

State Water Project Table A Allocations

SWP allocations can be (1) used to meet direct deliveries, (2) stored out of a Contractor's service area in some type of storage/exchange program, including San Luis Reservoir, or (3) transferred to other Contractors. The NFP model represents annual SWP allocations to the Coastal Branch Contractors with three arcs that are "fixed", that is, their upper and lower bounds are the same. The arc bounds are set to the annual allocations for each Coastal Branch Contractor (one arc for CCWA and two arcs representing the contracted and non-contracted portions of SLOFCWCD's annual allocation). For each of the three sets of Table A allocation arcs, another set disaggregates the annual allocation into (1) Article 56(c)1 deliveries to external storage, (2) delivery to San Luis Reservoir for short-term storage and (3) direct deliveries to the Coastal Branch turnouts to meet demands. The upper bounds for the Article 56(c)1 arcs are set based on the table contained in Article 56(c)1 of the Water Supply Contract. There are no limits for the arcs that represent delivery to San Luis Reservoir for short-term storage as it is assumed that Coastal Branch Contractors would be able to store a portion of their annual allocation for delivery in the first few months of the next year.

CalSim II output from the 2019 SWP Delivery Capability Report was used to estimate the annual Table A allocations for 1922 through 2003. CalSim II estimates SWP operations and Table A allocations using a synthetic timeseries to represent historical hydrology that would have occurred if today's level of development

within the watersheds existed during the entire study horizon. CalSim II then imposes sets of operational criteria (Delta minimum flow requirements, Delta water quality requirements, Delta biological objective restrictions, minimum reservoir releases, etc.) onto its representation of the SWP and CVP to determine how much water each project could deliver to their contractors. The Consultant Team then extended the CalSim II output with estimates of what the SWP allocations would have been for 2004 through 2019 given the same operational parameters as used in the CalSim II modeling. The 2004-2019 extension of SWP allocations used actual historical allocations as a starting point, with adjustments for historical allocations during the years 2004 through 2007 when historical operating constraints were significantly different than current constraints.

Table E 1 shows the annual allocations for the Coastal Branch Contractors and summarizes the allocations by Percent of Table A Amount and acre-feet for each of the Coastal Branch Contractors. It also breaks down the SLOFCWCD Table A by contracted and non-contracted amounts. Allocations are also summarized by average year types for Wet, Above Normal, Below Normal, Dry and Critically Dry years.

Table E 1: Annual SWP Allocations

Water Year	SWP Allocations					
	SWP Annual Allocation (%)	CCWA Share (af)	SLOFCWCD Contracted Share (af)	SLOFCWCD Non-Contracted Share (af)	SLOFCWCD Share (af)	Central Coast Total (af)
1922	70%	31,840	7,376	10,124	17,500	49,340
1923	67%	30,476	7,060	9,690	16,750	47,226
1924	14%	6,368	1,475	2,025	3,500	9,868
1925	26%	11,826	2,740	3,760	6,500	18,326
1926	40%	18,194	4,215	5,785	10,000	28,194
1927	71%	32,295	7,481	10,269	17,750	50,045
1928	68%	30,930	7,165	9,835	17,000	47,930
1929	31%	14,101	3,266	4,484	7,750	21,851
1930	14%	6,368	1,475	2,025	3,500	9,868
1931	39%	17,740	4,109	5,641	9,750	27,490
1932	25%	11,372	2,634	3,616	6,250	17,622
1933	40%	18,194	4,215	5,785	10,000	28,194
1934	16%	7,278	1,686	2,314	4,000	11,278
1935	81%	36,844	8,535	11,715	20,250	57,094
1936	53%	24,108	5,585	7,665	13,250	37,358
1937	73%	33,205	7,692	10,558	18,250	51,455
1938	100%	45,486	10,537	14,463	25,000	70,486
1939	38%	17,285	4,004	5,496	9,500	26,785
1940	57%	25,927	6,006	8,244	14,250	40,177
1941	93%	42,302	9,799	13,451	23,250	65,552
1942	76%	34,569	8,008	10,992	19,000	53,569
1943	89%	40,483	9,378	12,872	22,250	62,733
1944	37%	16,830	3,899	5,351	9,250	26,080
1945	69%	31,385	7,271	9,979	17,250	48,635
1946	60%	27,292	6,322	8,678	15,000	42,292
1947	56%	25,472	5,901	8,099	14,000	39,472
1948	48%	21,833	5,058	6,942	12,000	33,833
1949	35%	15,920	3,688	5,062	8,750	24,670
1950	50%	22,743	5,269	7,232	12,500	35,243
1951	74%	33,660	7,797	10,703	18,500	52,160
1952	93%	42,302	9,799	13,451	23,250	65,552
1953	60%	27,292	6,322	8,678	15,000	42,292
1954	65%	29,566	6,849	9,401	16,250	45,816
1955	40%	18,194	4,215	5,785	10,000	28,194
1956	88%	40,028	9,273	12,727	22,000	62,028

Water Year	SWP Allocations					
	SWP Annual Allocation (%)	CCWA Share (af)	SLOFCWCD Contracted Share (af)	SLOFCWCD Non-Contracted Share (af)	SLOFCWCD Share (af)	Central Coast Total (af)
1957	50%	22,743	5,269	7,232	12,500	35,243
1958	100%	45,486	10,537	14,463	25,000	70,486
1959	45%	20,469	4,742	6,508	11,250	31,719
1960	50%	22,743	5,269	7,232	12,500	35,243
1961	32%	14,556	3,372	4,628	8,000	22,556
1962	51%	23,198	5,374	7,376	12,750	35,948
1963	64%	29,111	6,744	9,256	16,000	45,111
1964	59%	26,837	6,217	8,533	14,750	41,587
1965	52%	23,653	5,479	7,521	13,000	36,653
1966	71%	32,295	7,481	10,269	17,750	50,045
1967	96%	43,667	10,116	13,884	24,000	67,667
1968	62%	28,201	6,533	8,967	15,500	43,701
1969	100%	45,486	10,537	14,463	25,000	70,486
1970	74%	33,660	7,797	10,703	18,500	52,160
1971	49%	22,288	5,163	7,087	12,250	34,538
1972	64%	29,111	6,744	9,256	16,000	45,111
1973	71%	32,295	7,481	10,269	17,750	50,045
1974	88%	40,028	9,273	12,727	22,000	62,028
1975	71%	32,295	7,481	10,269	17,750	50,045
1976	50%	22,743	5,269	7,232	12,500	35,243
1977	6%	2,729	632	868	1,500	4,229
1978	82%	37,299	8,640	11,860	20,500	57,799
1979	68%	30,930	7,165	9,835	17,000	47,930
1980	88%	40,028	9,273	12,727	22,000	62,028
1981	40%	18,194	4,215	5,785	10,000	28,194
1982	100%	45,486	10,537	14,463	25,000	70,486
1983	100%	45,486	10,537	14,463	25,000	70,486
1984	74%	33,660	7,797	10,703	18,500	52,160
1985	72%	32,750	7,587	10,413	18,000	50,750
1986	75%	34,115	7,903	10,847	18,750	52,865
1987	28%	12,736	2,950	4,050	7,000	19,736
1988	11%	5,003	1,159	1,591	2,750	7,753
1989	49%	22,288	5,163	7,087	12,250	34,538
1990	13%	5,913	1,370	1,880	3,250	9,163
1991	25%	11,372	2,634	3,616	6,250	17,622
1992	17%	7,733	1,791	2,459	4,250	11,983
1993	65%	29,566	6,849	9,401	16,250	45,816

Water Year	SWP Allocations					
	SWP Annual Allocation (%)	CCWA Share (af)	SLOFCWCD Contracted Share (af)	SLOFCWCD Non-Contracted Share (af)	SLOFCWCD Share (af)	Central Coast Total (af)
1994	31%	14,101	3,266	4,484	7,750	21,851
1995	100%	45,486	10,537	14,463	25,000	70,486
1996	86%	39,118	9,062	12,438	21,500	60,618
1997	75%	34,115	7,903	10,847	18,750	52,865
1998	100%	45,486	10,537	14,463	25,000	70,486
1999	70%	31,840	7,376	10,124	17,500	49,340
2000	74%	33,660	7,797	10,703	18,500	52,160
2001	26%	11,826	2,740	3,760	6,500	18,326
2002	43%	19,559	4,531	6,219	10,750	30,309
2003	44%	20,014	4,636	6,364	11,000	31,014
2004	45%	20,469	4,742	6,508	11,250	31,719
2005	85%	38,663	8,956	12,294	21,250	59,913
2006	95%	43,212	10,010	13,740	23,750	66,962
2007	60%	27,292	6,322	8,678	15,000	42,292
2008	35%	15,920	3,688	5,062	8,750	24,670
2009	40%	18,194	4,215	5,785	10,000	28,194
2010	50%	22,743	5,269	7,232	12,500	35,243
2011	80%	36,389	8,430	11,570	20,000	56,389
2012	65%	29,566	6,849	9,401	16,250	45,816
2013	35%	15,920	3,688	5,062	8,750	24,670
2014	5%	2,274	527	723	1,250	3,524
2015	20%	9,097	2,107	2,893	5,000	14,097
2016	60%	27,292	6,322	8,678	15,000	42,292
2017	85%	38,663	8,956	12,294	21,250	59,913
2018	35%	15,920	3,688	5,062	8,750	24,670
2019	75%	34,115	7,903	10,847	18,750	52,865
	Annual Averages					
All Years	58%	26,396	6,115	8,393	14,508	40,903
Wet Years	83%	37,571	8,704	11,946	20,650	58,221
Above Normal Years	68%	30,995	7,180	9,856	17,036	48,031
Below Normal Years	56%	25,444	5,894	8,090	13,984	39,428
Dry Years	45%	20,409	4,728	6,489	11,217	31,627
Critical Years	22%	9,946	2,304	3,163	5,467	15,413

San Luis Reservoir Operations

The NFP model represents San Luis Reservoir operations with three separate sets of arcs with each set representing the operations of a separate reservoir dedicated to storing water for the Coastal Branch Contractors: one set for CCWA and two for SLOFCWCD. Each set of arcs represents a continuity equation; one arc for the prior year's ending storage, one arc for the current year's ending storage, inflow of the Coastal Branch Contractor's current year Table A under Article 56(c)1, return of carry over that was previously stored in the reservoir, and spill of carryover. The arcs representing end-of-year storage are set based on the pre-processing analysis described below.

The Model allocates a share of San Luis Reservoir for the Coastal Branch Contractors to store a portion of their allocated SWP Table A water each year. The Model uses CalSim II output to determine how much storage would be available within San Luis Reservoir for all Contractors. The Model then processes the storage values to determine the amount of storage that would be available to the Coastal Branch Contractors. The results are then used to set upper bounds for specific arcs within the NFP model that represent how much water can be stored in San Luis Reservoir for the Coastal Branch Contractors. If the NFP model determines that stored water cannot be returned to the Coastal Branch Contractors (or sold to other Contractors if that feature is allowed in the modeling scenario), then the model will "spill" any amount of water stored above the Coastal Branch Contractor's allotted share of San Luis Reservoir storage.

The amount of Table A water that can be carried over in San Luis Reservoir on a long-term basis (which is referred to as Carryover) is limited by the Water Supply Contract to a portion of each SWP Contractor's Annual Table A Amount. SWP Contractors can carry over more Table A water but the additional amount must be delivered back to the SWP Contractor the following year before the end of March. If it is not delivered, the water reverts back to the SWP and is used as part of the water supply to meet the next year SWP Table A allocations. If the Coastal Branch Contractors are unable to take delivery of their Carryover water prior to San Luis Reservoir completely filling, the remaining Carryover is deemed as "spilled" from the SWP and is no longer available for delivery.

The Model determines the amount of Coastal Branch Contractors' Carryover water that is at risk of spilling by analyzing CalSim II model output. To do this, two output tables from CalSim II were used to estimate the amount of San Luis Reservoir storage that is needed for the SWP operations and the amount that would be available for use by the Coastal Branch Contractors. One table contains the monthly storage for the SWP share of San Luis Reservoir. This includes SWP Contractor Carryover water. CalSim II does not account for individual SWP Contractor Carryover use and does not allocate space based on each SWP Contractor's Table A Amount. Instead, it assumes an aggregated amount to be used by all SWP Contractors. The other table from CalSim II output contains an estimate of monthly Carryover water that is in San Luis Reservoir. The Model uses the data in the two tables to determine how much space would be available for use by the Coastal Branch Contractors. San Luis Reservoir reaches its maximum storage in the spring just prior to the start of the irrigation season and the start of the spring fishery pulse flow period on the San Joaquin River. After April 1st of each year, the SWP and Central Valley Project are nearly always unable to divert enough water from the Sacramento-San Joaquin Delta to meet the growing seasonal demands within their respective service areas. Therefore, maximum storage use will occur sometime between the end of December and the end of March.

The maximum storage in that time period is subtracted from the maximum storage capacity for the SWP in San Luis Reservoir (1,067,000 acre-feet). The result is the amount of available storage space that can be allocated to all SWP Contractors for storage of their Carryover water. The two largest SWP Contractors, Metropolitan Water District of Southern California (MWD) and the Kern County Water Agency (KCWA), represent about 69% of the Total Annual Table A Amount and generally do not use all of their allotted space; thus, allowing the remaining twenty-seven SWP Contractors an opportunity to carry over more of their water. An assumption was made that the MWD and KCWA would not routinely store more than 300 taf of their water in San Luis Reservoir, so in years when their aggregated share would be greater than 300 taf, the amount above 300 taf would be allocated to the smaller SWP Contractors.

It is important to recognize this as a rough estimate of how much space would be needed by the two largest SWP Contractors. In reality, they might use all of their allotted space. However, the Consultant Team believes this assumption about maximum storage is reasonable for evaluating use by other SWP Contractors on a long-term basis.

The final computation is to allocate a portion of the available storage space to the Coastal Branch Contractors, which is computed based on their pro-rata share of the small SWP Contractors' Table A amounts. These estimates are computed prior to any NFP model runs and the pre-processed values are put into the NFP model as upper bounds on use of San Luis Reservoir annual storage for the Coastal Branch Contractors' Carryover water. For the period 2004 through 2019, the Consultant Team separately analyzed historical SWP operations to determine the amount of San Luis Reservoir storage that would be available to the Coastal Branch Contractors. This was done as the CalSim II study horizon only goes through 2003. Table E 2 shows the result of the processing that is done in the Model.

Table E 2: Summary of Amount of San Luis Reservoir Storage Available to Coastal Branch Contractors

Water Year	San Luis Operations				
	Max Winter-Spring SLR SWP Storage for small Contractors (taf)	CCWA Max Use of SLR (af)	SLOFCWCD Contracted Max Use of SLR (af)	SLOFCWCD Non-Contracted Max Use of SLR (af)	SLOFCWCD Max Use of SLR (af)
1922	125	4,447	1,030	1,414	2,444
1923	77	2,752	637	875	1,512
1924	452	16,086	3,726	5,115	8,841
1925	111	3,933	911	1,251	2,162
1926	34	1,193	276	379	656
1927	57	2,030	470	645	1,116
1928	34	1,225	284	390	674
1929	116	4,114	953	1,308	2,261
1930	354	12,587	2,916	4,002	6,918
1931	-	-	-	-	-
1932	119	4,235	981	1,346	2,327
1933	9	317	74	101	174
1934	327	11,623	2,693	3,696	6,388
1935	5	171	40	55	94
1936	266	9,472	2,194	3,012	5,206
1937	5	179	42	57	99
1938	-	-	-	-	-
1939	118	4,186	970	1,331	2,301
1940	202	7,188	1,665	2,286	3,951
1941	-	-	-	-	-
1942	123	4,374	1,013	1,391	2,404
1943	20	726	168	231	399
1944	348	12,379	2,868	3,936	6,804
1945	18	637	147	202	350
1946	131	4,656	1,079	1,480	2,559
1947	51	1,821	422	579	1,001
1948	457	16,276	3,770	5,175	8,946
1949	65	2,325	539	739	1,278
1950	108	3,861	894	1,228	2,122
1951	-	-	-	-	-
1952	-	-	-	-	-
1953	144	5,139	1,190	1,634	2,825

Water Year	San Luis Operations				
	Max Winter-Spring SLR SWP Storage for small Contractors (taf)	CCWA Max Use of SLR (af)	SLOFCWCD Contracted Max Use of SLR (af)	SLOFCWCD Non-Contracted Max Use of SLR (af)	SLOFCWCD Max Use of SLR (af)
1954	70	2,484	575	790	1,365
1955	15	521	121	166	286
1956	-	-	-	-	-
1957	280	9,949	2,305	3,163	5,468
1958	-	-	-	-	-
1959	509	18,124	4,199	5,763	9,962
1960	100	3,555	824	1,130	1,954
1961	162	5,759	1,334	1,831	3,165
1962	242	8,621	1,997	2,741	4,738
1963	104	3,694	856	1,175	2,030
1964	47	1,681	389	534	924
1965	223	7,940	1,839	2,525	4,364
1966	-	-	-	-	-
1967	56	1,977	458	629	1,086
1968	113	4,025	932	1,280	2,212
1969	-	-	-	-	-
1970	20	704	163	224	387
1971	357	12,706	2,943	4,040	6,984
1972	17	620	144	197	341
1973	22	800	185	254	440
1974	38	1,335	309	425	734
1975	175	6,236	1,445	1,983	3,427
1976	150	5,347	1,239	1,700	2,939
1977	512	18,228	4,223	5,796	10,019
1978	60	2,123	492	675	1,167
1979	50	1,780	412	566	978
1980	12	416	96	132	229
1981	396	14,084	3,263	4,478	7,741
1982	-	-	-	-	-
1983	-	-	-	-	-
1984	15	544	126	173	299
1985	8	285	66	91	157
1986	14	483	112	154	265
1987	191	6,787	1,572	2,158	3,730
1988	458	16,312	3,779	5,187	8,965

Water Year	San Luis Operations				
	Max Winter-Spring SLR SWP Storage for small Contractors (taf)	CCWA Max Use of SLR (af)	SLOFCWCD Contracted Max Use of SLR (af)	SLOFCWCD Non-Contracted Max Use of SLR (af)	SLOFCWCD Max Use of SLR (af)
1989	89	3,180	737	1,011	1,748
1990	370	13,167	3,050	4,187	7,237
1991	119	4,231	980	1,345	2,325
1992	297	10,562	2,447	3,358	5,805
1993	215	7,665	1,776	2,437	4,213
1994	212	7,557	1,750	2,403	4,153
1995	30	1,050	243	334	577
1996	28	983	228	313	540
1997	20	697	162	222	383
1998	-	-	-	-	-
1999	66	2,353	545	748	1,293
2000	13	475	110	151	261
2001	227	8,070	1,870	2,566	4,436
2002	121	4,318	1,000	1,373	2,373
2003	526	18,711	4,334	5,949	10,284
2004	550	19,577	4,535	6,225	10,760
2005	550	19,577	4,535	6,225	10,760
2006	550	19,577	4,535	6,225	10,760
2007	550	19,577	4,535	6,225	10,760
2008	550	19,577	4,535	6,225	10,760
2009	550	19,577	4,535	6,225	10,760
2010	550	19,577	4,535	6,225	10,760
2011	0	-	-	-	-
2012	550	19,577	4,535	6,225	10,760
2013	550	19,577	4,535	6,225	10,760
2014	550	19,577	4,535	6,225	10,760
2015	550	19,577	4,535	6,225	10,760
2016	550	19,577	4,535	6,225	10,760
2017	0	-	-	-	-
2018	550	19,577	4,535	6,225	10,760
2019	0	-	-	-	-

The computations above apply only to the use of San Luis Reservoir storage for carrying over water on a long-term basis. Such use is limited by Article 56 of the SWP Water Supply Contract; however, SWP Contractors may store additional water in San Luis Reservoir for up to three months after the end of the year. This "short-term" carryover of the prior year's allocated Table A allows SWP Contractors more flexibility to use their water supplies beyond the end of the year. For the purpose of the Model, it was assumed that sufficient space would be available to **ALWAYS** carry over water on a short-term basis and it would either be delivered or would spill by the end of March. In reality, the carryover of a SWP Contractor's Table A from one year to the next on either a long-term or short-term basis could result in spill of those supplies beginning as early as January 1. A SWP Contractor's Table A that is carried over from earlier years could spill earlier than January 1 if the SWP is able to fill San Luis Reservoir before the end of the prior year. Based on the output from CalSim II, the Consultant Team found that in only 4 of 82 years of study did San Luis Reservoir reach capacity in December. Based on this information, the Consultant Team concluded the risk of spilling before the end of the year is sufficiently small and did not need to be analyzed as a separate spill event.

To encourage the model to avoid the spill of the Coastal Branch Contractors' Table A from San Luis Reservoir, a penalty was set for the Carryover Spill arcs (Table E 3). The penalty function was set sufficiently high as to force the NFP model to use the carryover before it would acquire external supplies.

Table E 3: Carryover Spill Penalty as a function of Water Year Classification

Year Type Classification	Carryover Spill Penalty ($/af)
Wet Year	$ 500
Above Normal Year	$ 600
Below Normal Year	$ 1,000
Dry Year	$ 1,100
Critically Dry Year	$ 1,200

Non-SWP Storage and Exchange Programs

The Model is capable of modeling storage and exchange programs that could be utilized to store excess SWP water during years when water supplies for the Coastal Branch Contractors exceed their demands. Since no internal storage and/or exchange programs were identified, this feature was not developed further within the Model. However, the ability to model storage/exchange programs external to the Coastal Branch Contractors' service areas was fully developed and used in selected portfolio analyses. Output from a portfolio analysis that includes an external storage/exchange program could be post-processed to estimate how an internal storage/exchange program might work.

For the external storage/exchange program, the amount that can be stored each year is limited by the same Water Supply Contract provision that limits Carryover storage in San Luis Reservoir. However, the major difference is that water stored in an external storage/exchange program is assumed to **NOT** be subject to spill as it is when stored in San Luis Reservoir. Any storage program that is wholly within one of the Coastal Branch Contractor's service areas would not have an Article 56(c)1 limitation but may require an exchange component to return water to that Coastal Branch Contractor because it may require that any water delivered through a turnout stays within that turnout service area. Additionally, if the other Coastal Branch Contractor used the same storage program, it would be subject to the storage limitation in the Water Supply Contract.

Programs with other SWP Contractors to bank (store) or exchange water are similar to each other. They require delivery of a water supply to the banking or exchange program, a payment for the storage or regulation service provided, and a means to return a portion of the water that was delivered to the program. Payment for an external banking or exchange program can be monetary, water supply left behind for the banking/exchanging partner, or some combination of both. It is not uncommon for exchange programs to require a 50% leave behind factor, for example, one or more acre-feet is left behind for every acre-foot returned. Banking programs will normally require 10-15% of the water stored is "lost", either as a physical evaporation loss in recharge operations, as mitigation to avoid local impacts or to recognize the value provided by the program (regulating the supply so the SWP Contractor can effectively use most of it). The NFP model cannot directly model the portion of water that is delivered to the program and left behind. This must be done in an iterative fashion; the NFP model is solved and the solution is evaluated to determine how much water has been delivered to the storage/exchange program. Based on this, the amount of annual leave behind is determined and the appropriate arc in the model is "fixed", meaning its upper and lower bounds are set to the same value, to the amount of leave behind and the NFP model is solved again.

Similar to any other type of storage operation, the NFP model represents the external storage/exchange program as a reservoir problem. Inflows include the prior time step ending storage and the amount of water that the Coastal Branch Contractor wants to "put" into the program. Outflows include the ending storage for the current time step, return of water to the Coastal Branch Contractor, and any water that is left behind for the storage/exchange program partner. Table E 1 summarizes the parameters that were used for the scenarios that included external storage/exchange programs.

Table E 1: Input Parameters for External Storage/Exchange Program

External Storage/Exchange Program Input Data						
Year Type	Leave Behind Amount	Cost based on year type		External Storage Size	Max Annual Put Amount	Max Annual Return Amount
Wet Year	0.15	$ 50	CCWA Capacity (af)	30000	10000	10000
Above Normal Year	0.15	$ 50	SLOFCWCD (Cnt) Capacity (af)	10000	10000	10000
Below Normal Year	0.15	$ 75	SLOFCWCD (NC) Capacity (af)	0	10000	10000
Dry Year	0.15	$ 125	Cost ($/af)	$ -	$ 10	$ 1
Critically Dry Year	0.15	$ 250				

Turnout Demands

The Model aggregates the turnouts along the Coastal Branch into six turnout locations that represent either a single physical turnout or amounts of multiple turnouts. The turnout groups used were the same as those previously described in the Conveyance Capacity chapter of the Water Management Strategies report. Three turnout groups were used for SLOFCWCD (Shandon, Chorro Valley and Lopez Valley) and for CCWA (North County, Mid County and South Coast). The historical delivery amounts to these turnout groups, are shown in Table E 2.

Table E 2: Historical delivery amounts to SLOFCWCD and CCWA Turnout Groups

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	Group Coastal Branch Oct-Apr						Group Coastal Branch May-Sep					
Contract	North SLO	Chorro	Lopez	North County	Mid County	South Coast	North SLO	Chorro	Lopez	North County	Mid County	South Coast
1998	0	1,181	910	5,149	2,235	1,817	0	1057	708	5,514	2,522	2,074
1999	0	1,148	556	5,887	2,332	718	0	1031	752	6,102	2,942	2,219
2000	0	1,298	706	6,415	1,986	1,447	0	1177	814	6,972	3,323	3,267
2001	0	1,225	890	5,916	2,004	379	0	1145	970	5,539	2,946	2,907
2002	0	1,260	982	5,701	2,049	1,994	0	1182	989	7,115	2,924	4,648
2003	0	1,169	945	6,247	2,595	5,339	0	1220	1,040	6,858	3,834	4,567
2004	0	1,260	888	6,427	2,629	996	0	1091	1,057	7,010	3,620	6,922
2005	0	978	1,086	5,451	1,799	3,694	0	1022	1,090	7,466	3,659	2,393
2006	0	1,067	1,213	6,465	2,368	1,094	0	953	783	7,261	3,521	2,628
2007	0	1,166	1,261	7,175	2,997	1,606	0	971	896	6,668	3,356	5,943
2008	0	1,152	569	4,801	2,313	2,077	0	1073	598	4,217	2,048	5,254
2009	0	1,144	515	3,628	850	1,469	0	986	858	4,530	2,126	2,921
2010	0	789	866	3,592	579	966	0	1038	1,067	6,535	1,570	4,010
2011	0	1,012	1,144	5,168	1,862	1,472	0	994	875	6,601	2,384	2,911
2012	0	1,065	741	5,694	1,978	420	0	971	1,027	6,554	2,654	2,594
2013	0	1,085	1,157	5,419	1,587	511	0	978	695	4,788	2,070	3,694
2014	0	1,097	1,033	1,963	597	5,861	0	948	277	493	574	6,959
2015	0	1,040	363	985	187	7,162	0	617	1,218	2,182	547	2,629
2016	0	815	900	2,616	941	3,661	0	737	1,425	5,955	1,300	6,594
2017	0	845	1,209	5,807	1,714	8,553	40	772	682	6,230	2,445	6,572
2018	16	715	175	4,978	1,561	7,309	37	867	346	5,134	1,717	7,034
2019	27	881	451	4,017	1,533	4,741	16	873	346	5,944	1,905	2,050
2020	0	982	496	4,175	2,227	366	0	952	347	3,004	2,098	2,202
Average	2	1,060	829	4,942	1,779	2,767	4	985	820	5,594	2,438	4,043
Maximum	27	1,298	1,261	7,175	2,997	8,553	40	1,220	1,425	7,466	3,834	7,034

The historical deliveries were reviewed for patterns, including comparison to the SWP Table A allocation amounts. Based on this review, a few patterns were identified, as follows. The Chorro Valley and Lopez Valley turnout groups had very consistent diversions from year to year and generally show minimal variation based on the Table A Allocations. The North County and Mid County deliveries both reflected Table A Allocations with deliveries being are higher in high SWP allocation years and lower in low SWP allocation years. This seems like a reasonable outcome given that many of the North County and Mid County users have access to supplemental groundwater supplies for use when SWP supplies are limited. The South Coast deliveries tended to be higher in low SWP allocation years and lower in high SWP allocation years. The South Coast water use appears to reflect their local situation, with a local water supply source in Lake Cachuma and limited supplemental water supplies (outside of the SWP) in dry years. The Shandon group had minimal deliveries in the last five years and was not reviewed in detail.

Three approaches to the Model demand inputs were identified: average, maximum and variable demands. Averages of the historical deliveries were the first approach used. The average delivery amounts resulted in the Model easily meeting demands and not resulting in the need for intensive water management actions. A variable demand approach, with demands varying depending on SWP Table A allocation, was used for the North County and Mid County turnout groups (the SLO County turnouts were all left at maximum delivery amounts, and the South Coast demands are considered together with Cachuma Project operations). As with the average demand level, the variable demands resulted in no need for intensive water management. The final approach used was to take the maximum semi-annual delivery amounts and use those as the Model demanded. The maximum demands stressed the available supply the most and resulted in the most intense need for water

management components. After initial exploratory analysis, the maximum demand level was used for the Model portfolios presented in the Water Management Strategy report.

Additional analysis could be performed to refine the demand assumptions that were used. As stated previously, a full Integrated Resource Planning Analysis would consider all water supplies available, not just the SWP supply. Updating the Model to include local supply sources (other than Cachuma Project) would be the most representative of local water management needs. Finally, even the maximum demand level that has been used for the Model is lower than the contractual level of Table A Amount that can be allocated to the Coastal Branch Contractors.

Water Transfers

The Model represents transfers (or sales) of water (1) from SLOFCWCD's non-contracted Table A to its participants, (2) between the two Coastal Branch Contractors, (3) purchases from the Dry Year Purchase Program (DYPP) managed by the State Water Contractors (SWC), and (4) between the Coastal Branch Contractors and other SWP Contractors. Transfers between SWP Contractors are assumed to be flexible enough to occur anytime during the semi-annual time steps of the Model. Therefore, water purchased from other SWP Contractors could be delivered to meet a Coastal Branch Contractors' demands during the October-April or May-September sub-time step periods. Transfer of the SWC DYPP is assumed to be limited to the May through September semi-annual time step for each year, since movement of water from north of the Delta generally occurs from July through the end of September. As described elsewhere, water transfers are an optional water management component that can be turned on or off in a specific portfolio analysis.

The NFP model represents transfers as arcs either coming into specific nodes for a Coastal Branch Contractor (in the case of a purchase) or flowing out from a Coastal Branch Contractor node (in the case of a sale). The upper bounds and costs for the transfer arcs are set prior to running the Model. The Consultant Team evaluated the potential for purchases of water supplies from various sources and developed a set of criteria for price and availability based on water year classification. The assumed prices and availability were developed based on professional judgement considering historical costs, amounts and the potential effects of recent regulatory initiatives, primarily the Sustainable Groundwater Management Act (SGMA). Prices during Critical Water Year types are especially likely to be subject to considerable variability based on a wide variety of factors. Implementation of Sustainable Groundwater Management Act (SGMA)seems likely to increase the price for Wet and Above Normal Water Year type transfers, which previously were year types with low prices. The Coastal Branch Contractors' service areas represent a relatively small part of the overall water transfer market, which is dominated by agricultural users in the Central Valley and large water agencies in other areas of California. The prices and availability of water transfers from outside sources are likely to vary considerably in the future as SGMA is implemented, as agricultural commodity prices vary and as other water users implement more sophisticated water management programs.

Table E 3 summarizes the amount of water that is assumed to be available to all SWP Contractors from the DYPP as well as the cost for the water. The amount of water supply that can be made available to the Coastal Branch Contractors is limited by their pro-rata share which is based on their share of all SWP Contractors Table A Amounts. Since the SWP needs all of its pumping capacity to move SWP water supplies in wetter years, the Consultant Team assumed that no water could be moved in Below Normal, Above Normal or Wet Water Year types.

Table E 3: Dry Year Purchase Program

Dry Year Purchase Program		
Year Type	Cost based on year type ($/AF)	Max amount that can be purchased each year by all SWP Contractors (AF)
Wet Years	$ 75	0
Above Normal Years	$75	0
Below Normal Years	$ 500	0
Dry Years	$ 750	100000
Critically Dry Years	$1,500	40000

Table E 4 summarizes the amount of water and cost of the water that could be made available to the Coastal Branch Contractors through purchases from other SWP Contractors. It is assumed this is the amount that would be available to the Coastal Branch Contractors and varies based on water year type. The Model sets the upper bound on an aggregated arc in the NFP model for delivery of water purchases to the two Coastal Branch Contractors. Since SLOFCWCD is primarily a seller and not a buyer of water, there is little chance of a conflict between CCWA and SLOFCWCD for the supply. However, this may need additional analysis in the future to ensure that to be the case if additional scenarios are developed and run.

Table E 4: Purchase Program with Other SWP Contractors

External Purchase Program		
Year Type	Purchase Price for water from Others based on year type ($/AF)	Potential Annual Supply to Coastal Branch Contractors (AF)
Wet Years	$ 40	15,000
Above Normal Years	$ 40	8,000
Below Normal Years	$ 250	5,000
Dry Years	$ 1,000	2,000
Critically Dry Years	$ 2,000	500

Lake Cachuma

Lake Cachuma is unique in the Model as it reflects a combination of local and SWP water supplies to meet combined South Coast water demands. Lake Cachuma operations are modeled in an integrated fashion with the rest of CCWA's deliveries from the Coastal Branch. When available, local inflows to Lake Cachuma can meet all South Coast demands thus allowing for potentially higher delivery of SWP water to the CCWA North County and Mid County turnout groups along the Coastal Branch. Alternatively, the other demands that are met directly from Lake Cachuma beyond the South Coast contract amounts can avoid shortages in dry conditions because a portion of CCWA's SWP water is delivered and used to bolster the reservoir storage. This integrated operation does result in irregular deliveries of Coastal Branch supplies to Lake Cachuma, which may result in some operational challenges if flows are cut off for several years. However, it optimizes the use of

Lake Cachuma for water supply purposes by reducing spill and utilizes more of the storage capability for water supply. The Model does not consider other uses of the reservoir such as recreation as it decides how much water to deliver into storage from the SWP. Figure E 1 shows the probability of end-of-year Lake Cachuma being above various storage levels. This particular example is for Portfolio 1 which tends to exercise the reservoir to a greater degree than the other portfolio runs. The graphic shows that about 30% of the time, Lake Cachuma would end the year full, about 50% of the time it would have about 150 taf of water in it, and approximately 18% of the time, the reservoir storage would be below 100 taf.

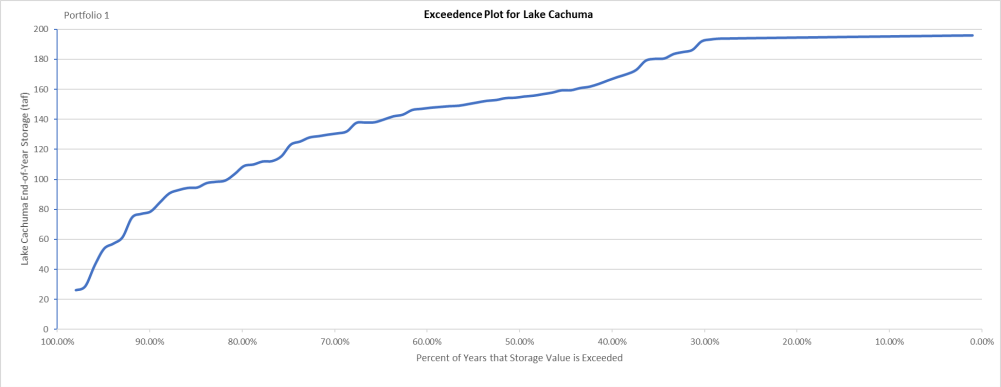

Figure E 1: Exceedance Plot for Lake Cachuma

Historical operations data on the Cachuma Project was obtained from USBR Cachuma Project monthly operations reports for 1993 through 2019. The Cachuma Project report includes Cachuma Reservoir inflows, diversions to the Tecolote Tunnel for deliveries to South Coast Users, releases for downstream users, stream channel releases and evaporation values. Based on the 1993-2019 reports, a Tecolote Tunnel annual demand of 30,000 acre-feet was identified. As noted earlier, this Tecolote Tunnel is primarily supplied by local Cachuma Reservoir inflow, with SWP supplies used as a supplemental source in drier years. Downstream delivery demands, including required instream flows, were set to 10,000 acre-feet per year.

Other Cachuma Operations Report values, such as local inflows and evaporation losses, were summarized annually for direct use in the Model. Cachuma Project local inflows were extended for the 1922 through 1992 period through correlation with precipitation measurements at Gibralter. The formula for Cachuma Reservoir inflows, with an r-squared value of 0.907, is as follows:

Cachuma Inflow (AF) = Gibralter Precipitation (inches) * 7070 – 103,000

The resulting projected inflows for 1922 through 2002 are shown with actual inflows for 1993 through 2019 in Figure E 2.

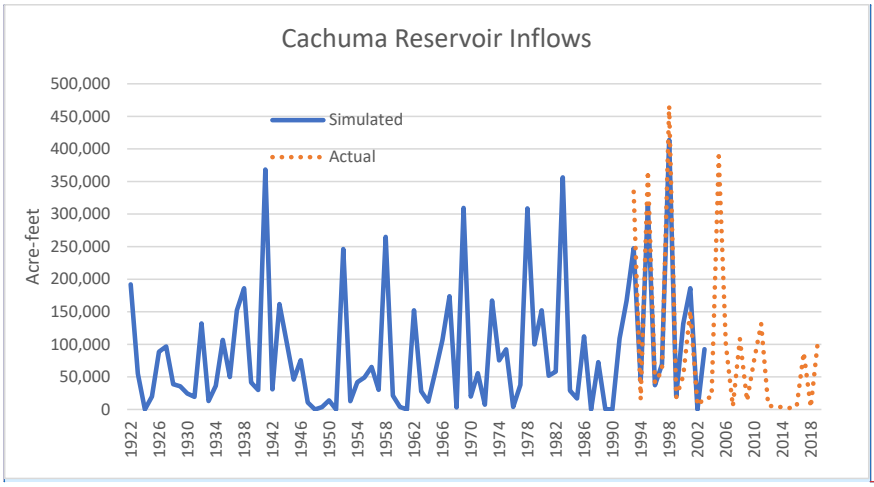

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Figure E 2: Cachuma Reservoir Inflows

A correlation was also used to estimate Cachuma Reservoir evaporation based on reservoir storage. Based on this correlation, which had a r-squared correlation value of .781, Cachuma Reservoir evaporation was computed based on Cachuma Reservoir storage using the following formula:

Cachuma Reservoir Evaporation (AF) = Cachuma Reservoir Storage (AF) *.038 + 5,653

As described earlier, the evaporation amount was one of the factors that the Model computes, then adjusts specific arcs on the NFP model and reruns the NFP model.

How the Model is Solved

The Model performs nine steps to complete one portfolio analysis. Some of the portfolios may require as few as five solutions of the NFP model during the nine steps of the Model while others require seven or more solutions to complete a model run. Figure E 3**Error! Reference source not found.** summarizes the nine steps implemented in the Model.

Step 1: The NFP model is constructed based on user-entered run parameters and input data.

Step 2: The NFP model is solved to determine the Coastal Branch inflow to Lake Cachuma. The reservoir losses are estimated by the Model based on this initial NFP model run. A second run of the NFP model is performed if there is a significant difference between the assumed losses prior to the first solution and the computed reservoir losses based on the first solution. After completing the loss computation and a second solution of the NFP model (if necessary), then the minimum inflow from the Coastal Branch to Lake Cachuma is set to the result of this iteration.

Step 3: The Model now constrains the NFP model to use as much Table A as possible to meet each year's demands for both CCWA and SLOFCWCD. This step is necessary to ensure that the NFP model does not attempt to transfer or store allocated Table A when it is needed to avoid shortages in the current year. Since the NFP model has perfect foresight of future hydrology and allocations, it will attempt to avoid the

highest cost operation – it may decide to save some of this year's water and allow a shortage this year so that it can store and deliver the water in a subsequent year to avoid a larger shortage then. In reality, water managers would not allow this to occur; therefore, this step was added to ensure the current year's allocation goes to meeting the current year's demands before water is stored or transferred. At the end of this step, the Model checks to determine if either Coastal Branch Contractor use of the other Coastal Branch Contractor's conveyance capacity conflicts with that Coastal Branch Contractor's use; if so, then the first Coastal Branch Contractor's use of excess conveyance is restricted and the NFP model is re-run. This step ends by setting the lower bounds for delivery of Table A to CCWA and SLOFCWCD turnouts within the NFP model.

Step 4: The Model now allows the NFP model to store water in San Luis Reservoir and external/internal storage/exchange programs (if the option to operate external and/or internal programs was selected for the analysis). Since the minimum deliveries are set in the prior step, only excess Table A for each year is allowed to be put into storage and then returned for delivery or spilled in a future year. As in Step 3, the Model checks and re-runs the NFP model (if necessary) to ensure no conflicts occur with use of the conveyance capacity.

Storage and exchange programs differ from water transfers in that they allow a SWP Contractor to manage their own water supplies in a water management program outside of their service area for use in years other than when the water supplies were made available. In contrast, a transfer program makes water available in the same year. Generally, storage and exchange programs require the SWP Contractor to leave a portion of the water it has stored behind for use by the entity that is managing the water supply. As described previously, the exact portion of the leave behind can vary by program and usually will be related to the cost that an agency pays for the storage or exchange program – generally the higher the monetary cost, the lower the "leave behind" will be. The "leave behind" is generally a function of the amount of water that is exchanged or stored with the entity. The Model includes this step to determine, if there is an exchange or storage program included in the scenario, how much of the water that is delivered into the program will remain with the entity that is managing the program. The NFP model is re-run after the "leave behind" amounts are computed. This step ends with the Model setting the lower bounds for return of water to CCWA and SLOFCWCD within the NFP model.

Step 5: The Model now allows transfers of water between CCWA and SLOFCWCD (if this option was chosen for inclusion in the scenario). As with the previous steps, Model checks and re-runs the NFP model (if necessary) to ensure no conflicts occur with use of the conveyance capacity. This step ends with the Model setting the lower bounds for transfers among CCWA and SLOFCWCD within the NFP model.

Step 6: The Model now allows acquisition of water from the Dry Year Purchase Program (DYPP) and/or other SWP Contractors. In addition, the NFP model was set up to allow CCWA and SLOFCWCD to share each other's access to the DYPP. Generally, the DYPP is activated during dry years to acquire water for SWP Contractors from sources North of the Delta. The SWP Contractors can acquire their pro-rata share of the water supply based on their share of Table A Amounts. Normally, the allocation is made on an individual SWP Contractor basis and they are not allowed to provide their unused share to other specific SWP Contractors. However, this option was added to the NFP model to allow for such a capability if in the future CCWA and SLOFCWCD could successfully merge their Table A Amounts for the purpose of acquiring other water supplies. As with the previous steps, the Model checks and re-runs the NFP model (if necessary) to ensure no conflicts occur with use of the conveyance capacity. This step ends with the Model setting the lower bounds for purchases within the NFP model.

Step 7: The Model performs a final re-check of the loss computation for Lake Cachuma and re-runs the NFP model if necessary. As with the previous steps, the Model checks and re-runs the NFP model (if necessary) to ensure no conflicts occur with use of the conveyance capacity.

Step 8: After Step 7, the Model has determined how much water can be delivered to the turnouts and now is able to allocate any remaining undelivered water for sales to other SWP Contractors. First, it is determined how much water is available for sell each year by each Coastal Branch Contractor. Then, it sets the NFP model upper bounds for transfers and re-runs the NFP model.

Step 9: The Model saves the final NFP model output to an excel tab for post processing. The Model may need to solve the NFP model four to eighteen times to determine the final result for the 98 years.

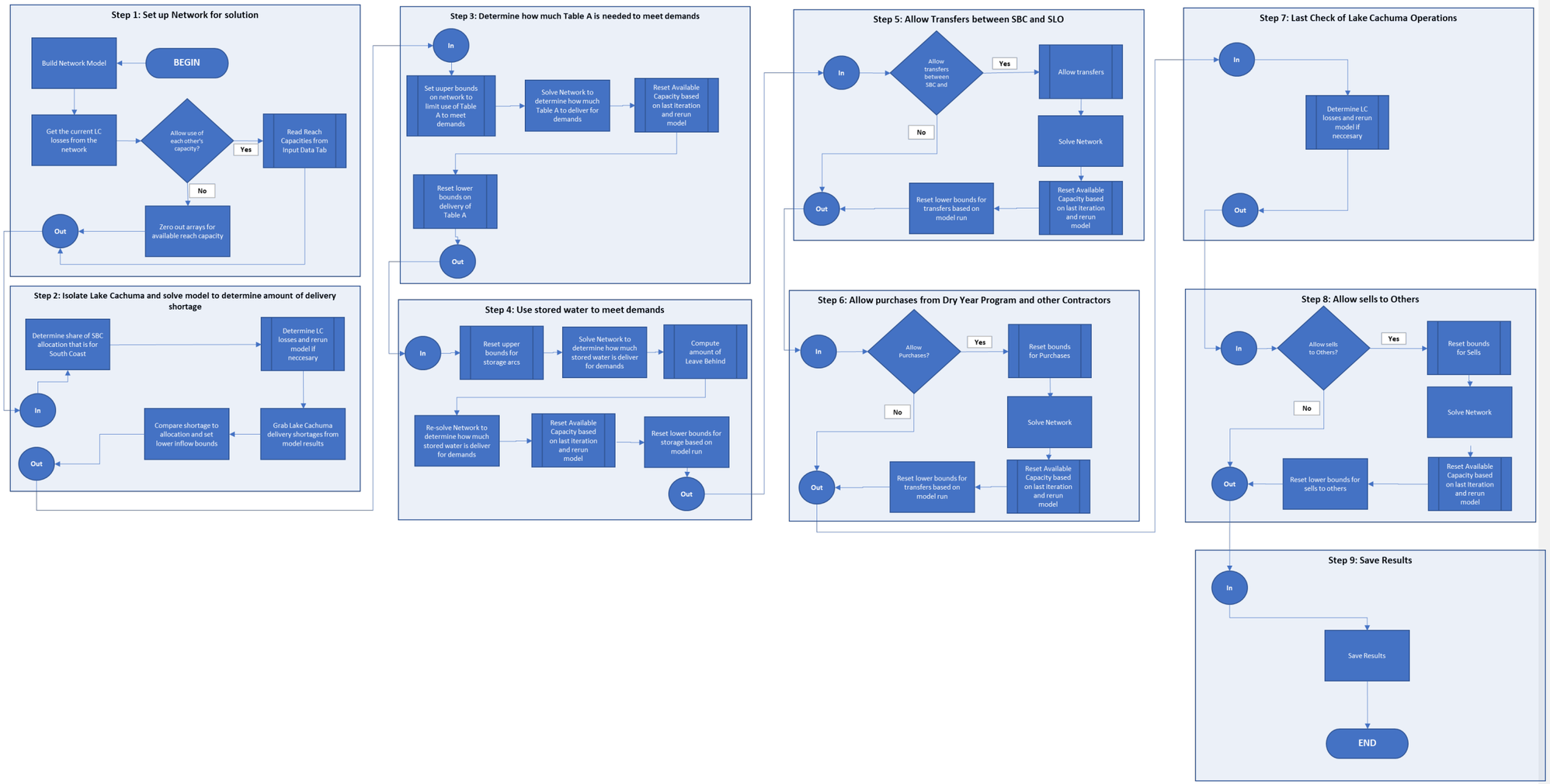


Figure E 3: How the Model is Solved

Model Runs

Many model runs were completed to evaluate a range of potential water management activities. A final set of five portfolios were evaluated and are summarized in Table E 8.

Table E 8: Summary of Model Runs Completed

Scenario	Description	Share Available Coastal Branch Capacity	Allow SLO to Transfer to its Sub-contractors	Participate in Dry Year Purchase Program	Allow Transfers between SLO and SBC	If doing DYPP then share unused water	Participate in External Storage Program	Max use of external storage by SBC	Max use of external storage by SLO	Add delivery at Lopez for Groundwater Recharge	Amount added at Lopez for Groundwater Recharge	Acquire Table A from other Contractors	Transfer excess Table A to other Contractors
Portfolio 1	Current Baseline Condition	X		X									
Portfolio 2	Portfolio 1 plus using limited external storage	X	X	X			X	30,000	10,000				
Portfolio 3	Portfolio 2 plus added demand for SLO Groundwater Replenishment	X	X	X			X	30,000	10,000	X	1,000		
Portfolio 4	Portfolio 3 plus allow transfers between SBC and SLO	X	X	X	X		X	30,000	10,000	X	1,000		
Portfolio 5	Portfolio 4 plus allow external purchases and sells	X	X	X	X		X	30,000	10,000	X	1,000	X	X

Portfolio 1: Baseline Model Run

Portfolio 1 represents baseline Coastal Branch SWP operational conditions that generally match historical SWP water use. Each Coastal Branch Contractor controls the use of its own SWP water supply. The Coastal Branch Contractors are assumed to have access to available Coastal Branch capacity that is not restricted to their contract shares. This portfolio also includes access to the SWC Dry Year Purchase Program. Not included in this portfolio is the transfer of non-contracted water by SLOFCWCD to its participants. Normally, SLOFCWCD will make its allocated non-contracted Table A available to its participants on a first right of refusal basis. From the summary table below, one can determine that the total shortage to the participants is just over 5 taf over the 98-year study period.

Appendix E – Modeling

Portfolio 1

NOTE: we will update the tables and graph to reflect the correct agency titles after the PMs have had an opportunity to review and comment.

Summary of Portfolio 1 Analysis

	Santa Barbara County								Santa Barbara County					Santa Barbara County					Santa Barbara County				Santa Barbara County				Santa Barbara County		Santa Barbara County	
	Sources of Water Delivered								Fate of Annual Table A Allocation					What Happens to water stored in SLR					How much water is delivered to each turnout			Delivery Shortages				Water Purchases				Sells to Others	
		Carryover		Return from Storage/Exchange Programs			Purchases			Storage in SLR		Transfers		Carryover Delivered		Carryover Spilled		Carryover Sold to Others							Transfers from SLO Table A and Long-term Carryover	Transfers from SLO Short-term Carryover	Other Transfers			
Time Period	Table A	Long-Term	Short-Term	External	Internal	Transfers from SLO	Dry Year Purchase	SWP Contractors	Direct Delivery	Long-Term	Short-Term	Sells to SLO	Sells to Others	Long-Term	Short-Term	Long-Term	Short-Term		North County	Mid County	Lake Cachuma	North County	Mid-County		Lake Cachuma			Dry Year Purchase	SWP Contractors	SLO	SWP Contractors
98-Year Summary																															
Total	1,900,278	154,955	-	-		-	17,031	-	1,900,278	677,255	9,259	-	-	154,955	-	522,300	9,259	-	1,239,478	622,409	210,377	195,340	47,029		4,835	-	-	17,031	-	-	-
Average	19,391	1,581	-	-		-	174	-	19,391	6,911	94	-	-	1,581	-	5,330	94	-	12,648	6,351	2,147	1,993	480		49	-	-	174	-	-	-
Water Year Averages																															
Wet	22,404	-	-	-		-	-	-	22,404	14,859	309	-	-	-	-	12,147	212	-	14,641	6,831	932	-	-		-	-	-	-	-	-	-
Above Normal	22,294	7	-	-		-	-	-	22,294	8,702	-	-	-	7	-	4,179	-	-	14,338	6,770	1,193	303	61		-	-	-	-	-	-	-
Below Normal	21,784	512	-	-		-	-	-	21,784	3,660	-	-	-	512	-	6,211	182	-	12,761	6,494	3,041	1,880	337		302	-	-	-	-	-	-
Dry	18,187	3,796	-	-		-	469	-	18,187	2,222	-	-	-	3,796	-	-	-	-	12,268	6,214	3,970	2,373	617		-	-	-	469	-	-	-
Critically Dry	9,946	3,956	-	-		-	416	-	9,946	-	-	-	-	3,956	-	-	-	-	7,545	5,057	1,716	7,096	1,774		-	-	-	416	-	-	-
Critical Period Averages																															
1928-1934	13,789	1,526	-	-		-	514	-	13,789	1,351	-	-	-	1,526	-	1,371	-	-	9,833	5,997	-	4,808	834		-	-	-	514	-	-	-
1987-1992	10,705	2,324	-	-		-	520	-	10,705	136	-	-	-	2,324	-	-	-	-	7,889	5,660	-	6,752	1,172		-	-	-	520	-	-	-
2013-2017	18,248	2,983	-	-		-	432	-	18,248	401	-	-	-	2,983	-	-	-	-	4,062	3,046	14,556	10,579	3,785		600	-	-	432	-	-	-
1977	2,729	6,618	-	-		-	480	-	2,729	-	-	-	-	6,618	-	-	-	-	5,328	4,499	-	9,313	2,332		-	-	-	480	-	-	-

	San Luis Obispo County								San Luis Obispo County					San Luis Obispo County					San Luis Obispo County					San Luis Obispo County				San Luis Obispo County		San Luis Obispo County	
	Sources of Water Delivered								Fate of Annual Table A Allocation					What Happens to water stored in SLR					How much water is delivered to each turnout			Delivery Shortages				Water Purchases				Sells to Others	
		Carryover		Return from Storage/Exchange Programs			Purchases			Storage in SLR		Transfers		Carryover Delivered		Carryover Spilled		Carryover Sold to Others							Transfers from SBC					
Time Period	Table A	Long-Term	Short-Term	External	Internal	Transfers from SBC	Dry Year Purchase	SWP Contractors	Direct Delivery	Long-Term	Short-Term	Sells to SBC	Sells to Others	Long-Term	Short-Term	Long-Term	Short-Term		Shandon	Chorro Valley	Lopez Pipeline	Shandon	Chorro Valley		Lopez Pipeline			Dry Year Purchase	SWP Contractors	SBC	SWP Contractors
98-Year Summary																															
Total	444,485	17,370	49,598	-		-	1,956	-	444,485	227,950	749,315	-	-	17,370	49,598	207,948	688,870	-	6,527	245,443	261,439	39	1,321		1,789			1,956	-	-	-
Average	4,536	177	506	-		-	20	-	4,536	2,326	7,646	-	-	177	506	2,122	7,029	-	67	2,505	2,668	0	13		18			20	-	-	-
Water Year Averages																															
Wet	5,267	-	4	-		-	-	-	5,267	-	10,831	-	-	-	4	4,348	9,949	-	67	2,518	2,686	-	-		-			-	-	-	-
Above Normal	5,225	0	45	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-			-	-	-	-
Below Normal	5,013	79	178	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-			-	-	-	-
Dry	4,284	259	717	-		-	11	-	4,284	-	5,955	-	-	259	717	943	5,749	-	67	2,518	2,686	-	-		-			11	-	-	-
Critically Dry	2,304	676	1,968	-		-	113	-	2,304	-	2,989	-	-	676	1,968	63	2,407	-	64	2,430	2,567	3	88		119			113	-	-	-
Critical Period Averages																															
1928-1934	3,237	136	1,712	-		-	82	-	3,237	678	4,406	-	-	136	1,712	676	3,831	-	66	2,474	2,626	1	44		60			82	-	-	-
1987-1992	2,511	262	2,011	-		-	176	-	2,511	569	2,878	-	-	262	2,011	514	2,122	-	63	2,380	2,517	4	138		169			176	-	-	-
2013-2017	3,373	947	938	-		-	13	-	3,373	2,430	4,447	-	-	947	938	1,455	3,408	-	67	2,518	2,686	-	-		-			13	-	-	-
1977	632	1,239	2,586	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-			-	-	-	-

Appendix E – Modeling

Portfolio 1

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1922	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1923	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1924	6,368	10,715	-	-	17,083	-	-	480	-	480	1,475	1,210	2,586	-	5,271	-	-	-
1925	11,826	1,041	-	-	12,867	-	-	1,199	-	1,199	2,740	506	2,025	-	5,271	-	-	-
1926	18,194	-	-	-	18,194	-	-	1,199	-	1,199	4,215	-	1,056	-	5,271	-	-	-
1927	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1928	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1929	14,101	6,569	-	-	20,670	-	-	480	-	480	3,266	-	2,005	-	5,271	-	-	-
1930	6,368	4,114	-	-	10,482	-	-	1,199	-	1,199	1,475	953	2,586	-	5,014	-	-	-
1931	17,740	-	-	-	17,740	-	-	480	-	480	4,109	-	1,162	-	5,271	-	-	-
1932	11,372	-	-	-	11,372	-	-	480	-	480	2,634	-	2,586	-	5,220	-	-	-
1933	18,194	-	-	-	18,194	-	-	480	-	480	4,215	-	1,056	-	5,271	-	-	-
1934	7,278	-	-	-	7,278	-	-	480	-	480	1,686	-	2,586	-	4,272	-	-	-
1935	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1936	23,929	-	-	-	23,929	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1937	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1938	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1939	17,285	4,187	-	-	21,472	-	-	-	-	-	4,004	1,267	-	-	5,271	-	-	-
1940	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1941	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1942	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1943	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1944	16,830	6,632	-	-	23,462	-	-	-	-	-	3,899	21	1,351	-	5,271	-	-	-
1945	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1946	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1947	25,472	8,655	-	-	34,127	-	-	1,199	-	1,199	5,271	-	-	-	5,271	-	-	-
1948	21,833	-	-	-	21,833	-	-	-	-	-	5,058	-	213	-	5,271	-	-	-
1949	15,920	1,821	-	-	17,741	-	-	1,199	-	1,199	3,688	419	1,164	-	5,271	-	-	-
1950	22,743	-	-	-	22,743	-	-	1,199	-	1,199	5,268	3	-	-	5,271	-	-	-
1951	33,660	-	-	-	33,660	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1952	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-

Appendix E – Modeling

Portfolio 1

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1953	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1954	22,248	-	-	-	22,248	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1955	18,194	6,797	-	-	24,991	-	-	-	-	-	4,215	797	259	-	5,271	-	-	-
1956	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1957	21,472	-	-	-	21,472	-	-	-	-	-	5,268	3	-	-	5,271	-	-	-
1958	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1959	20,469	1,003	-	-	21,472	-	-	-	-	-	4,742	-	529	-	5,271	-	-	-
1960	21,472	-	-	-	21,472	-	-	-	-	-	5,268	3	-	-	5,271	-	-	-
1961	14,556	4,826	-	-	19,382	-	-	1,199	-	1,199	3,372	824	1,075	-	5,271	-	-	-
1962	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1963	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1964	21,472	5,958	-	-	27,430	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1965	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1966	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1967	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1968	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1969	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1970	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1971	21,472	-	-	-	21,472	-	-	-	-	-	5,163	-	108	-	5,271	-	-	-
1972	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1973	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1974	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1975	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1976	21,472	5,476	-	-	26,948	-	-	-	-	-	5,268	3	-	-	5,271	-	-	-
1977	2,729	6,618	-	-	9,347	-	-	480	-	480	632	1,239	2,586	-	4,457	-	-	-
1978	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1979	21,472	14,047	-	-	35,519	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1980	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1981	18,194	4,472	-	-	22,666	-	-	-	-	-	4,215	96	960	-	5,271	-	-	-
1982	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-

Appendix E – Modeling

Portfolio 1

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1983	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1984	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1985	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1986	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1987	12,736	6,338	-	-	19,074	-	-	1,199	-	1,199	2,950	-	2,321	-	5,271	-	-	-
1988	5,003	5,844	-	-	10,847	-	-	480	-	480	1,159	855	2,586	-	4,600	-	-	-
1989	21,472	-	-	-	21,472	-	-	-	-	-	5,163	-	108	-	5,271	-	-	-
1990	5,913	1,759	-	-	7,672	-	-	480	-	480	1,370	644	2,586	-	4,600	-	-	-
1991	11,372	-	-	-	11,372	-	-	480	-	480	2,634	-	1,880	-	4,514	-	-	-
1992	7,733	-	-	-	7,733	-	-	480	-	480	1,791	73	2,586	-	4,450	-	-	-
1993	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1994	14,101	7,371	-	-	21,472	-	-	-	-	-	3,266	-	2,005	-	5,271	-	-	-
1995	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1996	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1997	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1998	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1999	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2000	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2001	11,826	9,646	-	-	21,472	-	-	-	-	-	2,740	656	1,875	-	5,271	-	-	-
2002	19,559	1,913	-	-	21,472	-	-	-	-	-	4,531	419	321	-	5,271	-	-	-
2003	20,014	101	-	-	20,115	-	-	-	-	-	4,636	-	635	-	5,271	-	-	-
2004	20,469	1,003	-	-	21,472	-	-	-	-	-	4,742	-	529	-	5,271	-	-	-
2005	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2006	21,606	-	-	-	21,606	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2007	21,472	2,297	-	-	23,769	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2008	15,920	5,552	-	-	21,472	-	-	-	-	-	3,688	1,583	-	-	5,271	-	-	-
2009	18,194	3,278	-	-	21,472	-	-	-	-	-	4,215	1,056	-	-	5,271	-	-	-
2010	21,472	-	-	-	21,472	-	-	-	-	-	5,268	3	-	-	5,271	-	-	-
2011	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2012	29,566	-	-	-	29,566	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-

Appendix E – Modeling

Portfolio 1

Periods	SBC Operations										SLO Operations							
	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
2013	15,920	-	-	-	15,920	-	-	1,199	-	1,199	3,688	202	1,381	-	5,271	-	-	-
2014	2,274	10,593	-	-	12,867	-	-	480	-	480	527	2,158	2,586	-	5,271	-	-	-
2015	9,097	4,324	-	-	13,421	-	-	480	-	480	2,107	2,377	723	-	5,207	-	-	-
2016	27,292	-	-	-	27,292	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2017	36,658	-	-	-	36,658	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2018	15,920	2,005	-	-	17,925	-	-	-	-	-	3,688	-	1,583	-	5,271	-	-	-
2019	34,114	-	-	-	34,114	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum	1,900,278	154,955	-	-	2,055,233	-	-	17,031	-	17,031	444,485	17,370	49,598	-	511,453	-	-	-
Average	19,391	1,581	-	-	20,972	-	-	174	-	174	4,536	177	506	-	5,219	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Year Averages	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wet	22,404	-	-	-	22,404	-	-	-	-	-	5,267	-	4	-	5,271	-	-	-
Above Normal	22,294	7	-	-	22,301	-	-	-	-	-	5,225	0	45	-	5,271	-	-	-
Below Normal	21,784	512	-	-	22,296	-	-	-	-	-	5,013	79	178	-	5,271	-	-	-
Dry	18,187	3,796	-	-	21,983	-	-	469	-	469	4,284	259	717	-	5,260	-	-	-
Critically Dry	9,946	3,956	-	-	13,903	-	-	416	-	416	2,304	676	1,968	-	4,948	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Period Averages	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1928-34	13,789	1,526	-	-	15,315	-	-	514	-	514	3,237	136	1,712	-	5,084	-	-	-
1987-92	10,705	2,324	-	-	13,028	-	-	520	-	520	2,511	262	2,011	-	4,784	-	-	-
2013-17	18,248	2,983	-	-	21,232	-	-	432	-	432	3,373	947	938	-	5,258	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Driest 1-Year	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1977	2,729	6,618	-	-	9,347	-	-	480	-	480	632	1,239	2,586	-	4,457	-	-	-

Appendix E – Modeling

Portfolio 1

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1922	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1923	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1924	17,563	-	5,012	259	67	67	17,563	-	4,883	321	2,518	2,518	17,563	-	2,686	-	2,686	2,686
1925	14,066	-	5,012	259	67	67	14,066	-	4,883	321	2,518	2,518	14,066	-	2,686	-	2,686	2,686
1926	19,393	-	5,012	259	67	67	19,393	-	4,883	321	2,518	2,518	19,393	-	2,686	-	2,686	2,686
1927	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1928	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1929	21,150	-	5,012	259	67	67	21,150	-	4,883	321	2,518	2,518	21,150	-	2,686	-	2,686	2,686
1930	11,681	-	5,012	259	67	67	11,681	-	4,883	321	2,518	2,518	11,681	-	2,686	-	2,686	2,686
1931	18,220	-	5,012	259	67	67	18,220	-	4,883	321	2,518	2,518	18,220	-	2,686	-	2,686	2,686
1932	11,852	-	5,012	259	67	67	11,852	-	4,883	321	2,518	2,518	11,852	-	2,686	-	2,686	2,686
1933	18,674	-	5,012	259	67	67	18,674	-	4,883	321	2,518	2,518	18,674	-	2,686	-	2,686	2,686
1934	7,758	-	4,536	-	57	67	7,758	-	4,479	-	2,213	2,518	7,758	-	2,266	-	2,266	2,686
1935	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1936	23,929	-	5,012	259	67	67	23,929	-	4,883	321	2,518	2,518	23,929	-	2,686	-	2,686	2,686
1937	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1938	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1939	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1940	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1941	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1942	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1943	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1944	23,462	-	5,012	259	67	67	23,462	-	4,883	321	2,518	2,518	23,462	-	2,686	-	2,686	2,686
1945	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1946	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1947	35,326	-	5,012	259	67	67	35,326	-	4,883	321	2,518	2,518	35,326	-	2,686	-	2,686	2,686
1948	21,833	-	5,012	259	67	67	21,833	-	4,883	321	2,518	2,518	21,833	-	2,686	-	2,686	2,686
1949	18,940	-	5,012	259	67	67	18,940	-	4,883	321	2,518	2,518	18,940	-	2,686	-	2,686	2,686
1950	23,942	-	5,012	259	67	67	23,942	-	4,883	321	2,518	2,518	23,942	-	2,686	-	2,686	2,686
1951	33,660	-	5,012	259	67	67	33,660	-	4,883	321	2,518	2,518	33,660	-	2,686	-	2,686	2,686
1952	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1953	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1954	22,248	-	5,012	259	67	67	22,248	-	4,883	321	2,518	2,518	22,248	-	2,686	-	2,686	2,686
1955	24,991	-	5,012	259	67	67	24,991	-	4,883	321	2,518	2,518	24,991	-	2,686	-	2,686	2,686
1956	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1957	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1958	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1959	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1960	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1961	20,581	-	5,012	259	67	67	20,581	-	4,883	321	2,518	2,518	20,581	-	2,686	-	2,686	2,686
1962	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1963	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1964	27,430	-	5,012	259	67	67	27,430	-	4,883	321	2,518	2,518	27,430	-	2,686	-	2,686	2,686
1965	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1966	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1967	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1968	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1969	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1970	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1971	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1972	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1973	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1974	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1975	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1976	26,948	-	5,012	259	67	67	26,948	-	4,883	321	2,518	2,518	26,948	-	2,686	-	2,686	2,686
1977	9,827	-	4,721	-	63	67	9,827	-	4,658	-	2,328	2,518	9,827	-	2,330	-	2,330	2,686
1978	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1979	35,519	-	5,012	259	67	67	35,519	-	4,883	321	2,518	2,518	35,519	-	2,686	-	2,686	2,686
1980	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1981	22,666	-	5,012	259	67	67	22,666	-	4,883	321	2,518	2,518	22,666	-	2,686	-	2,686	2,686
1982	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1983	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1984	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1985	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1986	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1987	20,273	-	5,012	259	67	67	20,273	-	4,883	321	2,518	2,518	20,273	-	2,686	-	2,686	2,686
1988	11,327	-	4,864	-	57	67	11,327	-	4,807	-	2,263	2,518	11,327	-	2,544	-	2,544	2,686
1989	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1990	8,152	-	4,864	-	63	67	8,152	-	4,801	-	2,396	2,518	8,152	-	2,405	-	2,405	2,686
1991	11,852	-	4,778	-	60	67	11,852	-	4,718	-	2,266	2,518	11,852	-	2,452	-	2,452	2,686
1992	8,213	-	4,714	-	63	67	8,213	-	4,651	-	2,321	2,518	8,213	-	2,330	-	2,330	2,686
1993	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1994	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1995	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1996	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1997	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1998	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1999	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2000	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2001	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2002	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2003	20,115	-	5,012	259	67	67	20,115	-	4,883	321	2,518	2,518	20,115	-	2,686	-	2,686	2,686
2004	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2005	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2006	21,606	-	5,012	259	67	67	21,606	-	4,883	321	2,518	2,518	21,606	-	2,686	-	2,686	2,686
2007	23,769	-	5,012	259	67	67	23,769	-	4,883	321	2,518	2,518	23,769	-	2,686	-	2,686	2,686
2008	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2009	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2010	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2011	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2012	29,566	-	5,012	259	67	67	29,566	-	4,883	321	2,518	2,518	29,566	-	2,686	-	2,686	2,686

Periods	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
2013	17,119	-	5,012	259	67	67	17,119	-	4,883	321	2,518	2,518	17,119	-	2,686	-	2,686	2,686
2014	13,347	-	5,012	259	67	67	13,347	-	4,883	321	2,518	2,518	13,347	-	2,686	-	2,686	2,686
2015	13,901	-	5,012	259	67	67	13,901	-	4,883	321	2,518	2,518	13,901	-	2,686	-	2,686	2,686
2016	27,292	-	5,012	259	67	67	27,292	-	4,883	321	2,518	2,518	27,292	-	2,686	-	2,686	2,686
2017	36,658	-	5,012	259	67	67	36,658	-	4,883	321	2,518	2,518	36,658	-	2,686	-	2,686	2,686
2018	17,925	-	5,012	259	67	67	17,925	-	4,883	321	2,518	2,518	17,925	-	2,686	-	2,686	2,686
2019	34,114	-	5,012	259	67	67	34,114	-	4,883	321	2,518	2,518	34,114	-	2,686	-	2,686	2,686
Sum	2,072,264	-	489,581	23,828	6,527	6,566	2,072,264	-	477,350	29,532	245,443	246,764	2,072,264	-	261,439	-	261,439	263,228
Average	21,146	-	4,996	243	67	67	21,146	-	4,871	301	2,505	2,518	21,146	-	2,668	-	2,668	2,686
Water Year Averages																		
Wet	22,404	-	5,012	259	67	67	22,404	-	4,883	321	2,518	2,518	22,404	-	2,686	-	2,686	2,686
Above Normal	22,301	-	5,012	259	67	67	22,301	-	4,883	321	2,518	2,518	22,301	-	2,686	-	2,686	2,686
Below Normal	22,296	-	5,012	259	67	67	22,296	-	4,883	321	2,518	2,518	22,296	-	2,686	-	2,686	2,686
Dry	22,453	-	5,012	259	67	67	22,453	-	4,883	321	2,518	2,518	22,453	-	2,686	-	2,686	2,686
Critically Dry	14,319	-	4,906	155	64	67	14,319	-	4,804	193	2,430	2,518	14,319	-	2,567	-	2,567	2,686
Critical Period Averages													-	-				
1928-34	15,830	-	4,944	222	66	67	15,830	-	4,825	275	2,474	2,518	15,830	-	2,626	-	2,626	2,686
1987-92	13,548	-	4,874	86	63	67	13,548	-	4,791	107	2,380	2,518	13,548	-	2,517	-	2,517	2,686
2013-17	21,663	-	5,012	259	67	67	21,663	-	4,883	321	2,518	2,518	21,663	-	2,686	-	2,686	2,686
Driest 1-Year																		
1977	9,827	-	4,721	-	63	67	9,827	-	4,658	-	2,328	2,518	9,827	-	2,330	-	2,330	2,686

Appendix E – Modeling

Portfolio 1

Periods	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1922	21,472	14,641	14,641	6,831	6,831	6,831	-	192,009	11,277	196,000	14,000	30,000	30,000
1923	21,472	14,641	14,641	6,831	6,831	6,831	-	54,915	13,059	193,856	14,000	30,000	30,000
1924	17,563	11,115	14,641	6,448	6,448	6,831	-	-	11,951	137,905	14,000	30,000	30,000
1925	14,066	7,918	14,641	6,148	6,148	6,831	-	19,917	10,224	103,598	14,000	30,000	30,000
1926	19,393	12,945	14,641	6,448	6,448	6,831	-	88,712	10,208	138,102	14,000	30,000	30,000
1927	21,472	14,641	14,641	6,831	6,831	6,831	-	96,630	11,617	179,115	14,000	30,000	30,000
1928	21,472	14,641	14,641	6,831	6,831	6,831	-	38,724	12,038	161,801	14,000	30,000	30,000
1929	21,150	14,319	14,641	6,831	6,831	6,831	-	35,543	11,296	142,048	14,000	30,000	30,000
1930	11,681	5,983	14,641	5,698	5,698	6,831	-	24,442	10,306	112,184	14,000	30,000	30,000
1931	18,220	11,772	14,641	6,448	6,448	6,831	-	19,422	9,044	78,562	14,000	30,000	30,000
1932	11,852	6,154	14,641	5,698	5,698	6,831	-	132,123	9,830	156,855	14,000	30,000	30,000
1933	18,674	12,226	14,641	6,448	6,448	6,831	-	12,988	10,459	115,384	14,000	30,000	30,000
1934	7,758	3,733	14,641	4,025	4,025	6,831	-	36,250	9,269	98,365	14,000	30,000	30,000
1935	21,472	14,641	14,641	6,831	6,831	6,831	-	106,812	9,867	151,310	14,000	30,000	30,000
1936	23,929	14,641	14,641	9,288	6,831	6,831	2,457	49,754	10,717	148,804	14,000	30,000	30,000
1937	21,472	14,641	14,641	6,831	6,831	6,831	-	152,344	11,852	196,000	14,000	30,000	30,000
1938	21,472	14,641	14,641	6,831	6,831	6,831	-	186,211	13,101	196,000	14,000	30,000	30,000
1939	21,472	14,641	14,641	6,831	6,831	6,831	-	41,411	12,806	180,605	14,000	30,000	30,000
1940	21,472	14,641	14,641	6,831	6,831	6,831	-	29,816	12,005	154,416	14,000	30,000	30,000
1941	21,472	14,641	14,641	6,831	6,831	6,831	-	368,484	12,301	196,000	14,000	30,000	30,000
1942	21,472	14,641	14,641	6,831	6,831	6,831	-	30,806	12,608	170,198	14,000	30,000	30,000
1943	21,472	14,641	14,641	6,831	6,831	6,831	-	161,889	12,608	196,000	14,000	30,000	30,000
1944	23,462	14,641	14,641	8,821	6,831	6,831	1,990	104,761	13,101	196,000	14,000	30,000	30,000
1945	21,472	14,641	14,641	6,831	6,831	6,831	-	45,795	12,888	184,907	14,000	30,000	30,000
1946	21,472	14,641	14,641	6,831	6,831	6,831	-	75,561	12,888	196,000	14,000	30,000	30,000
1947	35,326	13,063	14,641	22,263	6,336	6,831	15,927	10,655	12,530	166,052	14,000	30,000	30,000
1948	21,833	3,733	14,641	18,100	3,750	6,831	14,350	-	11,180	125,222	14,000	30,000	30,000
1949	18,940	5,599	14,641	13,341	3,750	6,831	9,591	3,514	9,629	84,698	14,000	30,000	30,000
1950	23,942	4,111	14,641	19,831	4,444	6,831	15,387	13,837	8,423	61,499	14,000	30,000	30,000
1951	33,660	11,397	14,641	22,263	6,336	6,831	15,927	-	7,317	26,109	14,000	30,000	30,000
1952	21,472	14,641	14,641	6,831	6,831	6,831	-	246,309	9,873	196,000	14,000	30,000	30,000

Periods	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1953	21,472	14,641	14,641	6,831	6,831	6,831	-	12,635	12,270	152,365	14,000	30,000	30,000
1954	22,248	14,641	14,641	7,607	6,831	6,831	776	42,047	11,196	139,992	14,000	30,000	30,000
1955	24,991	14,641	14,641	10,350	6,831	6,831	3,519	48,976	10,899	137,588	14,000	30,000	30,000
1956	21,472	14,641	14,641	6,831	6,831	6,831	-	65,238	11,026	147,800	14,000	30,000	30,000
1957	21,472	14,641	14,641	6,831	6,831	6,831	-	30,099	10,723	123,176	14,000	30,000	30,000
1958	21,472	14,641	14,641	6,831	6,831	6,831	-	265,046	11,670	196,000	14,000	30,000	30,000
1959	21,472	14,641	14,641	6,831	6,831	6,831	-	21,331	12,432	160,899	14,000	30,000	30,000
1960	21,472	14,641	14,641	6,831	6,831	6,831	-	3,797	10,786	109,910	14,000	30,000	30,000
1961	20,581	14,133	14,641	6,448	6,448	6,831	-	-	8,797	57,113	14,000	30,000	30,000
1962	21,472	14,641	14,641	6,831	6,831	6,831	-	152,344	9,646	155,811	14,000	30,000	30,000
1963	21,472	14,641	14,641	6,831	6,831	6,831	-	27,977	10,977	128,811	14,000	30,000	30,000
1964	27,430	14,641	14,641	12,789	6,831	6,831	5,958	11,857	9,745	92,881	14,000	30,000	30,000
1965	21,472	14,641	14,641	6,831	6,831	6,831	-	57,744	9,111	97,514	14,000	30,000	30,000
1966	21,472	14,641	14,641	6,831	6,831	6,831	-	106,812	10,155	150,171	14,000	30,000	30,000
1967	21,472	14,641	14,641	6,831	6,831	6,831	-	173,909	12,116	196,000	14,000	30,000	30,000
1968	21,472	14,641	14,641	6,831	6,831	6,831	-	3,231	12,094	143,137	14,000	30,000	30,000
1969	21,472	14,641	14,641	6,831	6,831	6,831	-	309,518	12,094	196,000	14,000	30,000	30,000
1970	21,472	14,641	14,641	6,831	6,831	6,831	-	19,776	12,403	159,373	14,000	30,000	30,000
1971	21,472	14,641	14,641	6,831	6,831	6,831	-	55,764	11,698	159,439	14,000	30,000	30,000
1972	21,472	14,641	14,641	6,831	6,831	6,831	-	7,261	10,778	111,922	14,000	30,000	30,000
1973	21,472	14,641	14,641	6,831	6,831	6,831	-	167,263	11,482	196,000	14,000	30,000	30,000
1974	21,472	14,641	14,641	6,831	6,831	6,831	-	75,349	13,101	196,000	14,000	30,000	30,000
1975	21,472	14,641	14,641	6,831	6,831	6,831	-	92,176	13,101	196,000	14,000	30,000	30,000
1976	26,948	14,641	14,641	12,307	6,831	6,831	5,476	3,868	12,210	149,134	14,000	30,000	30,000
1977	9,827	5,328	14,641	4,499	4,499	6,831	-	37,805	10,990	131,949	14,000	30,000	30,000
1978	21,472	14,641	14,641	6,831	6,831	6,831	-	308,669	11,881	196,000	14,000	30,000	30,000
1979	35,519	14,641	14,641	20,878	6,831	6,831	14,047	99,953	13,101	196,000	14,000	30,000	30,000
1980	21,472	14,641	14,641	6,831	6,831	6,831	-	152,203	13,101	196,000	14,000	30,000	30,000
1981	22,666	14,641	14,641	8,025	6,831	6,831	1,194	51,875	13,024	192,045	14,000	30,000	30,000
1982	21,472	14,641	14,641	6,831	6,831	6,831	-	58,238	12,969	193,314	14,000	30,000	30,000

	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
Periods	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1983	21,472	14,641	14,641	6,831	6,831	6,831	-	356,323	13,046	196,000	14,000	30,000	30,000
1984	21,472	14,641	14,641	6,831	6,831	6,831	-	28,826	12,571	168,255	14,000	30,000	30,000
1985	21,472	14,641	14,641	6,831	6,831	6,831	-	16,877	11,304	129,828	14,000	30,000	30,000
1986	21,472	14,641	14,641	6,831	6,831	6,831	-	112,114	11,631	186,311	14,000	30,000	30,000
1987	20,273	13,442	14,641	6,831	6,831	6,831	-	-	11,629	130,682	14,000	30,000	30,000
1988	11,327	5,629	14,641	5,698	5,698	6,831	-	72,521	10,883	148,320	14,000	30,000	30,000
1989	21,472	14,641	14,641	6,831	6,831	6,831	-	403	10,163	94,560	14,000	30,000	30,000
1990	8,152	3,733	14,641	4,419	4,419	6,831	-	-	8,111	42,449	14,000	30,000	30,000
1991	11,852	6,154	14,641	5,698	5,698	6,831	-	108,933	8,153	99,229	14,000	30,000	30,000
1992	8,213	3,733	14,641	4,480	4,480	6,831	-	167,121	11,154	196,000	14,000	30,000	30,000
1993	21,472	14,641	14,641	6,831	6,831	6,831	-	334,360	13,101	196,000	14,000	30,000	30,000
1994	21,472	14,641	14,641	6,831	6,831	6,831	-	15,575	12,324	155,251	14,000	30,000	30,000
1995	21,472	14,641	14,641	6,831	6,831	6,831	-	366,102	12,324	196,000	14,000	30,000	30,000
1996	21,472	14,641	14,641	6,831	6,831	6,831	-	41,187	12,802	180,385	14,000	30,000	30,000
1997	21,472	14,641	14,641	6,831	6,831	6,831	-	59,768	12,556	183,597	14,000	30,000	30,000
1998	21,472	14,641	14,641	6,831	6,831	6,831	-	465,884	12,855	196,000	14,000	30,000	30,000
1999	21,472	14,641	14,641	6,831	6,831	6,831	-	18,239	12,374	157,865	14,000	30,000	30,000
2000	21,472	14,641	14,641	6,831	6,831	6,831	-	51,869	11,569	154,165	14,000	30,000	30,000
2001	21,472	14,641	14,641	6,831	6,831	6,831	-	151,409	12,296	196,000	14,000	30,000	30,000
2002	21,472	14,641	14,641	6,831	6,831	6,831	-	6,421	12,154	146,267	14,000	30,000	30,000
2003	20,115	13,638	14,641	6,477	6,477	6,831	-	17,144	10,490	108,921	14,000	30,000	30,000
2004	21,472	14,641	14,641	6,831	6,831	6,831	-	18,695	9,110	74,506	14,000	30,000	30,000
2005	21,472	14,641	14,641	6,831	6,831	6,831	-	388,819	10,774	196,000	14,000	30,000	30,000
2006	21,606	14,641	14,641	6,965	6,831	6,831	134	100,283	13,101	196,000	14,000	30,000	30,000
2007	23,769	14,641	14,641	9,128	6,831	6,831	2,297	4,920	12,169	147,048	14,000	30,000	30,000
2008	21,472	14,641	14,641	6,831	6,831	6,831	-	108,331	12,169	196,000	14,000	30,000	30,000
2009	21,472	14,641	14,641	6,831	6,831	6,831	-	13,188	12,280	152,908	14,000	30,000	30,000
2010	21,472	14,641	14,641	6,831	6,831	6,831	-	75,948	11,834	173,022	14,000	30,000	30,000
2011	21,472	14,641	14,641	6,831	6,831	6,831	-	131,349	12,655	196,000	14,000	30,000	30,000
2012	29,566	7,603	14,641	21,963	6,036	6,831	15,927	6,429	12,499	163,692	14,000	28,165	30,000

Periods	Reach 4 Operations SBC			Reach 5 Operations SBC			Lake Cachuma Operations						
	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
2013	17,119	1	14,641	17,118	1,191	6,831	15,927	3,520	11,212	127,927	14,000	30,000	30,000
2014	13,347	1	14,641	13,346	754	6,831	12,592	3,942	9,816	90,645	14,000	30,000	30,000
2015	13,901	1	14,641	13,900	754	6,831	13,146	2,264	8,398	53,657	14,000	30,000	30,000
2016	27,292	5,667	14,641	21,625	5,698	6,831	15,927	4,694	7,169	26,109	14,000	27,000	30,000
2017	36,658	14,641	14,641	22,017	6,831	6,831	15,186	87,303	7,611	76,987	14,000	30,000	30,000
2018	17,925	11,477	14,641	6,448	6,448	6,831	-	3,373	7,657	28,703	14,000	30,000	30,000
2019	34,114	14,641	14,641	19,473	6,831	6,831	12,642	104,953	7,981	94,317	14,000	30,000	30,000
Sum	2,072,264	1,239,478	1,434,818	832,786	622,409	669,438	210,377	8,291,482	1,101,773	14,553,545	1,372,000	2,935,165	2,940,000
Average	21,146	12,648	14,641	8,498	6,351	6,831	2,147	84,607	11,243	148,506	14,000	29,951	30,000
Water Year Averages													
Wet	22,404	14,641	14,641	7,763	6,831	6,831	932	142,380	11,860	173,218	14,000	30,000	30,000
Above Normal	22,301	14,338	14,641	7,963	6,770	6,831	1,193	123,800	11,442	158,835	14,000	30,000	30,000
Below Normal	22,296	12,761	14,641	9,535	6,494	6,831	3,041	38,054	10,958	134,450	14,000	29,698	30,000
Dry	22,453	12,268	14,641	10,184	6,214	6,831	3,970	40,225	11,157	136,500	14,000	30,000	30,000
Critically Dry	14,319	7,545	14,641	6,773	5,057	6,831	1,716	50,188	10,256	122,841	14,000	30,000	30,000
Critical Period Averages													
1928-34	15,830	9,833	14,641	5,997	5,997	6,831	-	42,785	10,320	123,600	14,000	30,000	30,000
1987-92	13,548	7,889	14,641	5,660	5,660	6,831	-	58,163	10,016	118,540	14,000	30,000	30,000
2013-17	21,663	4,062	14,641	17,601	3,046	6,831	14,556	20,345	8,841	75,065	14,000	29,400	30,000
Driest 1-Year													
1977	9,827	5,328	14,641	4,499	4,499	6,831	-	37,805	10,990	131,949	14,000	30,000	30,000

Appendix E – Modeling

Portfolio 1

	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
Periods	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1922	10,368	-	-	-	12,229	-	-	-	-	-	-	-	-	-	-
1923	9,004	-	-	7,616	11,479	-	-	-	12,026	-	-	-	-	-	-
1924	-	10,715	-	-	2,025	3,796	-	-	3,034	-	-	-	-	-	-
1925	-	1,041	-	-	3,760	2,531	-	-	3,691	-	-	-	-	-	-
1926	-	-	-	-	5,785	1,056	-	-	2,704	-	-	-	-	-	-
1927	10,823	-	-	-	12,479	-	-	-	6,164	-	-	-	-	-	-
1928	9,458	-	-	9,598	11,729	-	-	-	12,755	-	-	-	-	-	-
1929	-	6,569	-	-	4,484	2,005	-	-	7,463	-	-	-	-	-	-
1930	-	4,114	-	-	2,025	3,539	-	-	3,206	-	-	-	-	-	-
1931	-	-	-	-	5,641	1,162	-	-	863	-	-	-	-	-	-
1932	-	-	-	-	3,616	2,586	-	-	2,954	-	-	-	-	-	-
1933	-	-	-	-	5,785	1,056	-	-	2,560	-	-	-	-	-	-
1934	-	-	-	-	2,314	2,586	-	-	1,753	-	-	-	-	-	-
1935	15,372	-	-	-	14,979	-	-	-	3,806	-	-	-	-	-	-
1936	179	-	-	15,372	7,979	-	-	-	15,034	-	-	-	-	-	-
1937	11,733	-	-	-	12,979	-	-	-	7,880	-	-	-	-	-	-
1938	24,014	-	-	11,912	19,729	-	-	-	13,078	-	-	-	-	-	-
1939	-	4,187	-	15,641	5,496	1,267	-	-	16,161	-	-	-	-	-	-
1940	4,455	-	-	-	8,979	-	-	-	4,541	-	-	-	-	-	-
1941	20,830	-	-	8,641	17,979	-	-	-	12,235	-	-	-	-	-	-
1942	13,097	-	-	16,456	13,729	-	-	-	16,966	-	-	-	-	-	-
1943	19,011	-	-	17,471	16,979	-	-	-	14,742	-	-	-	-	-	-
1944	-	6,632	-	-	5,351	1,372	-	-	8,803	-	-	-	-	-	-
1945	9,913	-	-	11,742	11,979	-	-	-	11,806	-	-	-	-	-	-
1946	5,820	-	-	5,894	9,729	-	-	-	12,328	-	-	-	-	-	-
1947	-	8,655	-	-	8,729	-	-	-	8,728	-	-	-	-	-	-
1948	-	-	-	-	6,942	213	-	-	8,559	-	-	-	-	-	-
1949	-	1,821	-	-	5,062	1,583	-	-	5,039	-	-	-	-	-	-
1950	-	-	-	-	7,232	3	-	-	4,573	-	-	-	-	-	-
1951	-	-	-	-	13,229	-	-	-	8,996	-	-	-	-	-	-
1952	20,830	-	-	-	17,979	-	-	-	13,229	-	-	-	-	-	-

Periods	San Luis Reservoir Operations								External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR				SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1953	5,820	-	-	20,830	9,729	-	-	-	17,979	-	-	-	-	-	-
1954	7,318	-	-	5,820	10,979	-	-	-	9,729	-	-	-	-	-	-
1955	-	6,797	-	-	5,785	1,056	-	-	9,636	-	-	-	-	-	-
1956	18,556	-	-	521	16,729	-	-	-	6,072	-	-	-	-	-	-
1957	1,271	-	-	8,607	7,232	3	-	-	11,258	-	-	-	-	-	-
1958	24,014	-	-	11,220	19,729	-	-	-	12,700	-	-	-	-	-	-
1959	-	1,003	-	19,456	6,508	529	-	-	18,373	-	-	-	-	-	-
1960	1,271	-	-	-	7,232	3	-	-	5,378	-	-	-	-	-	-
1961	-	4,826	-	-	4,628	1,899	-	-	5,456	-	-	-	-	-	-
1962	1,726	-	-	-	7,479	-	-	-	3,718	-	-	-	-	-	-
1963	7,639	-	-	1,726	10,729	-	-	-	10,220	-	-	-	-	-	-
1964	5,365	5,958	-	-	9,479	-	-	-	9,806	-	-	-	-	-	-
1965	2,181	-	-	7,046	7,729	-	-	-	10,402	-	-	-	-	-	-
1966	10,823	-	-	2,181	12,479	-	-	-	7,729	-	-	-	-	-	-
1967	22,195	-	-	10,823	18,729	-	-	-	12,479	-	-	-	-	-	-
1968	6,729	-	-	18,170	10,229	-	-	-	16,517	-	-	-	-	-	-
1969	24,014	-	-	10,754	19,729	-	-	-	12,441	-	-	-	-	-	-
1970	12,188	-	-	23,310	13,229	-	-	-	19,342	-	-	-	-	-	-
1971	816	-	-	12,892	7,087	108	-	-	13,508	-	-	-	-	-	-
1972	7,639	-	-	196	10,729	-	-	-	6,890	-	-	-	-	-	-
1973	10,823	-	-	7,459	12,479	-	-	-	10,487	-	-	-	-	-	-
1974	18,556	-	-	10,288	16,729	-	-	-	12,609	-	-	-	-	-	-
1975	10,823	-	-	19,891	12,479	-	-	-	17,038	-	-	-	-	-	-
1976	1,271	5,476	-	-	7,232	3	-	-	9,537	-	-	-	-	-	-
1977	-	6,618	-	-	868	3,825	-	-	2,838	-	-	-	-	-	-
1978	15,827	-	-	-	15,229	-	-	-	4,376	-	-	-	-	-	-
1979	9,458	14,047	-	-	11,729	-	-	-	14,251	-	-	-	-	-	-
1980	18,556	-	-	11,238	16,729	-	-	-	12,707	-	-	-	-	-	-
1981	-	4,472	-	-	5,785	1,056	-	-	7,932	-	-	-	-	-	-
1982	24,014	-	-	14,084	19,729	-	-	-	13,526	-	-	-	-	-	-

	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
Periods	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1983	24,014	-	-	24,014	19,729	-	-	-	19,729	-	-	-	-	-	-
1984	12,188	-	-	24,014	13,229	-	-	-	19,729	-	-	-	-	-	-
1985	11,278	-	-	11,903	12,729	-	-	-	13,072	-	-	-	-	-	-
1986	12,642	-	-	11,080	13,479	-	-	-	12,886	-	-	-	-	-	-
1987	-	6,338	-	-	4,050	2,321	-	-	8,575	-	-	-	-	-	-
1988	-	5,844	-	-	1,591	3,441	-	-	452	-	-	-	-	-	-
1989	816	-	-	-	7,087	108	-	-	3,506	-	-	-	-	-	-
1990	-	1,759	-	-	1,880	3,230	-	-	3,156	-	-	-	-	-	-
1991	-	-	-	-	3,616	1,880	-	-	-	-	-	-	-	-	-
1992	-	-	-	-	2,459	2,659	-	-	126	-	-	-	-	-	-
1993	8,094	-	-	-	10,979	-	-	-	4,708	-	-	-	-	-	-
1994	-	7,371	-	-	4,484	2,005	-	-	4,993	-	-	-	-	-	-
1995	24,014	-	-	-	19,729	-	-	-	8,232	-	-	-	-	-	-
1996	17,646	-	-	23,754	16,229	-	-	-	19,734	-	-	-	-	-	-
1997	12,642	-	-	17,932	13,479	-	-	-	16,295	-	-	-	-	-	-
1998	24,014	-	-	13,339	19,729	-	-	-	13,641	-	-	-	-	-	-
1999	10,368	-	-	24,014	12,229	-	-	-	19,729	-	-	-	-	-	-
2000	12,188	-	-	9,893	13,229	-	-	-	12,229	-	-	-	-	-	-
2001	-	9,646	-	-	3,760	2,531	-	-	7,455	-	-	-	-	-	-
2002	-	1,913	-	-	6,219	740	-	-	3,890	-	-	-	-	-	-
2003	-	101	-	-	6,364	635	-	-	4,029	-	-	-	-	-	-
2004	-	1,003	-	-	6,508	529	-	-	4,244	-	-	-	-	-	-
2005	17,191	-	-	-	15,979	-	-	-	4,881	-	-	-	-	-	-
2006	21,606	-	-	17,191	18,479	-	-	-	23,125	-	-	-	-	-	-
2007	5,820	2,297	-	-	9,729	-	-	-	10,756	-	-	-	-	-	-
2008	-	5,552	-	-	5,062	1,583	-	-	5,641	-	-	-	-	-	-
2009	-	3,278	-	-	5,785	1,056	-	-	5,062	-	-	-	-	-	-
2010	1,271	-	-	-	7,232	3	-	-	5,785	-	-	-	-	-	-
2011	14,917	-	-	17,570	14,729	-	-	-	16,401	-	-	-	-	-	-
2012	-	-	-	-	10,979	-	-	-	10,371	-	-	-	-	-	-

Periods	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
2013	-	-	-	-	5,062	1,583	-	-	4,260	-	-	-	-	-	-
2014	-	10,593	-	-	723	4,744	-	-	1,210	-	-	-	-	-	-
2015	-	4,324	-	-	2,893	3,100	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	9,729	-	-	-	2,893	-	-	-	-	-	-
2017	2,005	-	-	-	15,979	-	-	-	15,954	-	-	-	-	-	-
2018	-	2,005	-	-	5,062	1,583	-	-	4,564	-	-	-	-	-	-
2019	-	-	-	-	13,479	-	-	-	14,894	-	-	-	-	-	-
Sum	686,514	154,955	-	531,559	977,265	66,968	-	-	896,818	-	-	-	-	-	-
Average	7,005	1,581	-	5,424	9,972	683	-	-	9,151	-	-	-	-	-	-
Water Year Averages															
Wet	15,167	-	-	12,359	15,383	4	-	-	14,297	-	-	-	-	-	-
Above Normal	8,702	7	-	4,179	11,810	46	-	-	8,513	-	-	-	-	-	-
Below Normal	3,660	512	-	6,392	8,971	258	-	-	9,859	-	-	-	-	-	-
Dry	2,222	3,796	-	-	6,933	976	-	-	6,693	-	-	-	-	-	-
Critically Dry	-	3,956	-	-	3,163	2,644	-	-	2,470	-	-	-	-	-	-
Critical Period Averages															
1928-34	1,351	1,526	-	1,371	5,085	1,848	-	-	4,508	-	-	-	-	-	-
1987-92	136	2,324	-	-	3,447	2,273	-	-	2,636	-	-	-	-	-	-
2013-17	401	2,983	-	-	6,877	1,885	-	-	4,863	-	-	-	-	-	-
Driest 1-Year															
1977	-	6,618	-	-	868	3,825	-	-	2,838	-	-	-	-	-	-

Appendix E – Modeling

Portfolio 1

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1922	-	-	-	-	-	-	-	-	-	-
1923	-	-	-	-	-	-	-	-	-	-
1924	-	-	-	-	-	-	480	-	-	-
1925	-	-	-	-	-	-	1,199	-	-	-
1926	-	-	-	-	-	-	1,199	-	-	-
1927	-	-	-	-	-	-	-	-	-	-
1928	-	-	-	-	-	-	-	-	-	-
1929	-	-	-	-	-	-	480	-	-	-
1930	-	-	-	-	-	-	1,199	-	257	-
1931	-	-	-	-	-	-	480	-	-	-
1932	-	-	-	-	-	-	480	-	51	-
1933	-	-	-	-	-	-	480	-	-	-
1934	-	-	-	-	-	-	480	-	264	-
1935	-	-	-	-	-	-	-	-	-	-
1936	-	-	-	-	-	-	-	-	-	-
1937	-	-	-	-	-	-	-	-	-	-
1938	-	-	-	-	-	-	-	-	-	-
1939	-	-	-	-	-	-	-	-	-	-
1940	-	-	-	-	-	-	-	-	-	-
1941	-	-	-	-	-	-	-	-	-	-
1942	-	-	-	-	-	-	-	-	-	-
1943	-	-	-	-	-	-	-	-	-	-
1944	-	-	-	-	-	-	-	-	-	-
1945	-	-	-	-	-	-	-	-	-	-
1946	-	-	-	-	-	-	-	-	-	-
1947	-	-	-	-	-	-	1,199	-	-	-
1948	-	-	-	-	-	-	-	-	-	-
1949	-	-	-	-	-	-	1,199	-	-	-
1950	-	-	-	-	-	-	1,199	-	-	-
1951	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-

Appendix E – Modeling

Portfolio 1

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1953	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-
1961	-	-	-	-	-	-	1,199	-	-	-
1962	-	-	-	-	-	-	-	-	-	-
1963	-	-	-	-	-	-	-	-	-	-
1964	-	-	-	-	-	-	-	-	-	-
1965	-	-	-	-	-	-	-	-	-	-
1966	-	-	-	-	-	-	-	-	-	-
1967	-	-	-	-	-	-	-	-	-	-
1968	-	-	-	-	-	-	-	-	-	-
1969	-	-	-	-	-	-	-	-	-	-
1970	-	-	-	-	-	-	-	-	-	-
1971	-	-	-	-	-	-	-	-	-	-
1972	-	-	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-	-	-
1974	-	-	-	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-	-	-	-
1977	-	-	-	-	-	-	480	-	264	-
1978	-	-	-	-	-	-	-	-	-	-
1979	-	-	-	-	-	-	-	-	-	-
1980	-	-	-	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-	-	-

Appendix E – Modeling

Portfolio 1

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1983	-	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-	-	-
1987	-	-	-	-	-	-	1,199	-	-	-
1988	-	-	-	-	-	-	480	-	264	-
1989	-	-	-	-	-	-	-	-	-	-
1990	-	-	-	-	-	-	480	-	264	-
1991	-	-	-	-	-	-	480	-	264	-
1992	-	-	-	-	-	-	480	-	264	-
1993	-	-	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-

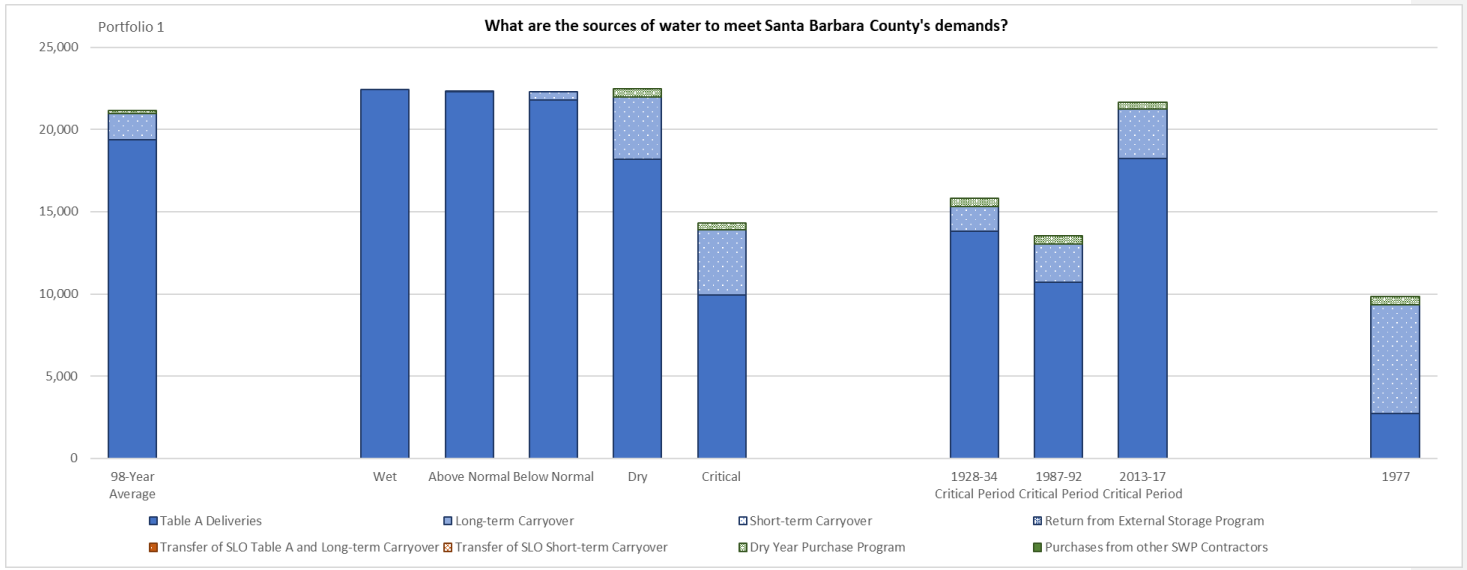
Appendix E – Modeling

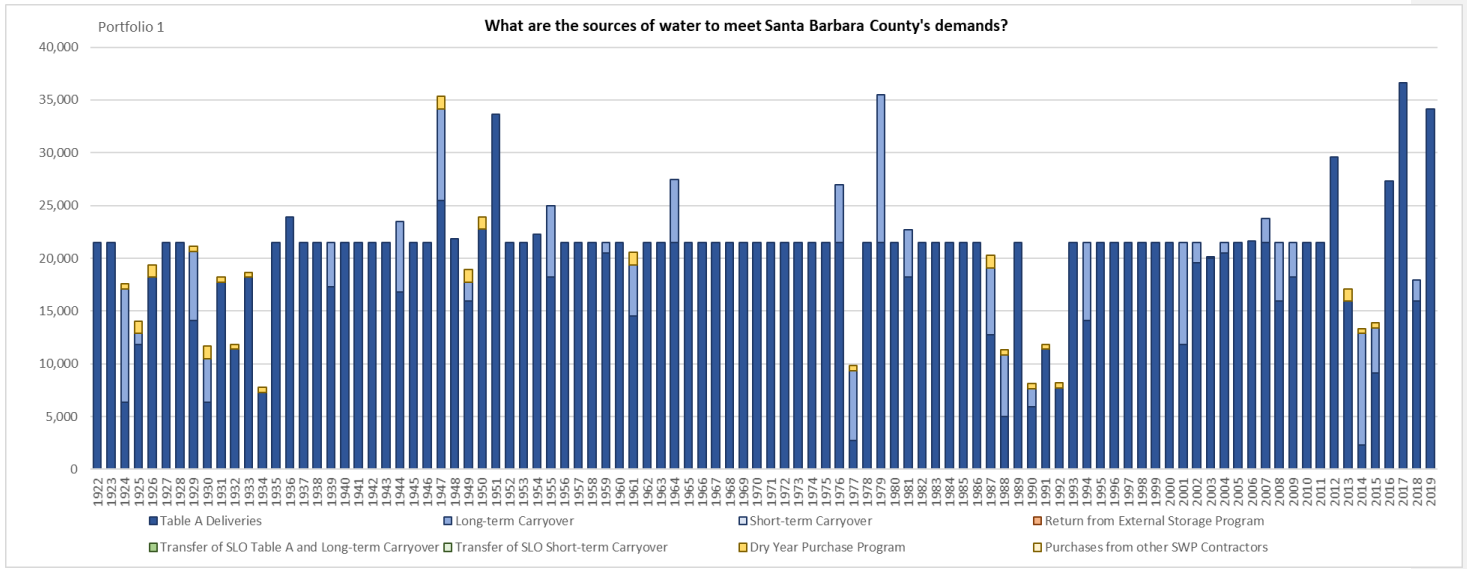
Portfolio 1

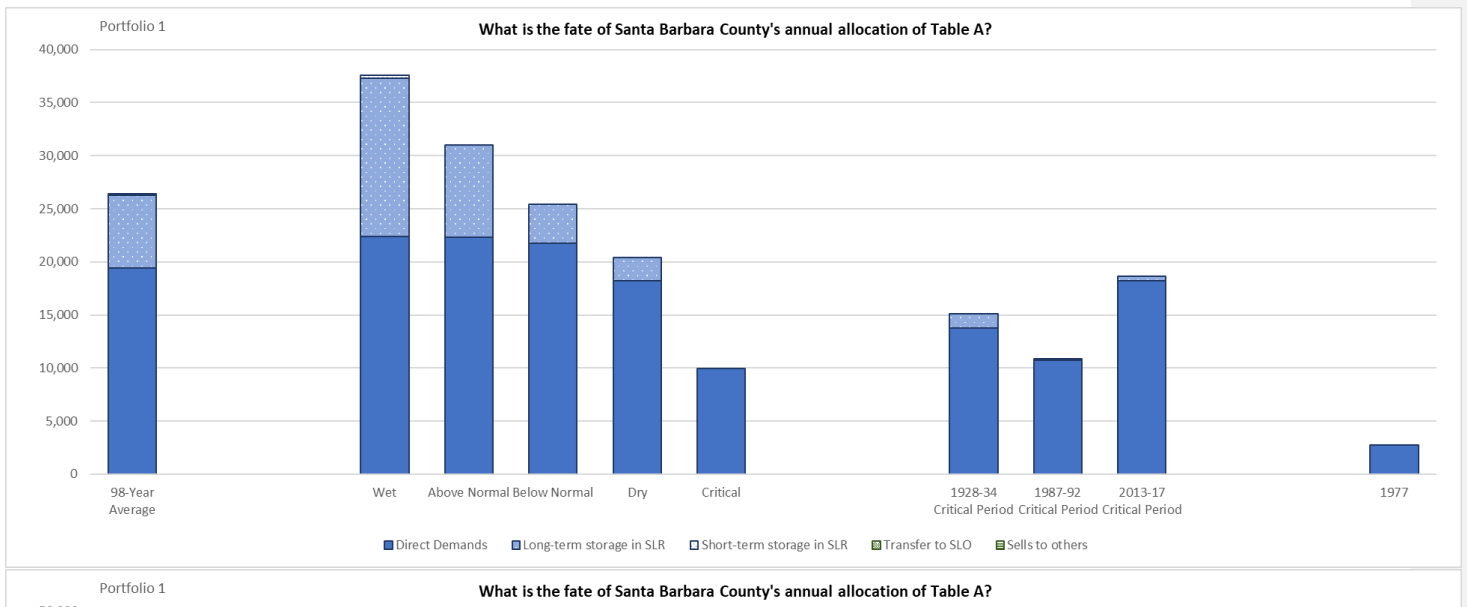
Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
2013	-	-	-	-	-	-	1,199	-	-	-
2014	-	-	-	-	-	-	480	-	-	-
2015	-	-	-	-	-	-	480	-	64	-
2016	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-
Sum	-	-	-	-	-	-	17,031	-	1,956	-
Average	-	-	-	-	-	-	174	-	20	-
Water Year Averages										
Wet	-	-	-	-	-	-	-	-	-	-
Above Normal	-	-	-	-	-	-	-	-	-	-
Below Normal	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	469	-	11	-
Critically Dry	-	-	-	-	-	-	416	-	113	-
Critical Period Averages										
1928-34	-	-	-	-	-	-	514	-	82	-
1987-92	-	-	-	-	-	-	520	-	176	-
2013-17	-	-	-	-	-	-	432	-	13	-
Driest 1-Year										
1977	-	-	-	-	-	-	480	-	264	-

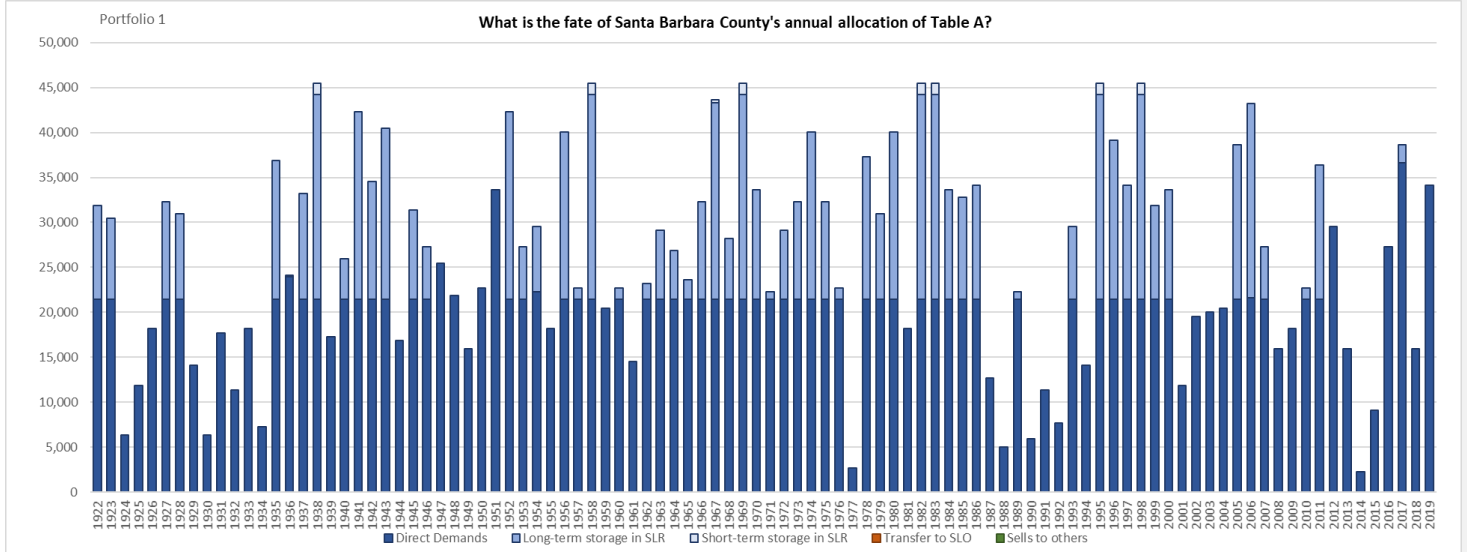
Appendix E – Modeling

Portfolio 1



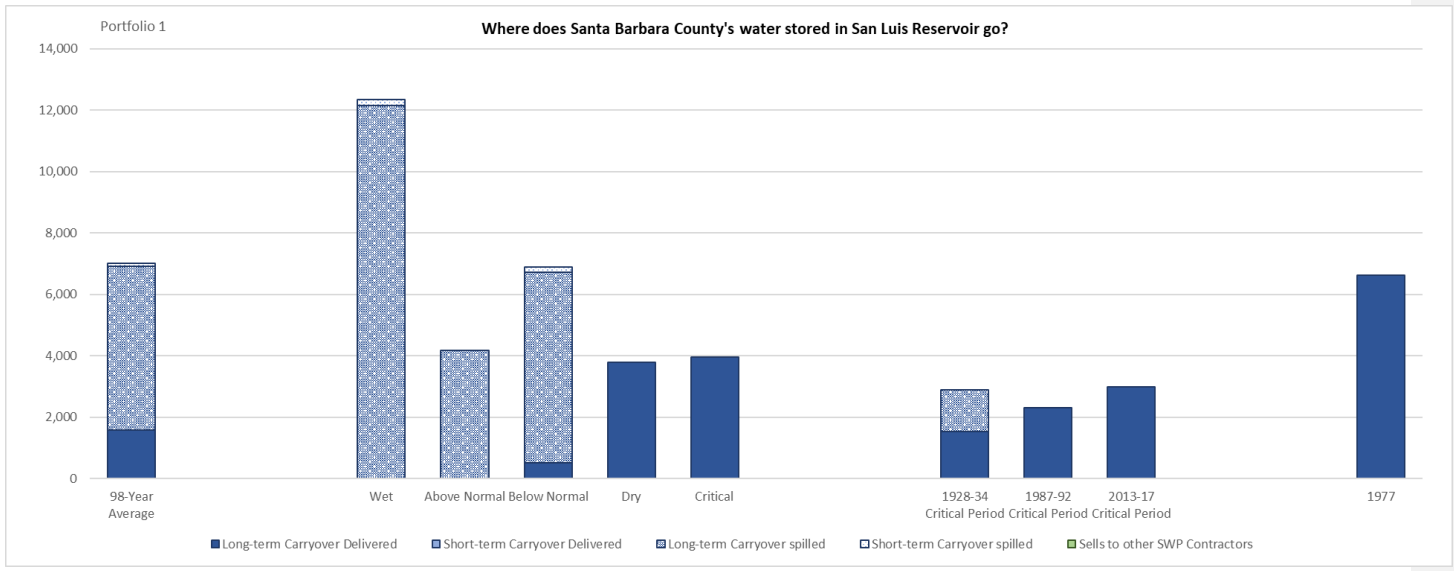


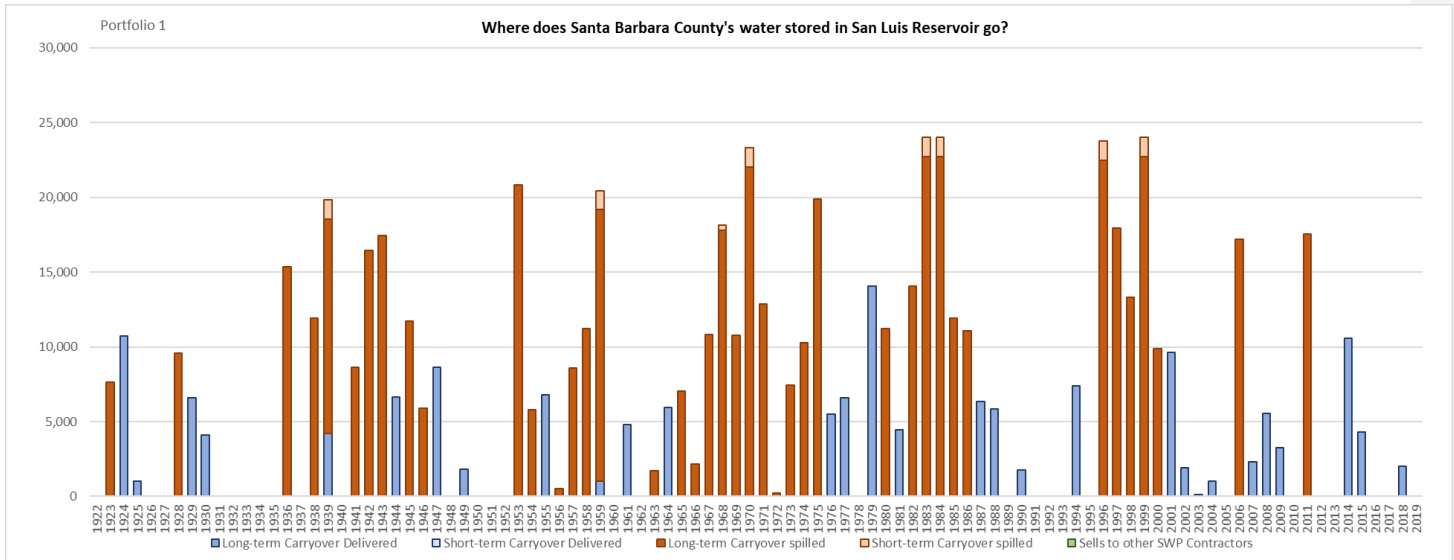


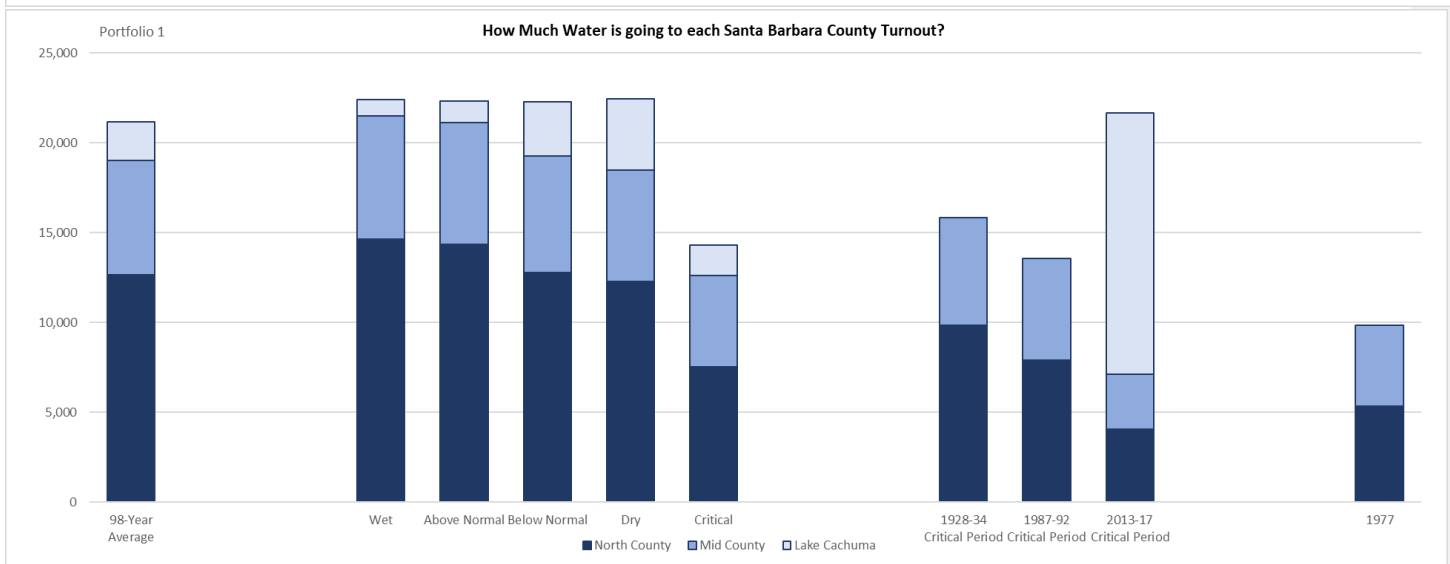


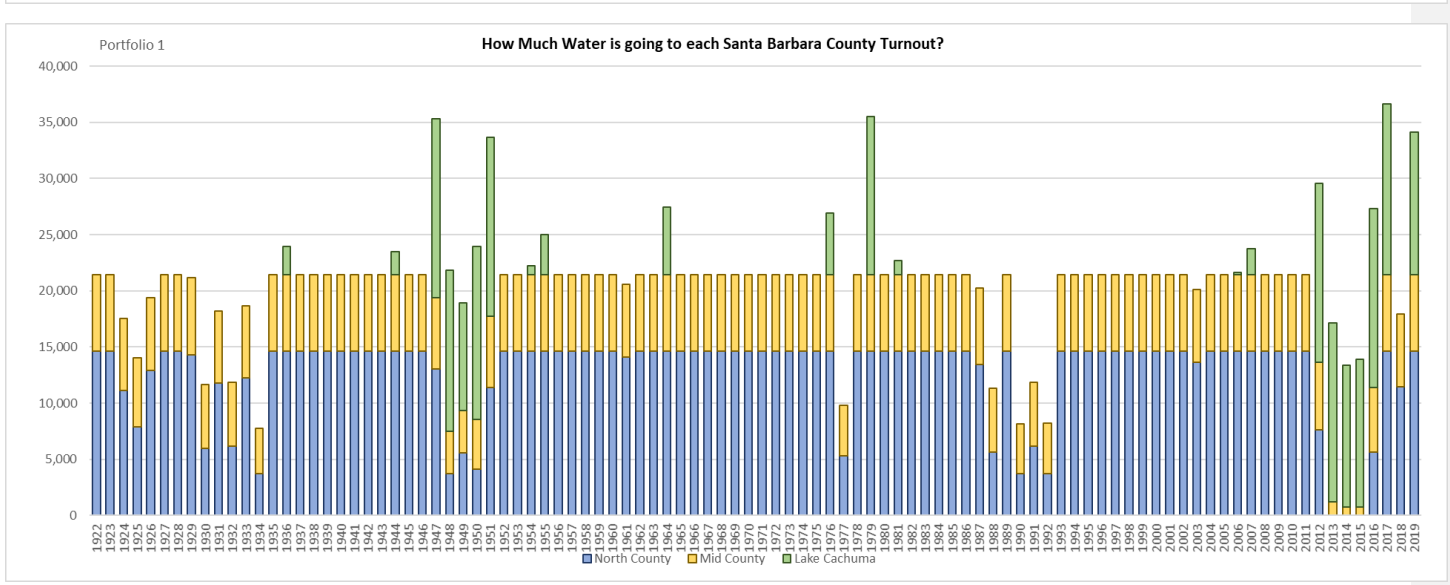
Appendix E – Modeling

Portfolio 1



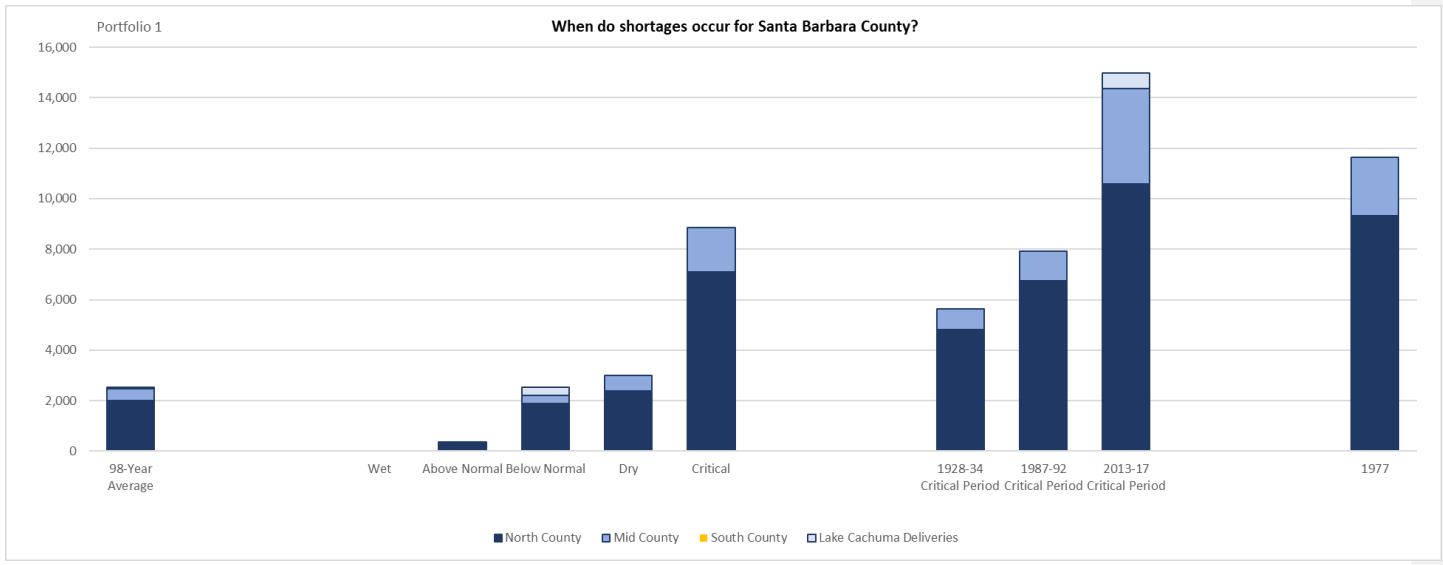


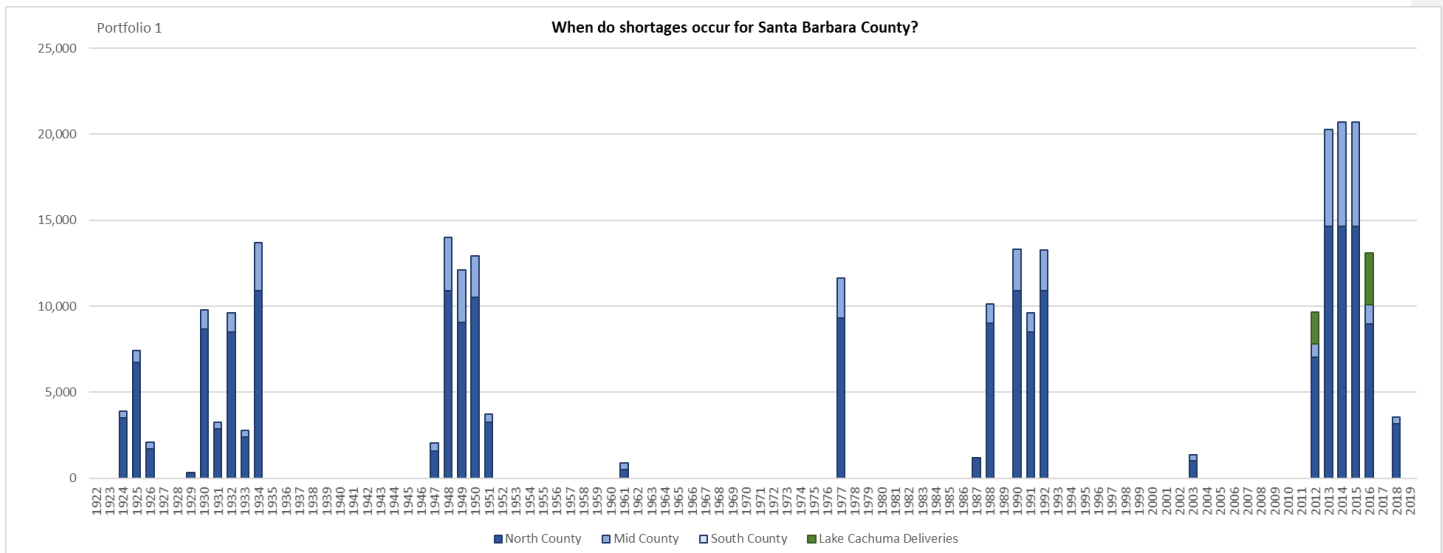


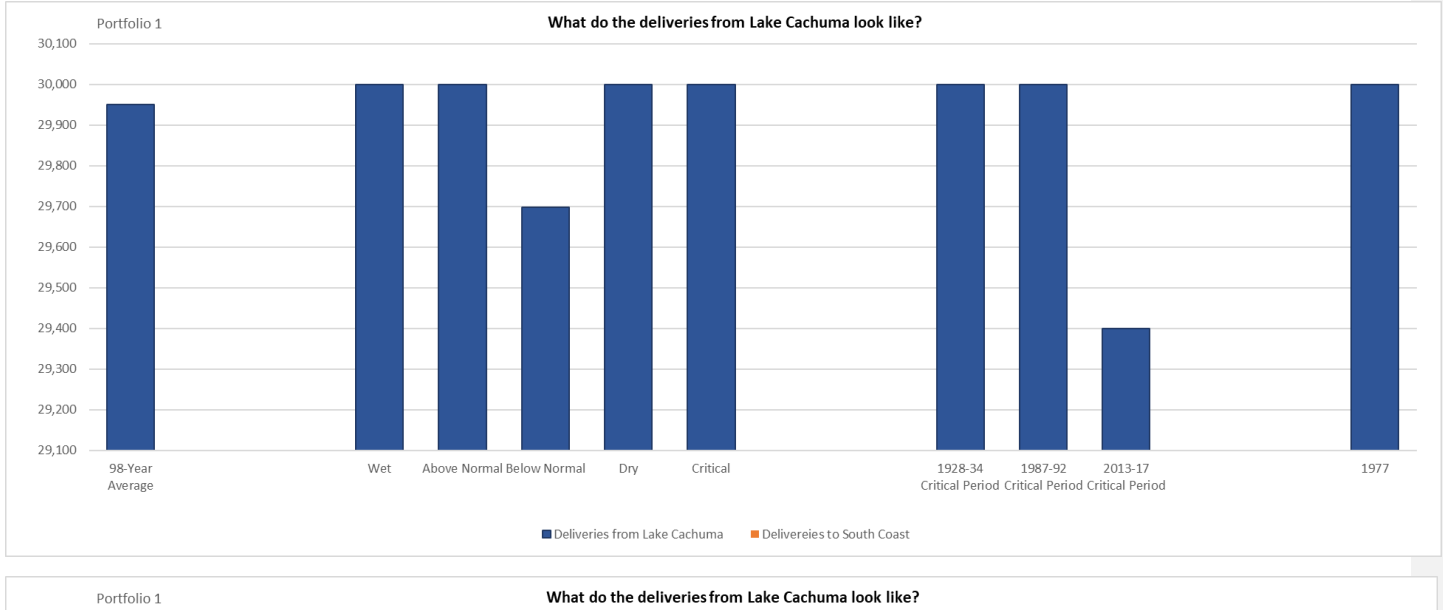


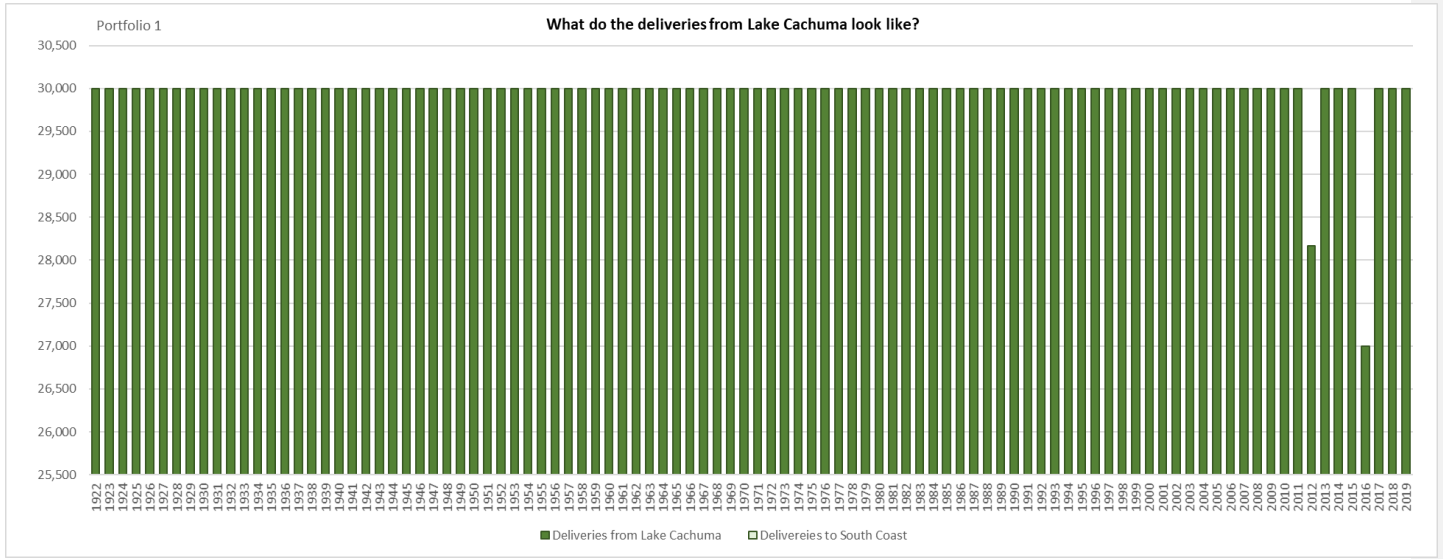
Appendix E – Modeling

Portfolio 1



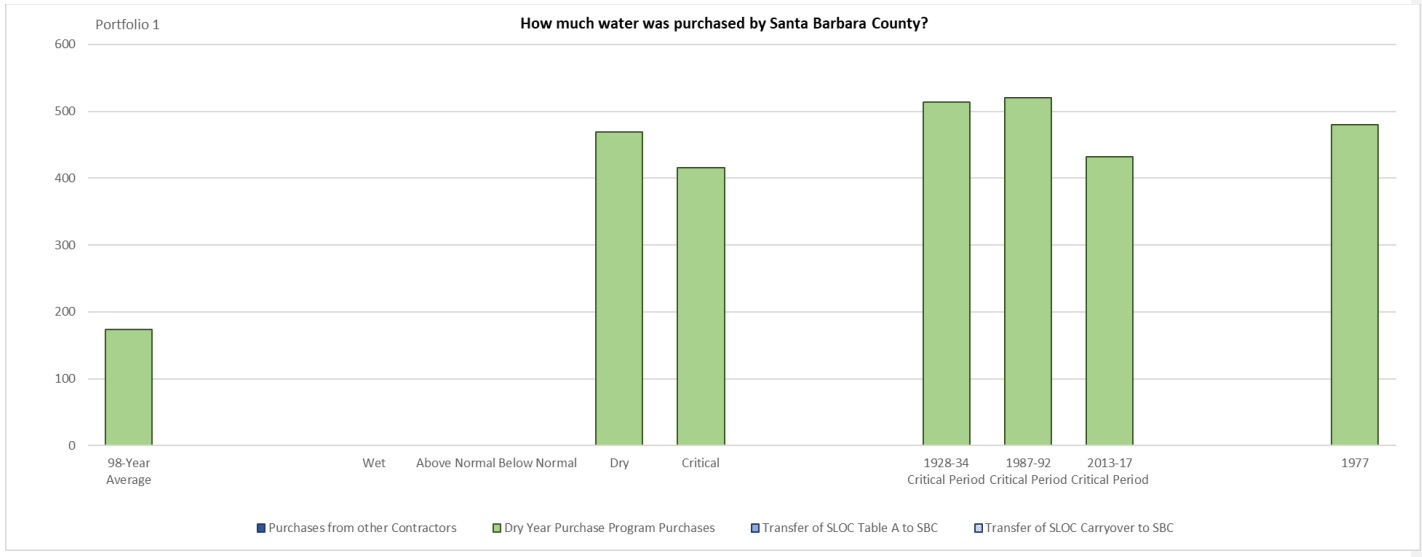


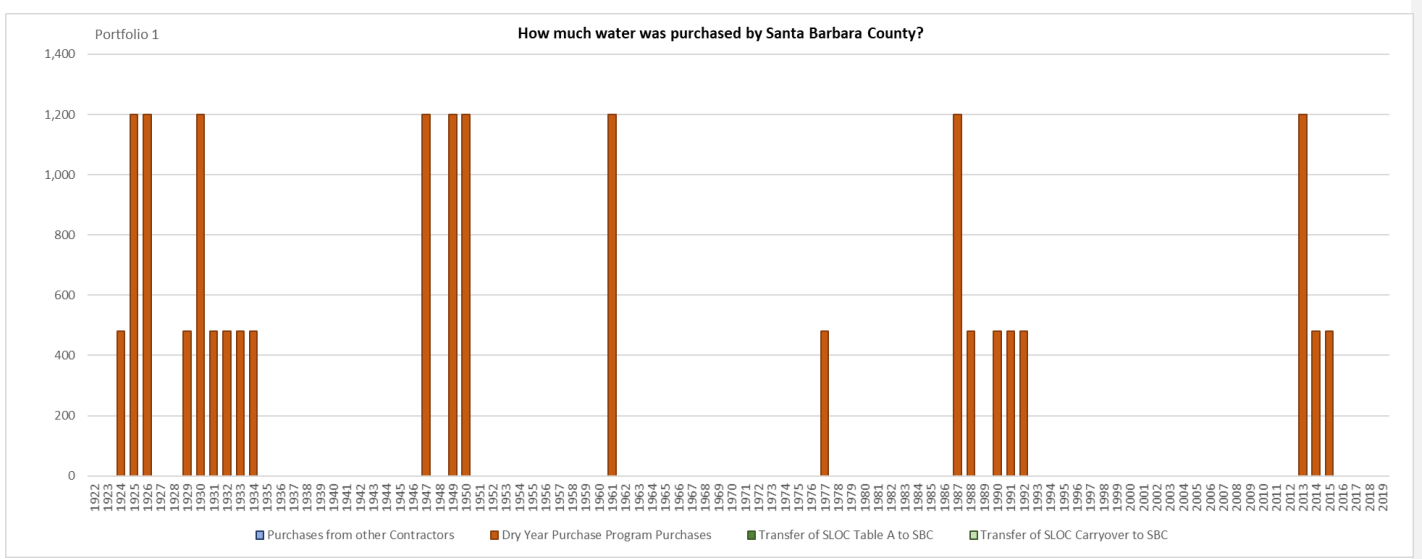


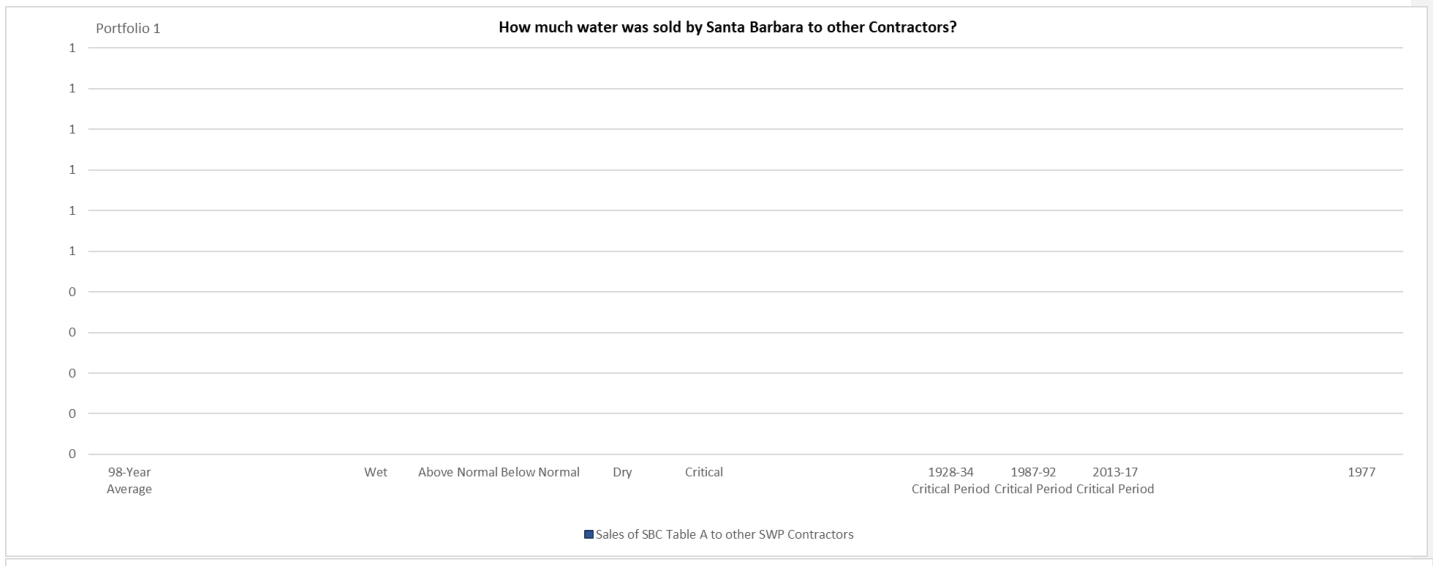


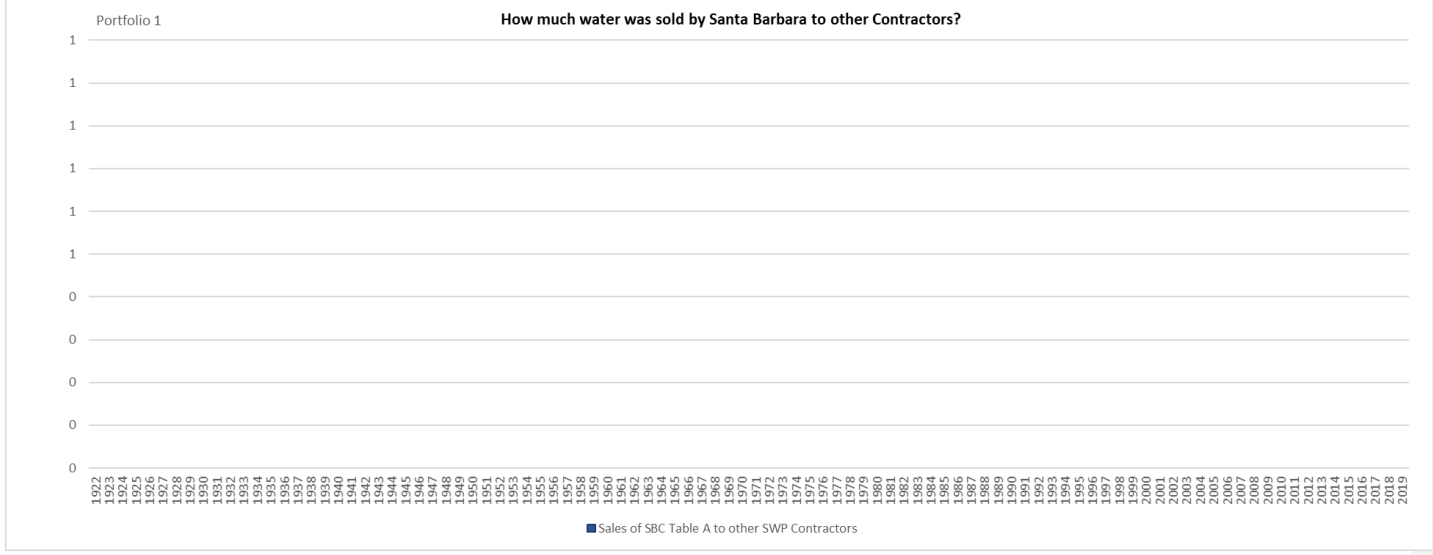
Appendix E – Modeling

Portfolio 1









Appendix E – Modeling

Portfolio 1

Portfolio 2 "Baseline with External Storage"

Portfolio 2 represents historical baseline operations for Coastal Branch Contractors, with the addition of external storage as provided for in Article 56 of the SWP Water Supply Contract and transfer of a portion of SLOFCWCD's allocated non-contracted Table A to its participants. For analysis purposes, the total amount of external storage assumed in the Model was 10,000 acre-feet for SLOFCWCD and 30,000 acre-feet for CCWA.

Summary of Portfolio 2 Analysis

Time Period	Santa Barbara County: Sources of Water Delivered: Table A	Carryover: Long-Term	Carryover: Short-Term	Return from Storage/Exchange Programs: External	Return from Storage/Exchange Programs: Internal	Transfers from SLO	Purchases: Dry Year Purchase	Purchases: SWP Contractors
98-Year Summary								
Total	1,897,045	132,419	-	114,437		-	14,633	-
Average	19,358	1,351	-	1,168		-	149	-
Water Year Averages								
Wet	22,404	-	-	-		-	-	-
Above Normal	22,238	79	-	257		-	-	-
Below Normal	21,630	450	-	1,000		-	-	-
Dry	18,187	2,665	-	1,347		-	365	-
Critically Dry	9,946	4,188	-	4,256		-	416	-
Critical Period Averages								
1928-1934	13,789	1,526	-	1,729		-	514	-
1987-1992	10,705	2,324	-	5,000		-	520	-
2013-2017	18,248	2,983	-	4,778		-	432	-
1977	2,729	6,618	-	7,500		-	480	-

Time Period	Santa Barbara County: Fate of Annual Table A Allocation: Direct Delivery	Storage in SLR: Long-Term	Storage in SLR: Short-Term	Transfers: Sells to SLO	Transfers: Sells to Others
98-Year Summary					
Total	1,897,045	680,488	9,259	-	-
Average	19,358	6,944	94	-	-
Water Year Averages					
Wet	22,404	14,859	309	-	-
Above Normal	22,238	8,757	-	-	-
Below Normal	21,630	3,814	-	-	-
Dry	18,187	2,222	-	-	-
Critically Dry	9,946	-	-	-	-
Critical Period Averages					
1928-1934	13,789	1,351	-	-	-
1987-1992	10,705	136	-	-	-
2013-2017	18,248	401	-	-	-
1977	2,729	-	-	-	-

Time Period	Santa Barbara County: What Happens to water stored in SLR: Carryover Delivered: Long-Term	Carryover Delivered: Short-Term	Carryover Spilled: Long-Term	Carryover Spilled: Short-Term	Carryover Sold to Others
98-Year Summary					
Total	132,419	-	418,531	9,259	-
Average	1,351	-	4,271	94	-
Water Year Averages					
Wet	-	-	10,517	212	-
Above Normal	79	-	2,238	-	-
Below Normal	450	-	4,480	182	-
Dry	2,665	-	-	-	-
Critically Dry	4,188	-	-	-	-
Critical Period Averages					
1928-1934	1,526	-	-	-	-
1987-1992	2,324	-	-	-	-
2013-2017	2,983	-	-	-	-
1977	6,618	-	-	-	-

Time Period	Santa Barbara County: How much water is delivered to each turnout: North County	Mid County	Lake Cachuma
98-Year Summary			
Total	1,320,023	648,962	189,549
Average	13,470	6,622	1,934
Water Year Averages			
Wet	14,641	6,831	932
Above Normal	14,641	6,804	1,130
Below Normal	13,417	6,684	2,979
Dry	13,048	6,578	2,939
Critically Dry	10,736	6,037	2,034
Critical Period Averages			
1928-1934	11,032	6,526	-
1987-1992	12,073	6,476	-
2013-2017	6,255	4,677	15,509
1977	11,179	6,148	-

Time Period	Santa Barbara County: Delivery Shortages: North County	Mid-County		Lake Cachuma
98-Year Summary				
Total	114,795	20,476		-
Average	1,171	209		-
Water Year Averages				
Wet	-	-		-
Above Normal	-	27		-
Below Normal	1,224	147		-
Dry	1,593	253		-
Critically Dry	3,905	794		-
Critical Period Averages				
1928-1934	3,609	305		-
1987-1992	2,569	355		-
2013-2017	8,386	2,154		-
1977	3,462	683		-

Time Period	Santa Barbara County: Water Purchases: Transfers from SLO: Table A and Long-term Carryover	Short-term Carryover	Other Transfers: Dry Year Purchase	SWP Contractors
98-Year Summary				
Total	-	-	14,633	-
Average	-	-	149	-
Water Year Averages				
Wet	-	-	-	-
Above Normal	-	-	-	-
Below Normal	-	-	-	-
Dry	-	-	365	-
Critically Dry	-	-	416	-
Critical Period Averages				
1928-1934	-	-	514	-
1987-1992	-	-	520	-
2013-2017	-	-	432	-
1977	-	-	480	-

Time Period	Santa Barbara County: Sells to Others: SLO	SWP Contractors
98-Year Summary		
Total	-	-
Average	-	-
Water Year Averages		
Wet	-	-
Above Normal	-	-
Below Normal	-	-
Dry	-	-
Critically Dry	-	-
Critical Period Averages		
1928-1934	-	-
1987-1992	-	-
2013-2017	-	-
1977	-	-

Time Period	San Luis Obispo County: Sources of Water Delivered: Table A	Carryover: Long-Term	Carryover: Short-Term	Return from Storage/Exchange Programs: External	Return from Storage/Exchange Programs: Internal	Transfers from SBC	Purchases: Dry Year Purchase	Purchases: SWP Contractors
98-Year Summary								
Total	469,592	13,903	30,685	2,378		-	-	-
Average	4,792	142	313	24		-	-	-
Water Year Averages								
Wet	5,267	4	-	-		-	-	-
Above Normal	5,225	-	-	46		-	-	-
Below Normal	5,043	209	-	19		-	-	-
Dry	4,845	222	204	-		-	-	-
Critically Dry	3,086	357	1,733	95		-	-	-
Critical Period Averages								
1928-1934	3,955	-	1,316	-		-	-	-
1987-1992	3,410	298	1,477	86		-	-	-
2013-2017	4,076	632	564	-		-	-	-
1977	632	1,140	2,586	913		-	-	-

Time Period	San Luis Obispo County: Fate of Annual Table A Allocation: Direct Delivery	Storage in SLR: Long-Term	Storage in SLR: Short-Term	Transfers: Sells to SBC	Transfers: Sells to Others
98-Year Summary					
Total	454,504	310,890	656,356	-	-
Average	4,638	3,172	6,698	-	-
Water Year Averages					
Wet	5,267	-	9,664	-	-
Above Normal	-	-	-	-	-
Below Normal	-	-	-	-	-
Dry	4,457	-	5,036	-	-
Critically Dry	2,676	-	2,168	-	-
Critical Period Averages					
1928-1934	3,729	1,268	3,325	-	-
1987-1992	2,868	717	2,373	-	-
2013-2017	4,039	2,611	3,600	-	-
1977	-	-	-	-	-

Time Period	San Luis Obispo County: What Happens to water stored in SLR: Carryover Delivered: Long-Term	Carryover Delivered: Short-Term	Carryover Spilled: Long-Term	Carryover Spilled: Short-Term	Carryover Sold to Others
98-Year Summary					
Total	28,991	30,685	265,585	614,824	-
Average	296	313	2,710	6,274	-
Water Year Averages					
Wet	4	-	5,098	9,227	-
Above Normal	-	-	-	-	-
Below Normal	-	-	-	-	-
Dry	610	204	1,464	4,956	-
Critically Dry	767	1,733	144	1,909	-
Critical Period Averages					
1928-1934	226	1,316	794	3,136	-
1987-1992	840	1,477	423	1,837	-
2013-2017	668	564	1,915	2,935	-
1977	-	-	-	-	-

Time Period	San Luis Obispo County: How much water is delivered to each turnout: Shandon	Chorro Valley	Lopez Pipeline
98-Year Summary			
Total	6,566	246,764	263,228
Average	67	2,518	2,686
Water Year Averages			
Wet	67	2,518	2,686
Above Normal	-	-	-
Below Normal	-	-	-
Dry	67	2,518	2,686
Critically Dry	67	2,518	2,686
Critical Period Averages			
1928-1934	67	2,518	2,686
1987-1992	67	2,518	2,686
2013-2017	67	2,518	2,686
1977	-	-	-

Time Period	San Luis Obispo County: Delivery Shortages: Shandon	Chorro Valley	Lopez Pipeline
98-Year Summary			
Total	-	-	-
Average	-	-	-
Water Year Averages			
Wet	-	-	-
Above Normal	-	-	-
Below Normal	-	-	-
Dry	-	-	-
Critically Dry	-	-	-
Critical Period Averages			
1928-1934	-	-	-
1987-1992	-	-	-
2013-2017	-	-	-
1977	-	-	-

Time Period	San Luis Obispo County: Water Purchases: Transfers from SBC: Dry Year Purchase	SWP Contractors
98-Year Summary		
Total	-	-
Average	-	-
Water Year Averages		
Wet	-	-
Above Normal	-	-
Below Normal	-	-
Dry	-	-
Critically Dry	-	-
Critical Period Averages		
1928-1934	-	-
1987-1992	-	-
2013-2017	-	-
1977	-	-

Time Period	San Luis Obispo County: Sells to Others: SBC	SWP Contractors
98-Year Summary		
Total	-	-
Average	-	-
Water Year Averages		
Wet	-	-
Above Normal	-	-
Below Normal	-	-
Dry	-	-
Critically Dry	-	-
Critical Period Averages		
1928-1934	-	-
1987-1992	-	-
2013-2017	-	-
1977	-	-

Appendix xx – Modeling

Portfolio 2

Periods	Inflows to CBA																	
	SBC Operations										SLO Operations							
	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1922	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1923	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1924	6,368	11,756	-	2,868	20,992	-	-	480	-	480	2,685	-	2,586	-	5,271	-	-	-
1925	11,826	-	-	-	11,826	-	-	1,199	-	1,199	5,271	-	-	-	5,271	-	-	-
1926	18,194	-	-	-	18,194	-	-	1,199	-	1,199	4,215	-	1,056	-	5,271	-	-	-
1927	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1928	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1929	14,101	6,569	-	322	20,992	-	-	480	-	480	4,057	-	1,214	-	5,271	-	-	-
1930	6,368	1,678	-	3,622	11,668	-	-	1,199	-	1,199	3,500	-	1,771	-	5,271	-	-	-
1931	17,740	2,436	-	816	20,992	-	-	480	-	480	5,271	-	-	-	5,271	-	-	-
1932	11,372	-	-	2,232	13,604	-	-	480	-	480	2,685	-	2,586	-	5,271	-	-	-
1933	18,194	-	-	-	18,194	-	-	480	-	480	4,215	-	1,056	-	5,271	-	-	-
1934	7,278	-	-	5,109	12,387	-	-	480	-	480	2,685	-	2,586	-	5,271	-	-	-
1935	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1936	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1937	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1938	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1939	17,285	4,187	-	-	21,472	-	-	-	-	-	4,004	1,008	-	259	5,271	-	-	-
1940	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1941	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1942	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1943	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1944	16,830	4,642	-	-	21,472	-	-	-	-	-	4,451	820	-	-	5,271	-	-	-
1945	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1946	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1947	25,472	8,655	-	2,777	36,904	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1948	21,833	-	-	7,500	29,333	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1949	15,920	1,821	-	7,500	25,241	-	-	1,199	-	1,199	4,685	259	327	-	5,271	-	-	-
1950	22,743	-	-	7,500	30,243	-	-	1,199	-	1,199	5,268	-	3	-	5,271	-	-	-
1951	33,660	-	-	3,244	36,904	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1952	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1953	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1954	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1955	18,194	3,278	-	-	21,472	-	-	-	-	-	4,977	294	-	-	5,271	-	-	-
1956	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1957	21,472	-	-	-	21,472	-	-	-	-	-	5,268	-	-	3	5,271	-	-	-
1958	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1959	20,469	1,003	-	-	21,472	-	-	-	-	-	5,001	270	-	-	5,271	-	-	-
1960	21,472	-	-	-	21,472	-	-	-	-	-	5,268	3	-	-	5,271	-	-	-
1961	14,556	4,826	-	2,090	21,472	-	-	-	-	-	4,447	824	-	-	5,271	-	-	-
1962	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1963	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1964	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1965	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1966	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1967	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1968	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1969	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1970	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1971	21,472	-	-	-	21,472	-	-	-	-	-	5,163	108	-	-	5,271	-	-	-
1972	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1973	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1974	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1975	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1976	21,472	5,182	-	-	26,654	-	-	-	-	-	5,268	3	-	-	5,271	-	-	-
1977	2,729	6,618	-	7,500	16,847	-	-	480	-	480	632	1,140	2,586	913	5,271	-	-	-
1978	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1979	21,472	5,569	-	-	27,041	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1980	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1981	18,194	4,472	-	-	22,666	-	-	-	-	-	4,668	603	-	-	5,271	-	-	-
1982	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-

Appendix xx – Modeling

Portfolio 2

Periods	Inflows to CBA																	
	SBC Operations										SLO Operations							
	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1983	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1984	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1985	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1986	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1987	12,736	6,338	-	-	19,074	-	-	1,199	-	1,199	4,204	1,067	-	-	5,271	-	-	-
1988	5,003	6,787	-	7,500	19,290	-	-	480	-	480	2,426	259	2,586	-	5,271	-	-	-
1989	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1990	5,913	816	-	7,500	14,229	-	-	480	-	480	2,685	-	2,586	-	5,271	-	-	-
1991	11,372	-	-	7,500	18,872	-	-	480	-	480	3,660	-	1,379	232	5,271	-	-	-
1992	7,733	-	-	7,500	15,233	-	-	480	-	480	2,212	463	2,310	286	5,271	-	-	-
1993	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1994	14,101	7,371	-	-	21,472	-	-	-	-	-	4,623	274	374	-	5,271	-	-	-
1995	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1996	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1997	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1998	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
1999	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2000	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2001	11,826	9,646	-	-	21,472	-	-	-	-	-	4,505	766	-	-	5,271	-	-	-
2002	19,559	1,913	-	-	21,472	-	-	-	-	-	4,531	-	740	-	5,271	-	-	-
2003	20,014	1,104	-	354	21,472	-	-	-	-	-	4,636	-	-	635	5,271	-	-	-
2004	20,469	-	-	1,003	21,472	-	-	-	-	-	4,742	479	-	50	5,271	-	-	-
2005	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2006	21,606	-	-	-	21,606	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2007	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2008	15,920	5,552	-	-	21,472	-	-	-	-	-	3,688	259	1,324	-	5,271	-	-	-
2009	18,194	3,278	-	-	21,472	-	-	-	-	-	4,215	259	797	-	5,271	-	-	-
2010	21,472	-	-	-	21,472	-	-	-	-	-	5,268	3	-	-	5,271	-	-	-
2011	21,472	-	-	-	21,472	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2012	29,566	-	-	6,110	35,676	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-

Appendix xx – Modeling

Portfolio 2

Periods	Inflows to CBA																	
	SBC Operations									SLO Operations								
	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
2013	15,920	-	-	7,500	23,420	-	-	1,199	-	1,199	5,069	202	-	-	5,271	-	-	-
2014	2,274	11,698	-	7,500	21,472	-	-	480	-	480	527	2,468	2,276	-	5,271	-	-	-
2015	9,097	3,219	-	7,500	19,816	-	-	480	-	480	4,240	489	542	-	5,271	-	-	-
2016	27,292	-	-	1,390	28,682	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2017	36,658	-	-	-	36,658	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
2018	15,920	2,005	-	-	17,925	-	-	-	-	-	3,688	1,583	-	-	5,271	-	-	-
2019	34,114	-	-	-	34,114	-	-	-	-	-	5,271	-	-	-	5,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum	1,897,045	132,419	-	114,437	2,143,901	-	-	14,633	-	14,633	469,592	13,903	30,685	2,378	516,558	-	-	-
Average	19,358	1,351	-	1,168	21,877	-	-	149	-	149	4,792	142	313	24	5,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Year Averages	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wet	22,404	-	-	-	22,404	-	-	-	-	-	5,267	4	-	-	5,271	-	-	-
Above Normal	22,238	79	-	257	22,574	-	-	-	-	-	5,225	-	-	46	5,271	-	-	-
Below Normal	21,630	450	-	1,000	23,080	-	-	-	-	-	5,043	209	-	19	5,271	-	-	-
Dry	18,187	2,665	-	1,347	22,200	-	-	365	-	365	4,845	222	204	-	5,271	-	-	-
Critically Dry	9,946	4,188	-	4,256	18,391	-	-	416	-	416	3,086	357	1,733	95	5,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Period Averages	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1928-34	13,789	1,526	-	1,729	17,044	-	-	514	-	514	3,955	-	1,316	-	5,271	-	-	-
1987-92	10,705	2,324	-	5,000	18,028	-	-	520	-	520	3,410	298	1,477	86	5,271	-	-	-
2013-17	18,248	2,983	-	4,778	26,010	-	-	432	-	432	4,076	632	564	-	5,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Driest 1-Year	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1977	2,729	6,618	-	7,500	16,847	-	-	480	-	480	632	1,140	2,586	913	5,271	-	-	-

Appendix xx – Modeling

Portfolio 2

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1922	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1923	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1924	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1925	13,025	-	5,012	259	67	67	13,025	-	4,883	321	2,518	2,518	13,025	-	2,686	-	2,686	2,686
1926	19,393	-	5,012	259	67	67	19,393	-	4,883	321	2,518	2,518	19,393	-	2,686	-	2,686	2,686
1927	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1928	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1929	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1930	12,867	-	5,012	259	67	67	12,867	-	4,883	321	2,518	2,518	12,867	-	2,686	-	2,686	2,686
1931	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1932	14,084	-	5,012	259	67	67	14,084	-	4,883	321	2,518	2,518	14,084	-	2,686	-	2,686	2,686
1933	18,674	-	5,012	259	67	67	18,674	-	4,883	321	2,518	2,518	18,674	-	2,686	-	2,686	2,686
1934	12,867	-	5,012	259	67	67	12,867	-	4,883	321	2,518	2,518	12,867	-	2,686	-	2,686	2,686
1935	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1936	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1937	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1938	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1939	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1940	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1941	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1942	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1943	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1944	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1945	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1946	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1947	36,904	-	5,012	259	67	67	36,904	-	4,883	321	2,518	2,518	36,658	246	2,686	-	2,686	2,686
1948	29,333	-	5,012	259	67	67	29,333	-	4,883	321	2,518	2,518	29,333	-	2,686	-	2,686	2,686
1949	26,440	-	5,012	259	67	67	26,440	-	4,883	321	2,518	2,518	26,440	-	2,686	-	2,686	2,686
1950	31,442	-	5,012	259	67	67	31,442	-	4,883	321	2,518	2,518	31,442	-	2,686	-	2,686	2,686
1951	36,904	-	5,012	259	67	67	36,904	-	4,883	321	2,518	2,518	36,658	246	2,686	-	2,686	2,686
1952	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1953	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1954	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1955	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1956	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1957	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1958	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1959	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1960	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1961	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1962	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1963	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1964	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1965	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1966	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1967	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1968	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1969	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1970	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1971	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1972	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1973	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1974	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1975	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1976	26,654	-	5,012	259	67	67	26,654	-	4,883	321	2,518	2,518	26,654	-	2,686	-	2,686	2,686
1977	17,327	-	5,012	259	67	67	17,327	-	4,883	321	2,518	2,518	17,327	-	2,686	-	2,686	2,686
1978	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1979	27,041	-	5,012	259	67	67	27,041	-	4,883	321	2,518	2,518	27,041	-	2,686	-	2,686	2,686
1980	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1981	22,666	-	5,012	259	67	67	22,666	-	4,883	321	2,518	2,518	22,666	-	2,686	-	2,686	2,686
1982	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686

Periods	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1983	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1984	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1985	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1986	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1987	20,273	-	5,012	259	67	67	20,273	-	4,883	321	2,518	2,518	20,273	-	2,686	-	2,686	2,686
1988	19,770	-	5,012	259	67	67	19,770	-	4,883	321	2,518	2,518	19,770	-	2,686	-	2,686	2,686
1989	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1990	14,709	-	5,012	259	67	67	14,709	-	4,883	321	2,518	2,518	14,709	-	2,686	-	2,686	2,686
1991	19,352	-	5,012	259	67	67	19,352	-	4,883	321	2,518	2,518	19,352	-	2,686	-	2,686	2,686
1992	15,713	-	5,012	259	67	67	15,713	-	4,883	321	2,518	2,518	15,713	-	2,686	-	2,686	2,686
1993	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1994	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1995	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1996	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1997	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1998	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
1999	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2000	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2001	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2002	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2003	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2004	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2005	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2006	21,606	-	5,012	259	67	67	21,606	-	4,883	321	2,518	2,518	21,606	-	2,686	-	2,686	2,686
2007	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2008	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2009	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2010	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2011	21,472	-	5,012	259	67	67	21,472	-	4,883	321	2,518	2,518	21,472	-	2,686	-	2,686	2,686
2012	35,676	-	5,012	259	67	67	35,676	-	4,883	321	2,518	2,518	35,676	-	2,686	-	2,686	2,686

Periods	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
2013	24,619	-	5,012	259	67	67	24,619	-	4,883	321	2,518	2,518	24,619	-	2,686	-	2,686	2,686
2014	21,952	-	5,012	259	67	67	21,952	-	4,883	321	2,518	2,518	21,952	-	2,686	-	2,686	2,686
2015	20,296	-	5,012	259	67	67	20,296	-	4,883	321	2,518	2,518	20,296	-	2,686	-	2,686	2,686
2016	28,682	-	5,012	259	67	67	28,682	-	4,883	321	2,518	2,518	28,682	-	2,686	-	2,686	2,686
2017	36,658	-	5,012	259	67	67	36,658	-	4,883	321	2,518	2,518	36,658	-	2,686	-	2,686	2,686
2018	17,925	-	5,012	259	67	67	17,925	-	4,883	321	2,518	2,518	17,925	-	2,686	-	2,686	2,686
2019	34,114	-	5,012	259	67	67	34,114	-	4,883	321	2,518	2,518	34,114	-	2,686	-	2,686	2,686
Sum	2,158,534	-	491,176	25,382	6,566	6,566	2,158,534	-	478,534	31,458	246,764	246,764	2,158,042	492	263,228	-	263,228	263,228
Average	22,026	-	5,012	259	67	67	22,026	-	4,883	321	2,518	2,518	22,021	5	2,686	-	2,686	2,686
Water Year Averages																		
Wet	22,404	-	5,012	259	67	67	22,404	-	4,883	321	2,518	2,518	22,404	-	2,686	-	2,686	2,686
Above Normal	22,574	-	5,012	259	67	67	22,574	-	4,883	321	2,518	2,518	22,557	18	2,686	-	2,686	2,686
Below Normal	23,080	-	5,012	259	67	67	23,080	-	4,883	321	2,518	2,518	23,080	-	2,686	-	2,686	2,686
Dry	22,565	-	5,012	259	67	67	22,565	-	4,883	321	2,518	2,518	22,554	11	2,686	-	2,686	2,686
Critically Dry	18,807	-	5,012	259	67	67	18,807	-	4,883	321	2,518	2,518	18,807	-	2,686	-	2,686	2,686
													-	-				
Critical Period Averages													-	-				
1928-34	17,558	-	5,012	259	67	67	17,558	-	4,883	321	2,518	2,518	17,558	-	2,686	-	2,686	2,686
1987-92	18,548	-	5,012	259	67	67	18,548	-	4,883	321	2,518	2,518	18,548	-	2,686	-	2,686	2,686
2013-17	26,441	-	5,012	259	67	67	26,441	-	4,883	321	2,518	2,518	26,441	-	2,686	-	2,686	2,686
Driest 1-Year																		
1977	17,327	-	5,012	259	67	67	17,327	-	4,883	321	2,518	2,518	17,327	-	2,686	-	2,686	2,686

Periods	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1922	21,472	14,641	14,641	6,831	6,831	6,831	-	192,009	11,277	196,000	14,000	30,000	30,000
1923	21,472	14,641	14,641	6,831	6,831	6,831	-	54,915	13,059	193,856	14,000	30,000	30,000
1924	21,472	14,641	14,641	6,831	6,831	6,831	-	-	11,951	137,905	14,000	30,000	30,000
1925	13,025	6,877	14,641	6,148	6,148	6,831	-	19,917	10,224	103,598	14,000	30,000	30,000
1926	19,393	12,945	14,641	6,448	6,448	6,831	-	88,712	10,208	138,102	14,000	30,000	30,000
1927	21,472	14,641	14,641	6,831	6,831	6,831	-	96,630	11,617	179,115	14,000	30,000	30,000
1928	21,472	14,641	14,641	6,831	6,831	6,831	-	38,724	12,038	161,801	14,000	30,000	30,000
1929	21,472	14,641	14,641	6,831	6,831	6,831	-	35,543	11,296	142,048	14,000	30,000	30,000
1930	12,867	6,719	14,641	6,148	6,148	6,831	-	24,442	10,306	112,184	14,000	30,000	30,000
1931	21,472	14,641	14,641	6,831	6,831	6,831	-	19,422	9,044	78,562	14,000	30,000	30,000
1932	14,084	7,636	14,641	6,448	6,448	6,831	-	132,123	9,830	156,855	14,000	30,000	30,000
1933	18,674	12,226	14,641	6,448	6,448	6,831	-	12,988	10,459	115,384	14,000	30,000	30,000
1934	12,867	6,719	14,641	6,148	6,148	6,831	-	36,250	9,269	98,365	14,000	30,000	30,000
1935	21,472	14,641	14,641	6,831	6,831	6,831	-	106,812	9,867	151,310	14,000	30,000	30,000
1936	21,472	14,641	14,641	6,831	6,831	6,831	-	49,754	10,690	146,374	14,000	30,000	30,000
1937	21,472	14,641	14,641	6,831	6,831	6,831	-	152,344	11,826	196,000	14,000	30,000	30,000
1938	21,472	14,641	14,641	6,831	6,831	6,831	-	186,211	13,101	196,000	14,000	30,000	30,000
1939	21,472	14,641	14,641	6,831	6,831	6,831	-	41,411	12,806	180,605	14,000	30,000	30,000
1940	21,472	14,641	14,641	6,831	6,831	6,831	-	29,816	12,005	154,416	14,000	30,000	30,000
1941	21,472	14,641	14,641	6,831	6,831	6,831	-	368,484	12,301	196,000	14,000	30,000	30,000
1942	21,472	14,641	14,641	6,831	6,831	6,831	-	30,806	12,608	170,198	14,000	30,000	30,000
1943	21,472	14,641	14,641	6,831	6,831	6,831	-	161,889	12,608	196,000	14,000	30,000	30,000
1944	21,472	14,641	14,641	6,831	6,831	6,831	-	104,761	13,101	196,000	14,000	30,000	30,000
1945	21,472	14,641	14,641	6,831	6,831	6,831	-	45,795	12,888	184,907	14,000	30,000	30,000
1946	21,472	14,641	14,641	6,831	6,831	6,831	-	75,561	12,888	196,000	14,000	30,000	30,000
1947	36,904	14,641	14,641	22,263	6,448	6,831	15,815	10,655	12,528	165,942	14,000	30,000	30,000
1948	29,333	7,370	14,641	21,963	6,148	6,831	15,815	-	11,203	126,554	14,000	30,000	30,000
1949	26,440	8,712	14,641	17,728	6,148	6,831	11,580	3,514	9,716	87,932	14,000	30,000	30,000
1950	31,442	12,963	14,641	18,479	6,148	6,831	12,331	13,837	8,487	61,613	14,000	30,000	30,000
1951	36,904	14,641	14,641	22,263	6,448	6,831	15,815	-	7,319	26,109	14,000	30,000	30,000
1952	21,472	14,641	14,641	6,831	6,831	6,831	-	246,309	9,873	196,000	14,000	30,000	30,000

	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
Periods	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1953	21,472	14,641	14,641	6,831	6,831	6,831	-	12,635	12,270	152,365	14,000	30,000	30,000
1954	21,472	14,641	14,641	6,831	6,831	6,831	-	42,047	11,181	139,231	14,000	30,000	30,000
1955	21,472	14,641	14,641	6,831	6,831	6,831	-	48,976	10,803	133,404	14,000	30,000	30,000
1956	21,472	14,641	14,641	6,831	6,831	6,831	-	65,238	10,863	143,779	14,000	30,000	30,000
1957	21,472	14,641	14,641	6,831	6,831	6,831	-	30,099	10,560	119,318	14,000	30,000	30,000
1958	21,472	14,641	14,641	6,831	6,831	6,831	-	265,046	11,588	196,000	14,000	30,000	30,000
1959	21,472	14,641	14,641	6,831	6,831	6,831	-	21,331	12,432	160,899	14,000	30,000	30,000
1960	21,472	14,641	14,641	6,831	6,831	6,831	-	3,797	10,786	109,910	14,000	30,000	30,000
1961	21,472	14,641	14,641	6,831	6,831	6,831	-	-	8,797	57,113	14,000	30,000	30,000
1962	21,472	14,641	14,641	6,831	6,831	6,831	-	152,344	9,646	155,811	14,000	30,000	30,000
1963	21,472	14,641	14,641	6,831	6,831	6,831	-	27,977	10,977	128,811	14,000	30,000	30,000
1964	21,472	14,641	14,641	6,831	6,831	6,831	-	11,857	9,632	87,036	14,000	30,000	30,000
1965	21,472	14,641	14,641	6,831	6,831	6,831	-	57,744	8,884	91,896	14,000	30,000	30,000
1966	21,472	14,641	14,641	6,831	6,831	6,831	-	106,812	9,928	144,780	14,000	30,000	30,000
1967	21,472	14,641	14,641	6,831	6,831	6,831	-	173,909	12,003	196,000	14,000	30,000	30,000
1968	21,472	14,641	14,641	6,831	6,831	6,831	-	3,231	12,094	143,137	14,000	30,000	30,000
1969	21,472	14,641	14,641	6,831	6,831	6,831	-	309,518	12,094	196,000	14,000	30,000	30,000
1970	21,472	14,641	14,641	6,831	6,831	6,831	-	19,776	12,403	159,373	14,000	30,000	30,000
1971	21,472	14,641	14,641	6,831	6,831	6,831	-	55,764	11,698	159,439	14,000	30,000	30,000
1972	21,472	14,641	14,641	6,831	6,831	6,831	-	7,261	10,778	111,922	14,000	30,000	30,000
1973	21,472	14,641	14,641	6,831	6,831	6,831	-	167,263	11,482	196,000	14,000	30,000	30,000
1974	21,472	14,641	14,641	6,831	6,831	6,831	-	75,349	13,101	196,000	14,000	30,000	30,000
1975	21,472	14,641	14,641	6,831	6,831	6,831	-	92,176	13,101	196,000	14,000	30,000	30,000
1976	26,654	14,641	14,641	12,013	6,831	6,831	5,182	3,868	12,205	148,845	14,000	30,000	30,000
1977	17,327	11,179	14,641	6,148	6,148	6,831	-	37,805	10,979	131,671	14,000	30,000	30,000
1978	21,472	14,641	14,641	6,831	6,831	6,831	-	308,669	11,875	196,000	14,000	30,000	30,000
1979	27,041	14,641	14,641	12,400	6,831	6,831	5,569	99,953	13,101	196,000	14,000	30,000	30,000
1980	21,472	14,641	14,641	6,831	6,831	6,831	-	152,203	13,101	196,000	14,000	30,000	30,000
1981	22,666	14,641	14,641	8,025	6,831	6,831	1,194	51,875	13,024	192,045	14,000	30,000	30,000
1982	21,472	14,641	14,641	6,831	6,831	6,831	-	58,238	12,969	193,314	14,000	30,000	30,000

Periods	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1983	21,472	14,641	14,641	6,831	6,831	6,831	-	356,323	13,046	196,000	14,000	30,000	30,000
1984	21,472	14,641	14,641	6,831	6,831	6,831	-	28,826	12,571	168,255	14,000	30,000	30,000
1985	21,472	14,641	14,641	6,831	6,831	6,831	-	16,877	11,304	129,828	14,000	30,000	30,000
1986	21,472	14,641	14,641	6,831	6,831	6,831	-	112,114	11,631	186,311	14,000	30,000	30,000
1987	20,273	13,442	14,641	6,831	6,831	6,831	-	-	11,629	130,682	14,000	30,000	30,000
1988	19,770	13,322	14,641	6,448	6,448	6,831	-	72,521	10,883	148,320	14,000	30,000	30,000
1989	21,472	14,641	14,641	6,831	6,831	6,831	-	403	10,163	94,560	14,000	30,000	30,000
1990	14,709	8,561	14,641	6,148	6,148	6,831	-	-	8,111	42,449	14,000	30,000	30,000
1991	19,352	12,904	14,641	6,448	6,448	6,831	-	108,933	8,153	99,229	14,000	30,000	30,000
1992	15,713	9,565	14,641	6,148	6,148	6,831	-	167,121	11,154	196,000	14,000	30,000	30,000
1993	21,472	14,641	14,641	6,831	6,831	6,831	-	334,360	13,101	196,000	14,000	30,000	30,000
1994	21,472	14,641	14,641	6,831	6,831	6,831	-	15,575	12,324	155,251	14,000	30,000	30,000
1995	21,472	14,641	14,641	6,831	6,831	6,831	-	366,102	12,324	196,000	14,000	30,000	30,000
1996	21,472	14,641	14,641	6,831	6,831	6,831	-	41,187	12,802	180,385	14,000	30,000	30,000
1997	21,472	14,641	14,641	6,831	6,831	6,831	-	59,768	12,556	183,597	14,000	30,000	30,000
1998	21,472	14,641	14,641	6,831	6,831	6,831	-	465,884	12,855	196,000	14,000	30,000	30,000
1999	21,472	14,641	14,641	6,831	6,831	6,831	-	18,239	12,374	157,865	14,000	30,000	30,000
2000	21,472	14,641	14,641	6,831	6,831	6,831	-	51,869	11,569	154,165	14,000	30,000	30,000
2001	21,472	14,641	14,641	6,831	6,831	6,831	-	151,409	12,296	196,000	14,000	30,000	30,000
2002	21,472	14,641	14,641	6,831	6,831	6,831	-	6,421	12,154	146,267	14,000	30,000	30,000
2003	21,472	14,641	14,641	6,831	6,831	6,831	-	17,144	10,490	108,921	14,000	30,000	30,000
2004	21,472	14,641	14,641	6,831	6,831	6,831	-	18,695	9,110	74,506	14,000	30,000	30,000
2005	21,472	14,641	14,641	6,831	6,831	6,831	-	388,819	10,774	196,000	14,000	30,000	30,000
2006	21,606	14,641	14,641	6,965	6,831	6,831	134	100,283	13,101	196,000	14,000	30,000	30,000
2007	21,472	14,641	14,641	6,831	6,831	6,831	-	4,920	12,126	144,794	14,000	30,000	30,000
2008	21,472	14,641	14,641	6,831	6,831	6,831	-	108,331	12,126	196,000	14,000	30,000	30,000
2009	21,472	14,641	14,641	6,831	6,831	6,831	-	13,188	12,280	152,908	14,000	30,000	30,000
2010	21,472	14,641	14,641	6,831	6,831	6,831	-	75,948	11,834	173,022	14,000	30,000	30,000
2011	21,472	14,641	14,641	6,831	6,831	6,831	-	131,349	12,655	196,000	14,000	30,000	30,000
2012	35,676	13,413	14,641	22,263	6,336	6,831	15,927	6,429	12,451	161,905	14,000	30,000	30,000

	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
Periods	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
2013	24,619	4,193	14,641	20,426	4,499	6,831	15,927	3,520	11,117	126,235	14,000	30,000	30,000
2014	21,952	3,733	14,641	18,219	3,641	6,831	14,578	3,942	9,773	90,982	14,000	30,000	30,000
2015	20,296	1,991	14,641	18,305	2,378	6,831	15,927	2,264	8,459	56,714	14,000	30,000	30,000
2016	28,682	6,719	14,641	21,963	6,036	6,831	15,927	4,694	7,226	26,109	14,000	30,000	30,000
2017	36,658	14,641	14,641	22,017	6,831	6,831	15,186	87,303	7,611	76,987	14,000	30,000	30,000
2018	17,925	11,477	14,641	6,448	6,448	6,831	-	3,373	7,657	28,703	14,000	30,000	30,000
2019	34,114	14,641	14,641	19,473	6,831	6,831	12,642	104,953	7,981	94,317	14,000	30,000	30,000
Sum	2,158,534	1,320,023	1,434,818	838,511	648,962	669,438	189,549	8,291,482	1,100,519	14,523,101	1,372,000	2,940,000	2,940,000
Average	22,026	13,470	14,641	8,556	6,622	6,831	1,934	84,607	11,230	148,195	14,000	30,000	30,000
Water Year Averages													
Wet	22,404	14,641	14,641	7,763	6,831	6,831	932	142,380	11,841	172,896	14,000	30,000	30,000
Above Normal	22,574	14,641	14,641	7,933	6,804	6,831	1,130	123,800	11,429	158,505	14,000	30,000	30,000
Below Normal	23,080	13,417	14,641	9,663	6,684	6,831	2,979	38,054	10,944	133,932	14,000	30,000	30,000
Dry	22,565	13,048	14,641	9,517	6,578	6,831	2,939	40,225	11,147	136,021	14,000	30,000	30,000
Critically Dry	18,807	10,736	14,641	8,071	6,037	6,831	2,034	50,188	10,254	123,049	14,000	30,000	30,000
Critical Period Averages													
1928-34	17,558	11,032	14,641	6,526	6,526	6,831	-	42,785	10,320	123,600	14,000	30,000	30,000
1987-92	18,548	12,073	14,641	6,476	6,476	6,831	-	58,163	10,016	118,540	14,000	30,000	30,000
2013-17	26,441	6,255	14,641	20,186	4,677	6,831	15,509	20,345	8,837	75,405	14,000	30,000	30,000
Driest 1-Year													
1977	17,327	11,179	14,641	6,148	6,148	6,831	-	37,805	10,979	131,671	14,000	30,000	30,000

	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
Periods	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Total Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1922	2,752	-	-	-	10,124	-	-	-	-	7,616	-	993	2,105	-	275
1923	9,004	-	-	-	9,690	-	-	-	10,124	-	-	-	1,789	-	233
1924	-	11,756	-	-	1,400	3,171	-	-	3,034	-	2,868	-	-	-	-
1925	-	-	-	-	3,760	2,531	-	-	1,103	-	-	-	-	-	-
1926	-	-	-	-	5,785	1,056	-	-	3,576	-	-	-	-	-	-
1927	1,225	-	-	-	10,269	-	-	-	5,519	9,598	-	1,252	2,210	-	288
1928	9,458	-	-	-	9,835	-	-	-	10,914	-	-	-	1,894	-	247
1929	-	6,569	-	-	4,484	2,005	-	-	6,522	-	322	-	-	-	-
1930	-	1,678	-	-	-	1,771	-	-	4,021	-	3,622	-	-	-	-
1931	-	2,436	-	-	4,479	-	-	-	-	-	816	-	-	-	-
1932	-	-	-	-	3,616	2,637	-	-	496	-	2,232	-	-	-	-
1933	-	-	-	-	5,785	1,056	-	-	3,805	-	-	-	-	-	-
1934	-	-	-	-	2,055	3,326	-	-	1,753	-	5,109	-	-	-	-
1935	5,372	-	-	-	13,291	-	-	-	2,807	10,000	-	1,304	1,688	-	220
1936	-	-	-	5,193	7,665	-	-	-	13,304	2,636	-	344	314	-	41
1937	1,733	-	-	-	12,979	-	-	-	7,608	10,000	-	1,304	-	-	-
1938	16,206	-	-	1,912	19,729	-	-	-	13,078	7,808	-	961	-	-	-
1939	-	4,187	-	7,833	5,496	1,008	-	-	16,420	-	-	-	-	259	-
1940	4,455	-	-	-	8,979	-	-	-	4,541	-	-	-	-	-	-
1941	20,830	-	-	8,641	17,979	-	-	-	12,235	-	-	-	-	-	-
1942	13,097	-	-	16,456	13,729	-	-	-	15,575	-	-	-	-	-	-
1943	17,021	-	-	17,471	16,560	-	-	-	16,133	1,990	-	-	419	-	-
1944	-	4,642	-	-	5,351	1,372	-	-	8,384	-	-	-	-	-	-
1945	9,913	-	-	11,742	11,979	-	-	-	11,806	-	-	-	-	-	-
1946	5,820	-	-	5,894	9,100	-	-	-	12,328	-	-	-	629	-	-
1947	-	8,655	-	-	8,729	-	-	-	8,099	-	2,777	-	-	-	-
1948	-	-	-	-	6,729	-	-	-	8,932	-	7,500	-	-	-	-
1949	-	1,821	-	-	5,062	1,583	-	-	4,666	-	7,500	-	-	-	-
1950	-	-	-	-	7,232	3	-	-	4,570	-	7,500	-	-	-	-
1951	-	-	-	-	13,229	-	-	-	8,999	-	3,244	-	-	-	-
1952	17,597	-	-	-	17,979	-	-	-	13,229	3,233	-	422	-	-	-

Periods	San Luis Reservoir Operations								External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR				SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1953	-	-	-	15,113	9,729	-	-	-	17,979	5,820	-	759	-	-	-
1954	794	-	-	-	10,464	-	-	-	9,729	7,300	-	952	515	-	-
1955	-	3,278	-	-	5,785	1,056	-	-	9,121	-	-	-	-	-	-
1956	8,556	-	-	-	16,729	-	-	-	6,072	10,000	-	1,304	-	-	-
1957	-	-	-	-	7,232	-	-	-	11,261	1,271	-	166	-	3	-
1958	24,014	-	-	8,556	19,729	-	-	-	12,700	-	-	-	-	-	-
1959	-	1,003	-	19,456	6,249	270	-	-	18,632	-	-	-	-	-	-
1960	1,271	-	-	-	7,232	3	-	-	5,119	-	-	-	-	-	-
1961	-	4,826	-	-	4,628	1,899	-	-	5,456	-	2,090	-	-	-	-
1962	1,726	-	-	-	7,479	-	-	-	3,718	-	-	-	-	-	-
1963	1,681	-	-	1,726	10,726	-	-	-	10,220	5,958	-	-	3	-	-
1964	5,365	-	-	-	9,479	-	-	-	9,803	-	-	-	-	-	-
1965	91	-	-	7,046	7,729	-	-	-	10,402	2,090	-	273	-	-	-
1966	10,823	-	-	91	12,479	-	-	-	7,729	-	-	-	-	-	-
1967	22,195	-	-	10,823	18,729	-	-	-	12,479	-	-	-	-	-	-
1968	6,729	-	-	18,170	10,229	-	-	-	16,517	-	-	-	-	-	-
1969	24,014	-	-	10,754	19,729	-	-	-	12,441	-	-	-	-	-	-
1970	12,188	-	-	23,310	13,229	-	-	-	19,342	-	-	-	-	-	-
1971	816	-	-	12,892	7,087	108	-	-	13,508	-	-	-	-	-	-
1972	7,639	-	-	196	10,729	-	-	-	6,890	-	-	-	-	-	-
1973	10,823	-	-	7,459	12,479	-	-	-	10,487	-	-	-	-	-	-
1974	18,556	-	-	10,288	16,729	-	-	-	12,184	-	-	-	-	-	-
1975	10,529	-	-	19,891	12,479	-	-	-	17,463	294	-	-	-	-	-
1976	1,271	5,182	-	-	7,232	3	-	-	9,537	-	-	-	-	-	-
1977	-	6,618	-	-	868	3,726	-	-	2,838	-	7,500	-	-	913	-
1978	7,349	-	-	-	14,316	-	-	-	4,475	8,478	-	978	913	-	-
1979	9,458	5,569	-	-	11,729	-	-	-	13,338	-	-	-	-	-	-
1980	18,556	-	-	11,238	16,729	-	-	-	12,707	-	-	-	-	-	-
1981	-	4,472	-	-	5,785	1,056	-	-	7,932	-	-	-	-	-	-
1982	24,014	-	-	14,084	19,729	-	-	-	13,526	-	-	-	-	-	-

Periods	San Luis Reservoir Operations								External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR				SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1983	24,014	-	-	24,014	19,729	-	-	-	19,729	-	-	-	-	-	-
1984	12,188	-	-	24,014	13,229	-	-	-	19,729	-	-	-	-	-	-
1985	11,278	-	-	11,903	12,729	-	-	-	13,072	-	-	-	-	-	-
1986	12,642	-	-	11,080	13,479	-	-	-	12,886	-	-	-	-	-	-
1987	-	6,338	-	-	3,598	1,869	-	-	7,887	-	-	-	-	-	-
1988	-	6,787	-	-	1,332	3,853	-	-	-	-	7,500	-	-	-	-
1989	816	-	-	-	6,979	-	-	-	3,052	-	-	-	-	-	-
1990	-	816	-	-	1,379	3,400	-	-	2,621	-	7,500	-	-	-	-
1991	-	-	-	-	3,214	2,003	-	-	-	-	7,500	-	-	232	-
1992	-	-	-	-	2,038	2,773	-	-	-	-	7,500	-	-	286	-
1993	7,371	-	-	-	10,979	-	-	-	4,287	723	-	94	-	-	-
1994	-	7,371	-	-	4,484	2,005	-	-	5,267	-	-	-	-	-	-
1995	14,014	-	-	-	19,729	-	-	-	7,888	10,000	-	1,304	-	-	-
1996	7,646	-	-	13,031	16,229	-	-	-	19,765	10,000	-	1,304	-	-	-
1997	3,365	-	-	7,932	13,479	-	-	-	16,386	9,277	-	1,210	-	-	-
1998	24,014	-	-	4,062	19,729	-	-	-	13,863	-	-	-	-	-	-
1999	7,219	-	-	24,014	12,229	-	-	-	19,729	3,149	-	-	-	-	-
2000	12,188	-	-	6,744	12,711	-	-	-	12,229	-	-	-	518	-	-
2001	-	9,646	-	-	3,760	2,531	-	-	6,372	-	-	-	-	-	-
2002	-	1,913	-	-	6,219	740	-	-	4,455	-	-	-	-	-	-
2003	-	1,104	-	-	6,364	-	-	-	4,664	-	354	-	-	635	-
2004	-	-	-	-	6,508	479	-	-	4,773	-	1,003	-	-	50	-
2005	17,191	-	-	-	15,979	-	-	-	4,881	-	-	-	-	-	-
2006	19,309	-	-	17,191	18,275	-	-	-	22,646	2,297	-	177	204	-	-
2007	5,820	-	-	-	9,248	-	-	-	10,863	-	-	-	481	-	-
2008	-	5,552	-	-	5,062	1,583	-	-	4,317	-	-	-	-	-	-
2009	-	3,278	-	-	5,785	1,056	-	-	4,265	-	-	-	-	-	-
2010	1,271	-	-	-	7,232	3	-	-	5,785	-	-	-	-	-	-
2011	14,917	-	-	17,570	14,729	-	-	-	17,730	-	-	-	-	-	-
2012	-	-	-	-	10,979	-	-	-	10,371	-	6,110	-	-	-	-

Periods	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
2013	-	-	-	-	3,681	202	-	-	5,641	-	7,500	-	-	-	-
2014	-	11,698	-	-	723	4,744	-	-	139	-	7,500	-	-	-	-
2015	-	3,219	-	-	941	1,212	-	-	-	-	7,500	-	-	-	-
2016	-	-	-	-	9,729	-	-	-	941	-	1,390	-	-	-	-
2017	2,005	-	-	-	15,979	-	-	-	17,532	-	-	-	-	-	-
2018	-	2,005	-	-	5,062	1,583	-	-	6,147	-	-	-	-	-	-
2019	-	-	-	-	13,479	-	-	-	13,311	-	-	-	-	-	-
Sum	560,209	132,419	-	427,790	953,564	59,676	-	-	880,409	129,538	114,437	15,101	13,682	2,378	1,304
Average	5,716	1,351	-	4,365	9,730	609	-	-	8,984	1,322	1,168	154	140	24	13
Water Year Averages															
Wet	12,516	-	-	10,729	15,292	4	-	-	14,325	2,651	-	290	91	-	9
Above Normal	6,802	79	-	2,238	11,333	-	-	-	8,359	1,955	257	246	477	46	38
Below Normal	3,649	450	-	4,662	8,810	209	-	-	9,698	165	1,000	22	131	19	17
Dry	1,352	2,665	-	-	6,666	814	-	-	6,421	870	1,347	113	94	-	10
Critically Dry	-	4,188	-	-	2,791	2,500	-	-	2,053	-	4,256	-	-	95	-
Critical Period Averages															
1928-34	1,351	1,526	-	-	4,322	1,542	-	-	3,930	-	1,729	-	271	-	35
1987-92	136	2,324	-	-	3,090	2,316	-	-	2,260	-	5,000	-	-	86	-
2013-17	401	2,983	-	-	6,211	1,232	-	-	4,851	-	4,778	-	-	-	-
Driest 1-Year															
1977	-	6,618	-	-	868	3,726	-	-	2,838	-	7,500	-	-	913	-

Appendix xx – Modeling

Portfolio 2

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1922	-	-	-	-	-	-	-	-	-	-
1923	-	-	-	-	-	-	-	-	-	-
1924	-	-	-	-	-	-	480	-	-	-
1925	-	-	-	-	-	-	1,199	-	-	-
1926	-	-	-	-	-	-	1,199	-	-	-
1927	-	-	-	-	-	-	-	-	-	-
1928	-	-	-	-	-	-	-	-	-	-
1929	-	-	-	-	-	-	480	-	-	-
1930	-	-	-	-	-	-	1,199	-	-	-
1931	-	-	-	-	-	-	480	-	-	-
1932	-	-	-	-	-	-	480	-	-	-
1933	-	-	-	-	-	-	480	-	-	-
1934	-	-	-	-	-	-	480	-	-	-
1935	-	-	-	-	-	-	-	-	-	-
1936	-	-	-	-	-	-	-	-	-	-
1937	-	-	-	-	-	-	-	-	-	-
1938	-	-	-	-	-	-	-	-	-	-
1939	-	-	-	-	-	-	-	-	-	-
1940	-	-	-	-	-	-	-	-	-	-
1941	-	-	-	-	-	-	-	-	-	-
1942	-	-	-	-	-	-	-	-	-	-
1943	-	-	-	-	-	-	-	-	-	-
1944	-	-	-	-	-	-	-	-	-	-
1945	-	-	-	-	-	-	-	-	-	-
1946	-	-	-	-	-	-	-	-	-	-
1947	-	-	-	-	-	-	-	-	-	-
1948	-	-	-	-	-	-	-	-	-	-
1949	-	-	-	-	-	-	1,199	-	-	-
1950	-	-	-	-	-	-	1,199	-	-	-
1951	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-

Appendix xx – Modeling

Portfolio 2

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1953	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-
1961	-	-	-	-	-	-	-	-	-	-
1962	-	-	-	-	-	-	-	-	-	-
1963	-	-	-	-	-	-	-	-	-	-
1964	-	-	-	-	-	-	-	-	-	-
1965	-	-	-	-	-	-	-	-	-	-
1966	-	-	-	-	-	-	-	-	-	-
1967	-	-	-	-	-	-	-	-	-	-
1968	-	-	-	-	-	-	-	-	-	-
1969	-	-	-	-	-	-	-	-	-	-
1970	-	-	-	-	-	-	-	-	-	-
1971	-	-	-	-	-	-	-	-	-	-
1972	-	-	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-	-	-
1974	-	-	-	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-	-	-	-
1977	-	-	-	-	-	-	480	-	-	-
1978	-	-	-	-	-	-	-	-	-	-
1979	-	-	-	-	-	-	-	-	-	-
1980	-	-	-	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-	-	-

Appendix xx – Modeling

Portfolio 2

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1983	-	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-	-	-
1987	-	-	-	-	-	-	1,199	-	-	-
1988	-	-	-	-	-	-	480	-	-	-
1989	-	-	-	-	-	-	-	-	-	-
1990	-	-	-	-	-	-	480	-	-	-
1991	-	-	-	-	-	-	480	-	-	-
1992	-	-	-	-	-	-	480	-	-	-
1993	-	-	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-

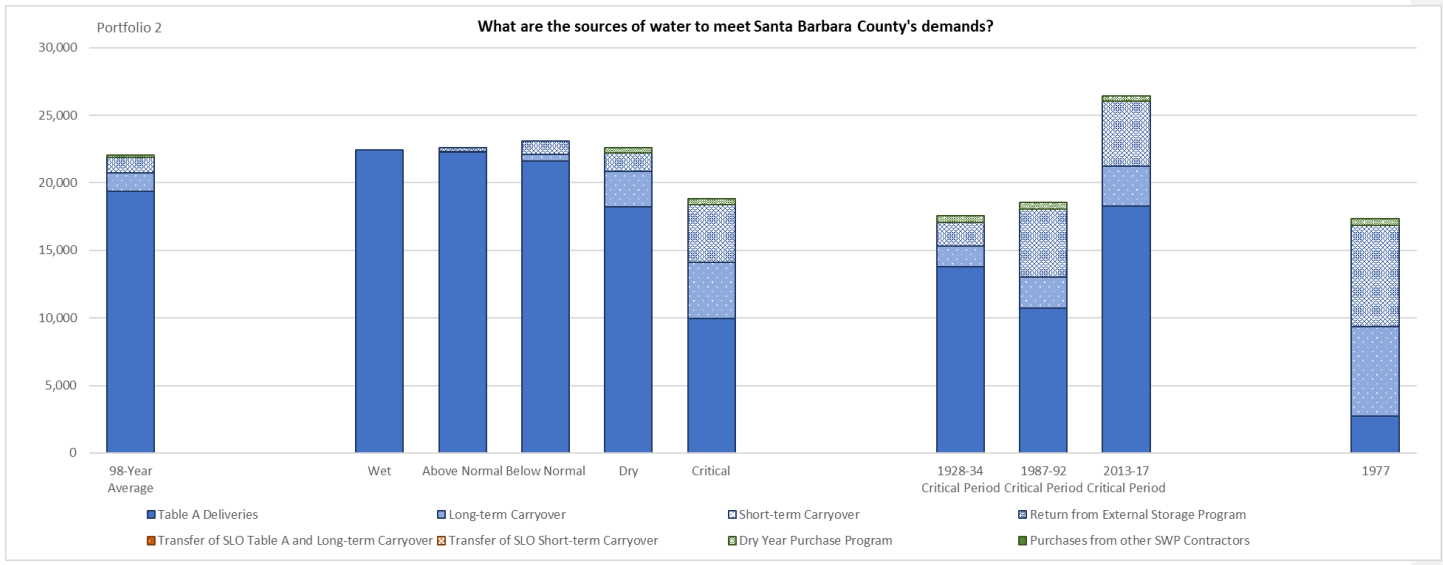
Appendix xx – Modeling

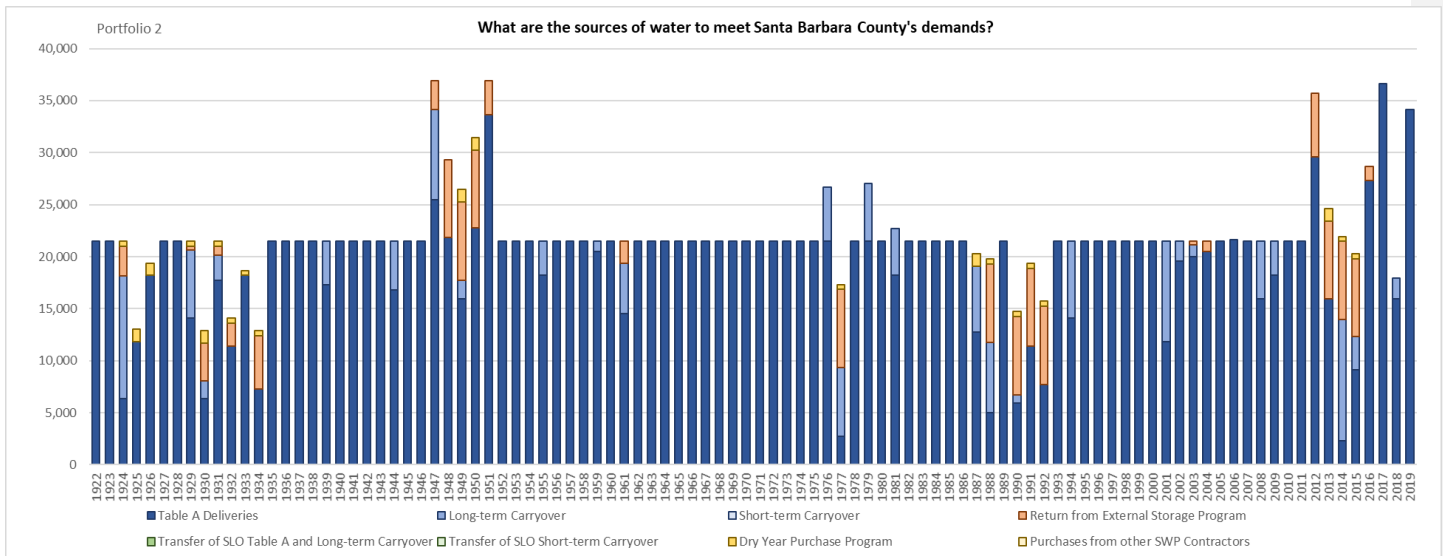
Portfolio 2

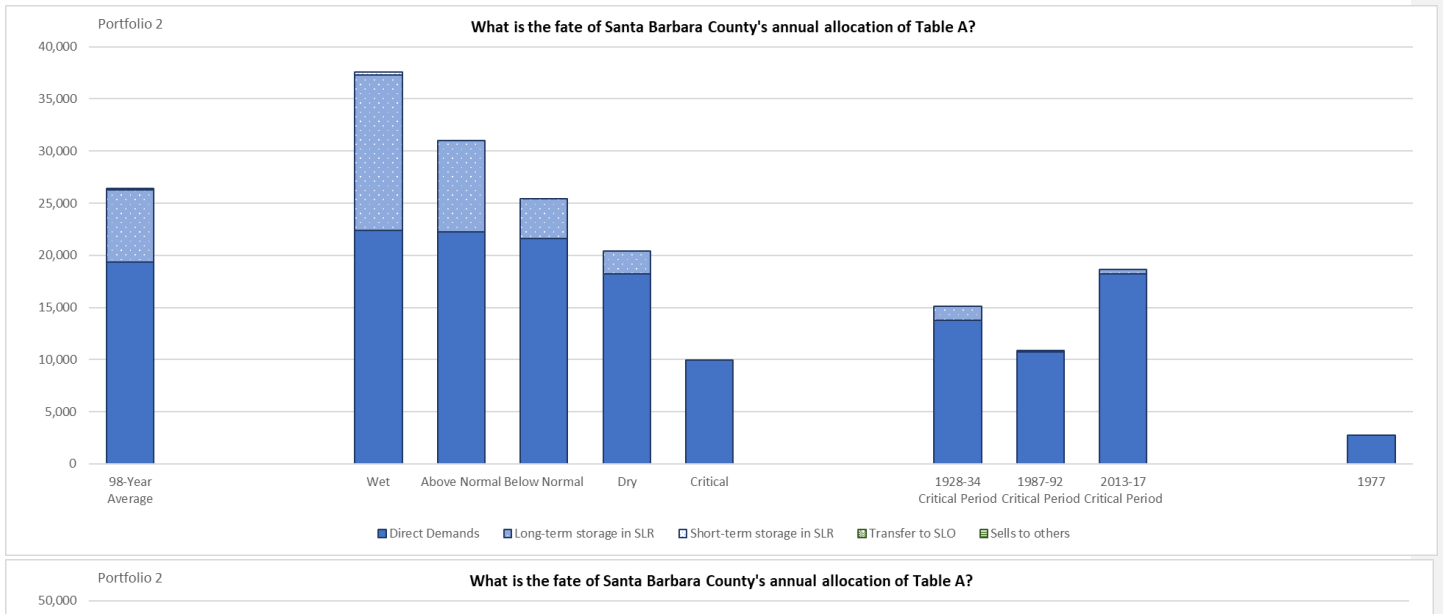
Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
2013	-	-	-	-	-	-	1,199	-	-	-
2014	-	-	-	-	-	-	480	-	-	-
2015	-	-	-	-	-	-	480	-	-	-
2016	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-
Sum	-	-	-	-	-	-	14,633	-	-	-
Average	-	-	-	-	-	-	149	-	-	-
Water Year Averages										
Wet	-	-	-	-	-	-	-	-	-	-
Above Normal	-	-	-	-	-	-	-	-	-	-
Below Normal	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	365	-	-	-
Critically Dry	-	-	-	-	-	-	416	-	-	-
Critical Period Averages										
1928-34	-	-	-	-	-	-	514	-	-	-
1987-92	-	-	-	-	-	-	520	-	-	-
2013-17	-	-	-	-	-	-	432	-	-	-
Driest 1-Year										
1977	-	-	-	-	-	-	480	-	-	-

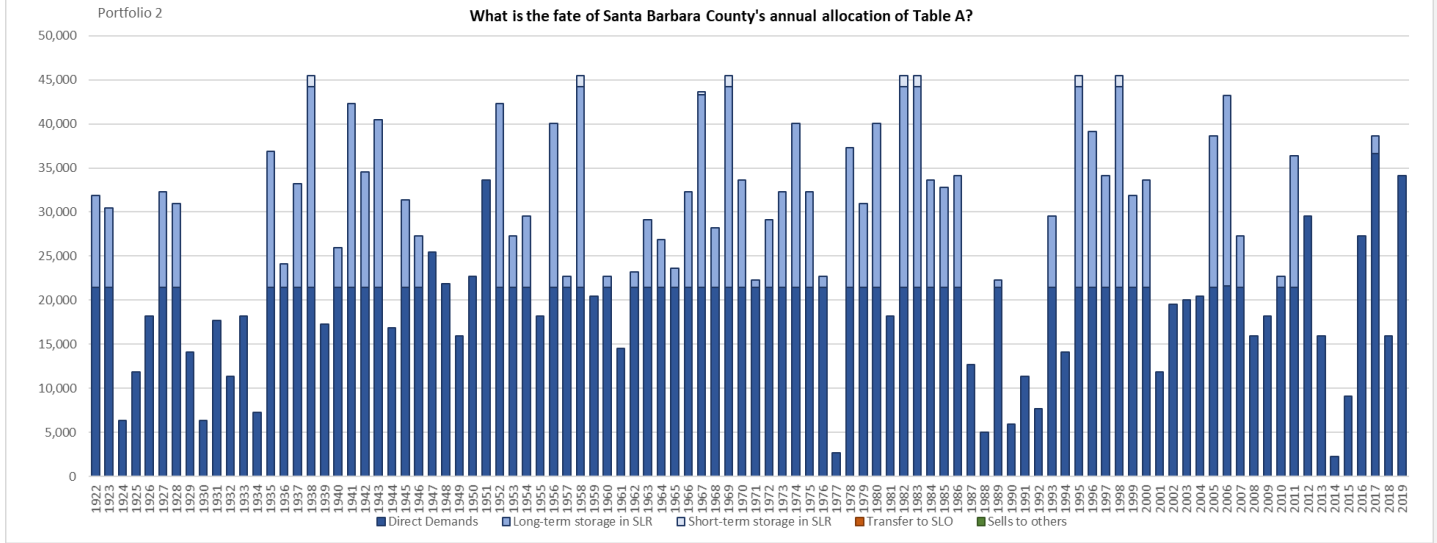
Appendix xx – Modeling

Portfolio 2



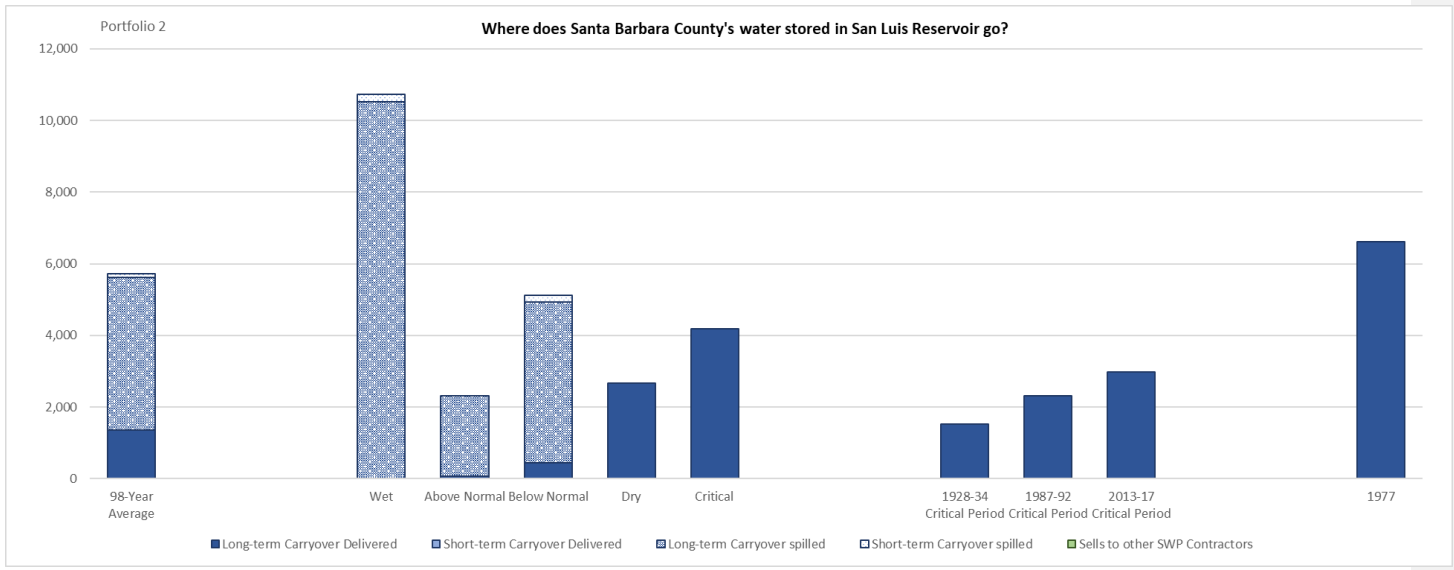


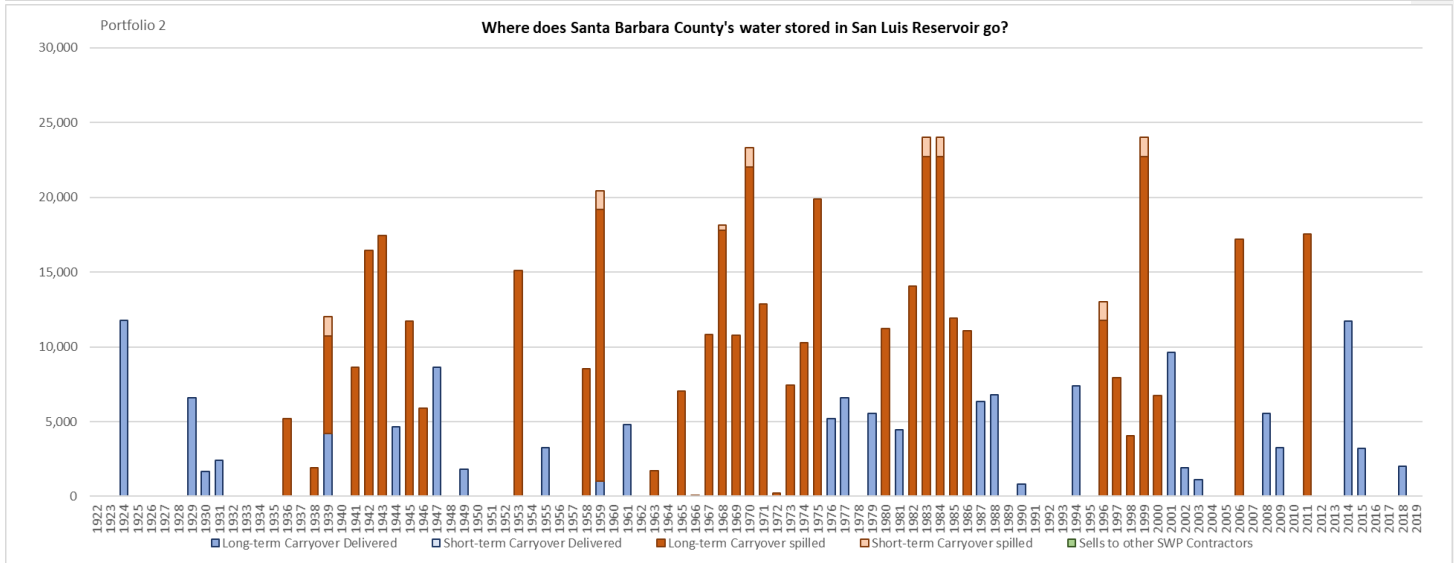


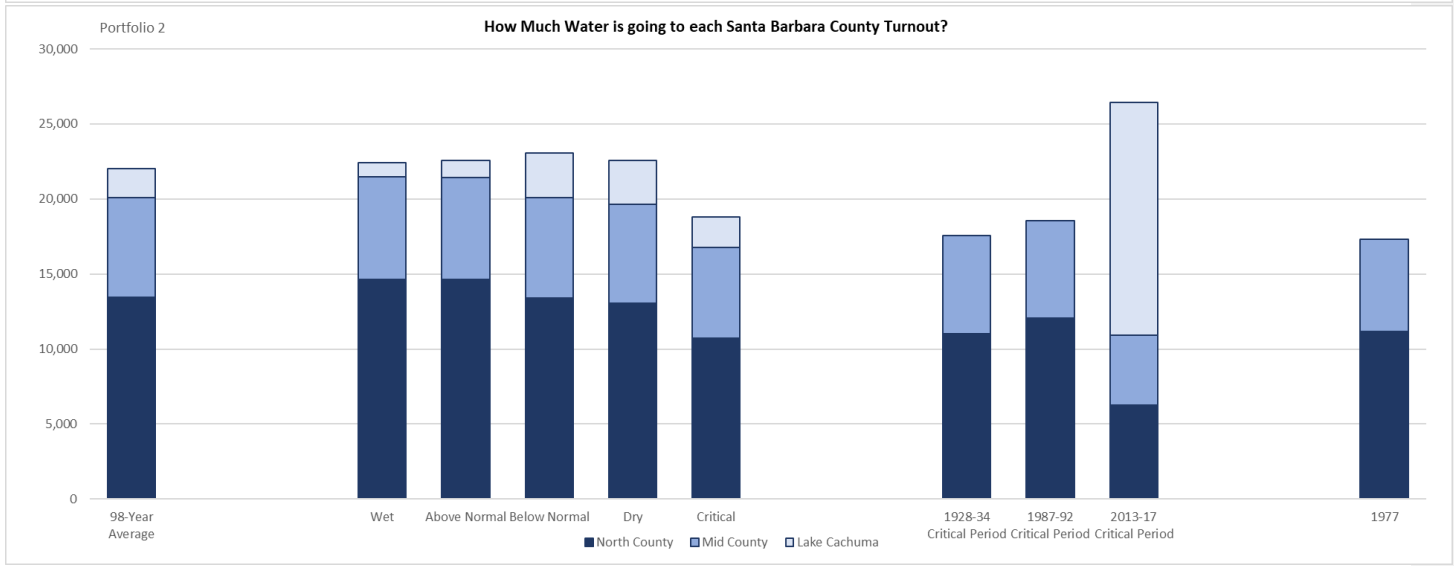


Appendix xx – Modeling

Portfolio 2

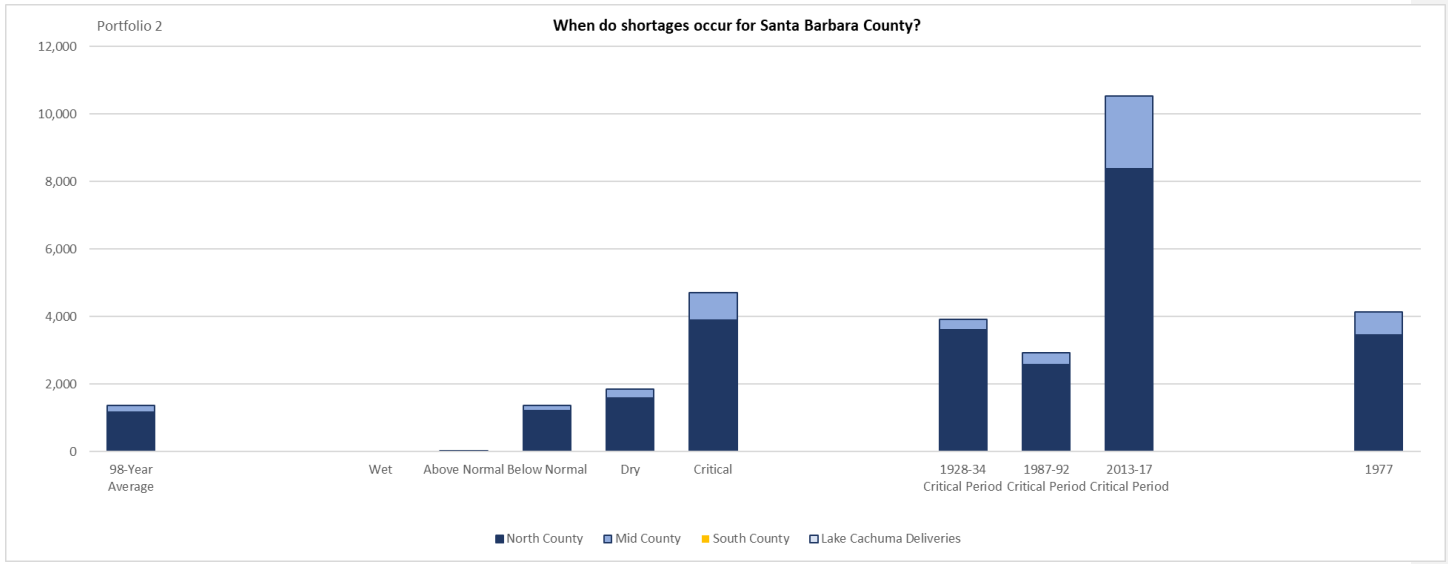


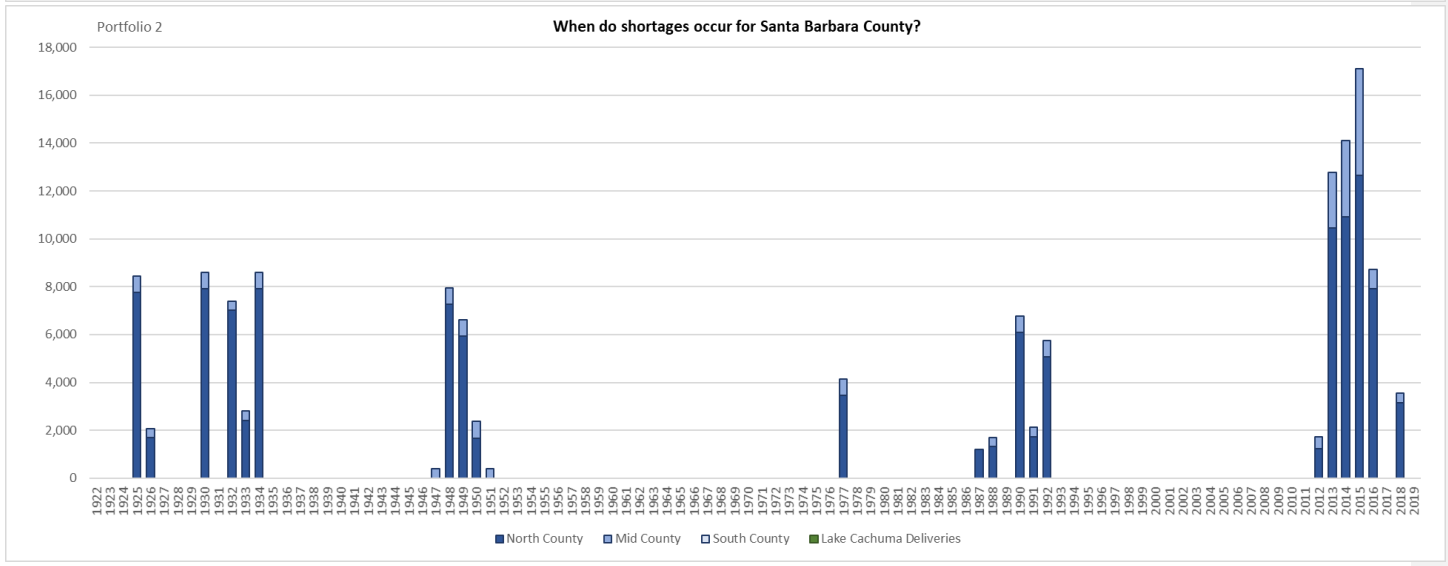


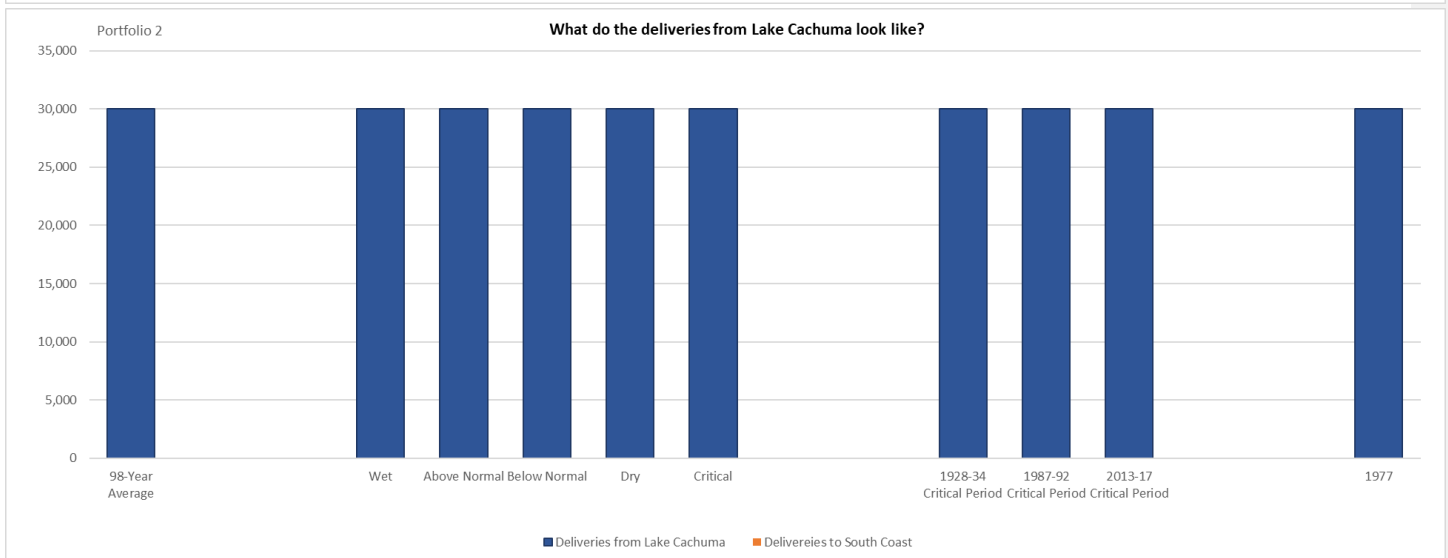


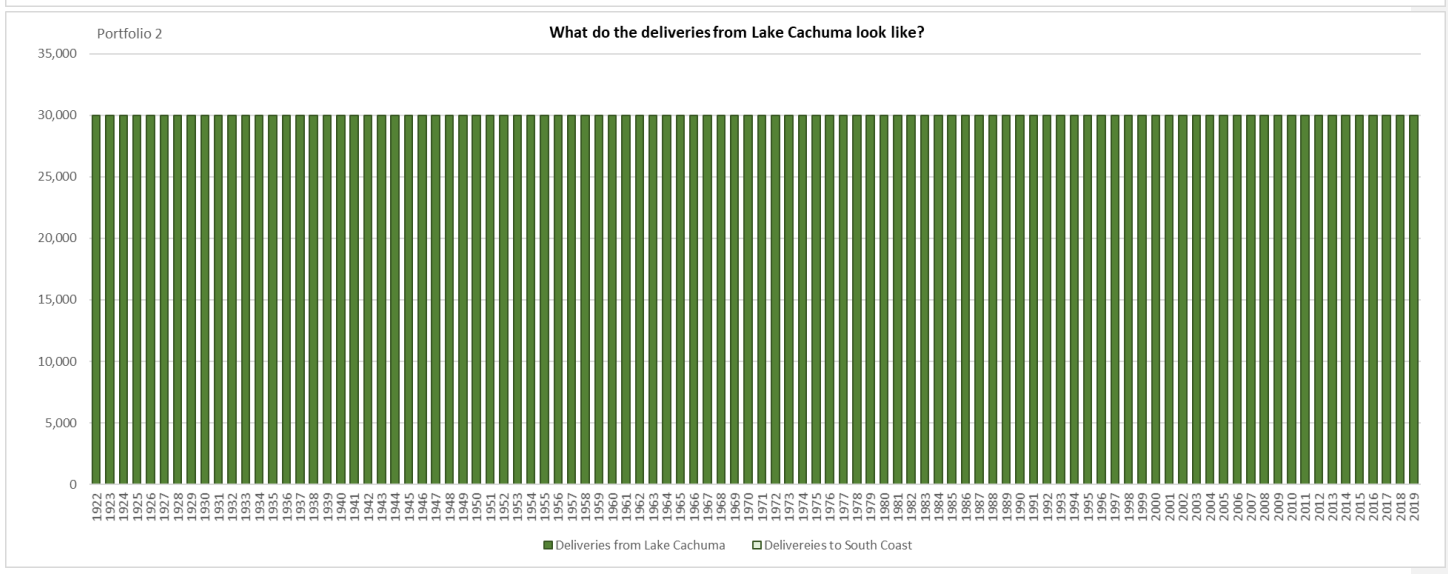
Appendix xx – Modeling

Portfolio 2



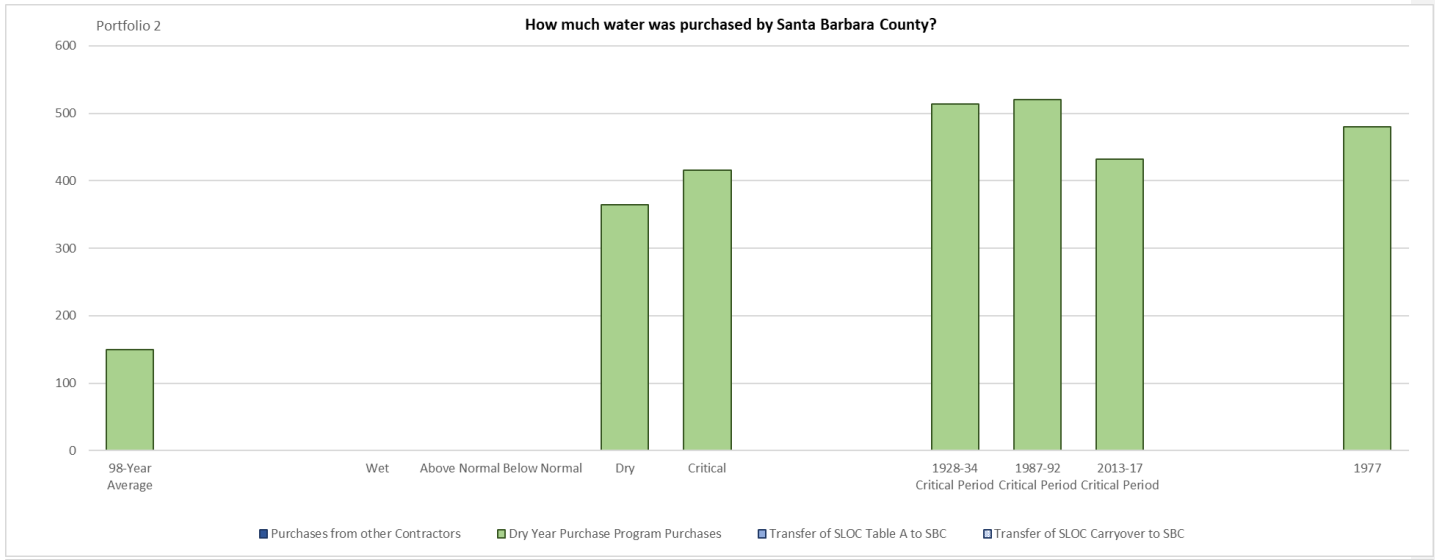


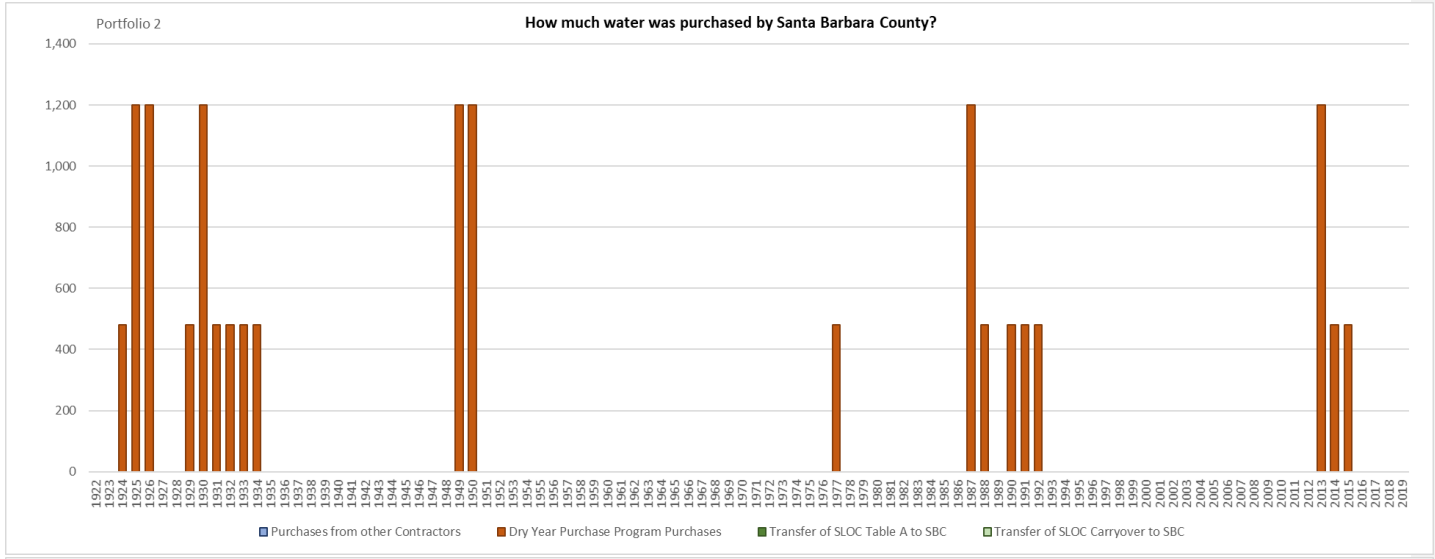


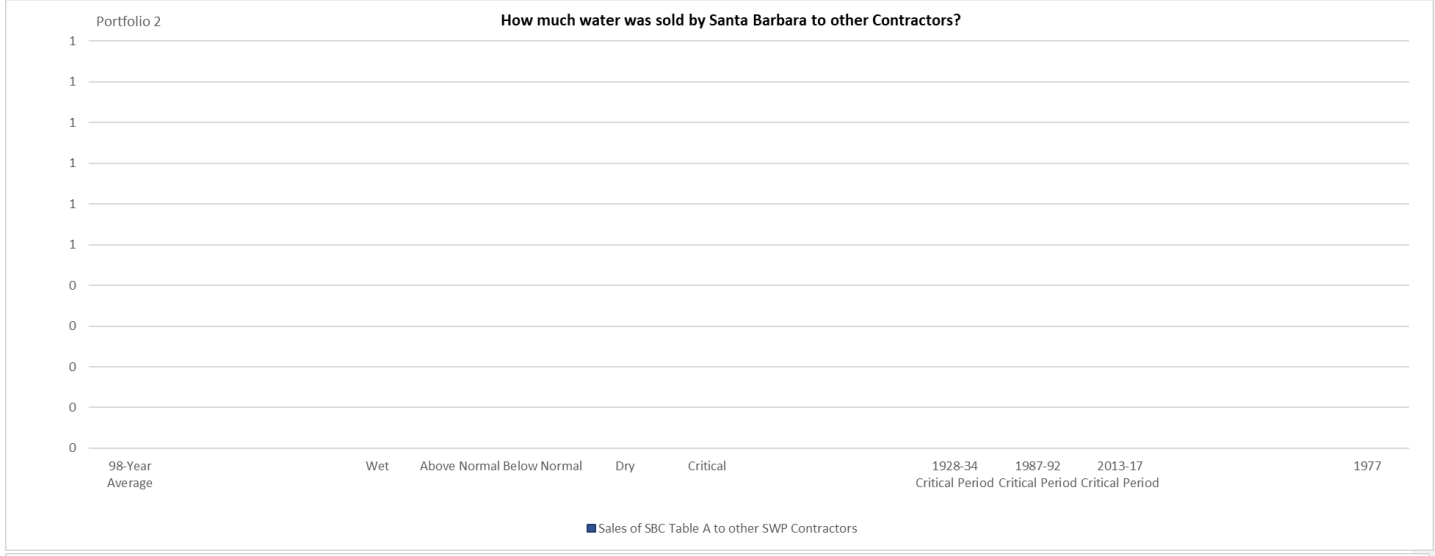


Appendix xx – Modeling

Portfolio 2

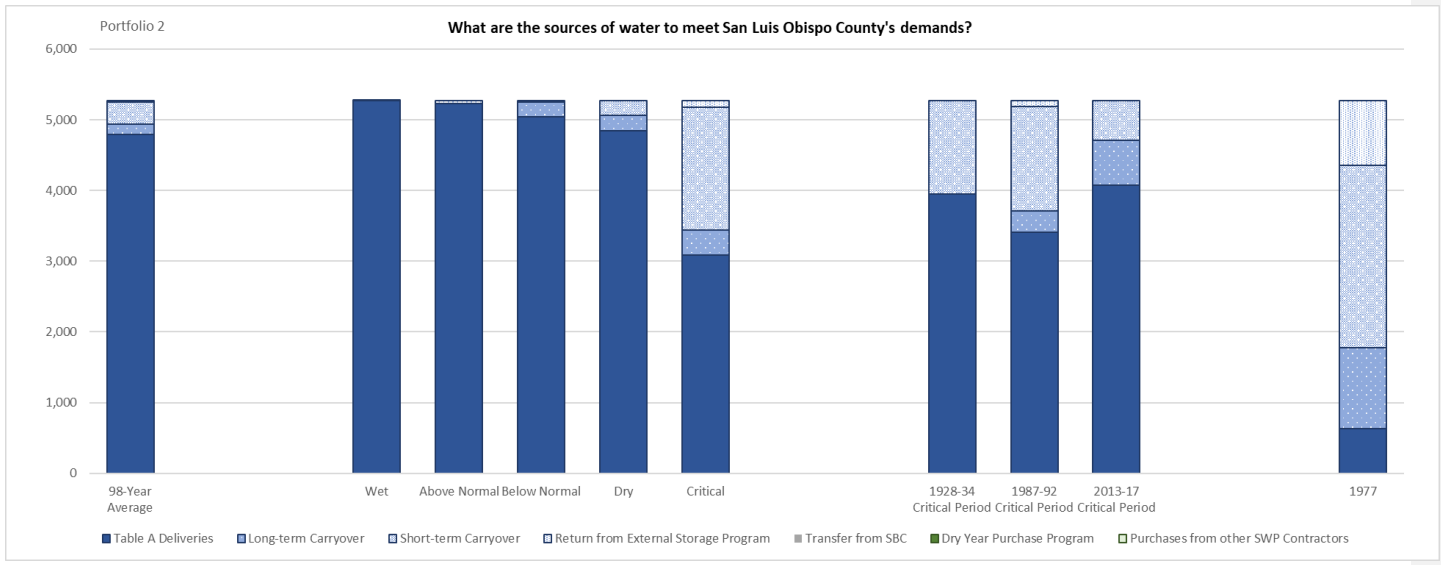


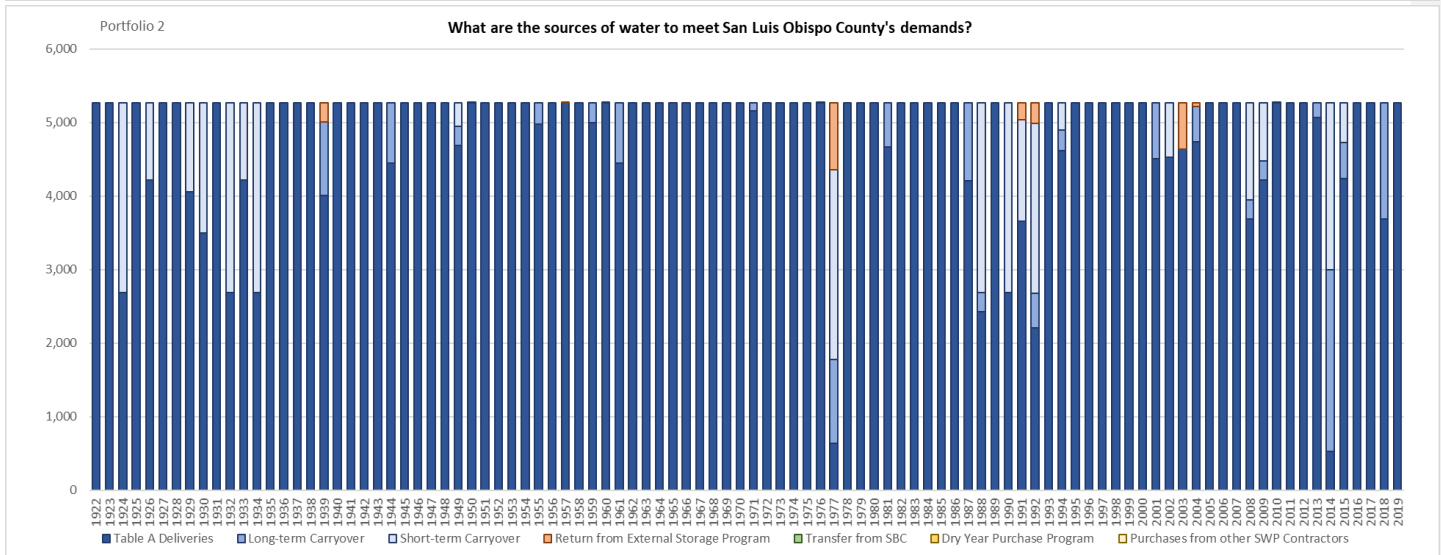


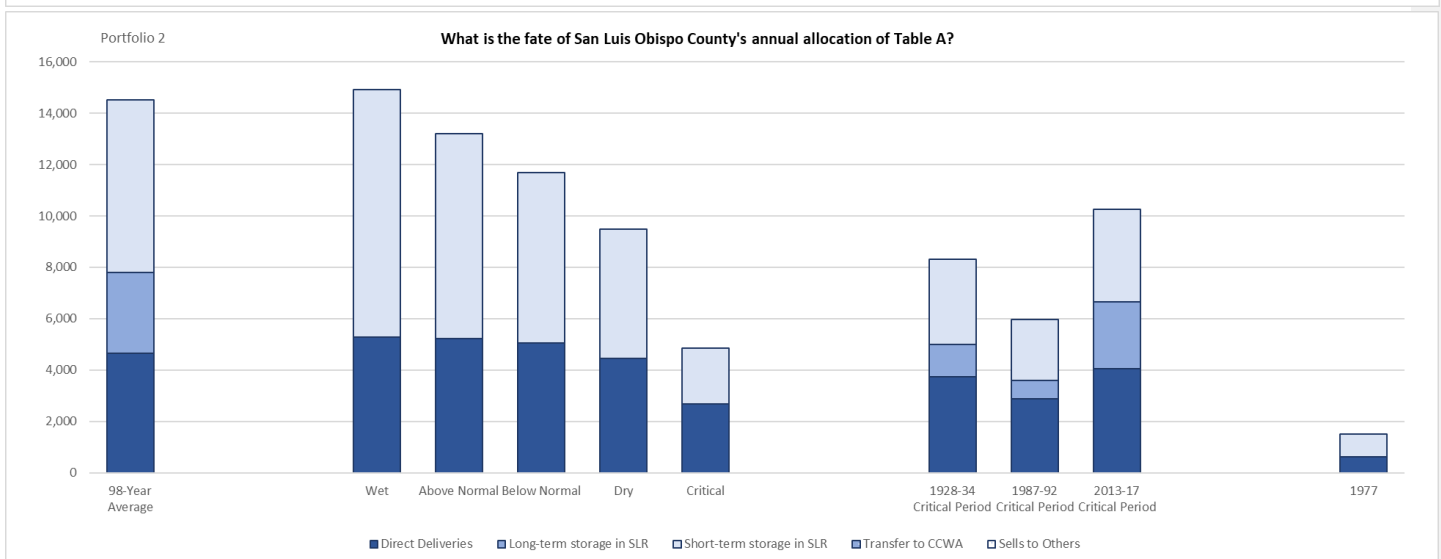


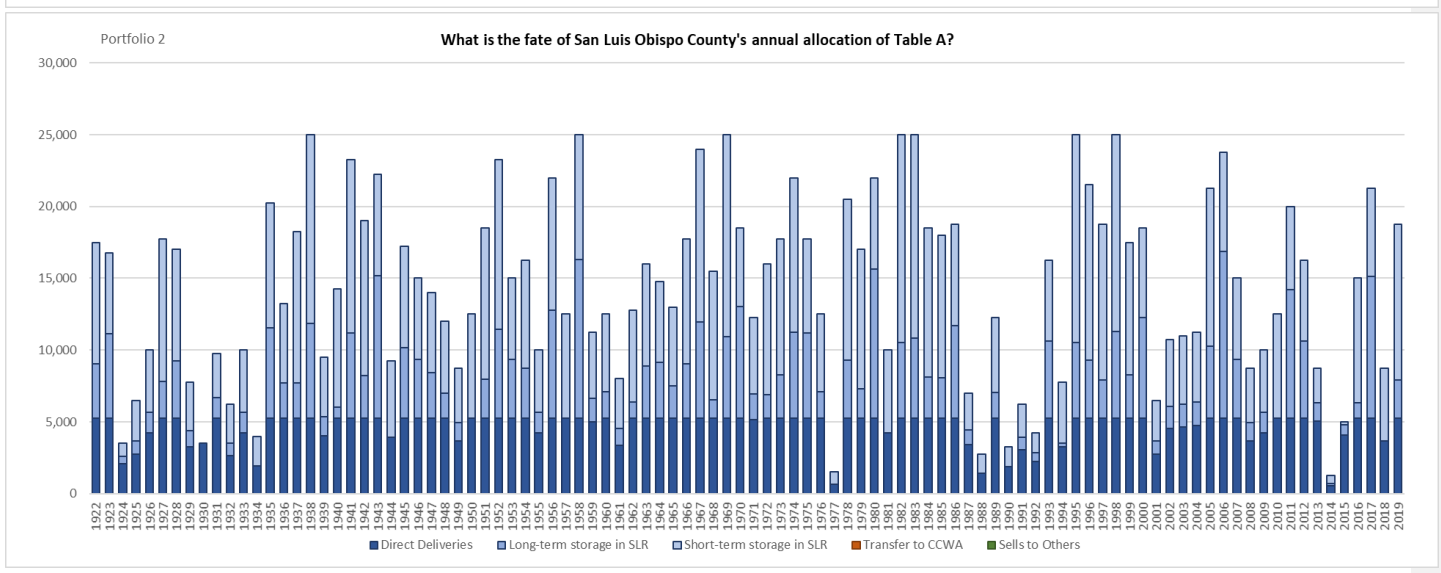
Appendix xx – Modeling

Portfolio 2



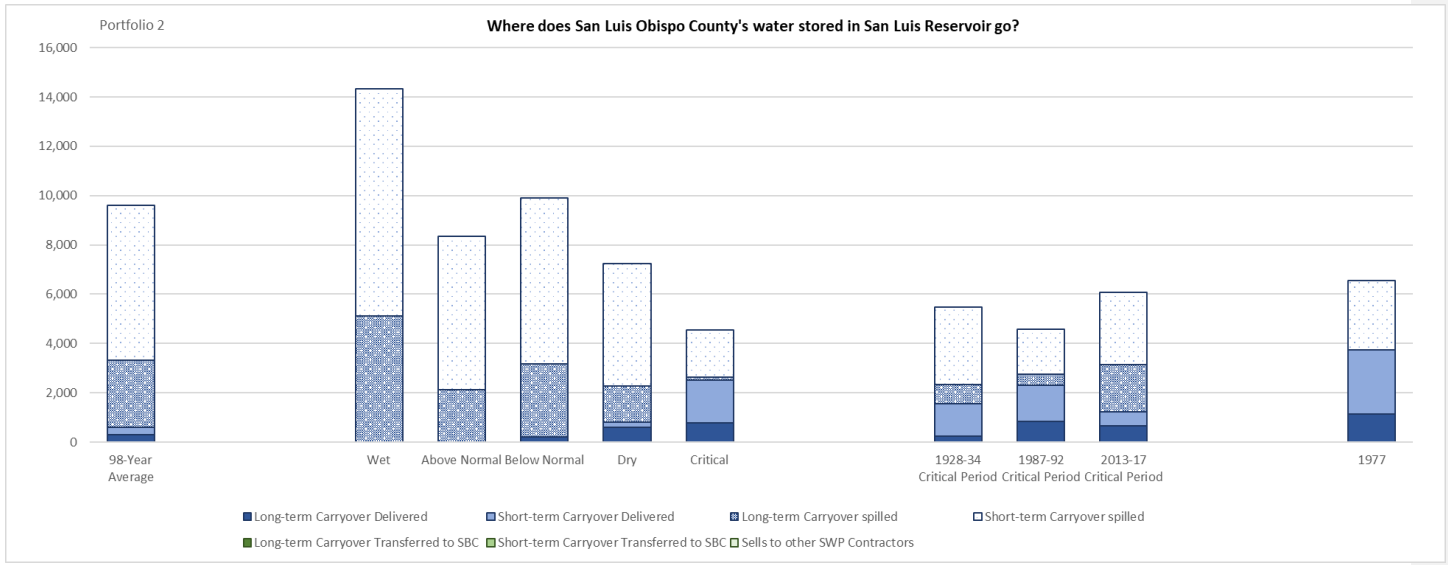


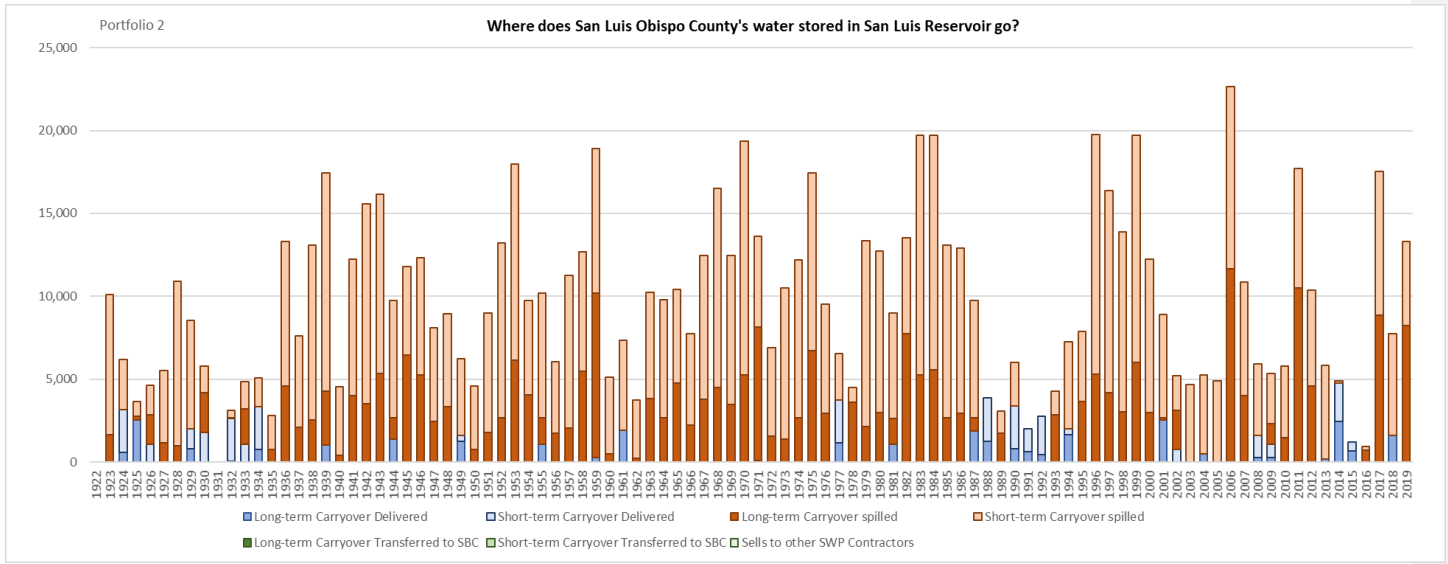


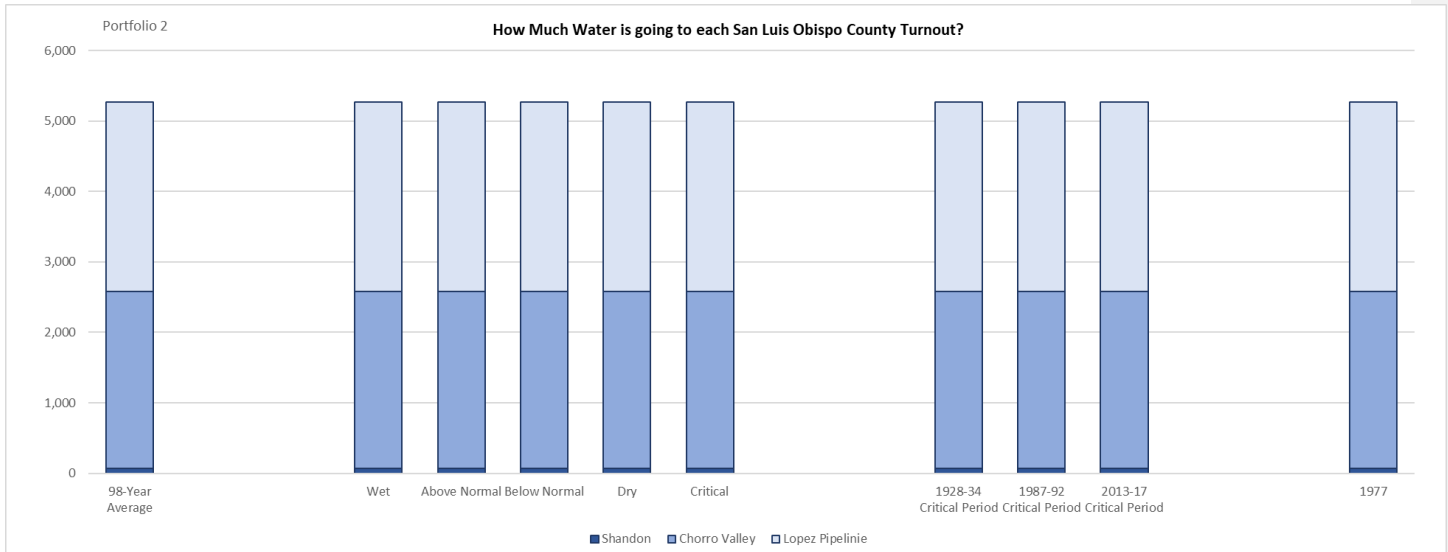


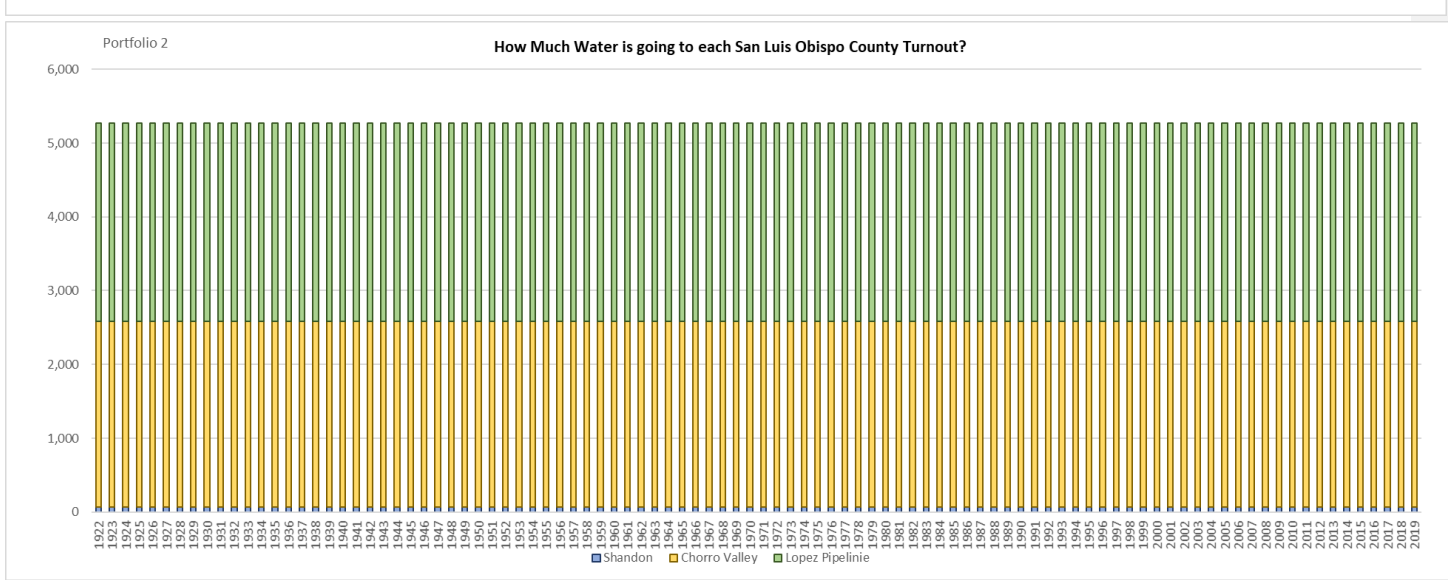
Appendix xx – Modeling

Portfolio 2



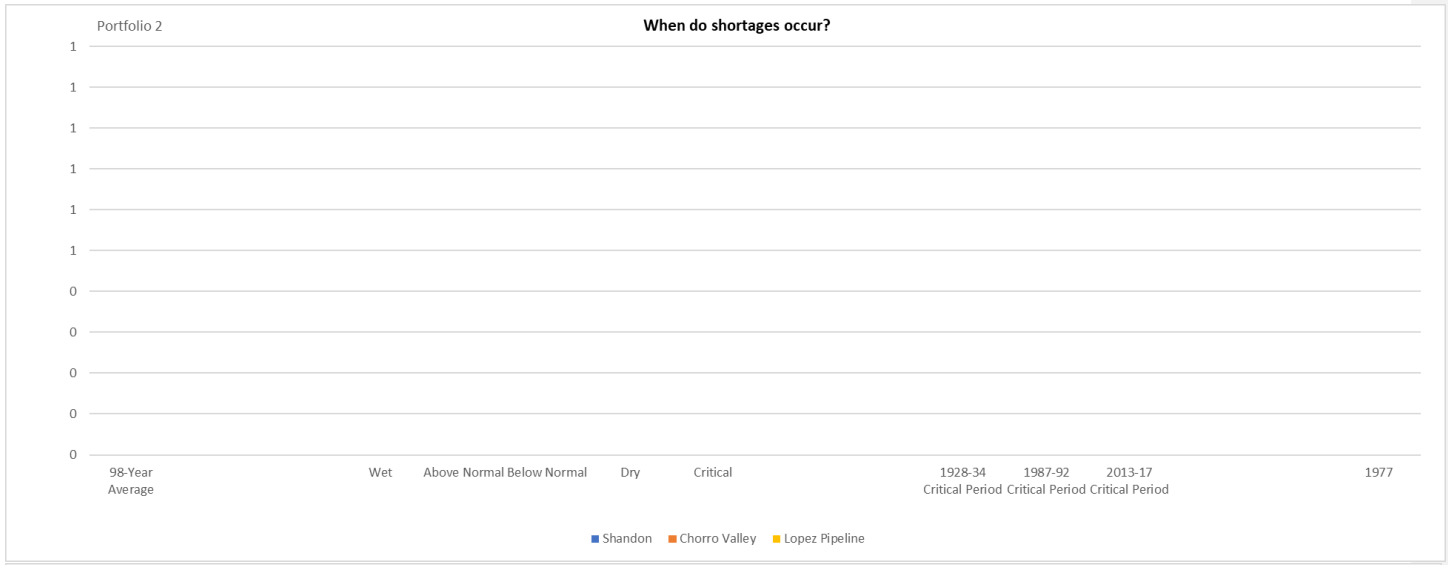


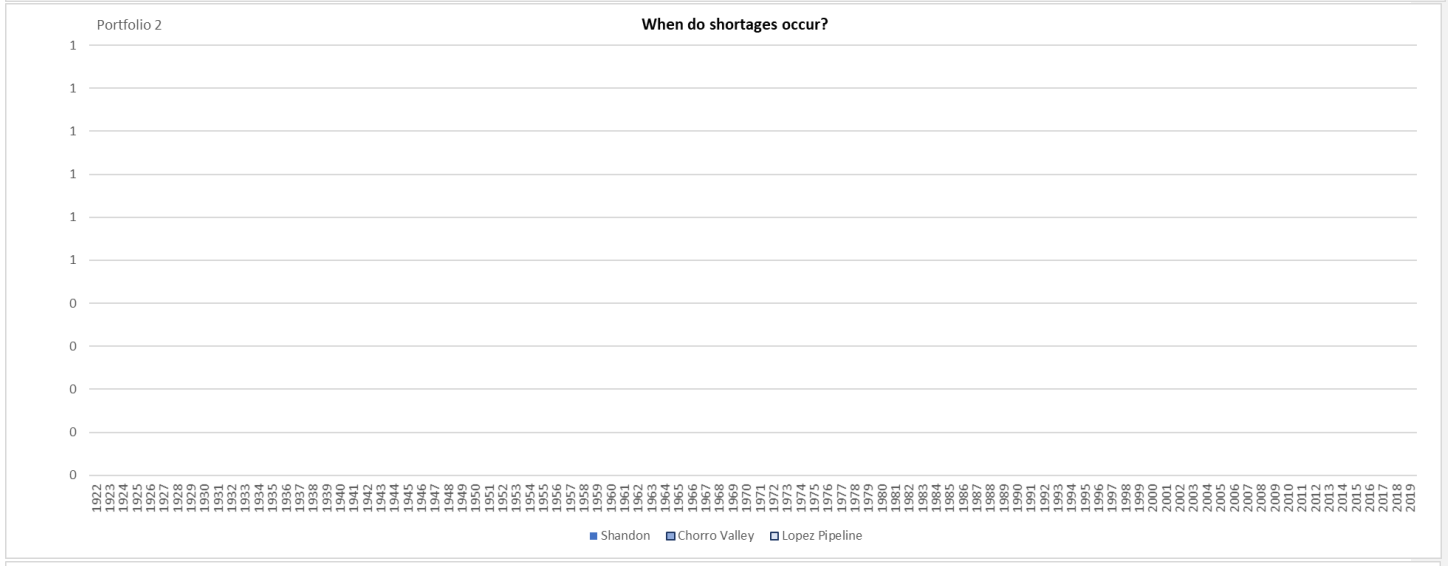


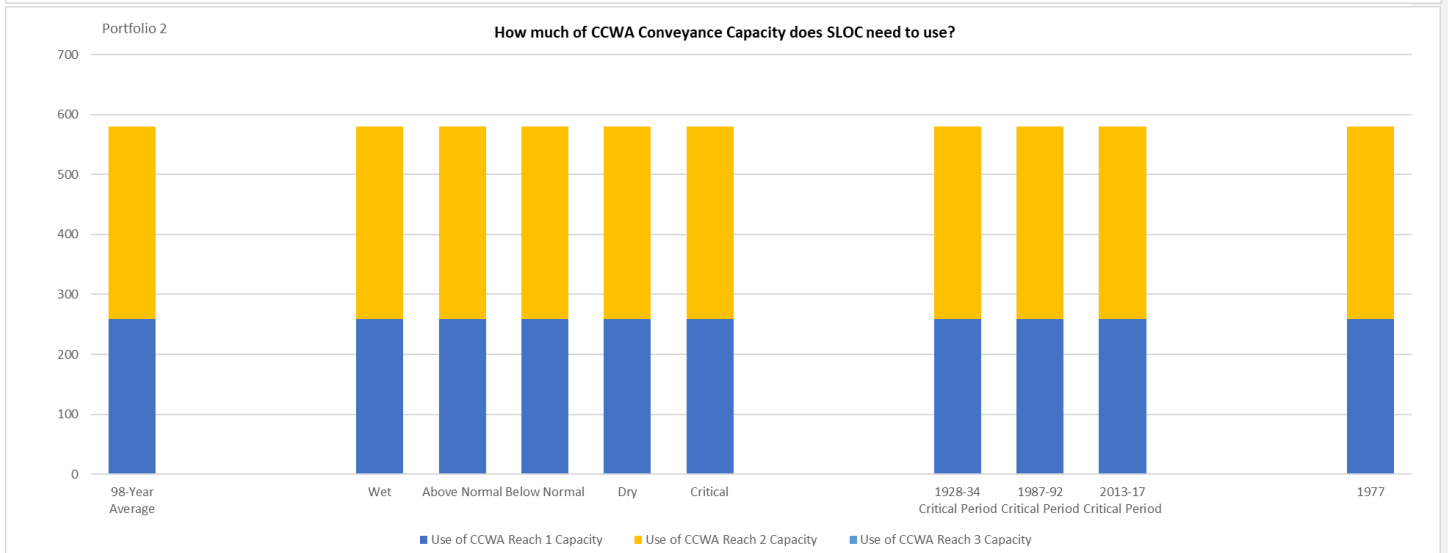


Appendix xx – Modeling

Portfolio 2

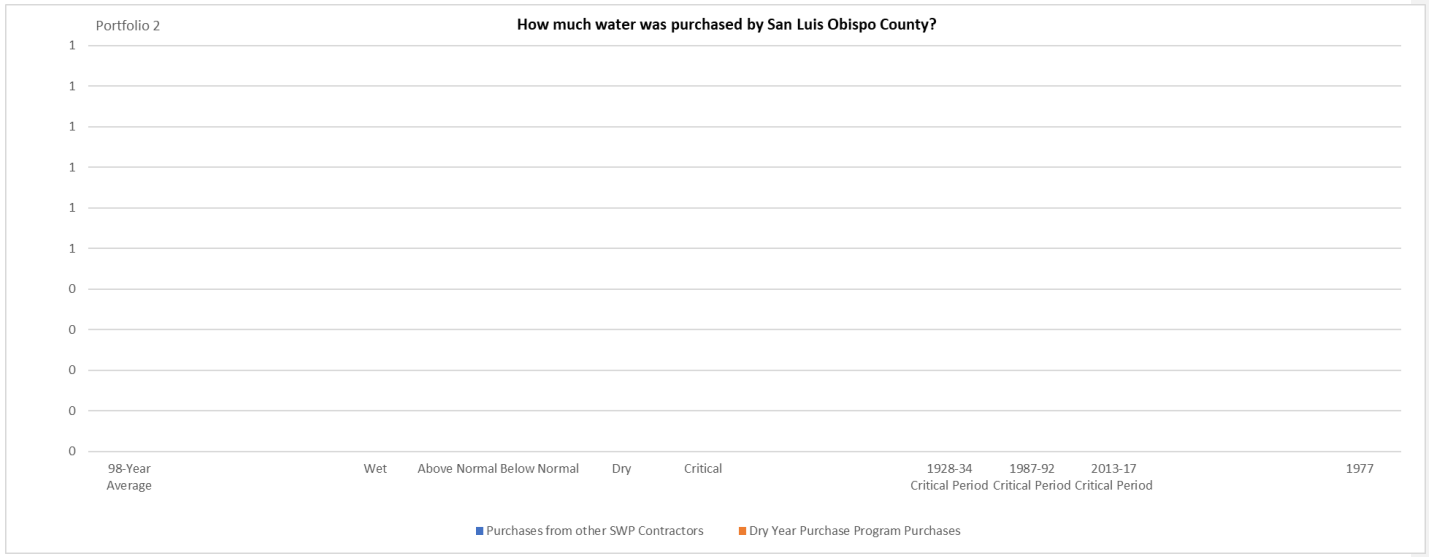


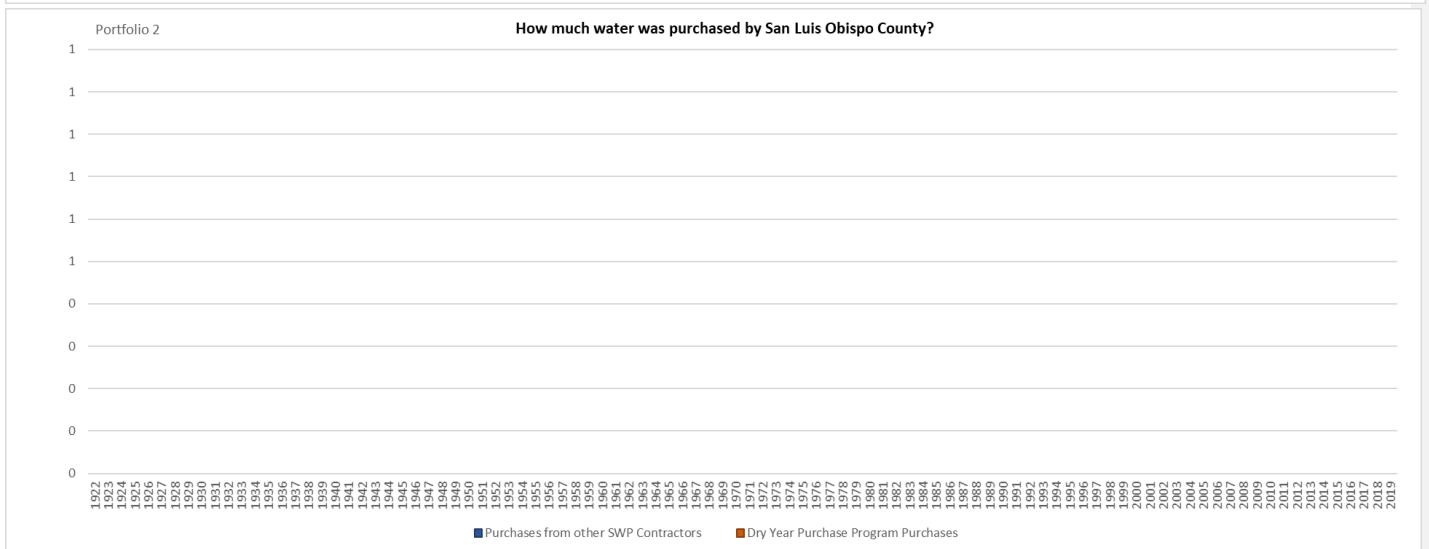


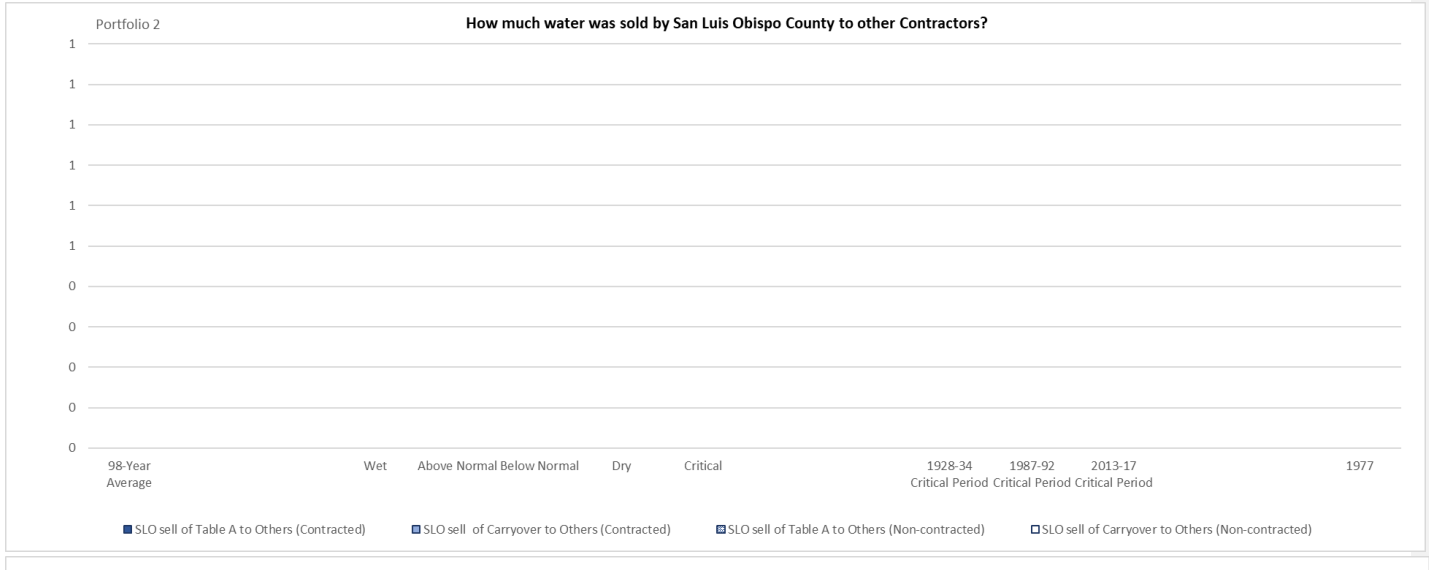


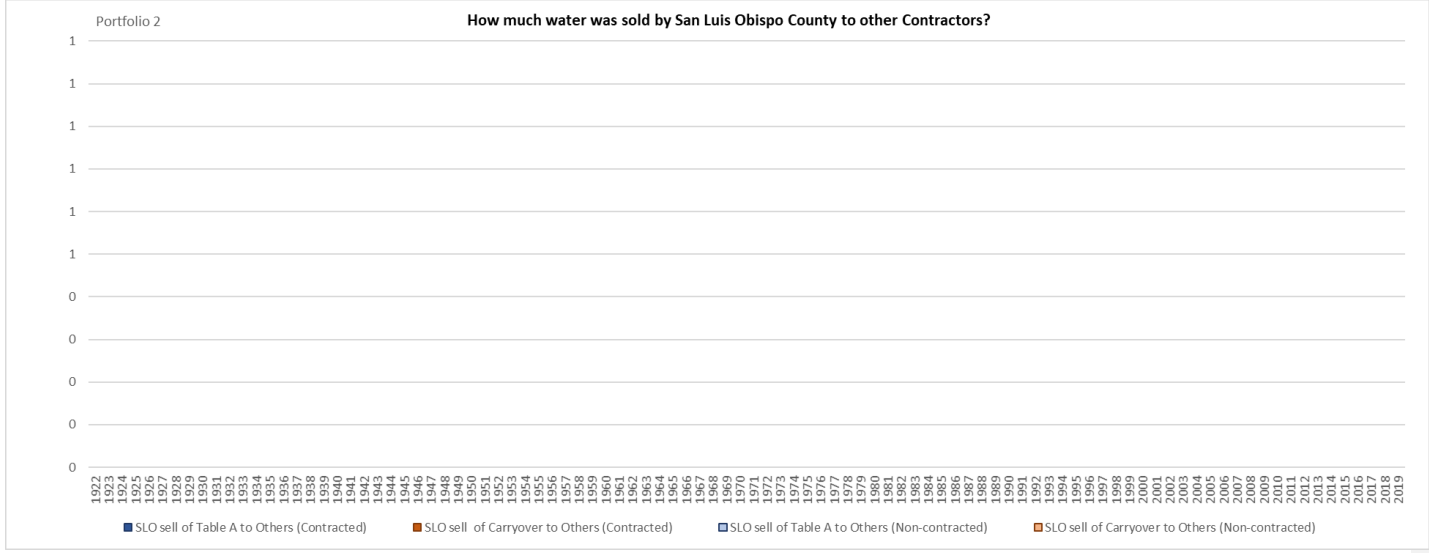
Appendix xx – Modeling

Portfolio 2









Appendix xx – Modeling

Portfolio 2

Portfolio 3 "Baseline with SLOFCWCD Additional Use"

Portfolio 3 is a slight variation of Portfolio 2 which provides for increased demands within SLOFCWCD's service area for supplemental groundwater basin supply. Portfolio 3 includes an annual supply of 1,000 acre-feet for the San Luis Obispo Groundwater Basin, which was assumed in the Model as a constant demand in all years.

Summary of Portfolio 3 Analysis

Santa Barbara County

	Sources of Water Delivered								Fate of Annual Table A Allocation					What Happens to water stored in SLR					How much water is delivered to each turnout			Delivery Shortages				Water Purchases				Sells to Others	
		Carryover		Return from Storage/Exchange Programs			Purchases			Storage in SLR		Transfers		Carryover Delivered		Carryover Spilled		Carryover Sold to Others							Transfers from SLO		Other Transfers			
Time Period	Table A	Long-Term	Short-Term	External	Internal	Transfers from SLO	Dry Year Purchase	SWP Contractors	Direct Delivery	Long-Term	Short-Term	Sells to SLO	Sells to Others	Long-Term	Short-Term	Long-Term	Short-Term		North County	Mid County	Lake Cachuma	North County	Mid-County		Lake Cachuma	Table A and Long-term Carryover	Short-term Carryover	Dry Year Purchase	SWP Contractors	SLO	SWP Contractors
98-Year Summary																															
Total	1,897,045	133,199	-	114,437		-	14,633	-	1,897,045	680,488	9,259	-	-	133,199	-	417,635	9,259	-	1,320,040	648,942	190,332	114,778	20,496		-	-	-	14,633	-	-	-
Average	19,358	1,359	-	1,168		-	149	-	19,358	6,944	94	-	-	1,359	-	4,262	94	-	13,470	6,622	1,942	1,171	209		-	-	-	149	-	-	-
Water Year Averages																															
Wet	22,404	-	-	-		-	-	-	22,404	14,859	309	-	-	-	-	10,327	212	-	14,641	6,831	932	-	-		-	-	-	-	-	-	-
Above Normal	22,238	79	-	257		-	-	-	22,238	8,757	-	-	-	79	-	2,238	-	-	14,641	6,804	1,130	-	27		-	-	-	-	-	-	-
Below Normal	21,630	450	-	1,000		-	-	-	21,630	3,814	-	-	-	450	-	4,781	182	-	13,417	6,684	2,979	1,224	147		-	-	-	-	-	-	-
Dry	18,187	2,699	-	1,347		-	365	-	18,187	2,222	-	-	-	2,699	-	-	-	-	13,049	6,578	2,972	1,592	253		-	-	-	365	-	-	-
Critically Dry	9,946	4,188	-	4,256		-	416	-	9,946	-	-	-	-	4,188	-	-	-	-	10,736	6,036	2,035	3,905	795		-	-	-	416	-	-	-
Critical Period Averages																															
1928-1934	13,789	1,526	-	1,729		-	514	-	13,789	1,351	-	-	-	1,526	-	-	-	-	11,032	6,526	-	3,609	305		-	-	-	514	-	-	-
1987-1992	10,705	2,324	-	5,000		-	520	-	10,705	136	-	-	-	2,324	-	-	-	-	12,073	6,476	-	2,569	355		-	-	-	520	-	-	-
2013-2017	18,248	2,983	-	4,778		-	432	-	18,248	401	-	-	-	2,983	-	-	-	-	6,255	4,673	15,513	8,386	2,158		-	-	-	432	-	-	-
1977	2,729	6,618	-	7,500		-	480	-	2,729	-	-	-	-	6,618	-	-	-	-	11,179	6,148	-	3,462	683		-	-	-	480	-	-	-

San Luis Obispo County

	Sources of Water Delivered								Fate of Annual Table A Allocation					What Happens to water stored in SLR					How much water is delivered to each turnout			Delivery Shortages			Water Purchases			Sells to Others	
		Carryover		Return from Storage/Exchange Programs			Purchases			Storage in SLR		Transfers		Carryover Delivered		Carryover Spilled		Carryover Sold to Others							Transfers from SBC				
Time Period	Table A	Long-Term	Short-Term	External	Internal	Transfers from SBC	Dry Year Purchase	SWP Contractors	Direct Delivery	Long-Term	Short-Term	Sells to SBC	Sells to Others	Long-Term	Short-Term	Long-Term	Short-Term		Shandon	Chorro Valley	Lopez Pipeline	Shandon	Chorro Valley	Lopez Pipeline	Dry Year Purchase	SWP Contractors	SBC	SWP Contractors
98-Year Summary																												
Total	539,946	15,047	56,444	3,121		-	-	-	520,357	279,046	622,347	-	-	34,636	56,444	228,353	555,056	-	6,566	246,764	361,228	-	-	-	-	-	-	-
Average	5,510	154	576	32		-	-	-	5,310	2,847	6,350	-	-	353	576	2,330	5,664	-	67	2,518	3,686	-	-	-	-	-	-	-
Water Year Averages																												
Wet	6,260	11	-	-		-	-	-	6,260	-	9,187	-	-	11	-	4,437	8,885	-	67	2,518	3,686	-	-	-	-	-	-	-
Above Normal	6,180	-	-	91		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Below Normal	5,704	355	211	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry	5,213	162	895	-		-	-	-	4,734	-	4,911	-	-	642	895	1,306	3,935	-	67	2,518	3,686	-	-	-	-	-	-	-
Critically Dry	3,630	353	2,165	124		-	-	-	3,060	-	1,988	-	-	923	2,165	90	1,278	-	67	2,518	3,686	-	-	-	-	-	-	-
Critical Period Averages																												
1928-1934	4,589	-	1,682	-		-	-	-	4,132	1,047	3,142	-	-	457	1,682	500	2,633	-	67	2,518	3,686	-	-	-	-	-	-	-
1987-1992	4,557	141	1,486	88		-	-	-	3,489	607	1,862	-	-	1,209	1,486	240	1,249	-	67	2,518	3,686	-	-	-	-	-	-	-
2013-2017	4,615	547	1,109	-		-	-	-	4,239	2,211	3,800	-	-	923	1,109	1,314	2,590	-	67	2,518	3,686	-	-	-	-	-	-	-
1977	632	1,143	3,169	1,327		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix xx – Modeling

Portfolio 3

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1922	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1923	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1924	6,368	11,756	-	2,868	20,992	-	-	480	-	480	3,102	-	3,169	-	6,271	-	-	-
1925	11,826	-	-	-	11,826	-	-	1,199	-	1,199	5,873	-	398	-	6,271	-	-	-
1926	18,194	-	-	-	18,194	-	-	1,199	-	1,199	5,364	-	907	-	6,271	-	-	-
1927	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1928	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1929	14,101	6,569	-	322	20,992	-	-	480	-	480	5,474	-	797	-	6,271	-	-	-
1930	6,368	1,678	-	3,622	11,668	-	-	1,199	-	1,199	3,500	-	2,771	-	6,271	-	-	-
1931	17,740	2,436	-	816	20,992	-	-	480	-	480	6,271	-	-	-	6,271	-	-	-
1932	11,372	-	-	2,232	13,604	-	-	480	-	480	3,102	-	3,169	-	6,271	-	-	-
1933	18,194	-	-	-	18,194	-	-	480	-	480	4,403	-	1,868	-	6,271	-	-	-
1934	7,278	-	-	5,109	12,387	-	-	480	-	480	3,102	-	3,169	-	6,271	-	-	-
1935	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1936	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1937	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1938	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1939	17,285	4,187	-	-	21,472	-	-	-	-	-	4,004	875	1,392	-	6,271	-	-	-
1940	21,472	-	-	-	21,472	-	-	-	-	-	6,006	-	-	265	6,271	-	-	-
1941	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1942	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1943	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1944	16,830	4,642	-	-	21,472	-	-	-	-	-	4,996	1,275	-	-	6,271	-	-	-
1945	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1946	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1947	25,472	8,655	-	2,777	36,904	-	-	-	-	-	5,901	51	319	-	6,271	-	-	-
1948	21,833	-	-	7,500	29,333	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1949	15,920	1,821	-	7,500	25,241	-	-	1,199	-	1,199	3,688	-	2,583	-	6,271	-	-	-
1950	22,743	-	-	7,500	30,243	-	-	1,199	-	1,199	5,268	422	581	-	6,271	-	-	-
1951	33,660	-	-	3,244	36,904	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1952	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-

Appendix xx – Modeling

Portfolio 3

Periods	Inflows to CBA																	
	SBC Operations										SLO Operations							
	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1953	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1954	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1955	18,194	3,278	-	-	21,472	-	-	-	-	-	4,839	575	857	-	6,271	-	-	-
1956	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1957	21,472	-	-	-	21,472	-	-	-	-	-	5,268	-	-	1,003	6,271	-	-	-
1958	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1959	20,469	1,003	-	-	21,472	-	-	-	-	-	5,480	791	-	-	6,271	-	-	-
1960	21,472	-	-	-	21,472	-	-	-	-	-	5,268	-	1,003	-	6,271	-	-	-
1961	14,556	4,826	-	2,090	21,472	-	-	-	-	-	3,372	-	2,899	-	6,271	-	-	-
1962	21,472	-	-	-	21,472	-	-	-	-	-	5,374	435	462	-	6,271	-	-	-
1963	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1964	21,472	486	-	-	21,958	-	-	-	-	-	6,217	54	-	-	6,271	-	-	-
1965	21,472	-	-	-	21,472	-	-	-	-	-	5,936	335	-	-	6,271	-	-	-
1966	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1967	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1968	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1969	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1970	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1971	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1972	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1973	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1974	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1975	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1976	21,472	5,476	-	-	26,948	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1977	2,729	6,618	-	7,500	16,847	-	-	480	-	480	632	1,143	3,169	1,327	6,271	-	-	-
1978	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1979	21,472	5,569	-	-	27,041	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1980	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1981	18,194	4,472	-	-	22,666	-	-	-	-	-	4,215	1,186	870	-	6,271	-	-	-
1982	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-

Appendix xx – Modeling

Portfolio 3

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1983	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1984	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1985	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1986	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1987	12,736	6,338	-	-	19,074	-	-	1,199	-	1,199	5,880	172	219	-	6,271	-	-	-
1988	5,003	6,787	-	7,500	19,290	-	-	480	-	480	2,557	676	3,038	-	6,271	-	-	-
1989	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1990	5,913	816	-	7,500	14,229	-	-	480	-	480	3,102	-	3,169	-	6,271	-	-	-
1991	11,372	-	-	7,500	18,872	-	-	480	-	480	5,805	-	466	-	6,271	-	-	-
1992	7,733	-	-	7,500	15,233	-	-	480	-	480	3,724	-	2,021	526	6,271	-	-	-
1993	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1994	14,101	7,371	-	-	21,472	-	-	-	-	-	3,266	737	2,268	-	6,271	-	-	-
1995	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1996	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1997	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1998	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1999	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2000	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2001	11,826	9,646	-	-	21,472	-	-	-	-	-	3,102	-	3,169	-	6,271	-	-	-
2002	19,559	1,913	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2003	20,014	1,104	-	354	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2004	20,469	-	-	1,003	21,472	-	-	-	-	-	4,742	-	1,529	-	6,271	-	-	-
2005	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2006	21,606	-	-	-	21,606	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2007	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2008	15,920	5,552	-	-	21,472	-	-	-	-	-	3,688	-	2,583	-	6,271	-	-	-
2009	18,194	3,278	-	-	21,472	-	-	-	-	-	4,215	-	2,056	-	6,271	-	-	-
2010	21,472	-	-	-	21,472	-	-	-	-	-	5,271	1,000	-	-	6,271	-	-	-
2011	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2012	29,566	-	-	6,110	35,676	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-

	Inflows to CBA																	
	SBC Operations									SLO Operations								
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
2013	15,920	-	-	7,500	23,420	-	-	1,199	-	1,199	4,315	-	1,956	-	6,271	-	-	-
2014	2,274	11,698	-	7,500	21,472	-	-	480	-	480	1,917	1,185	3,169	-	6,271	-	-	-
2015	9,097	3,219	-	7,500	19,816	-	-	480	-	480	4,301	1,552	418	-	6,271	-	-	-
2016	27,292	-	-	1,390	28,682	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2017	36,658	-	-	-	36,658	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2018	15,920	2,005	-	-	17,925	-	-	-	-	-	3,688	2,583	-	-	6,271	-	-	-
2019	34,114	-	-	-	34,114	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum	1,897,045	133,199	-	114,437	2,144,681	-	-	14,633	-	14,633	539,946	15,047	56,444	3,121	614,558	-	-	-
Average	19,358	1,359	-	1,168	21,885	-	-	149	-	149	5,510	154	576	32	6,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Year Averages	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wet	22,404	-	-	-	22,404	-	-	-	-	-	6,260	11	-	-	6,271	-	-	-
Above Normal	22,238	79	-	257	22,574	-	-	-	-	-	6,180	-	-	91	6,271	-	-	-
Below Normal	21,630	450	-	1,000	23,080	-	-	-	-	-	5,704	355	211	-	6,271	-	-	-
Dry	18,187	2,699	-	1,347	22,234	-	-	365	-	365	5,213	162	895	-	6,271	-	-	-
Critically Dry	9,946	4,188	-	4,256	18,391	-	-	416	-	416	3,630	353	2,165	124	6,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Period Averages	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1928-34	13,789	1,526	-	1,729	17,044	-	-	514	-	514	4,589	-	1,682	-	6,271	-	-	-
1987-92	10,705	2,324	-	5,000	18,028	-	-	520	-	520	4,557	141	1,486	88	6,271	-	-	-
2013-17	18,248	2,983	-	4,778	26,010	-	-	432	-	432	4,615	547	1,109	-	6,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Driest 1-Year	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1977	2,729	6,618	-	7,500	16,847	-	-	480	-	480	632	1,143	3,169	1,327	6,271	-	-	-

Appendix xx – Modeling

Portfolio 3

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1922	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1923	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1924	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1925	13,025	-	5,595	676	67	67	13,025	-	5,466	738	2,518	2,518	13,025	-	3,686	-	3,686	3,686
1926	19,393	-	5,595	676	67	67	19,393	-	5,466	738	2,518	2,518	19,393	-	3,686	-	3,686	3,686
1927	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1928	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1929	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1930	12,867	-	5,595	676	67	67	12,867	-	5,466	738	2,518	2,518	12,867	-	3,686	-	3,686	3,686
1931	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1932	14,084	-	5,595	676	67	67	14,084	-	5,466	738	2,518	2,518	14,084	-	3,686	-	3,686	3,686
1933	18,674	-	5,595	676	67	67	18,674	-	5,466	738	2,518	2,518	18,674	-	3,686	-	3,686	3,686
1934	12,867	-	5,595	676	67	67	12,867	-	5,466	738	2,518	2,518	12,867	-	3,686	-	3,686	3,686
1935	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1936	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1937	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1938	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1939	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1940	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1941	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1942	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1943	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1944	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1945	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1946	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1947	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
1948	29,333	-	5,595	676	67	67	29,333	-	5,466	738	2,518	2,518	29,333	-	3,686	-	3,686	3,686
1949	26,440	-	5,595	676	67	67	26,440	-	5,466	738	2,518	2,518	26,440	-	3,686	-	3,686	3,686
1950	31,442	-	5,595	676	67	67	31,442	-	5,466	738	2,518	2,518	31,442	-	3,686	-	3,686	3,686
1951	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
1952	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1953	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1954	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1955	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1956	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1957	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1958	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1959	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1960	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1961	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1962	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1963	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1964	21,958	-	5,595	676	67	67	21,958	-	5,466	738	2,518	2,518	21,958	-	3,686	-	3,686	3,686
1965	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1966	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1967	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1968	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1969	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1970	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1971	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1972	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1973	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1974	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1975	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1976	26,948	-	5,595	676	67	67	26,948	-	5,466	738	2,518	2,518	26,948	-	3,686	-	3,686	3,686
1977	17,327	-	5,595	676	67	67	17,327	-	5,466	738	2,518	2,518	17,327	-	3,686	-	3,686	3,686
1978	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1979	27,041	-	5,595	676	67	67	27,041	-	5,466	738	2,518	2,518	27,041	-	3,686	-	3,686	3,686
1980	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1981	22,666	-	5,595	676	67	67	22,666	-	5,466	738	2,518	2,518	22,666	-	3,686	-	3,686	3,686
1982	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1983	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1984	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1985	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1986	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1987	20,273	-	5,595	676	67	67	20,273	-	5,466	738	2,518	2,518	20,273	-	3,686	-	3,686	3,686
1988	19,770	-	5,595	676	67	67	19,770	-	5,466	738	2,518	2,518	19,770	-	3,686	-	3,686	3,686
1989	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1990	14,709	-	5,595	676	67	67	14,709	-	5,466	738	2,518	2,518	14,709	-	3,686	-	3,686	3,686
1991	19,352	-	5,595	676	67	67	19,352	-	5,466	738	2,518	2,518	19,352	-	3,686	-	3,686	3,686
1992	15,713	-	5,595	676	67	67	15,713	-	5,466	738	2,518	2,518	15,713	-	3,686	-	3,686	3,686
1993	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1994	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1995	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1996	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1997	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1998	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1999	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2000	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2001	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2002	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2003	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2004	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2005	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2006	21,606	-	5,595	676	67	67	21,606	-	5,466	738	2,518	2,518	21,606	-	3,686	-	3,686	3,686
2007	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2008	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2009	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2010	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2011	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2012	35,676	-	5,595	676	67	67	35,676	-	5,466	738	2,518	2,518	35,676	-	3,686	-	3,686	3,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
2013	24,619	-	5,595	676	67	67	24,619	-	5,466	738	2,518	2,518	24,619	-	3,686	-	3,686	3,686
2014	21,952	-	5,595	676	67	67	21,952	-	5,466	738	2,518	2,518	21,952	-	3,686	-	3,686	3,686
2015	20,296	-	5,595	676	67	67	20,296	-	5,466	738	2,518	2,518	20,296	-	3,686	-	3,686	3,686
2016	28,682	-	5,595	676	67	67	28,682	-	5,466	738	2,518	2,518	28,682	-	3,686	-	3,686	3,686
2017	36,658	-	5,595	676	67	67	36,658	-	5,466	738	2,518	2,518	36,658	-	3,686	-	3,686	3,686
2018	17,925	-	5,595	676	67	67	17,925	-	5,466	738	2,518	2,518	17,925	-	3,686	-	3,686	3,686
2019	34,114	-	5,595	676	67	67	34,114	-	5,466	738	2,518	2,518	34,114	-	3,686	-	3,686	3,686
Sum	2,159,314	-	548,310	66,248	6,566	6,566	2,159,314	-	535,668	72,324	246,764	246,764	2,158,822	492	361,228	-	361,228	361,228
Average	22,034	-	5,595	676	67	67	22,034	-	5,466	738	2,518	2,518	22,029	5	3,686	-	3,686	3,686
Water Year Averages																		
Wet	22,404	-	5,595	676	67	67	22,404	-	5,466	738	2,518	2,518	22,404	-	3,686	-	3,686	3,686
Above Normal	22,574	-	5,595	676	67	67	22,574	-	5,466	738	2,518	2,518	22,557	18	3,686	-	3,686	3,686
Below Normal	23,080	-	5,595	676	67	67	23,080	-	5,466	738	2,518	2,518	23,080	-	3,686	-	3,686	3,686
Dry	22,599	-	5,595	676	67	67	22,599	-	5,466	738	2,518	2,518	22,588	11	3,686	-	3,686	3,686
Critically Dry	18,807	-	5,595	676	67	67	18,807	-	5,466	738	2,518	2,518	18,807	-	3,686	-	3,686	3,686
													-	-				
Critical Period Averages													-	-				
1928-34	17,558	-	5,595	676	67	67	17,558	-	5,466	738	2,518	2,518	17,558	-	3,686	-	3,686	3,686
1987-92	18,548	-	5,595	676	67	67	18,548	-	5,466	738	2,518	2,518	18,548	-	3,686	-	3,686	3,686
2013-17	26,441	-	5,595	676	67	67	26,441	-	5,466	738	2,518	2,518	26,441	-	3,686	-	3,686	3,686
Driest 1-Year																		
1977	17,327	-	5,595	676	67	67	17,327	-	5,466	738	2,518	2,518	17,327	-	3,686	-	3,686	3,686

	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
Periods	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1922	21,472	14,641	14,641	6,831	6,831	6,831	-	192,009	11,277	196,000	14,000	30,000	30,000
1923	21,472	14,641	14,641	6,831	6,831	6,831	-	54,915	13,060	193,855	14,000	30,000	30,000
1924	21,472	14,641	14,641	6,831	6,831	6,831	-	-	11,956	137,899	14,000	30,000	30,000
1925	13,025	6,877	14,641	6,148	6,148	6,831	-	19,917	10,241	103,575	14,000	30,000	30,000
1926	19,393	12,945	14,641	6,448	6,448	6,831	-	88,712	10,244	138,043	14,000	30,000	30,000
1927	21,472	14,641	14,641	6,831	6,831	6,831	-	96,630	11,677	178,996	14,000	30,000	30,000
1928	21,472	14,641	14,641	6,831	6,831	6,831	-	38,724	12,124	161,596	14,000	30,000	30,000
1929	21,472	14,641	14,641	6,831	6,831	6,831	-	35,543	11,416	141,723	14,000	30,000	30,000
1930	12,867	6,719	14,641	6,148	6,148	6,831	-	24,442	10,468	111,697	14,000	30,000	30,000
1931	21,472	14,641	14,641	6,831	6,831	6,831	-	19,422	9,255	77,864	14,000	30,000	30,000
1932	14,084	7,636	14,641	6,448	6,448	6,831	-	132,123	10,095	155,892	14,000	30,000	30,000
1933	18,674	12,226	14,641	6,448	6,448	6,831	-	12,988	10,783	114,097	14,000	30,000	30,000
1934	12,867	6,719	14,641	6,148	6,148	6,831	-	36,250	9,658	96,689	14,000	30,000	30,000
1935	21,472	14,641	14,641	6,831	6,831	6,831	-	106,812	10,325	149,176	14,000	30,000	30,000
1936	21,472	14,641	14,641	6,831	6,831	6,831	-	49,754	11,219	143,711	14,000	30,000	30,000
1937	21,472	14,641	14,641	6,831	6,831	6,831	-	152,344	12,108	196,000	14,000	30,000	30,000
1938	21,472	14,641	14,641	6,831	6,831	6,831	-	186,211	13,101	196,000	14,000	30,000	30,000
1939	21,472	14,641	14,641	6,831	6,831	6,831	-	41,411	12,808	180,603	14,000	30,000	30,000
1940	21,472	14,641	14,641	6,831	6,831	6,831	-	29,816	12,018	154,401	14,000	30,000	30,000
1941	21,472	14,641	14,641	6,831	6,831	6,831	-	368,484	12,311	196,000	14,000	30,000	30,000
1942	21,472	14,641	14,641	6,831	6,831	6,831	-	30,806	12,611	170,195	14,000	30,000	30,000
1943	21,472	14,641	14,641	6,831	6,831	6,831	-	161,889	12,611	196,000	14,000	30,000	30,000
1944	21,472	14,641	14,641	6,831	6,831	6,831	-	104,761	13,101	196,000	14,000	30,000	30,000
1945	21,472	14,641	14,641	6,831	6,831	6,831	-	45,795	12,890	184,905	14,000	30,000	30,000
1946	21,472	14,641	14,641	6,831	6,831	6,831	-	75,561	12,890	196,000	14,000	30,000	30,000
1947	36,904	14,641	14,641	22,263	6,448	6,831	15,815	10,655	12,530	165,940	14,000	30,000	30,000
1948	29,333	7,370	14,641	21,963	6,148	6,831	15,815	-	11,210	126,545	14,000	30,000	30,000
1949	26,440	9,911	14,641	16,529	6,148	6,831	10,381	3,514	9,705	86,735	14,000	30,000	30,000
1950	31,442	11,781	14,641	19,661	6,148	6,831	13,513	13,837	8,471	61,614	14,000	30,000	30,000
1951	36,904	14,641	14,641	22,263	6,448	6,831	15,815	-	7,320	26,109	14,000	30,000	30,000
1952	21,472	14,641	14,641	6,831	6,831	6,831	-	246,309	9,873	196,000	14,000	30,000	30,000

	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
Periods	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1953	21,472	14,641	14,641	6,831	6,831	6,831	-	12,635	12,272	152,363	14,000	30,000	30,000
1954	21,472	14,641	14,641	6,831	6,831	6,831	-	42,047	11,193	139,217	14,000	30,000	30,000
1955	21,472	14,641	14,641	6,831	6,831	6,831	-	48,976	10,832	133,361	14,000	30,000	30,000
1956	21,472	14,641	14,641	6,831	6,831	6,831	-	65,238	10,917	143,682	14,000	30,000	30,000
1957	21,472	14,641	14,641	6,831	6,831	6,831	-	30,099	10,647	119,134	14,000	30,000	30,000
1958	21,472	14,641	14,641	6,831	6,831	6,831	-	265,046	11,641	196,000	14,000	30,000	30,000
1959	21,472	14,641	14,641	6,831	6,831	6,831	-	21,331	12,434	160,897	14,000	30,000	30,000
1960	21,472	14,641	14,641	6,831	6,831	6,831	-	3,797	10,798	109,896	14,000	30,000	30,000
1961	21,472	14,641	14,641	6,831	6,831	6,831	-	-	8,825	57,071	14,000	30,000	30,000
1962	21,472	14,641	14,641	6,831	6,831	6,831	-	152,344	9,696	155,719	14,000	30,000	30,000
1963	21,472	14,641	14,641	6,831	6,831	6,831	-	27,977	11,056	128,640	14,000	30,000	30,000
1964	21,958	14,641	14,641	7,317	6,831	6,831	486	11,857	9,755	87,228	14,000	30,000	30,000
1965	21,472	14,641	14,641	6,831	6,831	6,831	-	57,744	9,057	91,915	14,000	30,000	30,000
1966	21,472	14,641	14,641	6,831	6,831	6,831	-	106,812	10,148	144,579	14,000	30,000	30,000
1967	21,472	14,641	14,641	6,831	6,831	6,831	-	173,909	12,125	196,000	14,000	30,000	30,000
1968	21,472	14,641	14,641	6,831	6,831	6,831	-	3,231	12,097	143,134	14,000	30,000	30,000
1969	21,472	14,641	14,641	6,831	6,831	6,831	-	309,518	12,097	196,000	14,000	30,000	30,000
1970	21,472	14,641	14,641	6,831	6,831	6,831	-	19,776	12,405	159,371	14,000	30,000	30,000
1971	21,472	14,641	14,641	6,831	6,831	6,831	-	55,764	11,710	159,425	14,000	30,000	30,000
1972	21,472	14,641	14,641	6,831	6,831	6,831	-	7,261	10,808	111,878	14,000	30,000	30,000
1973	21,472	14,641	14,641	6,831	6,831	6,831	-	167,263	11,503	196,000	14,000	30,000	30,000
1974	21,472	14,641	14,641	6,831	6,831	6,831	-	75,349	13,101	196,000	14,000	30,000	30,000
1975	21,472	14,641	14,641	6,831	6,831	6,831	-	92,176	13,101	196,000	14,000	30,000	30,000
1976	26,948	14,641	14,641	12,307	6,831	6,831	5,476	3,868	12,213	149,131	14,000	30,000	30,000
1977	17,327	11,179	14,641	6,148	6,148	6,831	-	37,805	11,001	131,935	14,000	30,000	30,000
1978	21,472	14,641	14,641	6,831	6,831	6,831	-	308,669	11,890	196,000	14,000	30,000	30,000
1979	27,041	14,641	14,641	12,400	6,831	6,831	5,569	99,953	13,101	196,000	14,000	30,000	30,000
1980	21,472	14,641	14,641	6,831	6,831	6,831	-	152,203	13,101	196,000	14,000	30,000	30,000
1981	22,666	14,641	14,641	8,025	6,831	6,831	1,194	51,875	13,026	192,043	14,000	30,000	30,000
1982	21,472	14,641	14,641	6,831	6,831	6,831	-	58,238	12,976	193,305	14,000	30,000	30,000

	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
Periods	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1983	21,472	14,641	14,641	6,831	6,831	6,831	-	356,323	13,051	196,000	14,000	30,000	30,000
1984	21,472	14,641	14,641	6,831	6,831	6,831	-	28,826	12,574	168,252	14,000	30,000	30,000
1985	21,472	14,641	14,641	6,831	6,831	6,831	-	16,877	11,316	129,813	14,000	30,000	30,000
1986	21,472	14,641	14,641	6,831	6,831	6,831	-	112,114	11,659	186,268	14,000	30,000	30,000
1987	20,273	13,442	14,641	6,831	6,831	6,831	-	-	11,673	130,595	14,000	30,000	30,000
1988	19,770	13,322	14,641	6,448	6,448	6,831	-	72,521	10,950	148,166	14,000	30,000	30,000
1989	21,472	14,641	14,641	6,831	6,831	6,831	-	403	10,260	94,309	14,000	30,000	30,000
1990	14,709	8,561	14,641	6,148	6,148	6,831	-	-	8,244	42,065	14,000	30,000	30,000
1991	19,352	12,904	14,641	6,448	6,448	6,831	-	108,933	8,327	98,671	14,000	30,000	30,000
1992	15,713	9,565	14,641	6,148	6,148	6,831	-	167,121	11,252	196,000	14,000	30,000	30,000
1993	21,472	14,641	14,641	6,831	6,831	6,831	-	334,360	13,101	196,000	14,000	30,000	30,000
1994	21,472	14,641	14,641	6,831	6,831	6,831	-	15,575	12,327	155,248	14,000	30,000	30,000
1995	21,472	14,641	14,641	6,831	6,831	6,831	-	366,102	12,327	196,000	14,000	30,000	30,000
1996	21,472	14,641	14,641	6,831	6,831	6,831	-	41,187	12,804	180,383	14,000	30,000	30,000
1997	21,472	14,641	14,641	6,831	6,831	6,831	-	59,768	12,568	183,583	14,000	30,000	30,000
1998	21,472	14,641	14,641	6,831	6,831	6,831	-	465,884	12,865	196,000	14,000	30,000	30,000
1999	21,472	14,641	14,641	6,831	6,831	6,831	-	18,239	12,376	157,863	14,000	30,000	30,000
2000	21,472	14,641	14,641	6,831	6,831	6,831	-	51,869	11,581	154,151	14,000	30,000	30,000
2001	21,472	14,641	14,641	6,831	6,831	6,831	-	151,409	12,306	196,000	14,000	30,000	30,000
2002	21,472	14,641	14,641	6,831	6,831	6,831	-	6,421	12,156	146,265	14,000	30,000	30,000
2003	21,472	14,641	14,641	6,831	6,831	6,831	-	17,144	10,501	108,908	14,000	30,000	30,000
2004	21,472	14,641	14,641	6,831	6,831	6,831	-	18,695	9,137	74,466	14,000	30,000	30,000
2005	21,472	14,641	14,641	6,831	6,831	6,831	-	388,819	10,792	196,000	14,000	30,000	30,000
2006	21,606	14,641	14,641	6,965	6,831	6,831	134	100,283	13,101	196,000	14,000	30,000	30,000
2007	21,472	14,641	14,641	6,831	6,831	6,831	-	4,920	12,128	144,792	14,000	30,000	30,000
2008	21,472	14,641	14,641	6,831	6,831	6,831	-	108,331	12,128	196,000	14,000	30,000	30,000
2009	21,472	14,641	14,641	6,831	6,831	6,831	-	13,188	12,282	152,906	14,000	30,000	30,000
2010	21,472	14,641	14,641	6,831	6,831	6,831	-	75,948	11,845	173,009	14,000	30,000	30,000
2011	21,472	14,641	14,641	6,831	6,831	6,831	-	131,349	12,664	196,000	14,000	30,000	30,000
2012	35,676	13,413	14,641	22,263	6,336	6,831	15,927	6,429	12,453	161,903	14,000	30,000	30,000

Periods	Reach 4 Operations SBC			Reach 5 Operations SBC			Lake Cachuma Operations						
	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
2013	24,619	4,193	14,641	20,426	4,499	6,831	15,927	3,520	11,127	126,223	14,000	30,000	30,000
2014	21,952	3,733	14,641	18,219	3,621	6,831	14,598	3,942	9,780	90,983	14,000	30,000	30,000
2015	20,296	1,991	14,641	18,305	2,378	6,831	15,927	2,264	8,459	56,715	14,000	30,000	30,000
2016	28,682	6,719	14,641	21,963	6,036	6,831	15,927	4,694	7,227	26,109	14,000	30,000	30,000
2017	36,658	14,641	14,641	22,017	6,831	6,831	15,186	87,303	7,612	76,986	14,000	30,000	30,000
2018	17,925	11,477	14,641	6,448	6,448	6,831	-	3,373	7,661	28,698	14,000	30,000	30,000
2019	34,114	14,641	14,641	19,473	6,831	6,831	12,642	104,953	7,990	94,303	14,000	30,000	30,000
Sum	2,159,314	1,320,040	1,434,818	839,274	648,942	669,438	190,332	8,291,482	1,105,486	14,509,417	1,372,000	2,940,000	2,940,000
Average	22,034	13,470	14,641	8,564	6,622	6,831	1,942	84,607	11,280	148,055	14,000	30,000	30,000
Water Year Averages													
Wet	22,404	14,641	14,641	7,763	6,831	6,831	932	142,380	11,861	172,884	14,000	30,000	30,000
Above Normal	22,574	14,641	14,641	7,933	6,804	6,831	1,130	123,800	11,453	158,465	14,000	30,000	30,000
Below Normal	23,080	13,417	14,641	9,663	6,684	6,831	2,979	38,054	11,001	133,739	14,000	30,000	30,000
Dry	22,599	13,049	14,641	9,550	6,578	6,831	2,972	40,225	11,203	135,852	14,000	30,000	30,000
Critically Dry	18,807	10,736	14,641	8,071	6,036	6,831	2,035	50,188	10,375	122,663	14,000	30,000	30,000
Critical Period Averages													
1928-34	17,558	11,032	14,641	6,526	6,526	6,831	-	42,785	10,543	122,794	14,000	30,000	30,000
1987-92	18,548	12,073	14,641	6,476	6,476	6,831	-	58,163	10,118	118,301	14,000	30,000	30,000
2013-17	26,441	6,255	14,641	20,186	4,673	6,831	15,513	20,345	8,841	75,403	14,000	30,000	30,000
Driest 1-Year													
1977	17,327	11,179	14,641	6,148	6,148	6,831	-	37,805	11,001	131,935	14,000	30,000	30,000

Appendix xx – Modeling

Portfolio 3

Periods	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1922	2,752	-	-	-	10,124	-	-	-	-	7,616	-	993	1,105	-	144
1923	9,004	-	-	-	9,690	-	-	-	10,124	-	-	-	789	-	103
1924	-	11,756	-	-	398	3,169	-	-	2,451	-	2,868	-	-	-	-
1925	-	-	-	-	3,760	3,531	-	-	-	-	-	-	-	-	-
1926	-	-	-	-	5,785	2,056	-	-	2,262	-	-	-	-	-	-
1927	1,225	-	-	-	10,269	-	-	-	5,519	9,598	-	1,252	1,210	-	158
1928	9,458	-	-	-	9,835	-	-	-	10,914	-	-	-	894	-	117
1929	-	6,569	-	-	4,484	3,005	-	-	5,522	-	322	-	-	-	-
1930	-	1,678	-	-	-	2,771	-	-	3,021	-	3,622	-	-	-	-
1931	-	2,436	-	-	3,479	-	-	-	-	-	816	-	-	-	-
1932	-	-	-	-	3,212	3,233	-	-	-	-	2,232	-	-	-	-
1933	-	-	-	-	5,785	2,056	-	-	1,301	-	-	-	-	-	-
1934	-	-	-	-	1,638	3,909	-	-	1,170	-	5,109	-	-	-	-
1935	5,372	-	-	-	11,715	-	-	-	2,390	10,000	-	1,304	2,264	-	295
1936	-	-	-	5,193	6,979	-	-	-	11,770	2,636	-	344	-	-	-
1937	1,733	-	-	-	10,558	-	-	-	6,922	10,000	-	1,304	1,421	-	185
1938	18,930	-	-	1,912	16,308	-	-	-	10,615	5,084	-	605	2,421	-	302
1939	-	4,187	-	10,557	5,496	2,267	-	-	11,740	-	-	-	-	-	-
1940	1,732	-	-	-	8,244	-	-	-	4,541	2,723	-	355	-	265	-
1941	20,830	-	-	5,918	16,979	-	-	-	11,500	-	-	-	-	-	-
1942	13,097	-	-	16,456	12,729	-	-	-	14,575	-	-	-	-	-	-
1943	17,021	-	-	17,471	14,514	-	-	-	15,133	1,990	-	-	1,465	-	-
1944	-	4,642	-	-	5,351	2,372	-	-	7,839	-	-	-	-	-	-
1945	9,913	-	-	11,742	10,979	-	-	-	9,305	-	-	-	-	-	-
1946	5,820	-	-	5,894	8,729	-	-	-	10,906	-	-	-	-	-	-
1947	-	8,655	-	-	8,099	370	-	-	7,780	-	2,777	-	-	-	-
1948	-	-	-	-	5,729	-	-	-	8,678	-	7,500	-	-	-	-
1949	-	1,821	-	-	5,062	2,583	-	-	2,407	-	7,500	-	-	-	-
1950	-	-	-	-	7,232	1,003	-	-	3,992	-	7,500	-	-	-	-
1951	-	-	-	-	12,229	-	-	-	8,460	-	3,244	-	-	-	-
1952	16,700	-	-	-	16,979	-	-	-	12,229	4,130	-	539	-	-	-

	San Luis Reservoir Operations								External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR				SBC Use			SLO Use		
Periods	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1953	-	-	-	14,216	8,729	-	-	-	16,912	5,820	-	759	-	-	-
1954	794	-	-	-	9,979	-	-	-	8,678	7,300	-	952	-	-	-
1955	-	3,278	-	-	5,785	2,056	-	-	7,754	-	-	-	-	-	-
1956	8,556	-	-	-	15,729	-	-	-	6,072	10,000	-	1,304	-	-	-
1957	-	-	-	-	7,232	-	-	-	10,261	1,271	-	166	-	1,003	-
1958	24,014	-	-	8,556	18,433	-	-	-	12,700	-	-	-	296	-	-
1959	-	1,003	-	19,456	5,770	791	-	-	16,818	-	-	-	-	-	-
1960	1,271	-	-	-	7,232	1,003	-	-	3,637	-	-	-	-	-	-
1961	-	4,826	-	-	4,628	2,899	-	-	3,632	-	2,090	-	-	-	-
1962	1,726	-	-	-	7,376	897	-	-	3,256	-	-	-	-	-	-
1963	2,167	-	-	1,726	9,699	-	-	-	10,506	5,472	-	-	30	-	-
1964	5,365	486	-	-	8,533	54	-	-	8,722	-	-	-	-	-	-
1965	2,181	-	-	7,046	7,064	335	-	-	9,121	-	-	-	-	-	-
1966	8,733	-	-	2,181	11,479	-	-	-	7,064	2,090	-	273	-	-	-
1967	22,195	-	-	8,733	17,729	-	-	-	11,479	-	-	-	-	-	-
1968	6,729	-	-	18,170	9,229	-	-	-	15,517	-	-	-	-	-	-
1969	24,014	-	-	10,754	18,729	-	-	-	11,441	-	-	-	-	-	-
1970	12,188	-	-	23,310	12,229	-	-	-	18,342	-	-	-	-	-	-
1971	816	-	-	12,892	5,979	-	-	-	12,616	-	-	-	-	-	-
1972	7,639	-	-	196	9,729	-	-	-	5,782	-	-	-	-	-	-
1973	10,823	-	-	7,459	11,479	-	-	-	9,487	-	-	-	-	-	-
1974	18,556	-	-	10,288	15,729	-	-	-	11,184	-	-	-	-	-	-
1975	10,823	-	-	19,891	11,479	-	-	-	16,463	-	-	-	-	-	-
1976	1,271	5,476	-	-	6,229	-	-	-	8,569	-	-	-	-	-	-
1977	-	6,618	-	-	868	4,312	-	-	1,252	-	7,500	-	-	1,327	-
1978	7,349	-	-	-	12,272	-	-	-	4,443	8,478	-	978	1,957	-	-
1979	9,458	5,569	-	-	10,729	-	-	-	11,294	-	-	-	-	-	-
1980	18,556	-	-	11,238	15,729	-	-	-	11,611	-	-	-	-	-	-
1981	-	4,472	-	-	5,785	2,056	-	-	7,379	-	-	-	-	-	-
1982	24,014	-	-	14,084	18,729	-	-	-	12,175	-	-	-	-	-	-

Periods	San Luis Reservoir Operations								External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR				SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1983	24,014	-	-	24,014	18,729	-	-	-	18,729	-	-	-	-	-	-
1984	12,188	-	-	24,014	12,229	-	-	-	18,729	-	-	-	-	-	-
1985	11,278	-	-	11,903	11,729	-	-	-	12,072	-	-	-	-	-	-
1986	12,642	-	-	11,080	12,432	-	-	-	11,886	-	-	-	47	-	-
1987	-	6,338	-	-	4,050	3,321	-	-	5,540	-	-	-	-	-	-
1988	-	6,787	-	-	915	4,436	-	-	-	-	7,500	-	-	-	-
1989	816	-	-	-	5,979	-	-	-	2,352	-	-	-	-	-	-
1990	-	816	-	-	466	3,487	-	-	1,038	-	7,500	-	-	-	-
1991	-	-	-	-	2,878	2,899	-	-	-	-	7,500	-	-	-	-
1992	-	-	-	-	526	2,021	-	-	-	-	7,500	-	-	526	-
1993	7,371	-	-	-	9,979	-	-	-	1,415	723	-	94	-	-	-
1994	-	7,371	-	-	4,484	3,005	-	-	4,730	-	-	-	-	-	-
1995	14,014	-	-	-	18,729	-	-	-	6,888	10,000	-	1,304	-	-	-
1996	7,646	-	-	13,031	15,229	-	-	-	18,765	10,000	-	1,304	-	-	-
1997	3,365	-	-	7,932	12,479	-	-	-	15,386	9,277	-	1,210	-	-	-
1998	24,014	-	-	4,062	18,729	-	-	-	12,863	-	-	-	-	-	-
1999	7,219	-	-	24,014	11,229	-	-	-	18,729	3,149	-	-	-	-	-
2000	12,188	-	-	6,744	11,703	-	-	-	11,229	-	-	-	526	-	-
2001	-	9,646	-	-	3,760	3,531	-	-	4,606	-	-	-	-	-	-
2002	-	1,913	-	-	6,219	1,740	-	-	3,213	-	-	-	-	-	-
2003	-	1,104	-	-	4,729	-	-	-	4,664	-	354	-	-	-	-
2004	-	-	-	-	6,508	1,529	-	-	1,609	-	1,003	-	-	-	-
2005	17,191	-	-	-	14,979	-	-	-	4,881	-	-	-	-	-	-
2006	19,309	-	-	17,191	17,479	-	-	-	21,380	2,297	-	177	-	-	-
2007	5,820	-	-	-	8,729	-	-	-	10,552	-	-	-	-	-	-
2008	-	5,552	-	-	5,062	2,583	-	-	3,058	-	-	-	-	-	-
2009	-	3,278	-	-	5,785	2,056	-	-	3,006	-	-	-	-	-	-
2010	1,271	-	-	-	7,232	1,003	-	-	5,782	-	-	-	-	-	-
2011	14,917	-	-	17,570	13,729	-	-	-	16,992	-	-	-	-	-	-
2012	-	-	-	-	9,979	-	-	-	9,105	-	6,110	-	-	-	-

Periods	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
2013	-	-	-	-	4,435	1,956	-	-	3,685	-	7,500	-	-	-	-
2014	-	11,698	-	-	599	5,620	-	-	-	-	7,500	-	-	-	-
2015	-	3,219	-	-	1,311	2,582	-	-	-	-	7,500	-	-	-	-
2016	-	-	-	-	8,729	-	-	-	880	-	1,390	-	-	-	-
2017	2,005	-	-	-	14,979	-	-	-	14,954	-	-	-	-	-	-
2018	-	2,005	-	-	5,062	2,583	-	-	6,147	-	-	-	-	-	-
2019	-	-	-	-	12,479	-	-	-	11,311	-	-	-	-	-	-
Sum	560,093	133,199	-	426,894	886,968	91,080	-	-	783,409	129,654	114,437	15,217	14,425	3,121	1,304
Average	5,715	1,359	-	4,356	9,051	929	-	-	7,994	1,323	1,168	155	147	32	13
Water Year Averages															
Wet	12,673	-	-	10,539	14,211	11	-	-	13,323	2,495	-	273	179	-	15
Above Normal	6,608	79	-	2,238	10,528	-	-	-	7,644	2,150	257	271	328	91	20
Below Normal	3,518	450	-	4,962	8,231	567	-	-	8,478	295	1,000	39	49	-	6
Dry	1,352	2,699	-	-	6,323	1,537	-	-	5,241	870	1,347	113	160	-	21
Critically Dry	-	4,188	-	-	2,407	3,088	-	-	1,368	-	4,256	-	-	124	-
Critical Period Averages															
1928-34	1,351	1,526	-	-	4,062	2,139	-	-	3,133	-	1,729	-	128	-	17
1987-92	136	2,324	-	-	2,469	2,694	-	-	1,488	-	5,000	-	-	88	-
2013-17	401	2,983	-	-	6,011	2,032	-	-	3,904	-	4,778	-	-	-	-
Driest 1-Year															
1977	-	6,618	-	-	868	4,312	-	-	1,252	-	7,500	-	-	1,327	-

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1922	-	-	-	-	-	-	-	-	-	-
1923	-	-	-	-	-	-	-	-	-	-
1924	-	-	-	-	-	-	480	-	-	-
1925	-	-	-	-	-	-	1,199	-	-	-
1926	-	-	-	-	-	-	1,199	-	-	-
1927	-	-	-	-	-	-	-	-	-	-
1928	-	-	-	-	-	-	-	-	-	-
1929	-	-	-	-	-	-	480	-	-	-
1930	-	-	-	-	-	-	1,199	-	-	-
1931	-	-	-	-	-	-	480	-	-	-
1932	-	-	-	-	-	-	480	-	-	-
1933	-	-	-	-	-	-	480	-	-	-
1934	-	-	-	-	-	-	480	-	-	-
1935	-	-	-	-	-	-	-	-	-	-
1936	-	-	-	-	-	-	-	-	-	-
1937	-	-	-	-	-	-	-	-	-	-
1938	-	-	-	-	-	-	-	-	-	-
1939	-	-	-	-	-	-	-	-	-	-
1940	-	-	-	-	-	-	-	-	-	-
1941	-	-	-	-	-	-	-	-	-	-
1942	-	-	-	-	-	-	-	-	-	-
1943	-	-	-	-	-	-	-	-	-	-
1944	-	-	-	-	-	-	-	-	-	-
1945	-	-	-	-	-	-	-	-	-	-
1946	-	-	-	-	-	-	-	-	-	-
1947	-	-	-	-	-	-	-	-	-	-
1948	-	-	-	-	-	-	-	-	-	-
1949	-	-	-	-	-	-	1,199	-	-	-
1950	-	-	-	-	-	-	1,199	-	-	-
1951	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-

Appendix xx – Modeling

Portfolio 3

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1953	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-
1961	-	-	-	-	-	-	-	-	-	-
1962	-	-	-	-	-	-	-	-	-	-
1963	-	-	-	-	-	-	-	-	-	-
1964	-	-	-	-	-	-	-	-	-	-
1965	-	-	-	-	-	-	-	-	-	-
1966	-	-	-	-	-	-	-	-	-	-
1967	-	-	-	-	-	-	-	-	-	-
1968	-	-	-	-	-	-	-	-	-	-
1969	-	-	-	-	-	-	-	-	-	-
1970	-	-	-	-	-	-	-	-	-	-
1971	-	-	-	-	-	-	-	-	-	-
1972	-	-	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-	-	-
1974	-	-	-	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-	-	-	-
1977	-	-	-	-	-	-	480	-	-	-
1978	-	-	-	-	-	-	-	-	-	-
1979	-	-	-	-	-	-	-	-	-	-
1980	-	-	-	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-	-	-

Appendix xx – Modeling

Portfolio 3

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1983	-	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-	-	-
1987	-	-	-	-	-	-	1,199	-	-	-
1988	-	-	-	-	-	-	480	-	-	-
1989	-	-	-	-	-	-	-	-	-	-
1990	-	-	-	-	-	-	480	-	-	-
1991	-	-	-	-	-	-	480	-	-	-
1992	-	-	-	-	-	-	480	-	-	-
1993	-	-	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-

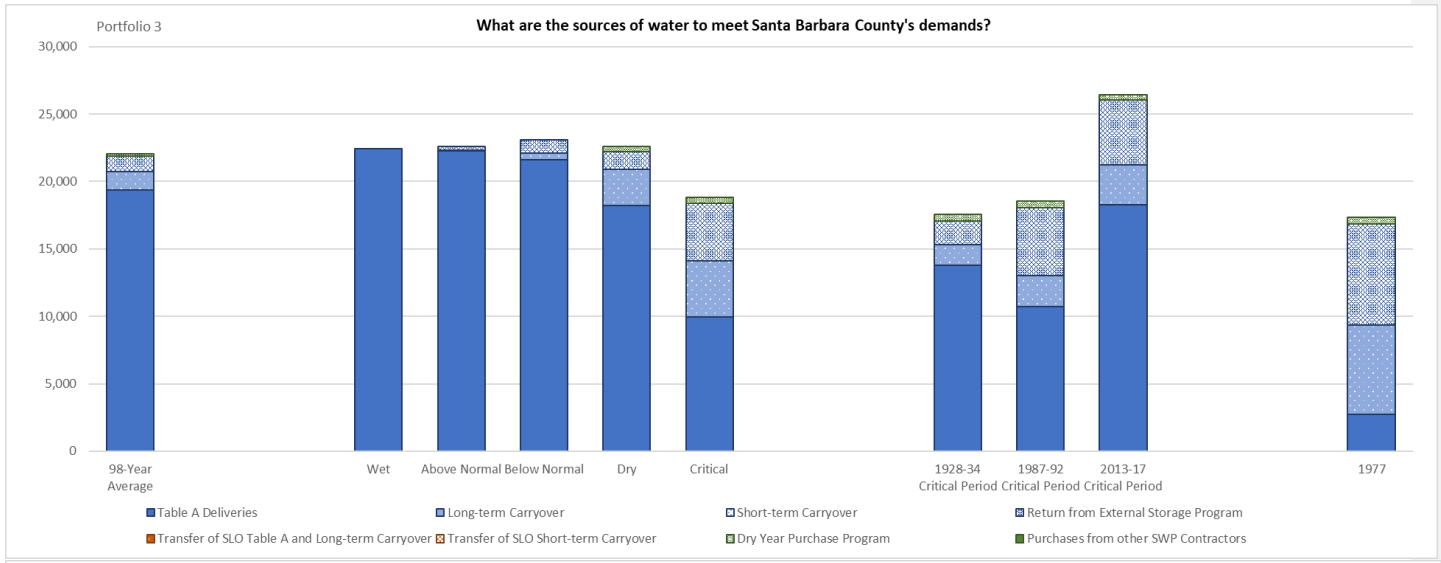
Appendix xx – Modeling

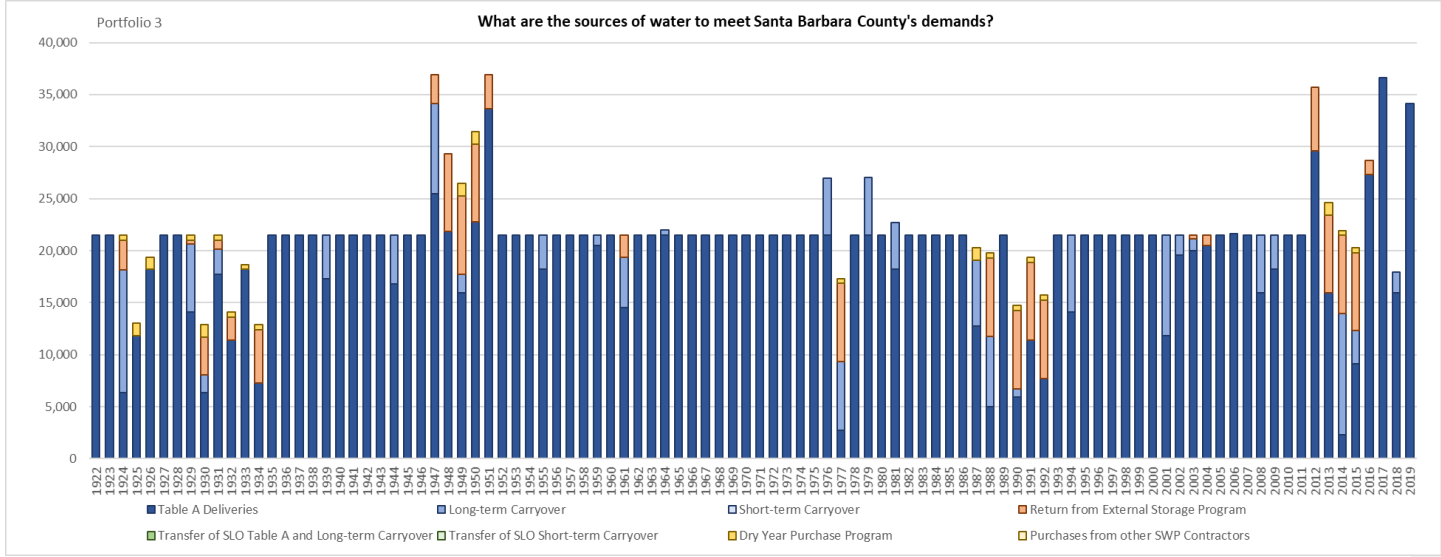
Portfolio 3

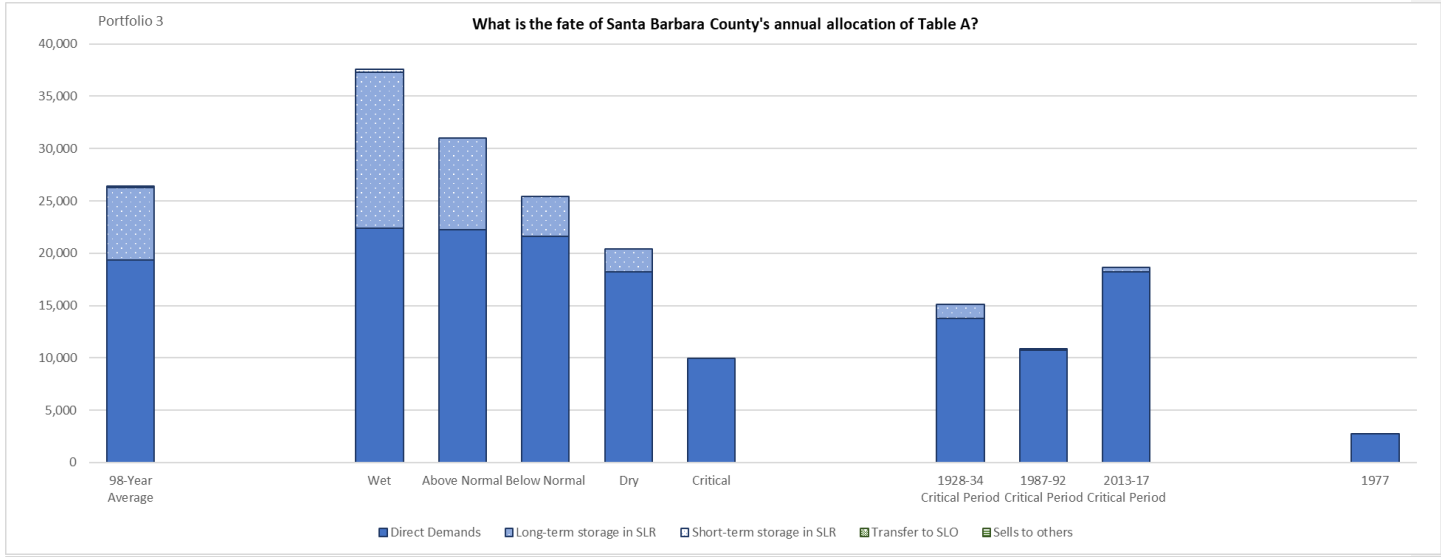
Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
2013	-	-	-	-	-	-	1,199	-	-	-
2014	-	-	-	-	-	-	480	-	-	-
2015	-	-	-	-	-	-	480	-	-	-
2016	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-
Sum	-	-	-	-	-	-	14,633	-	-	-
Average	-	-	-	-	-	-	149	-	-	-
Water Year Averages										
Wet	-	-	-	-	-	-	-	-	-	-
Above Normal	-	-	-	-	-	-	-	-	-	-
Below Normal	-	-	-	-	-	-	-	-	-	-
Dry	-	-	-	-	-	-	365	-	-	-
Critically Dry	-	-	-	-	-	-	416	-	-	-
Critical Period Averages										
1928-34	-	-	-	-	-	-	514	-	-	-
1987-92	-	-	-	-	-	-	520	-	-	-
2013-17	-	-	-	-	-	-	432	-	-	-
Driest 1-Year										
1977	-	-	-	-	-	-	480	-	-	-

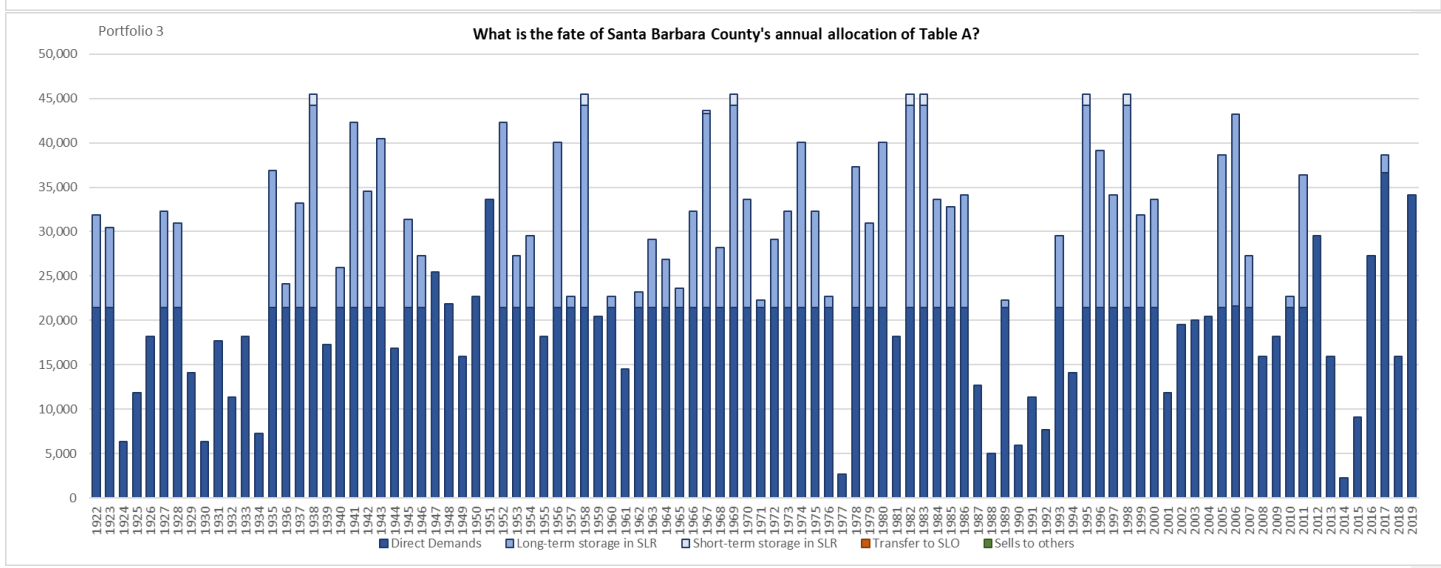
Appendix xx – Modeling

Portfolio 3



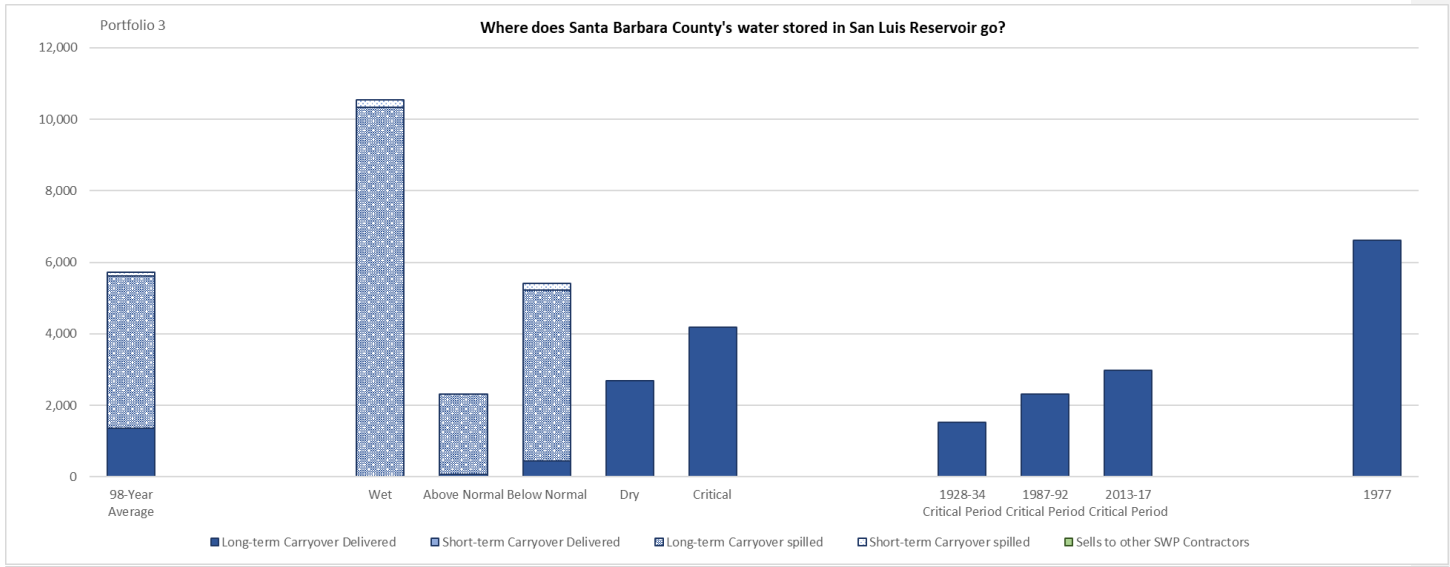


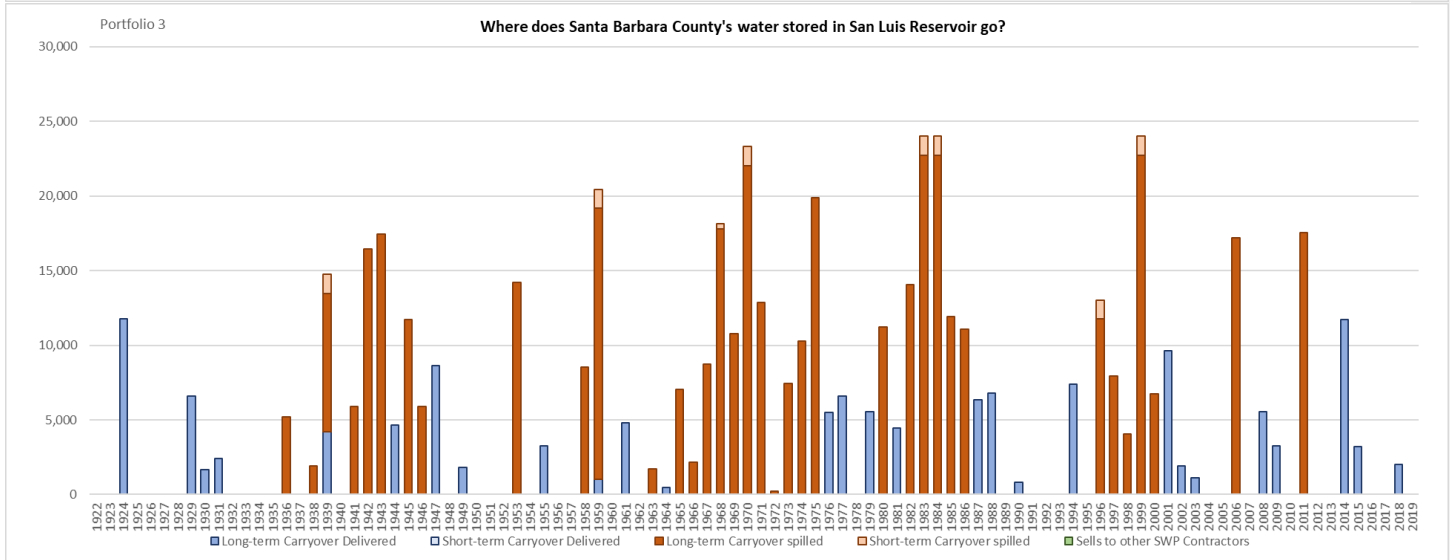


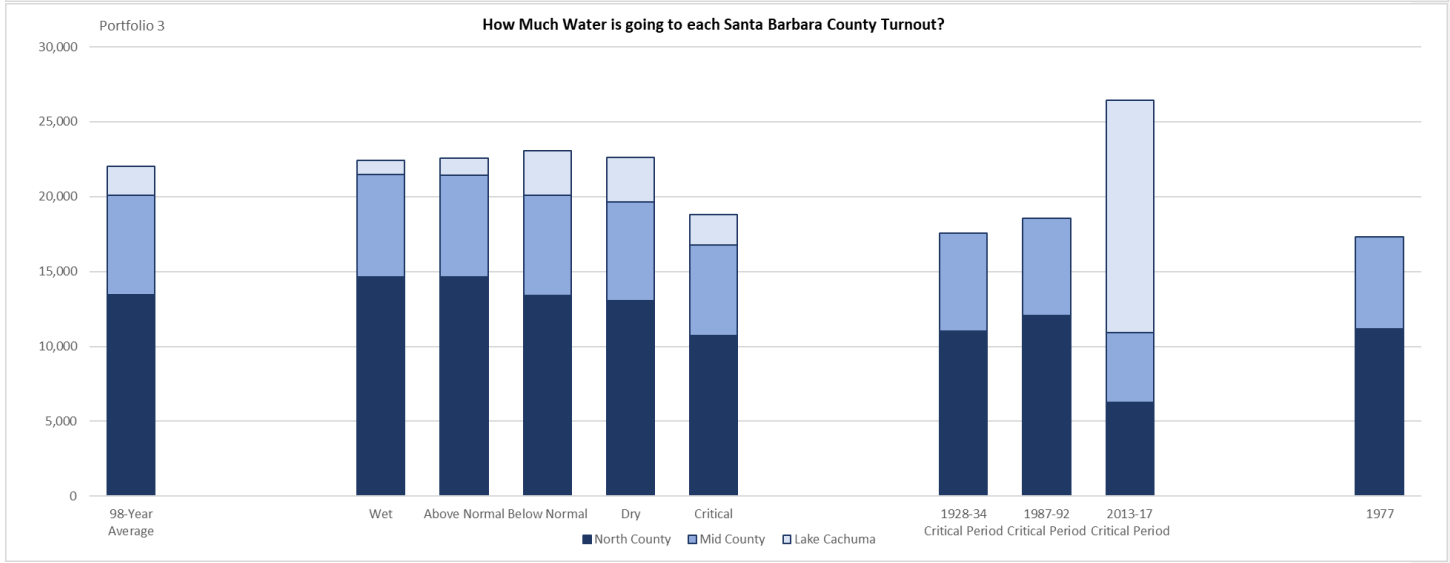


Appendix xx – Modeling

Portfolio 3

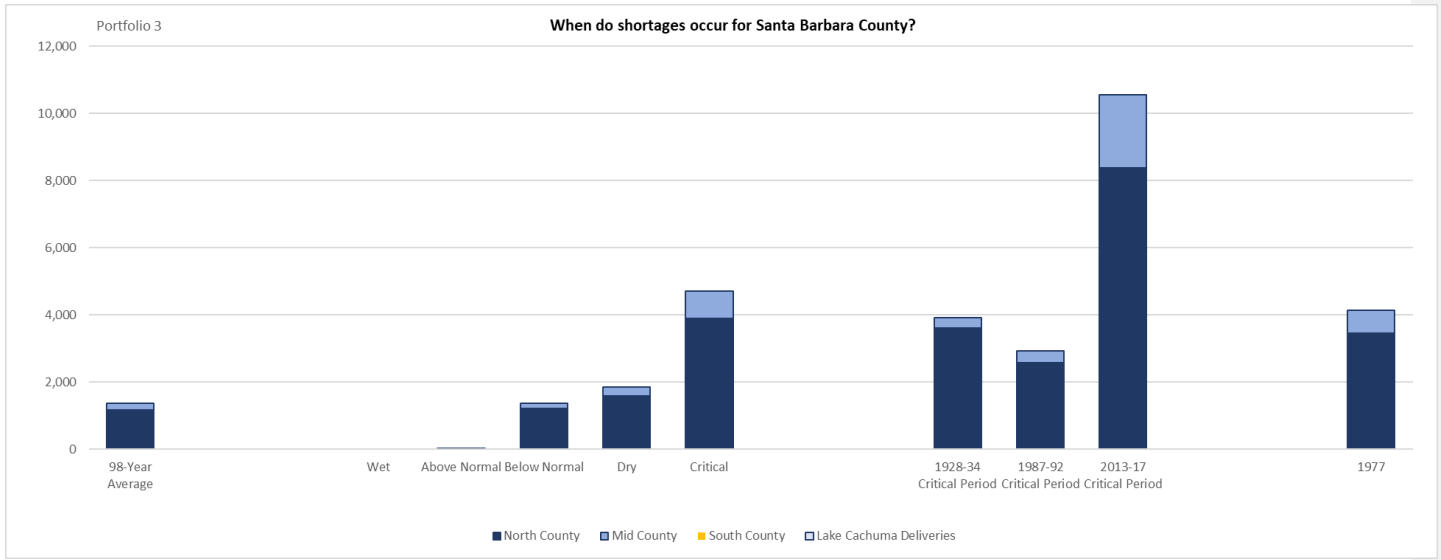


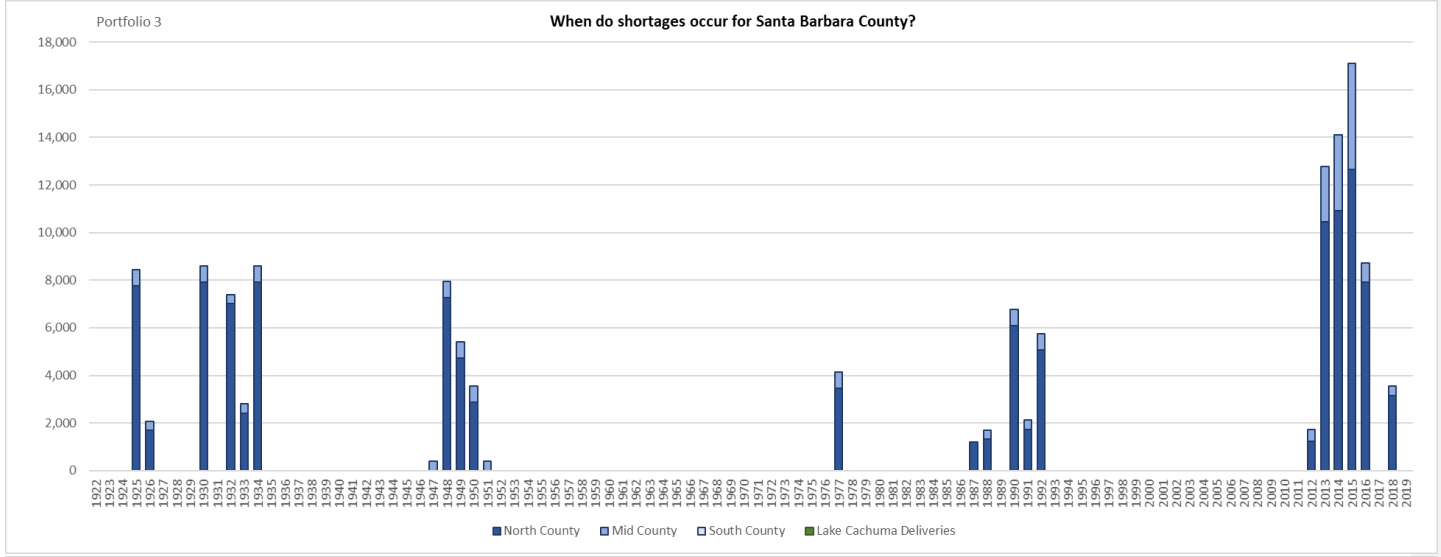


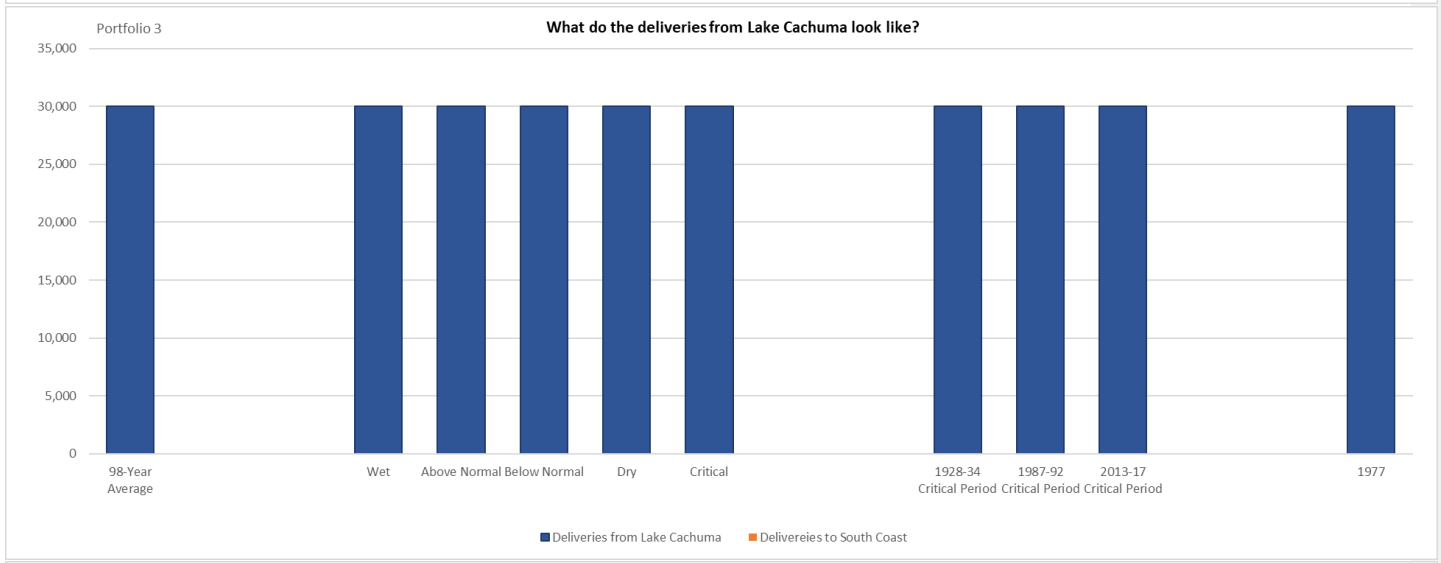


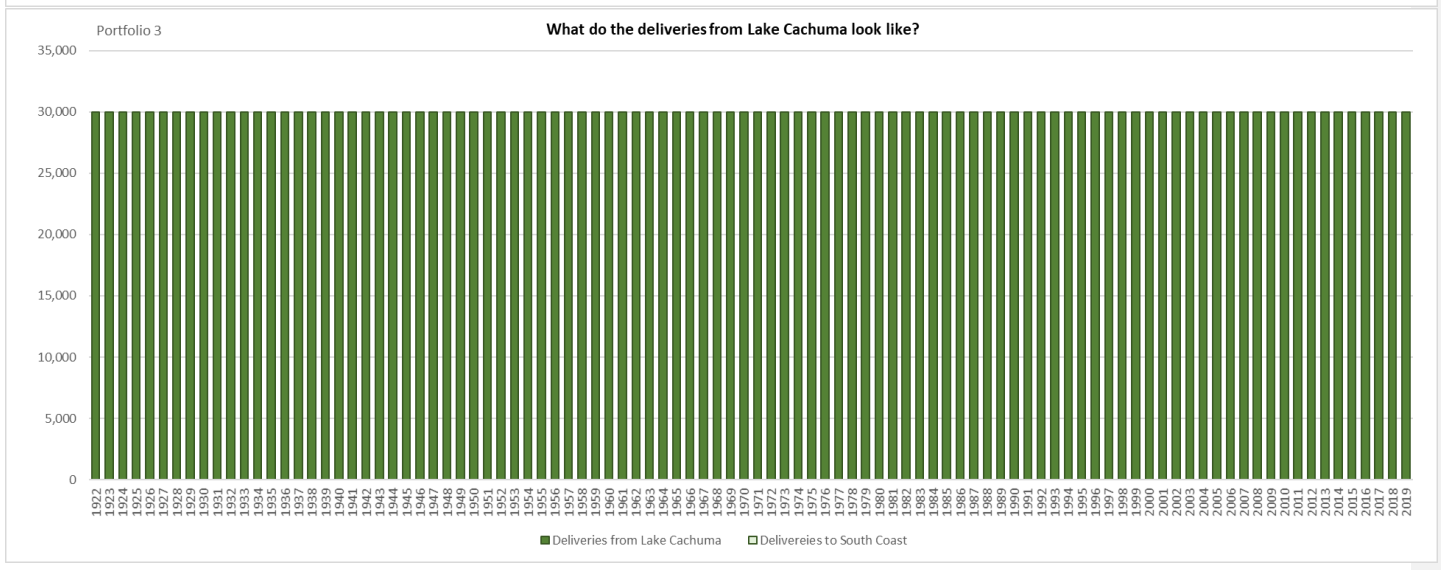
Appendix xx – Modeling

Portfolio 3



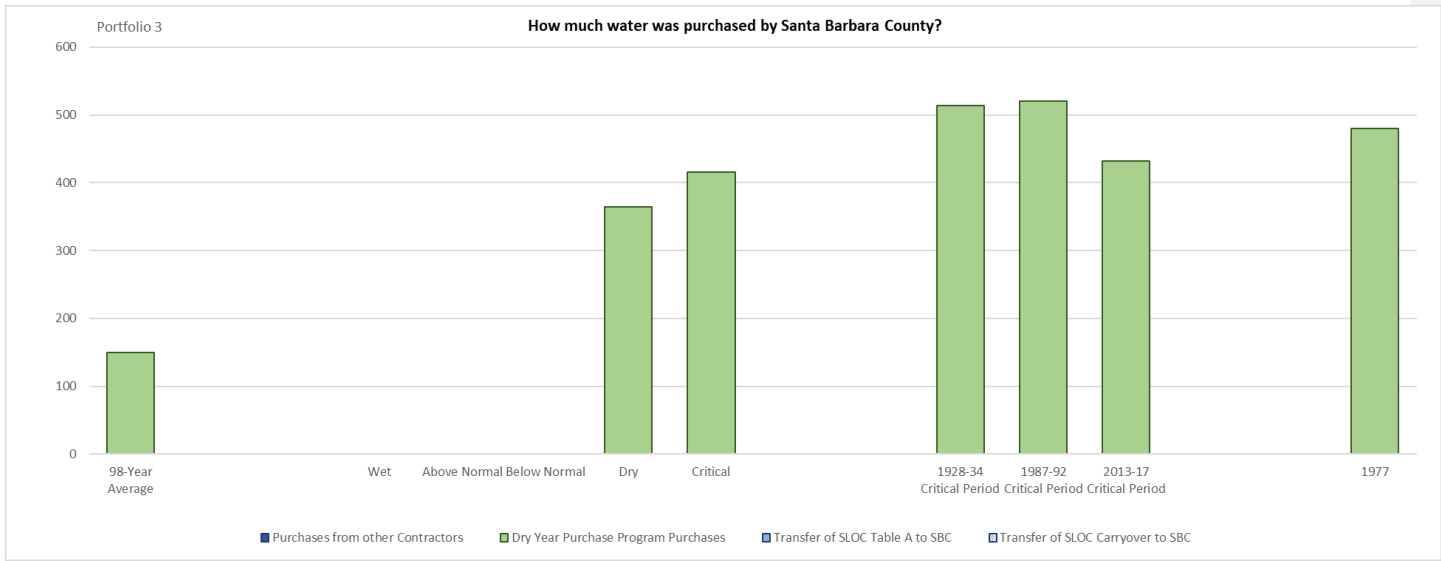


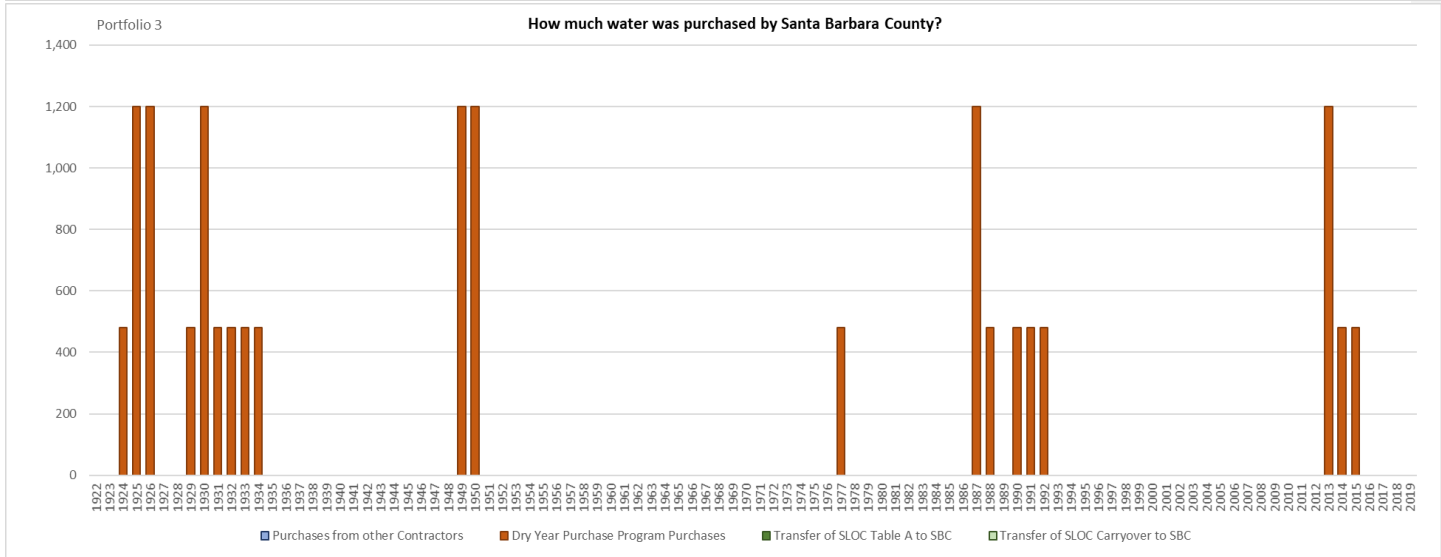


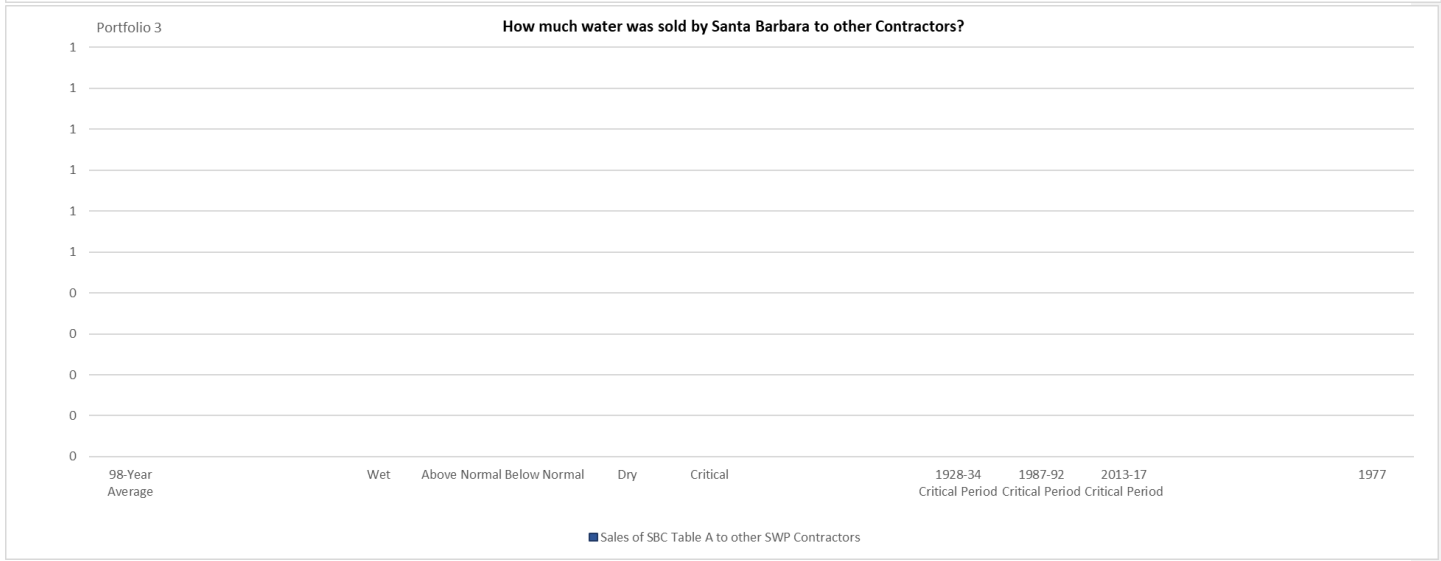


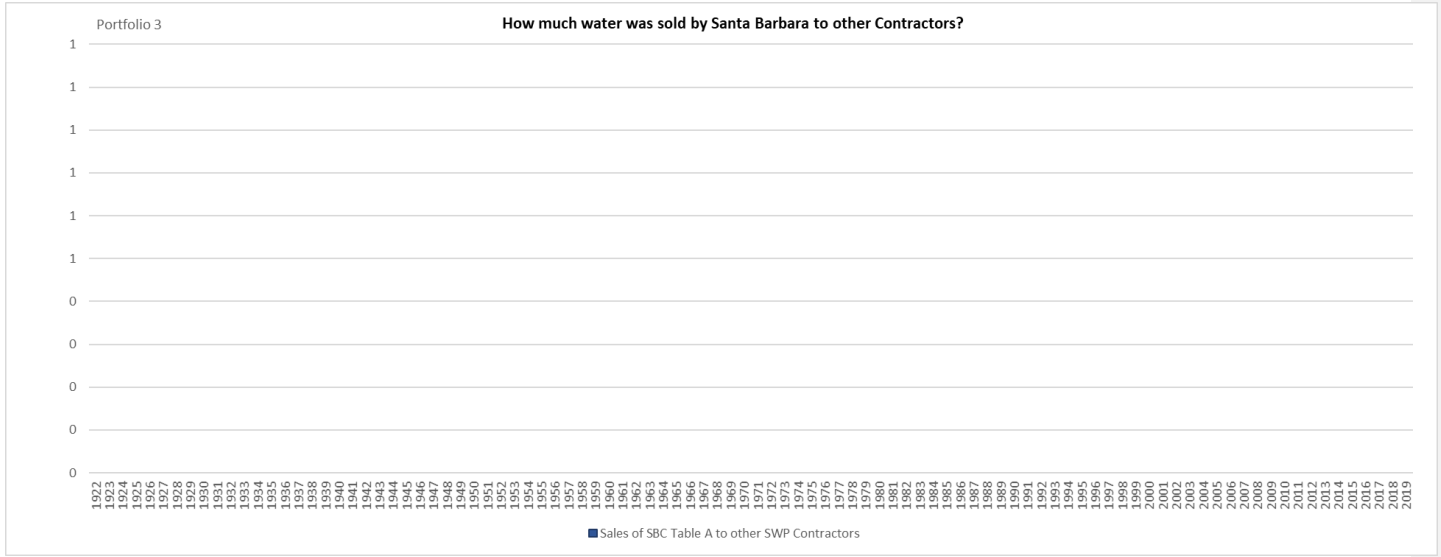
Appendix xx – Modeling

Portfolio 3



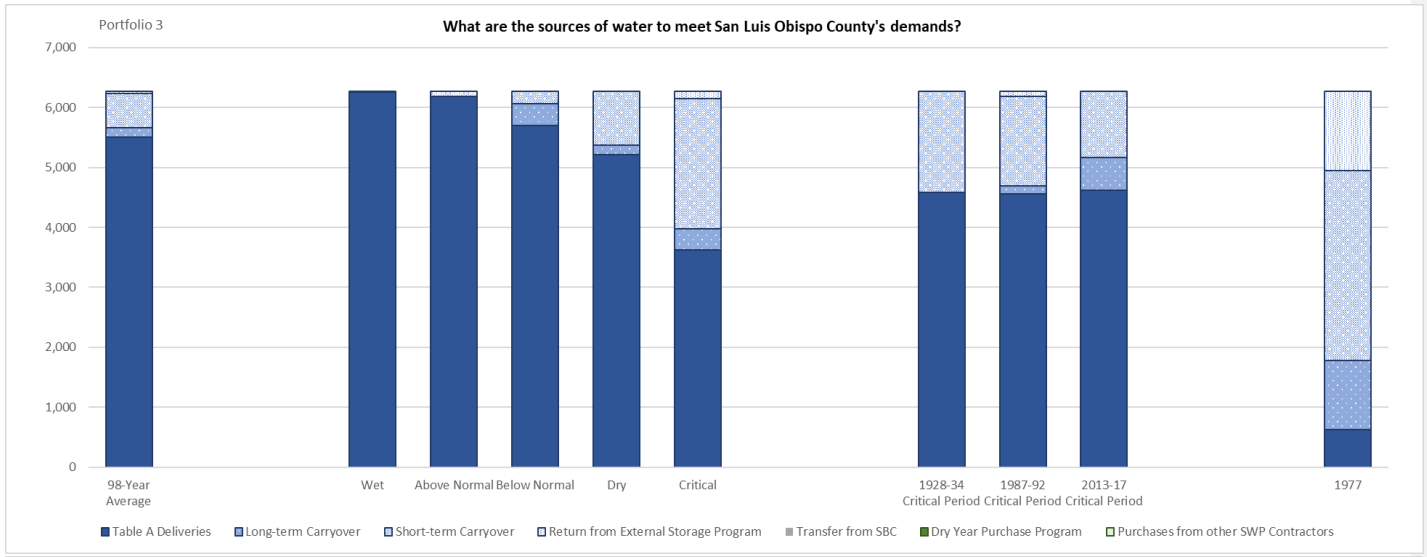


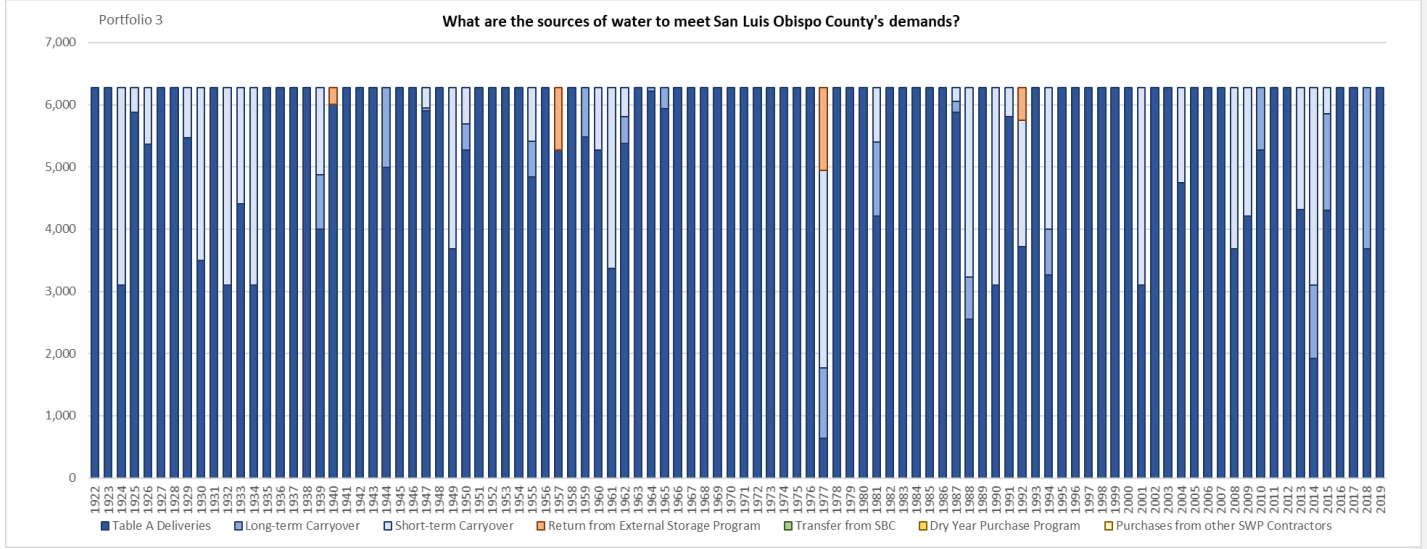


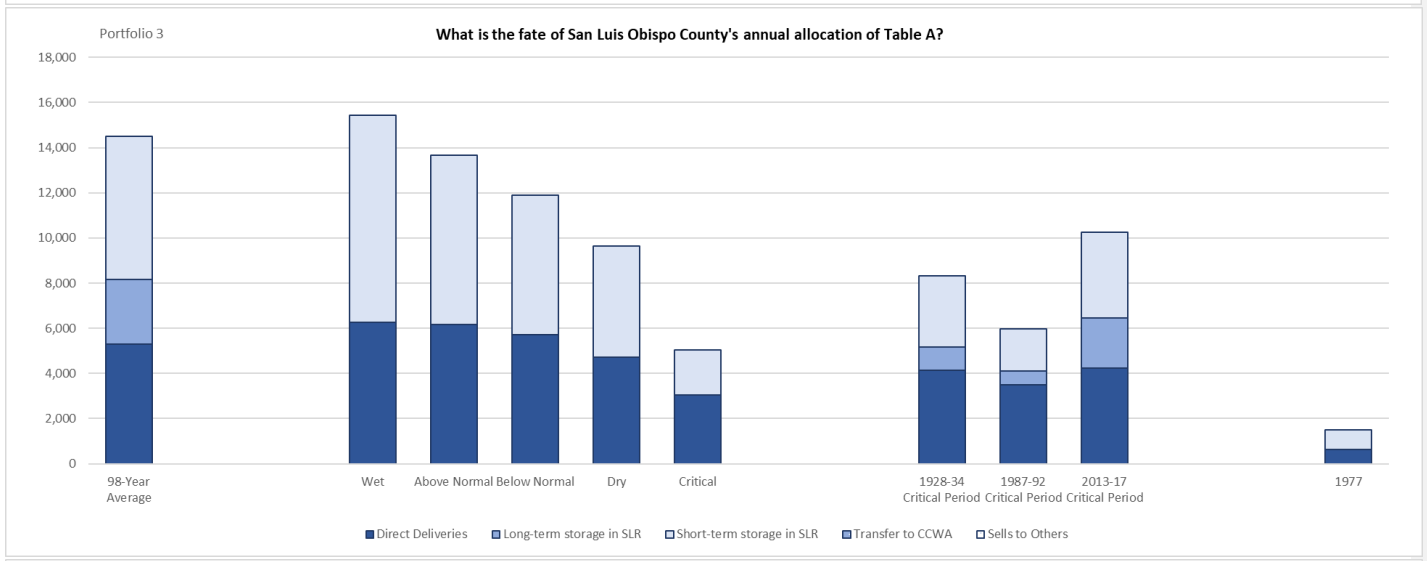


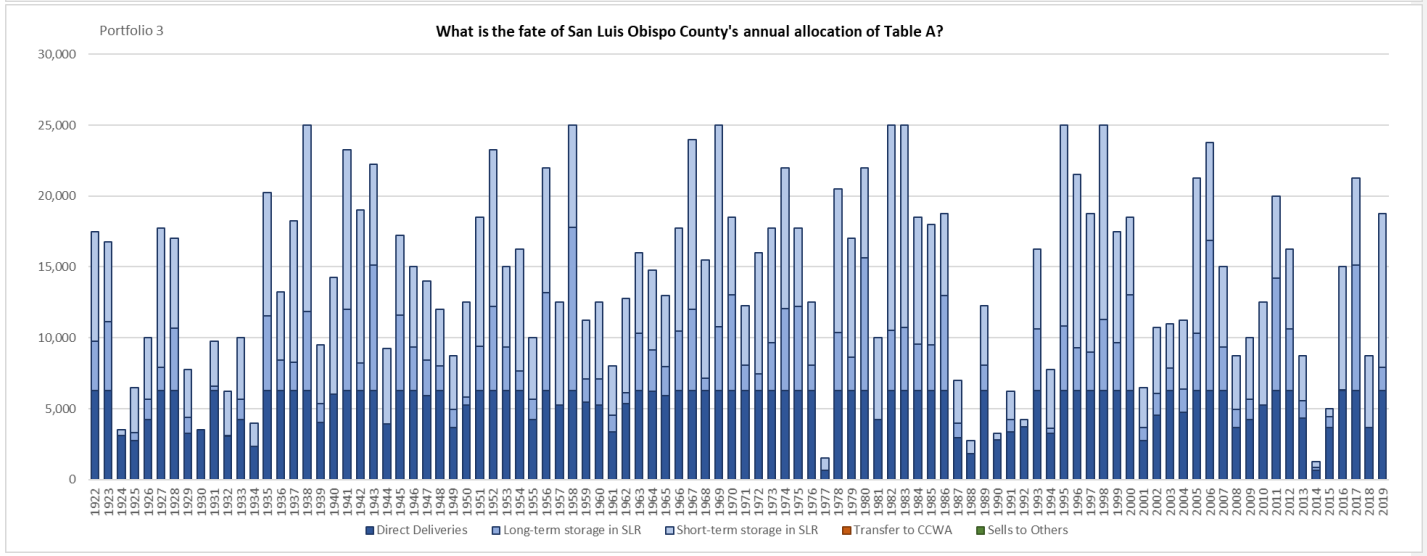
Appendix xx – Modeling

Portfolio 3



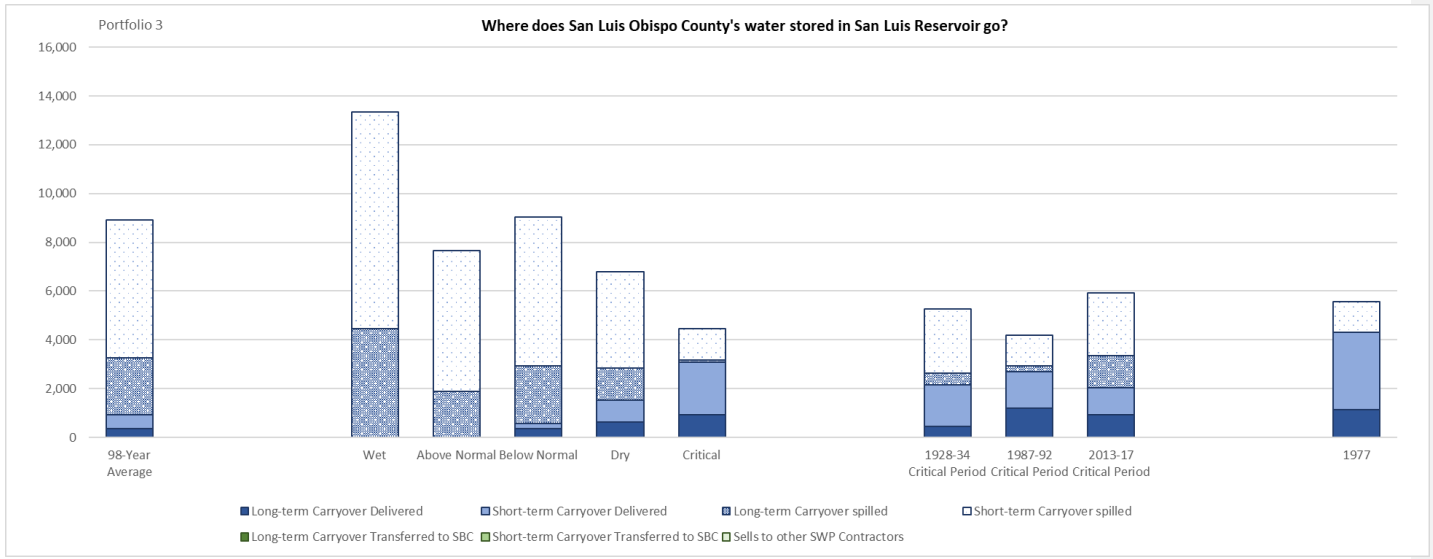


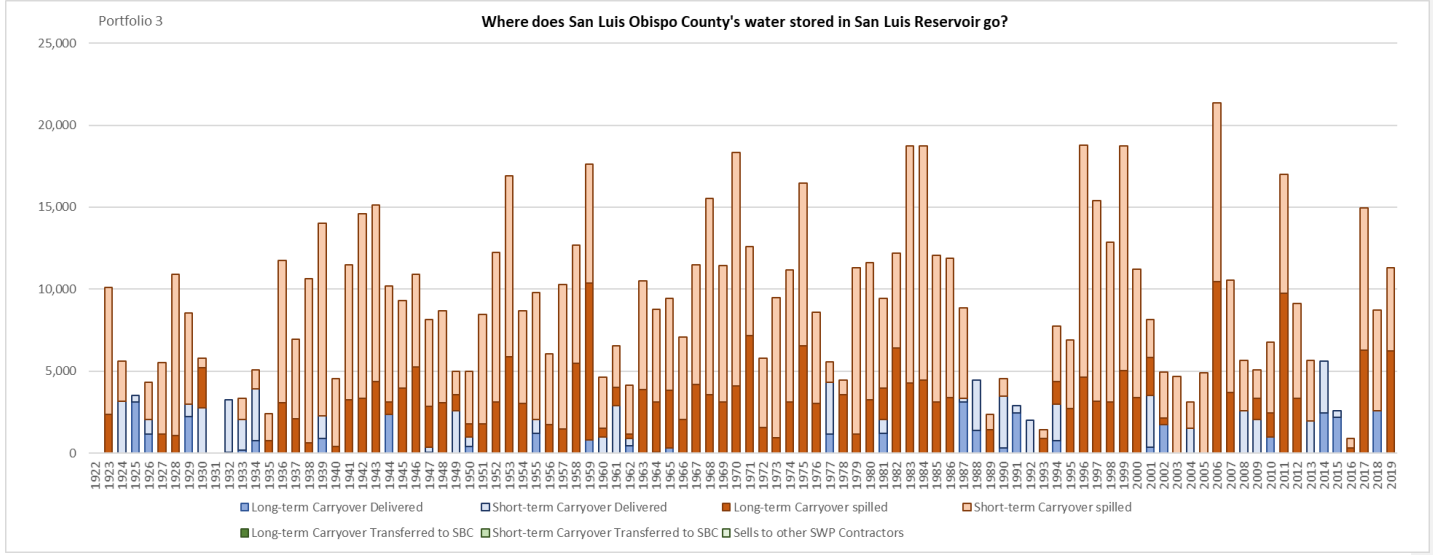


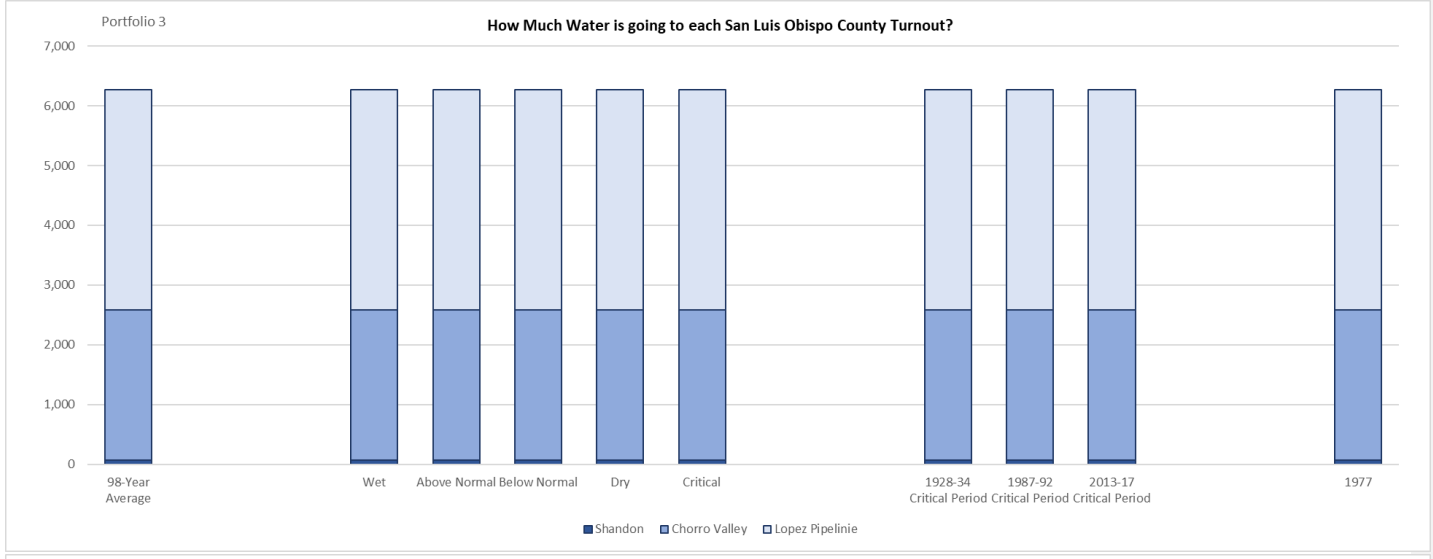


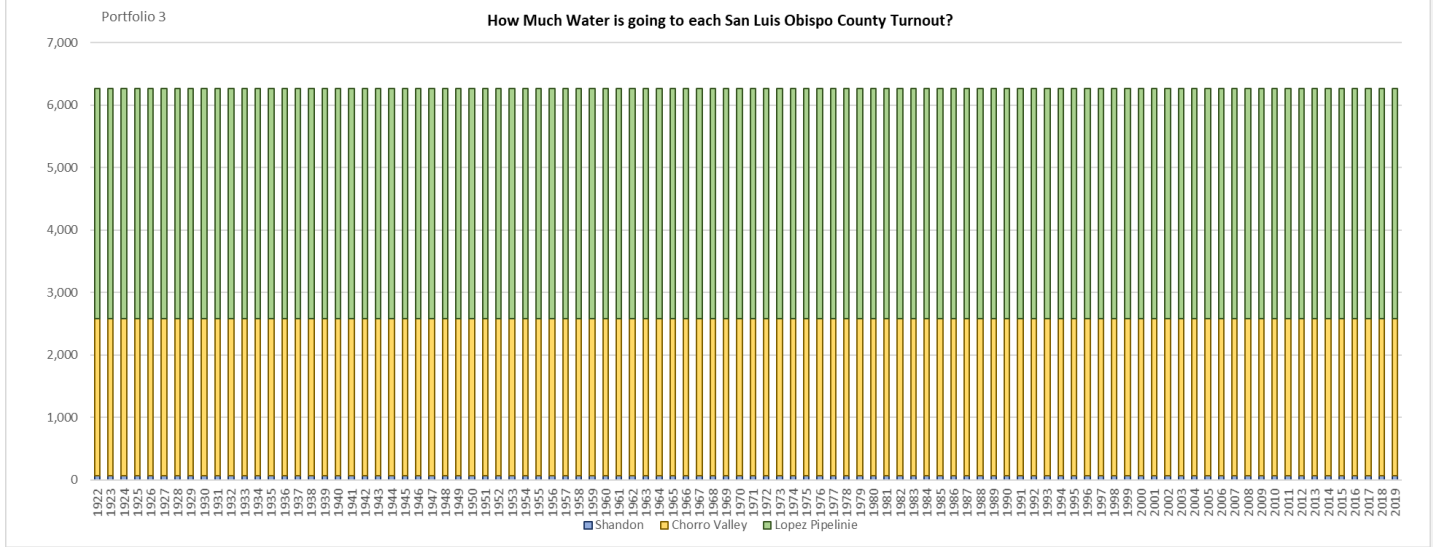
Appendix xx – Modeling

Portfolio 3



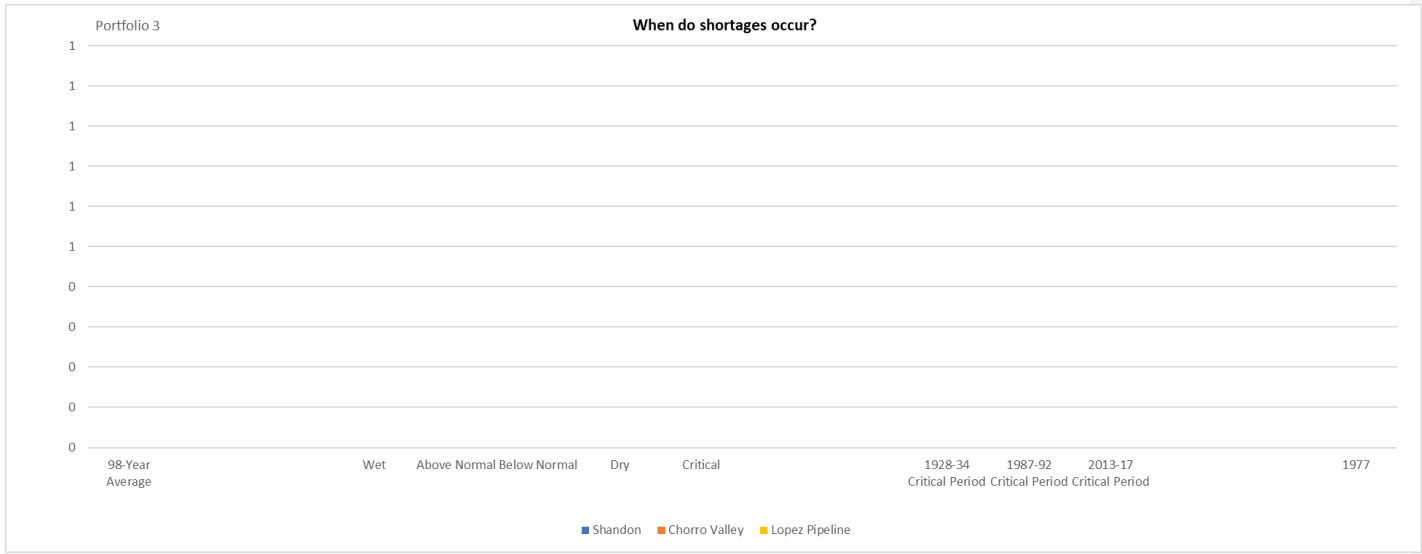


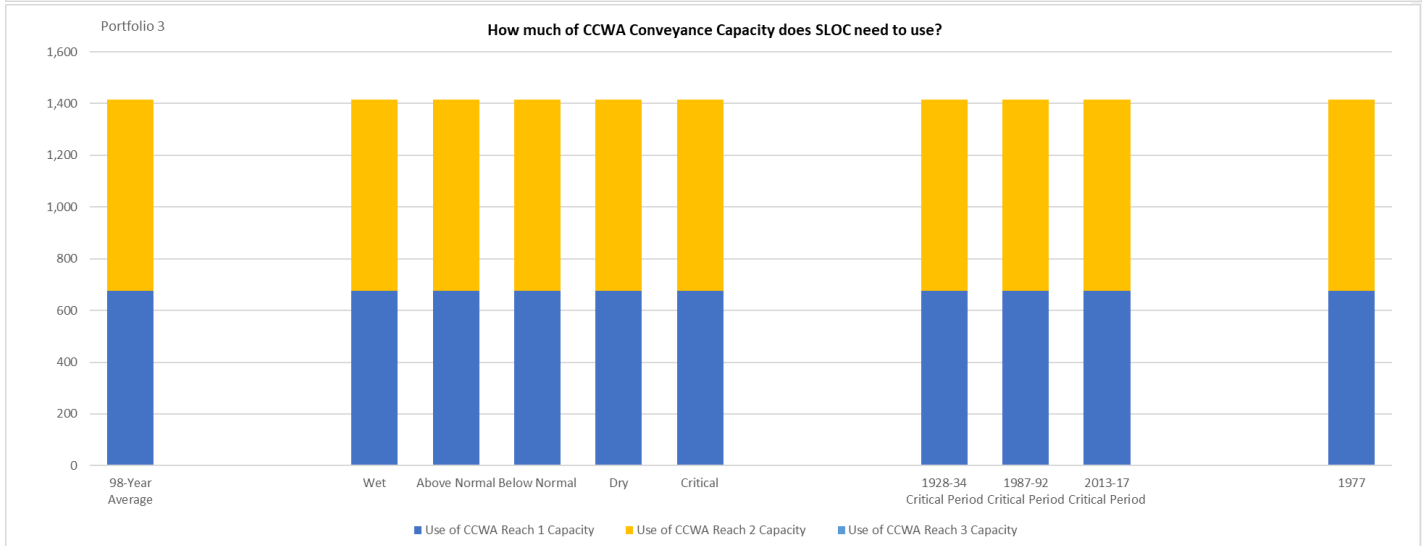


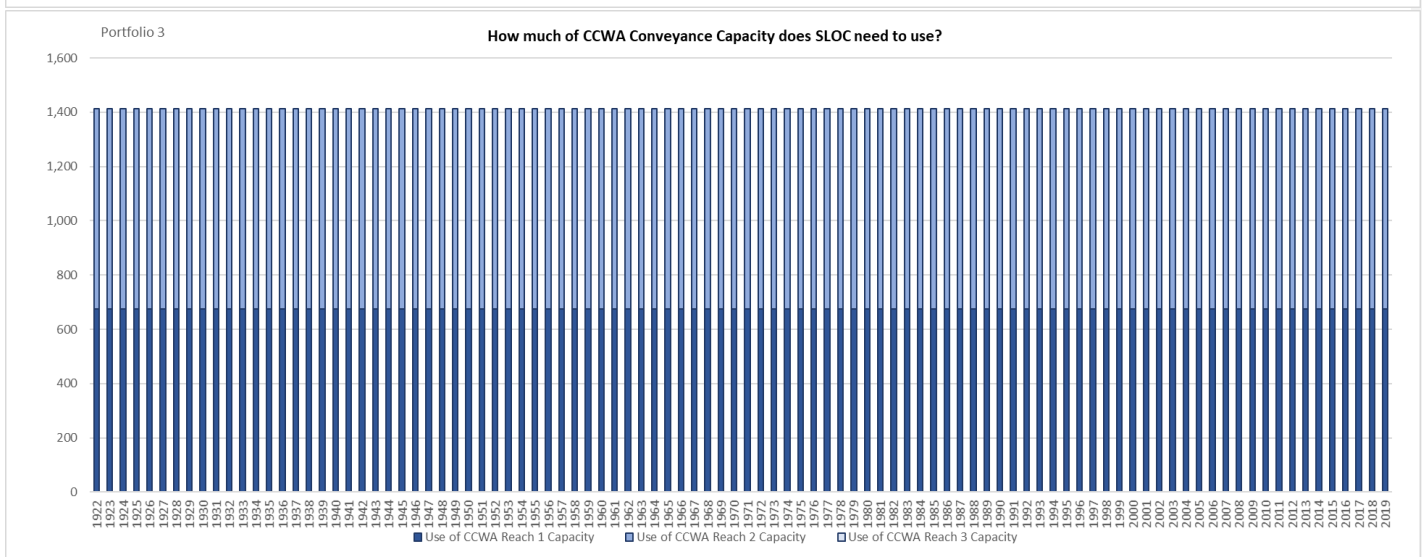


Appendix xx – Modeling

Portfolio 3

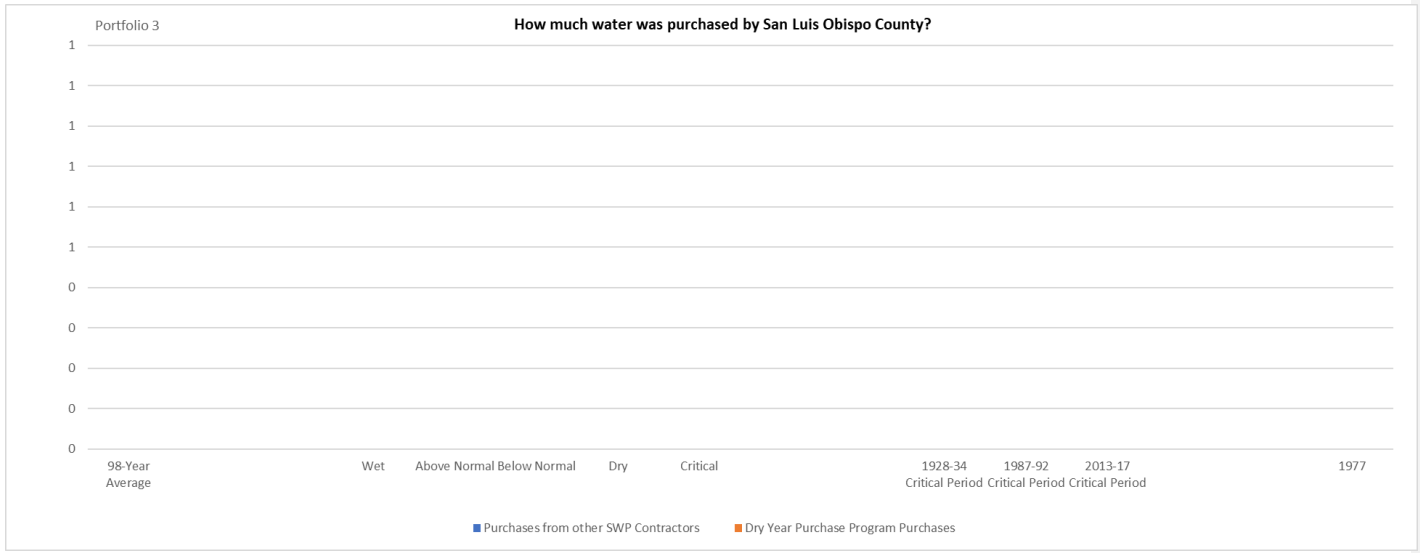


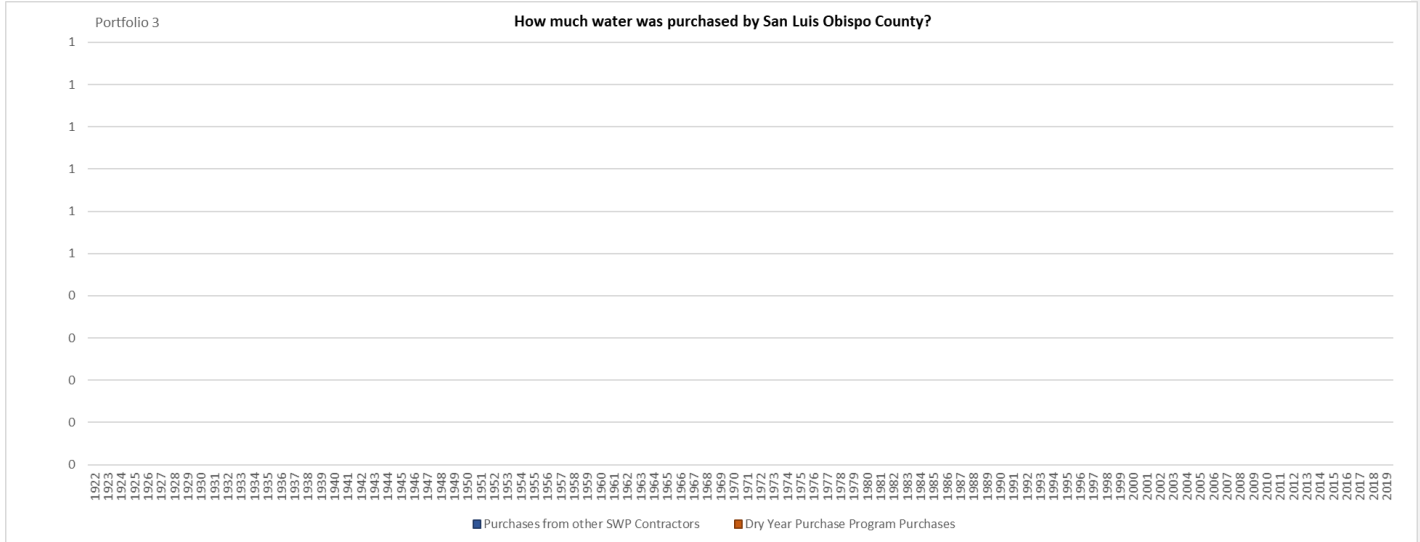


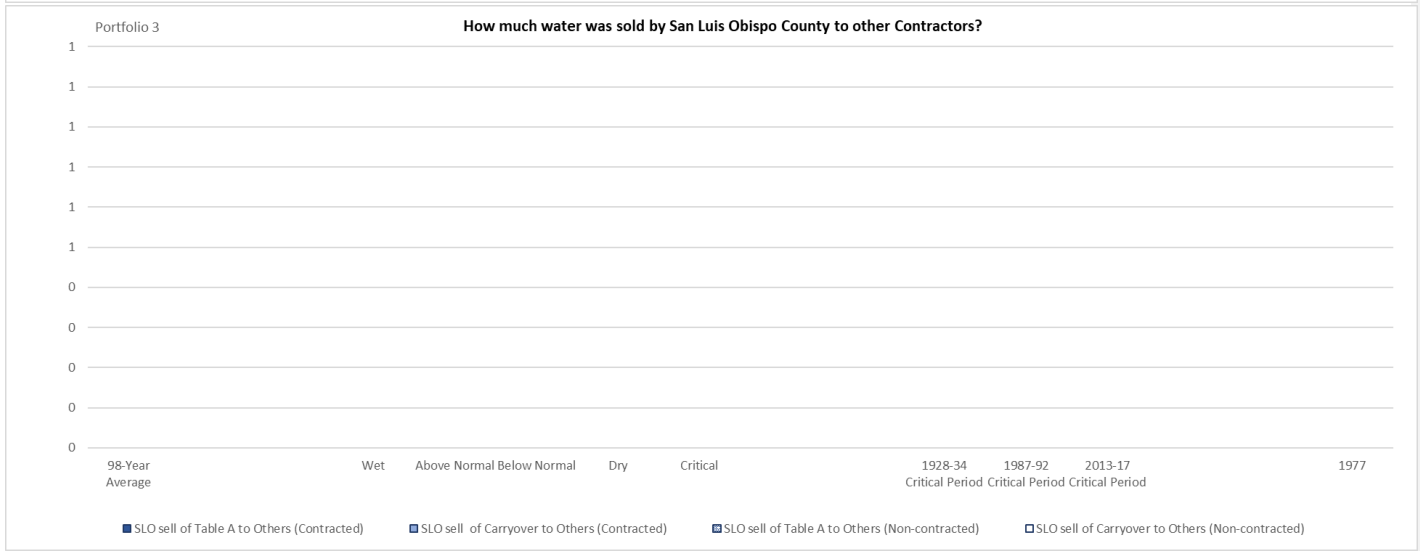


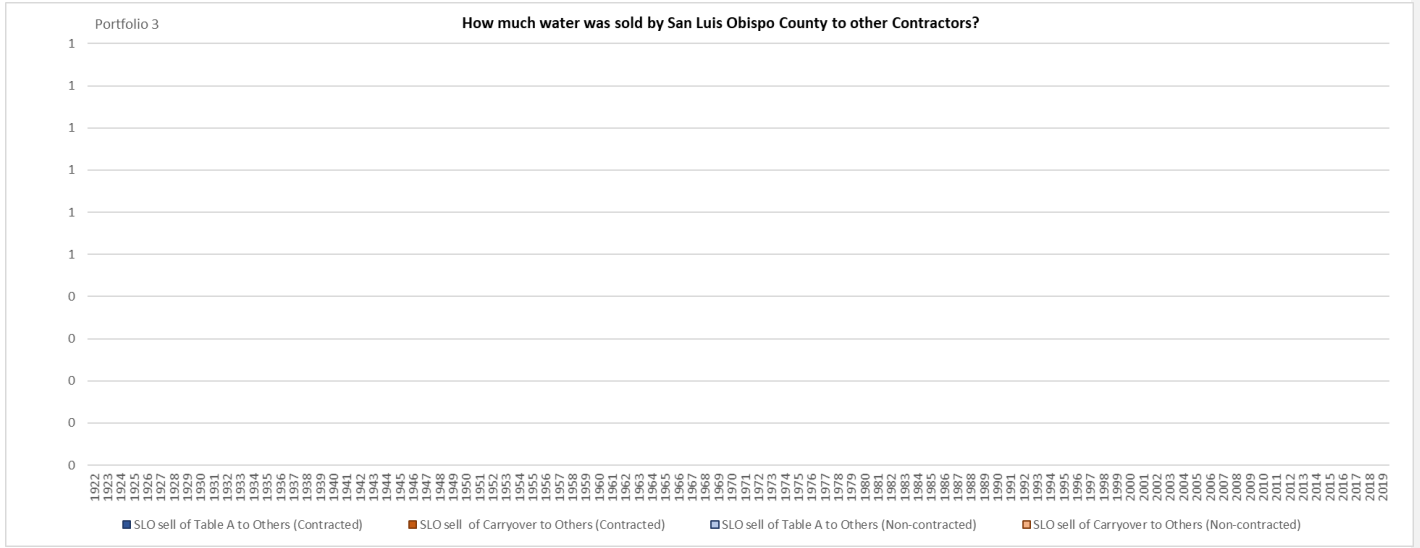
Appendix xx – Modeling

Portfolio 3









Appendix xx – Modeling

Portfolio 3

Portfolio 4 "Central Coast Integration"

Portfolio 4 provides for a limited implementation of the 2021 Water Management Amendment to the SWP Water Supply Contract. With Portfolio 4, the water management components of Portfolio 3 are supplemented with a limited sales program for SLOFCWCD and CCWA. Sales are allowed between the two Coastal Branch contractors based on an approximate schedule of transfer costs. As would be expected due to relatively low SLOFCWCD demands, the Model identified sales only from SLOFCWCD to CCWA.

Portfolio 4 does not provide any improvement in water supplies or shortages for SLOFCWCD, which were already being completely met in Portfolios 1, 2 and 3. SLOFCWCD does receive additional revenue of $919,151 per year which could be used to offset the fixed costs of its SWP supplies. The limited Central Coast sales program reduces SLOFCWCD's spills by 1,000 acre-feet per year as compared to Portfolio 3.

Portfolio 4 provides improved water supplies and reduced shortages for CCWA. Deliveries increase by an average of about 1,000 acre-feet per year and shortages are reduced significantly. The costs for the additional purchases averaged $919,151 per year. Spills of unused SWP Table A remain unchanged. Because of the significant amount of unused Table A allocation for the SLOFCWCD service area, this Portfolio represents the greatest improvement in water supply for CCWA. While both Portfolios 2 and 3 represent a jump in water supplies for CCWA of 3.7% (as compared to Portfolio 1), Portfolio 4 results in an 8.3% increase in water supplies when compared to Portfolio 1 for CCWA.

Summary of Portfolio 4 Analysis

	Santa Barbara County								Santa Barbara County								Santa Barbara County										Santa Barbara County								Santa Barbara County				Santa Barbara County		Santa Barbara County	
	Sources of Water Delivered								Fate of Annual Table A Allocation								What Happens to water stored in SLR										How much water is delivered to each turnout				Delivery Shortages				Water Purchases						Sells to Others	
		Carryover		Return from Storage/Exchange Programs			Purchases			Storage in SLR		Transfers			Carryover Delivered		Carryover Spilled		Carryover Sold to Others														Transfers from SLO		Other Transfers					
Time Period	Table A	Long-Term	Short-Term	External	Internal	Transfers from SLO	Dry Year Purchase	SWP Contractors	Direct Delivery	Long-Term	Short-Term	Sells to SLO	Sells to Others		Long-Term	Short-Term	Long-Term	Short-Term									North County	Mid County	Lake Cachuma		North County	Mid-County		Lake Cachuma	Table A and Long-term Carryover	Short-term Carryover	Dry Year Purchase	SWP Contractors			SLO	SWP Contractors
98-Year Summary																																									
Total	1,897,045	133,199	-	108,016		129,772	6,535	-	1,897,045	680,488	9,259	-	-		133,199	-	419,043	9,259	-								1,397,617	663,366	213,584		37,201	6,072		-	83,715	46,057	6,535	-			-	-
Average	19,358	1,359	-	1,102		1,324	67	-	19,358	6,944	94	-	-		1,359	-	4,276	94	-								14,261	6,769	2,179		380	62		-	854	470	67	-			-	-
Water Year Averages																																									
Wet	22,404	-	-	-		101	-	-	22,404	14,859	309	-	-		-	-	10,327	212	-								14,641	6,831	1,033		-	-		-	8	93	-	-			-	-
Above Normal	22,238	79	-	232		700	-	-	22,238	8,757	-	-	-		79	-	2,335	-	-								14,641	6,831	1,777		-	-		-	700	-	-	-			-	-
Below Normal	21,630	450	-	621		2,335	-	-	21,630	3,814	-	-	-		450	-	4,784	182	-								14,641	6,769	3,626		-	62		-	1,282	1,053	-	-			-	-
Dry	18,187	2,699	-	1,190		1,969	104	-	18,187	2,222	-	-	-		2,699	-	-	-	-								14,334	6,809	3,006		307	22		-	1,437	531	104	-			-	-
Critically Dry	9,946	4,188	-	4,498		2,287	276	-	9,946	-	-	-	-		4,188	-	-	-	-								12,632	6,525	2,038		2,009	306		-	1,340	947	276	-			-	-
Critical Period Averages																																									
1928-1934	13,789	1,526	-	2,079		2,374	446	-	13,789	1,351	-	-	-		1,526	-	-	-	-								12,763	6,776	674		1,878	55		-	1,699	675	446	-			-	-
1987-1992	10,705	2,324	-	5,000		2,616	130	-	10,705	136	-	-	-		2,324	-	-	-	-								13,991	6,783	-		651	48		-	1,822	794	130	-			-	-
2013-2017	18,248	2,983	-	4,687		6,123	192	-	18,248	401	-	-	-		2,983	-	-	-	-								10,813	5,850	15,571		3,828	981		-	4,248	1,876	192	-			-	-
1977	2,729	6,618	-	7,500		4,625	-	-	2,729	-	-	-	-		6,618	-	-	-	-								14,641	6,831	-		-	-		-	2,370	2,255	-	-			-	-

	San Luis Obispo County								San Luis Obispo County								San Luis Obispo County										San Luis Obispo County								San Luis Obispo County				San Luis Obispo County		San Luis Obispo County	
	Sources of Water Delivered								Fate of Annual Table A Allocation								What Happens to water stored in SLR										How much water is delivered to each turnout				Delivery Shortages				Water Purchases						Sells to Others	
		Carryover		Return from Storage/Exchange Programs			Purchases			Storage in SLR		Transfers			Carryover Delivered		Carryover Spilled		Carryover Sold to Others														Transfers from SBC							
Time Period	Table A	Long-Term	Short-Term	External	Internal	Transfers from SBC	Dry Year Purchase	SWP Contractors	Direct Delivery	Long-Term	Short-Term	Sells to SBC	Sells to Others		Long-Term	Short-Term	Long-Term	Short-Term									Shandon	Chorro Valley	Lopez Pipeline		Shandon	Chorro Valley		Lopez Pipeline	Dry Year Purchase	SWP Contractors					SBC	SWP Contractors
98-Year Summary																																									
Total	535,562	15,206	39,536	22,627		-	1,627	-	522,464	281,472	567,447	50,367	-		28,304	39,536	191,604	471,007	79,405								6,566	246,764	361,228		-	-		-	1,627	-					129,772	-
Average	5,465	155	403	231		-	17	-	5,331	2,872	5,790	514	-		289	403	1,955	4,806	810								67	2,518	3,686		-	-		-	17	-					1,324	-
Water Year Averages																																									
Wet	6,260	11	-	-		-	-	-	6,260	-	9,070	-	-		11	-	4,098	8,104	93								67	2,518	3,686		-	-		-	-	-					101	-
Above Normal	6,180	-	-	91		-	-	-	-	-	-	-	-		-	-	-	-	-								-	-	-		-	-		-	-	-					-	-
Below Normal	5,629	355	287	-		-	-	-	-	-	-	-	-		-	-	-	-	-								-	-	-		-	-		-	-	-					-	-
Dry	5,143	162	579	326		-	61	-	4,714	-	4,097	-	-		591	579	824	3,395	1,242								67	2,518	3,686		-	-		-	61	-					1,969	-
Critically Dry	3,526	363	1,442	925		-	15	-	3,311	-	1,254	-	-		579	1,442	-	204	1,671								67	2,518	3,686		-	-		-	15	-					2,287	-
Critical Period Averages																																									
1928-1934	4,918	-	902	357		-	94	-	4,862	747	1,577	1,135	-		56	902	518	949	1,239								67	2,518	3,686		-	-		-	94	-					2,374	-
1987-1992	3,655	168	1,068	1,380		-	-	-	3,178	571	1,482	728	-		645	1,068	-	524	1,887								67	2,518	3,686		-	-		-	-	-					2,616	-
2013-2017	4,134	547	73	1,500		-	17	-	3,773	2,030	1,853	2,594	-		909	73	-	-	3,529								67	2,518	3,686		-	-		-	17	-					6,123	-
1977	632	1,143	3,169	1,327		-	-	-	-	-	-	-	-		-	-	-	-	-								-	-	-		-	-		-	-	-					-	-

Appendix xx – Modeling

Portfolio 4

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1922	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1923	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1924	6,368	11,756	-	417	18,541	-	2,451	480	-	2,931	2,876	-	3,169	-	6,045	-	-	-
1925	11,826	-	-	-	11,826	7,035	398	1,199	-	8,632	4,410	-	226	976	5,612	-	-	-
1926	18,194	-	-	-	18,194	3,278	-	-	-	3,278	6,271	-	-	-	6,271	-	-	-
1927	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1928	21,472	-	-	-	21,472	4,720	-	-	-	4,720	6,271	-	-	-	6,271	-	-	-
1929	14,101	6,569	-	-	20,670	802	-	-	-	802	3,656	-	2,615	-	6,271	-	-	-
1930	6,368	1,678	-	-	8,046	3,778	2,402	1,199	-	7,379	2,151	-	961	2,500	5,612	-	-	-
1931	17,740	2,436	-	816	20,992	-	-	480	-	480	6,271	-	-	-	6,271	-	-	-
1932	11,372	-	-	6,162	17,534	1,134	2,324	480	-	3,938	5,830	-	441	-	6,271	-	-	-
1933	18,194	-	-	513	18,707	1,434	-	480	-	1,914	6,271	-	-	-	6,271	-	-	-
1934	7,278	-	-	7,061	14,339	24	-	480	-	504	3,976	-	2,295	-	6,271	-	-	-
1935	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1936	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1937	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1938	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1939	17,285	4,187	-	-	21,472	-	-	-	-	-	4,004	875	1,392	-	6,271	-	-	-
1940	21,472	-	-	-	21,472	-	-	-	-	-	6,006	-	-	265	6,271	-	-	-
1941	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1942	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1943	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1944	16,830	4,642	-	-	21,472	-	-	-	-	-	4,996	1,275	-	-	6,271	-	-	-
1945	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1946	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1947	25,472	8,655	-	2,777	36,904	-	-	-	-	-	6,220	51	-	-	6,271	-	-	-
1948	21,833	-	-	7,449	29,282	3,414	4,157	-	-	7,571	5,058	-	1,213	-	6,271	-	-	-
1949	15,920	1,821	-	7,500	25,241	4,838	1,970	-	-	6,808	5,452	-	623	196	6,271	-	-	-
1950	22,743	-	-	7,500	30,243	5,216	480	-	-	5,696	5,268	422	-	581	6,271	-	-	-
1951	33,660	-	-	3,244	36,904	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1952	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1953	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1954	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1955	18,194	3,278	-	-	21,472	-	-	-	-	-	5,005	575	691	-	6,271	-	-	-
1956	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1957	21,472	-	-	-	21,472	-	-	-	-	-	5,268	-	-	1,003	6,271	-	-	-
1958	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1959	20,469	1,003	-	-	21,472	-	-	-	-	-	5,480	791	-	-	6,271	-	-	-
1960	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1961	14,556	4,826	-	2,090	21,472	-	-	-	-	-	3,372	-	2,899	-	6,271	-	-	-
1962	21,472	-	-	-	21,472	-	-	-	-	-	5,374	435	462	-	6,271	-	-	-
1963	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1964	21,472	486	-	-	21,958	-	-	-	-	-	6,217	54	-	-	6,271	-	-	-
1965	21,472	-	-	-	21,472	-	-	-	-	-	5,936	335	-	-	6,271	-	-	-
1966	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1967	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1968	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1969	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1970	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1971	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1972	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1973	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1974	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1975	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1976	21,472	5,476	-	-	26,948	-	-	-	-	-	5,268	-	1,003	-	6,271	-	-	-
1977	2,729	6,618	-	7,500	16,847	2,370	2,255	-	-	4,625	632	1,143	3,169	1,327	6,271	-	-	-
1978	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1979	21,472	5,569	-	-	27,041	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1980	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1981	18,194	4,472	-	-	22,666	-	-	-	-	-	5,085	1,186	-	-	6,271	-	-	-
1982	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1983	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1984	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1985	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1986	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1987	12,736	6,338	-	-	19,074	1,806	592	-	-	2,398	4,410	172	1,689	-	6,271	-	-	-
1988	5,003	6,787	-	7,500	19,290	2,182	-	-	-	2,182	2,357	835	3,038	41	6,271	-	-	-
1989	21,472	-	-	-	21,472	-	-	-	-	-	5,533	-	-	738	6,271	-	-	-
1990	5,913	816	-	7,500	14,229	3,052	4,032	159	-	7,243	2,488	-	1,283	2,500	6,271	-	-	-
1991	11,372	-	-	7,500	18,872	2,462	-	138	-	2,600	3,372	-	399	2,500	6,271	-	-	-
1992	7,733	-	-	7,500	15,233	1,429	138	480	-	2,047	3,771	-	-	2,500	6,271	-	-	-
1993	21,472	-	-	-	21,472	4,730	-	-	-	4,730	6,271	-	-	-	6,271	-	-	-
1994	14,101	7,371	-	-	21,472	-	-	-	-	-	3,266	737	2,268	-	6,271	-	-	-
1995	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1996	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1997	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1998	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1999	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2000	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2001	11,826	9,646	-	-	21,472	-	-	-	-	-	3,102	-	3,169	-	6,271	-	-	-
2002	19,559	1,913	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2003	20,014	1,104	-	-	21,118	354	-	-	-	354	6,271	-	-	-	6,271	-	-	-
2004	20,469	-	-	-	20,469	-	1,003	-	-	1,003	4,742	-	1,529	-	6,271	-	-	-
2005	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2006	21,606	-	-	-	21,606	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2007	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2008	15,920	5,552	-	-	21,472	-	-	-	-	-	3,688	-	2,583	-	6,271	-	-	-
2009	18,194	3,278	-	-	21,472	-	-	-	-	-	4,215	-	2,056	-	6,271	-	-	-
2010	21,472	-	-	-	21,472	-	-	-	-	-	5,271	1,000	-	-	6,271	-	-	-
2011	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2012	29,566	-	-	1,553	31,119	-	5,785	-	-	5,785	6,271	-	-	-	6,271	-	-	-

	Inflows to CBA																	
	SBC Operations									SLO Operations								
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
2013	15,920	-	-	7,500	23,420	7,106	6,378	-	-	13,484	3,688	-	-	2,500	6,188	-	-	-
2014	2,274	11,698	-	7,500	21,472	2,246	2,390	480	-	5,116	2,335	1,185	251	2,500	6,271	-	-	-
2015	9,097	3,219	-	7,500	19,816	2,962	611	480	-	4,053	2,107	1,552	112	2,500	6,271	-	-	-
2016	27,292	-	-	934	28,226	8,678	-	-	-	8,678	6,271	-	-	-	6,271	-	-	-
2017	36,658	-	-	-	36,658	246	-	-	-	246	6,271	-	-	-	6,271	-	-	-
2018	15,920	2,005	-	-	17,925	8,419	5,901	-	-	14,320	3,688	2,583	-	-	6,271	-	-	-
2019	34,114	-	-	-	34,114	-	2,790	-	-	2,790	6,271	-	-	-	6,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum	1,897,045	133,199	-	108,016	2,138,260	83,715	46,057	6,535	-	136,307	535,562	15,206	39,536	22,627	612,931	-	-	-
Average	19,358	1,359	-	1,102	21,819	854	470	67	-	1,391	5,465	155	403	231	6,254	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Year Averages	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wet	22,404	-	-	-	22,404	8	93	-	-	101	6,260	11	-	-	6,271	-	-	-
Above Normal	22,238	79	-	232	22,549	700	-	-	-	700	6,180	-	-	91	6,271	-	-	-
Below Normal	21,630	450	-	621	22,701	1,282	1,053	-	-	2,335	5,629	355	287	-	6,271	-	-	-
Dry	18,187	2,699	-	1,190	22,076	1,437	531	104	-	2,073	5,143	162	579	326	6,210	-	-	-
Critically Dry	9,946	4,188	-	4,498	18,632	1,340	947	276	-	2,562	3,526	363	1,442	925	6,256	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Period Averages	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1928-34	13,789	1,526	-	2,079	17,394	1,699	675	446	-	2,820	4,918	-	902	357	6,177	-	-	-
1987-92	10,705	2,324	-	5,000	18,028	1,822	794	130	-	2,745	3,655	168	1,068	1,380	6,271	-	-	-
2013-17	18,248	2,983	-	4,687	25,918	4,248	1,876	192	-	6,315	4,134	547	73	1,500	6,254	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Driest 1-Year	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1977	2,729	6,618	-	7,500	16,847	2,370	2,255	-	-	4,625	632	1,143	3,169	1,327	6,271	-	-	-

Appendix xx – Modeling

Portfolio 4

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1922	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1923	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1924	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1925	20,458	-	5,595	676	67	67	20,458	-	5,466	738	2,518	2,518	20,458	-	3,686	-	3,686	3,686
1926	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1927	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1928	26,192	-	5,595	676	67	67	26,192	-	5,466	738	2,518	2,518	26,192	-	3,686	-	3,686	3,686
1929	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1930	15,425	-	5,595	676	67	67	15,425	-	5,466	738	2,518	2,518	15,425	-	3,686	-	3,686	3,686
1931	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1932	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1933	20,621	-	5,595	676	67	67	20,621	-	5,466	738	2,518	2,518	20,621	-	3,686	-	3,686	3,686
1934	14,843	-	5,595	676	67	67	14,843	-	5,466	738	2,518	2,518	14,843	-	3,686	-	3,686	3,686
1935	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1936	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1937	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1938	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1939	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1940	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1941	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1942	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1943	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1944	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1945	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1946	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1947	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
1948	36,853	-	5,595	676	67	67	36,853	-	5,466	738	2,518	2,518	36,658	195	3,686	-	3,686	3,686
1949	32,049	-	5,595	676	67	67	32,049	-	5,466	738	2,518	2,518	32,049	-	3,686	-	3,686	3,686
1950	35,939	-	5,595	676	67	67	35,939	-	5,466	738	2,518	2,518	35,939	-	3,686	-	3,686	3,686
1951	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
1952	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1953	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1954	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1955	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1956	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1957	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1958	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1959	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1960	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1961	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1962	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1963	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1964	21,958	-	5,595	676	67	67	21,958	-	5,466	738	2,518	2,518	21,958	-	3,686	-	3,686	3,686
1965	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1966	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1967	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1968	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1969	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1970	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1971	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1972	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1973	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1974	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1975	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1976	26,948	-	5,595	676	67	67	26,948	-	5,466	738	2,518	2,518	26,948	-	3,686	-	3,686	3,686
1977	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1978	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1979	27,041	-	5,595	676	67	67	27,041	-	5,466	738	2,518	2,518	27,041	-	3,686	-	3,686	3,686
1980	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1981	22,666	-	5,595	676	67	67	22,666	-	5,466	738	2,518	2,518	22,666	-	3,686	-	3,686	3,686
1982	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1983	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1984	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1985	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1986	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1987	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1988	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1989	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1990	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1991	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1992	17,280	-	5,595	676	67	67	17,280	-	5,466	738	2,518	2,518	17,280	-	3,686	-	3,686	3,686
1993	26,202	-	5,595	676	67	67	26,202	-	5,466	738	2,518	2,518	26,202	-	3,686	-	3,686	3,686
1994	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1995	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1996	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1997	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1998	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1999	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2000	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2001	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2002	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2003	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2004	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2005	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2006	21,606	-	5,595	676	67	67	21,606	-	5,466	738	2,518	2,518	21,606	-	3,686	-	3,686	3,686
2007	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2008	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2009	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2010	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2011	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2012	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
2013	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
2014	26,588	-	5,595	676	67	67	26,588	-	5,466	738	2,518	2,518	26,588	-	3,686	-	3,686	3,686
2015	23,869	-	5,595	676	67	67	23,869	-	5,466	738	2,518	2,518	23,869	-	3,686	-	3,686	3,686
2016	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
2017	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
2018	32,245	-	5,595	676	67	67	32,245	-	5,466	738	2,518	2,518	32,245	-	3,686	-	3,686	3,686
2019	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
Sum	2,274,567	-	548,310	66,248	6,566	6,566	2,274,567	-	535,668	72,324	246,764	246,764	2,272,650	1,917	361,228	-	361,228	361,228
Average	23,210	-	5,595	676	67	67	23,210	-	5,466	738	2,518	2,518	23,190	20	3,686	-	3,686	3,686
Water Year Averages																		
Wet	22,505	-	5,595	676	67	67	22,505	-	5,466	738	2,518	2,518	22,489	16	3,686	-	3,686	3,686
Above Normal	23,249	-	5,595	676	67	67	23,249	-	5,466	738	2,518	2,518	23,232	18	3,686	-	3,686	3,686
Below Normal	25,036	-	5,595	676	67	67	25,036	-	5,466	738	2,518	2,518	24,993	43	3,686	-	3,686	3,686
Dry	24,149	-	5,595	676	67	67	24,149	-	5,466	738	2,518	2,518	24,128	21	3,686	-	3,686	3,686
Critically Dry	21,195	-	5,595	676	67	67	21,195	-	5,466	738	2,518	2,518	21,195	-	3,686	-	3,686	3,686
													-	-				
Critical Period Averages													-	-				
1928-34	20,214	-	5,595	676	67	67	20,214	-	5,466	738	2,518	2,518	20,214	-	3,686	-	3,686	3,686
1987-92	20,773	-	5,595	676	67	67	20,773	-	5,466	738	2,518	2,518	20,773	-	3,686	-	3,686	3,686
2013-17	32,234	-	5,595	676	67	67	32,234	-	5,466	738	2,518	2,518	32,086	148	3,686	-	3,686	3,686
Driest 1-Year																		
1977	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686

Periods	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1922	21,472	14,641	14,641	6,831	6,831	6,831	-	192,009	11,277	196,000	14,000	30,000	30,000
1923	21,472	14,641	14,641	6,831	6,831	6,831	-	54,915	13,060	193,855	14,000	30,000	30,000
1924	21,472	14,641	14,641	6,831	6,831	6,831	-	-	11,956	137,899	14,000	30,000	30,000
1925	20,458	13,627	14,641	6,831	6,831	6,831	-	19,917	10,241	103,575	14,000	30,000	30,000
1926	21,472	14,641	14,641	6,831	6,831	6,831	-	88,712	10,244	138,043	14,000	30,000	30,000
1927	21,472	14,641	14,641	6,831	6,831	6,831	-	96,630	11,677	178,996	14,000	30,000	30,000
1928	26,192	14,641	14,641	11,551	6,831	6,831	4,720	38,724	12,214	166,226	14,000	30,000	30,000
1929	21,472	14,641	14,641	6,831	6,831	6,831	-	35,543	11,595	146,174	14,000	30,000	30,000
1930	15,425	8,594	14,641	6,831	6,831	6,831	-	24,442	10,647	115,969	14,000	30,000	30,000
1931	21,472	14,641	14,641	6,831	6,831	6,831	-	19,422	9,434	81,957	14,000	30,000	30,000
1932	21,472	14,641	14,641	6,831	6,831	6,831	-	132,123	10,274	159,806	14,000	30,000	30,000
1933	20,621	13,790	14,641	6,831	6,831	6,831	-	12,988	10,962	117,832	14,000	30,000	30,000
1934	14,843	8,395	14,641	6,448	6,448	6,831	-	36,250	9,837	100,245	14,000	30,000	30,000
1935	21,472	14,641	14,641	6,831	6,831	6,831	-	106,812	10,504	152,553	14,000	30,000	30,000
1936	21,472	14,641	14,641	6,831	6,831	6,831	-	49,754	11,397	146,910	14,000	30,000	30,000
1937	21,472	14,641	14,641	6,831	6,831	6,831	-	152,344	12,197	196,000	14,000	30,000	30,000
1938	21,472	14,641	14,641	6,831	6,831	6,831	-	186,211	13,101	196,000	14,000	30,000	30,000
1939	21,472	14,641	14,641	6,831	6,831	6,831	-	41,411	12,808	180,603	14,000	30,000	30,000
1940	21,472	14,641	14,641	6,831	6,831	6,831	-	29,816	12,018	154,401	14,000	30,000	30,000
1941	21,472	14,641	14,641	6,831	6,831	6,831	-	368,484	12,311	196,000	14,000	30,000	30,000
1942	21,472	14,641	14,641	6,831	6,831	6,831	-	30,806	12,611	170,195	14,000	30,000	30,000
1943	21,472	14,641	14,641	6,831	6,831	6,831	-	161,889	12,611	196,000	14,000	30,000	30,000
1944	21,472	14,641	14,641	6,831	6,831	6,831	-	104,761	13,101	196,000	14,000	30,000	30,000
1945	21,472	14,641	14,641	6,831	6,831	6,831	-	45,795	12,890	184,905	14,000	30,000	30,000
1946	21,472	14,641	14,641	6,831	6,831	6,831	-	75,561	12,890	196,000	14,000	30,000	30,000
1947	36,904	14,641	14,641	22,263	6,831	6,831	15,432	10,655	12,523	165,564	14,000	30,000	30,000
1948	36,853	14,641	14,641	22,212	6,831	6,831	15,381	-	11,188	125,757	14,000	30,000	30,000
1949	32,049	14,641	14,641	17,408	6,831	6,831	10,577	3,514	9,680	86,168	14,000	30,000	30,000
1950	35,939	14,641	14,641	21,298	6,831	6,831	14,467	13,837	8,468	62,004	14,000	30,000	30,000
1951	36,904	14,641	14,641	22,263	6,831	6,831	15,432	-	7,327	26,109	14,000	30,000	30,000
1952	21,472	14,641	14,641	6,831	6,831	6,831	-	246,309	9,873	196,000	14,000	30,000	30,000

	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
Periods	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1953	21,472	14,641	14,641	6,831	6,831	6,831	-	12,635	12,272	152,363	14,000	30,000	30,000
1954	21,472	14,641	14,641	6,831	6,831	6,831	-	42,047	11,193	139,217	14,000	30,000	30,000
1955	21,472	14,641	14,641	6,831	6,831	6,831	-	48,976	10,832	133,361	14,000	30,000	30,000
1956	21,472	14,641	14,641	6,831	6,831	6,831	-	65,238	10,917	143,682	14,000	30,000	30,000
1957	21,472	14,641	14,641	6,831	6,831	6,831	-	30,099	10,647	119,134	14,000	30,000	30,000
1958	21,472	14,641	14,641	6,831	6,831	6,831	-	265,046	11,641	196,000	14,000	30,000	30,000
1959	21,472	14,641	14,641	6,831	6,831	6,831	-	21,331	12,434	160,897	14,000	30,000	30,000
1960	21,472	14,641	14,641	6,831	6,831	6,831	-	3,797	10,798	109,896	14,000	30,000	30,000
1961	21,472	14,641	14,641	6,831	6,831	6,831	-	-	8,825	57,071	14,000	30,000	30,000
1962	21,472	14,641	14,641	6,831	6,831	6,831	-	152,344	9,696	155,719	14,000	30,000	30,000
1963	21,472	14,641	14,641	6,831	6,831	6,831	-	27,977	11,056	128,640	14,000	30,000	30,000
1964	21,958	14,641	14,641	7,317	6,831	6,831	486	11,857	9,755	87,228	14,000	30,000	30,000
1965	21,472	14,641	14,641	6,831	6,831	6,831	-	57,744	9,057	91,915	14,000	30,000	30,000
1966	21,472	14,641	14,641	6,831	6,831	6,831	-	106,812	10,148	144,579	14,000	30,000	30,000
1967	21,472	14,641	14,641	6,831	6,831	6,831	-	173,909	12,125	196,000	14,000	30,000	30,000
1968	21,472	14,641	14,641	6,831	6,831	6,831	-	3,231	12,097	143,134	14,000	30,000	30,000
1969	21,472	14,641	14,641	6,831	6,831	6,831	-	309,518	12,097	196,000	14,000	30,000	30,000
1970	21,472	14,641	14,641	6,831	6,831	6,831	-	19,776	12,405	159,371	14,000	30,000	30,000
1971	21,472	14,641	14,641	6,831	6,831	6,831	-	55,764	11,710	159,425	14,000	30,000	30,000
1972	21,472	14,641	14,641	6,831	6,831	6,831	-	7,261	10,808	111,878	14,000	30,000	30,000
1973	21,472	14,641	14,641	6,831	6,831	6,831	-	167,263	11,503	196,000	14,000	30,000	30,000
1974	21,472	14,641	14,641	6,831	6,831	6,831	-	75,349	13,101	196,000	14,000	30,000	30,000
1975	21,472	14,641	14,641	6,831	6,831	6,831	-	92,176	13,101	196,000	14,000	30,000	30,000
1976	26,948	14,641	14,641	12,307	6,831	6,831	5,476	3,868	12,213	149,131	14,000	30,000	30,000
1977	21,472	14,641	14,641	6,831	6,831	6,831	-	37,805	11,001	131,935	14,000	30,000	30,000
1978	21,472	14,641	14,641	6,831	6,831	6,831	-	308,669	11,890	196,000	14,000	30,000	30,000
1979	27,041	14,641	14,641	12,400	6,831	6,831	5,569	99,953	13,101	196,000	14,000	30,000	30,000
1980	21,472	14,641	14,641	6,831	6,831	6,831	-	152,203	13,101	196,000	14,000	30,000	30,000
1981	22,666	14,641	14,641	8,025	6,831	6,831	1,194	51,875	13,026	192,043	14,000	30,000	30,000
1982	21,472	14,641	14,641	6,831	6,831	6,831	-	58,238	12,976	193,305	14,000	30,000	30,000

	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
Periods	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1983	21,472	14,641	14,641	6,831	6,831	6,831	-	356,323	13,051	196,000	14,000	30,000	30,000
1984	21,472	14,641	14,641	6,831	6,831	6,831	-	28,826	12,574	168,252	14,000	30,000	30,000
1985	21,472	14,641	14,641	6,831	6,831	6,831	-	16,877	11,316	129,813	14,000	30,000	30,000
1986	21,472	14,641	14,641	6,831	6,831	6,831	-	112,114	11,659	186,268	14,000	30,000	30,000
1987	21,472	14,641	14,641	6,831	6,831	6,831	-	-	11,673	130,595	14,000	30,000	30,000
1988	21,472	14,641	14,641	6,831	6,831	6,831	-	72,521	10,949	148,167	14,000	30,000	30,000
1989	21,472	14,641	14,641	6,831	6,831	6,831	-	403	10,260	94,310	14,000	30,000	30,000
1990	21,472	14,641	14,641	6,831	6,831	6,831	-	-	8,244	42,066	14,000	30,000	30,000
1991	21,472	14,641	14,641	6,831	6,831	6,831	-	108,933	8,327	98,672	14,000	30,000	30,000
1992	17,280	10,738	14,641	6,542	6,542	6,831	-	167,121	11,252	196,000	14,000	30,000	30,000
1993	26,202	14,641	14,641	11,561	6,831	6,831	4,730	334,360	13,101	196,000	14,000	30,000	30,000
1994	21,472	14,641	14,641	6,831	6,831	6,831	-	15,575	12,327	155,248	14,000	30,000	30,000
1995	21,472	14,641	14,641	6,831	6,831	6,831	-	366,102	12,327	196,000	14,000	30,000	30,000
1996	21,472	14,641	14,641	6,831	6,831	6,831	-	41,187	12,804	180,383	14,000	30,000	30,000
1997	21,472	14,641	14,641	6,831	6,831	6,831	-	59,768	12,568	183,583	14,000	30,000	30,000
1998	21,472	14,641	14,641	6,831	6,831	6,831	-	465,884	12,865	196,000	14,000	30,000	30,000
1999	21,472	14,641	14,641	6,831	6,831	6,831	-	18,239	12,376	157,863	14,000	30,000	30,000
2000	21,472	14,641	14,641	6,831	6,831	6,831	-	51,869	11,581	154,151	14,000	30,000	30,000
2001	21,472	14,641	14,641	6,831	6,831	6,831	-	151,409	12,306	196,000	14,000	30,000	30,000
2002	21,472	14,641	14,641	6,831	6,831	6,831	-	6,421	12,156	146,265	14,000	30,000	30,000
2003	21,472	14,641	14,641	6,831	6,831	6,831	-	17,144	10,501	108,908	14,000	30,000	30,000
2004	21,472	14,641	14,641	6,831	6,831	6,831	-	18,695	9,137	74,466	14,000	30,000	30,000
2005	21,472	14,641	14,641	6,831	6,831	6,831	-	388,819	10,792	196,000	14,000	30,000	30,000
2006	21,606	14,641	14,641	6,965	6,831	6,831	134	100,283	13,101	196,000	14,000	30,000	30,000
2007	21,472	14,641	14,641	6,831	6,831	6,831	-	4,920	12,128	144,792	14,000	30,000	30,000
2008	21,472	14,641	14,641	6,831	6,831	6,831	-	108,331	12,128	196,000	14,000	30,000	30,000
2009	21,472	14,641	14,641	6,831	6,831	6,831	-	13,188	12,282	152,906	14,000	30,000	30,000
2010	21,472	14,641	14,641	6,831	6,831	6,831	-	75,948	11,845	173,009	14,000	30,000	30,000
2011	21,472	14,641	14,641	6,831	6,831	6,831	-	131,349	12,664	196,000	14,000	30,000	30,000
2012	36,904	14,641	14,641	22,263	6,336	6,831	15,927	6,429	12,453	161,903	14,000	30,000	30,000

Periods	Reach 4 Operations SBC			Reach 5 Operations SBC			Lake Cachuma Operations						
	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
2013	36,904	14,641	14,641	22,263	6,336	6,831	15,927	3,520	11,127	126,223	14,000	30,000	30,000
2014	26,588	5,599	14,641	20,989	5,248	6,831	15,741	3,942	9,801	92,105	14,000	30,000	30,000
2015	23,869	4,543	14,641	19,326	4,499	6,831	14,827	2,264	8,481	56,715	14,000	30,000	30,000
2016	36,904	14,641	14,641	22,263	6,336	6,831	15,927	4,694	7,227	26,109	14,000	30,000	30,000
2017	36,904	14,641	14,641	22,263	6,831	6,831	15,432	87,303	7,616	77,228	14,000	30,000	30,000
2018	32,245	14,641	14,641	17,604	6,831	6,831	10,773	3,373	7,875	39,499	14,000	30,000	30,000
2019	36,904	14,641	14,641	22,263	6,831	6,831	15,432	104,953	8,462	107,422	14,000	30,000	30,000
Sum	2,274,567	1,397,617	1,434,818	876,950	663,366	669,438	213,584	8,291,482	1,107,778	14,568,591	1,372,000	2,940,000	2,940,000
Average	23,210	14,261	14,641	8,948	6,769	6,831	2,179	84,607	11,304	148,659	14,000	30,000	30,000
Water Year Averages													
Wet	22,505	14,641	14,641	7,864	6,831	6,831	1,033	142,380	11,877	173,330	14,000	30,000	30,000
Above Normal	23,249	14,641	14,641	8,608	6,831	6,831	1,777	123,800	11,460	158,796	14,000	30,000	30,000
Below Normal	25,036	14,641	14,641	10,395	6,769	6,831	3,626	38,054	11,024	134,565	14,000	30,000	30,000
Dry	24,149	14,334	14,641	9,815	6,809	6,831	3,006	40,225	11,221	136,161	14,000	30,000	30,000
Critically Dry	21,195	12,632	14,641	8,563	6,525	6,831	2,038	50,188	10,438	124,055	14,000	30,000	30,000
Critical Period Averages													
1928-34	20,214	12,763	14,641	7,451	6,776	6,831	674	42,785	10,709	126,887	14,000	30,000	30,000
1987-92	20,773	13,991	14,641	6,783	6,783	6,831	-	58,163	10,118	118,302	14,000	30,000	30,000
2013-17	32,234	10,813	14,641	21,421	5,850	6,831	15,571	20,345	8,850	75,676	14,000	30,000	30,000
Driest 1-Year													
1977	21,472	14,641	14,641	6,831	6,831	6,831	-	37,805	11,001	131,935	14,000	30,000	30,000

Periods	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1922	2,752	-	-	-	10,124	-	-	-	-	7,616	-	993	1,105	-	144
1923	9,004	-	-	-	9,690	-	-	-	9,249	-	-	-	789	-	103
1924	-	11,756	-	-	624	3,169	2,451	-	-	-	417	-	-	-	-
1925	-	-	-	-	-	1,316	4,253	-	-	-	-	-	-	976	-
1926	-	-	-	-	451	-	-	-	-	-	-	-	-	-	-
1927	1,225	-	-	-	10,269	-	-	-	451	9,598	-	1,252	1,210	-	158
1928	9,458	-	-	-	5,115	-	-	-	10,269	-	-	-	894	-	117
1929	-	6,569	-	-	4,484	3,005	802	-	-	-	-	-	-	-	-
1930	-	1,678	-	-	-	961	4,831	-	-	-	-	-	-	2,500	-
1931	-	2,436	-	-	3,479	-	-	-	-	-	816	-	-	-	-
1932	-	-	-	-	-	441	3,038	-	-	-	6,162	-	-	-	-
1933	-	-	-	-	2,295	-	-	-	-	-	513	-	-	-	-
1934	-	-	-	-	-	2,295	-	-	-	-	7,061	-	-	-	-
1935	5,372	-	-	-	11,715	-	-	-	-	10,000	-	1,304	2,264	-	295
1936	-	-	-	5,193	6,979	-	-	-	11,715	2,636	-	344	-	-	-
1937	1,733	-	-	-	10,558	-	-	-	6,922	10,000	-	1,304	1,421	-	185
1938	18,981	-	-	1,912	16,308	-	-	-	10,615	5,033	-	605	2,421	-	302
1939	-	4,187	-	10,608	5,496	2,267	-	-	11,740	-	-	-	-	-	-
1940	1,732	-	-	-	8,244	-	-	-	4,541	2,723	-	355	-	265	-
1941	20,830	-	-	5,918	16,979	-	-	-	11,500	-	-	-	-	-	-
1942	13,097	-	-	16,456	12,729	-	-	-	14,575	-	-	-	-	-	-
1943	17,021	-	-	17,471	14,294	-	-	-	15,133	1,990	-	-	1,685	-	-
1944	-	4,642	-	-	5,351	2,372	-	-	7,839	-	-	-	-	-	-
1945	9,913	-	-	11,742	10,979	-	-	-	9,085	-	-	-	-	-	-
1946	5,820	-	-	5,894	8,729	-	-	-	10,906	-	-	-	-	-	-
1947	-	8,655	-	-	8,099	370	-	-	7,780	-	2,777	-	-	-	-
1948	-	-	-	-	3,528	1,213	4,157	-	218	-	7,449	-	-	-	-
1949	-	1,821	-	-	1,746	2,387	3,492	-	-	-	7,500	-	-	196	-
1950	-	-	-	-	2,793	422	1,257	-	-	-	7,500	-	-	581	-
1951	-	-	-	-	12,229	-	-	-	4,021	-	3,244	-	-	-	-
1952	16,700	-	-	-	16,979	-	-	-	12,229	4,130	-	539	-	-	-

	San Luis Reservoir Operations								External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR				SBC Use			SLO Use		
Periods	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1953	-	-	-	14,216	8,729	-	-	-	16,912	5,820	-	759	-	-	-
1954	794	-	-	-	9,979	-	-	-	8,678	7,300	-	952	-	-	-
1955	-	3,278	-	-	5,785	2,056	-	-	7,754	-	-	-	-	-	-
1956	8,556	-	-	-	15,729	-	-	-	6,072	10,000	-	1,304	-	-	-
1957	-	-	-	-	7,232	-	-	-	10,261	1,271	-	166	-	1,003	-
1958	24,014	-	-	8,556	16,078	-	-	-	12,700	-	-	-	2,651	-	-
1959	-	1,003	-	19,456	5,770	791	-	-	14,463	-	-	-	-	-	-
1960	1,271	-	-	-	6,229	-	-	-	5,747	-	-	-	-	-	-
1961	-	4,826	-	-	4,628	2,899	-	-	1,522	-	2,090	-	-	-	-
1962	1,726	-	-	-	7,376	897	-	-	3,256	-	-	-	-	-	-
1963	2,167	-	-	1,726	9,699	-	-	-	10,506	5,472	-	-	30	-	-
1964	5,365	486	-	-	8,533	54	-	-	8,722	-	-	-	-	-	-
1965	2,181	-	-	7,046	7,064	335	-	-	9,121	-	-	-	-	-	-
1966	8,733	-	-	2,181	11,479	-	-	-	7,064	2,090	-	273	-	-	-
1967	22,195	-	-	8,733	16,004	-	-	-	11,479	-	-	-	1,725	-	-
1968	6,729	-	-	18,170	9,229	-	-	-	13,792	-	-	-	-	-	-
1969	24,014	-	-	10,754	18,729	-	-	-	11,441	-	-	-	-	-	-
1970	12,188	-	-	23,310	12,229	-	-	-	18,342	-	-	-	-	-	-
1971	816	-	-	12,892	5,979	-	-	-	12,616	-	-	-	-	-	-
1972	7,639	-	-	196	9,729	-	-	-	5,782	-	-	-	-	-	-
1973	10,823	-	-	7,459	11,479	-	-	-	9,487	-	-	-	-	-	-
1974	18,556	-	-	10,288	15,729	-	-	-	11,184	-	-	-	-	-	-
1975	10,823	-	-	19,891	11,479	-	-	-	16,463	-	-	-	-	-	-
1976	1,271	5,476	-	-	7,232	1,003	-	-	7,566	-	-	-	-	-	-
1977	-	6,618	-	-	772	4,312	4,529	-	-	-	7,500	-	-	1,327	-
1978	7,349	-	-	-	12,272	-	-	-	2,073	8,478	-	978	1,957	-	-
1979	9,458	5,569	-	-	10,729	-	-	-	11,294	-	-	-	-	-	-
1980	18,556	-	-	11,238	15,729	-	-	-	11,611	-	-	-	-	-	-
1981	-	4,472	-	-	5,785	2,056	-	-	7,379	-	-	-	-	-	-
1982	24,014	-	-	14,084	18,729	-	-	-	12,175	-	-	-	-	-	-

	San Luis Reservoir Operations								External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR				SBC Use			SLO Use		
Periods	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1983	24,014	-	-	24,014	18,729	-	-	-	18,729	-	-	-	-	-	-
1984	12,188	-	-	24,014	12,229	-	-	-	18,729	-	-	-	-	-	-
1985	11,278	-	-	11,903	11,729	-	-	-	12,072	-	-	-	-	-	-
1986	12,642	-	-	11,080	12,479	-	-	-	11,774	-	-	-	-	-	-
1987	-	6,338	-	-	4,050	3,321	2,398	-	3,142	-	-	-	-	-	-
1988	-	6,787	-	-	-	4,908	754	-	-	-	7,500	-	-	41	-
1989	816	-	-	-	7,087	370	-	-	-	-	-	-	-	738	-
1990	-	816	-	-	762	1,283	7,084	-	-	-	7,500	-	-	2,500	-
1991	-	-	-	-	416	399	-	-	-	-	7,500	-	-	2,500	-
1992	-	-	-	-	-	-	1,088	-	-	-	7,500	-	-	2,500	-
1993	7,371	-	-	-	5,249	-	-	-	-	723	-	94	-	-	-
1994	-	7,371	-	-	4,484	3,005	-	-	-	-	-	-	-	-	-
1995	14,014	-	-	-	14,625	-	-	-	6,553	10,000	-	1,304	4,104	-	-
1996	7,646	-	-	13,031	12,685	-	-	-	14,484	10,000	-	1,304	2,544	-	-
1997	3,365	-	-	7,932	12,479	-	-	-	12,776	9,277	-	1,210	-	-	-
1998	24,014	-	-	4,062	18,729	-	-	-	12,863	-	-	-	-	-	-
1999	8,576	-	-	24,014	10,234	-	-	-	18,729	1,792	-	-	995	-	-
2000	12,188	-	-	8,101	11,593	-	-	-	10,124	-	-	-	636	-	-
2001	-	9,646	-	-	3,760	3,531	-	-	4,606	-	-	-	-	-	-
2002	-	1,913	-	-	6,219	1,740	-	-	3,213	-	-	-	-	-	-
2003	-	1,104	-	-	4,375	-	-	-	4,664	-	-	-	-	-	-
2004	-	-	-	-	6,508	1,529	1,003	-	252	-	-	-	-	-	-
2005	17,191	-	-	-	14,979	-	-	-	4,881	-	-	-	-	-	-
2006	19,309	-	-	17,191	17,479	-	-	-	21,380	2,297	-	177	-	-	-
2007	5,820	-	-	-	8,729	-	-	-	10,552	-	-	-	-	-	-
2008	-	5,552	-	-	5,062	2,583	-	-	3,058	-	-	-	-	-	-
2009	-	3,278	-	-	5,785	2,056	-	-	3,006	-	-	-	-	-	-
2010	1,271	-	-	-	7,232	1,003	-	-	5,782	-	-	-	-	-	-
2011	14,917	-	-	17,570	13,729	-	-	-	16,992	-	-	-	-	-	-
2012	-	-	-	-	9,979	-	5,785	-	-	-	1,553	-	-	-	-

Periods	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
2013	-	-	-	-	3,907	-	12,329	-	-	-	7,500	-	-	2,500	-
2014	-	11,698	-	-	723	3,244	4,636	-	-	-	7,500	-	-	2,500	-
2015	-	3,219	-	-	-	1,664	680	-	-	-	7,500	-	-	2,500	-
2016	-	-	-	-	-	-	-	-	-	-	934	-	51	-	-
2017	2,005	-	-	-	14,631	-	-	-	-	-	-	-	102	-	-
2018	-	2,005	-	-	2,790	2,583	12,048	-	-	-	-	-	-	-	-
2019	-	-	-	-	12,479	-	2,790	-	-	-	-	-	-	-	-
Sum	561,501	133,199	-	428,302	822,335	67,840	79,405	-	662,611	128,246	108,016	15,217	26,584	22,627	1,304
Average	5,730	1,359	-	4,370	8,391	692	810	-	6,761	1,309	1,102	155	271	231	13
Water Year Averages															
Wet	12,720	-	-	10,539	13,803	11	93	-	12,202	2,448	-	273	579	-	15
Above Normal	6,608	79	-	2,335	9,820	-	-	-	6,569	2,150	232	271	336	91	20
Below Normal	3,518	450	-	4,966	7,406	643	1,437	-	6,529	295	621	39	53	-	6
Dry	1,352	2,699	-	-	5,616	1,170	1,242	-	4,219	870	1,190	113	160	326	21
Critically Dry	-	4,188	-	-	1,540	2,021	1,671	-	204	-	4,498	-	-	925	-
Critical Period Averages															
1928-34	1,351	1,526	-	-	2,196	957	1,239	-	1,467	-	2,079	-	128	357	17
1987-92	136	2,324	-	-	2,053	1,714	1,887	-	524	-	5,000	-	-	1,380	-
2013-17	401	2,983	-	-	3,852	982	3,529	-	-	-	4,687	-	31	1,500	-
Driest 1-Year															
1977	-	6,618	-	-	772	4,312	4,529	-	-	-	7,500	-	-	1,327	-

Appendix xx – Modeling

Portfolio 4

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1922	-	-	-	-	-	-	-	-	-	-
1923	-	-	-	-	-	-	-	-	-	-
1924	-	-	-	-	-	-	480	2,451	226	-
1925	-	-	-	7,035.0	-	-	1,199	7,433	659	-
1926	-	-	-	3,278.0	-	-	-	3,278	-	-
1927	-	-	-	-	-	-	-	-	-	-
1928	-	-	-	4,720.0	-	-	-	4,720	-	-
1929	-	-	-	802.0	-	-	-	802	-	-
1930	-	-	-	3,778.0	-	-	1,199	6,180	659	-
1931	-	-	-	-	-	-	480	-	-	-
1932	-	-	-	1,134.0	-	-	480	3,458	-	-
1933	-	-	-	1,434.0	-	-	480	1,434	-	-
1934	-	-	-	24.0	-	-	480	24	-	-
1935	-	-	-	-	-	-	-	-	-	-
1936	-	-	-	-	-	-	-	-	-	-
1937	-	-	-	-	-	-	-	-	-	-
1938	-	-	-	-	-	-	-	-	-	-
1939	-	-	-	-	-	-	-	-	-	-
1940	-	-	-	-	-	-	-	-	-	-
1941	-	-	-	-	-	-	-	-	-	-
1942	-	-	-	-	-	-	-	-	-	-
1943	-	-	-	-	-	-	-	-	-	-
1944	-	-	-	-	-	-	-	-	-	-
1945	-	-	-	-	-	-	-	-	-	-
1946	-	-	-	-	-	-	-	-	-	-
1947	-	-	-	-	-	-	-	-	-	-
1948	-	-	-	3,414.0	-	-	-	7,571	-	-
1949	-	-	-	4,838.0	-	-	-	6,808	-	-
1950	-	-	-	5,216.0	-	-	-	5,696	-	-
1951	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-

Appendix xx – Modeling

Portfolio 4

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1953	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-
1961	-	-	-	-	-	-	-	-	-	-
1962	-	-	-	-	-	-	-	-	-	-
1963	-	-	-	-	-	-	-	-	-	-
1964	-	-	-	-	-	-	-	-	-	-
1965	-	-	-	-	-	-	-	-	-	-
1966	-	-	-	-	-	-	-	-	-	-
1967	-	-	-	-	-	-	-	-	-	-
1968	-	-	-	-	-	-	-	-	-	-
1969	-	-	-	-	-	-	-	-	-	-
1970	-	-	-	-	-	-	-	-	-	-
1971	-	-	-	-	-	-	-	-	-	-
1972	-	-	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-	-	-
1974	-	-	-	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-	-	-	-
1977	-	-	-	2,370.0	-	-	-	4,625	-	-
1978	-	-	-	-	-	-	-	-	-	-
1979	-	-	-	-	-	-	-	-	-	-
1980	-	-	-	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-	-	-

Appendix xx – Modeling

Portfolio 4

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1983	-	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-	-	-
1987	-	-	-	1,806.0	-	-	-	2,398	-	-
1988	-	-	-	2,182.0	-	-	-	2,182	-	-
1989	-	-	-	-	-	-	-	-	-	-
1990	-	-	-	3,052.0	-	-	159	7,084	-	-
1991	-	-	-	2,462.0	-	-	138	2,462	-	-
1992	-	-	-	1,429.0	-	-	480	1,567	-	-
1993	-	-	-	4,730.0	-	-	-	4,730	-	-
1994	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-	-	-	-
1999	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	354.0	-	-	-	354	-	-
2004	-	-	-	-	-	-	-	1,003	-	-
2005	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	5,785	-	-

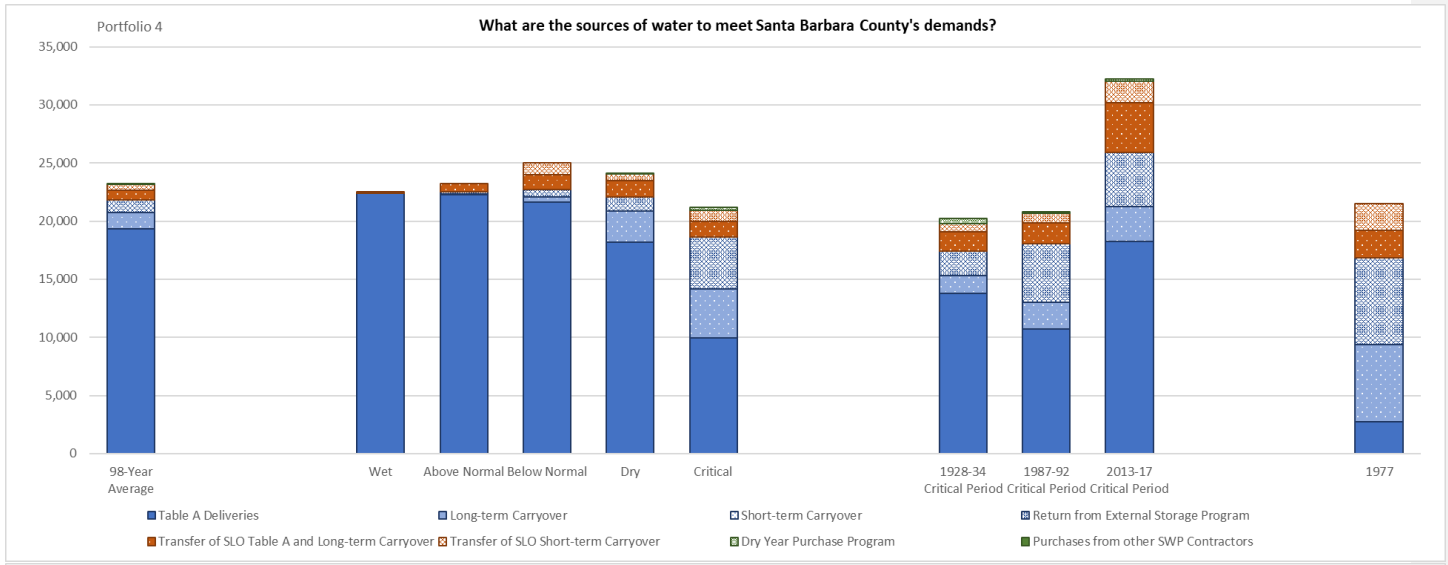
Appendix xx – Modeling

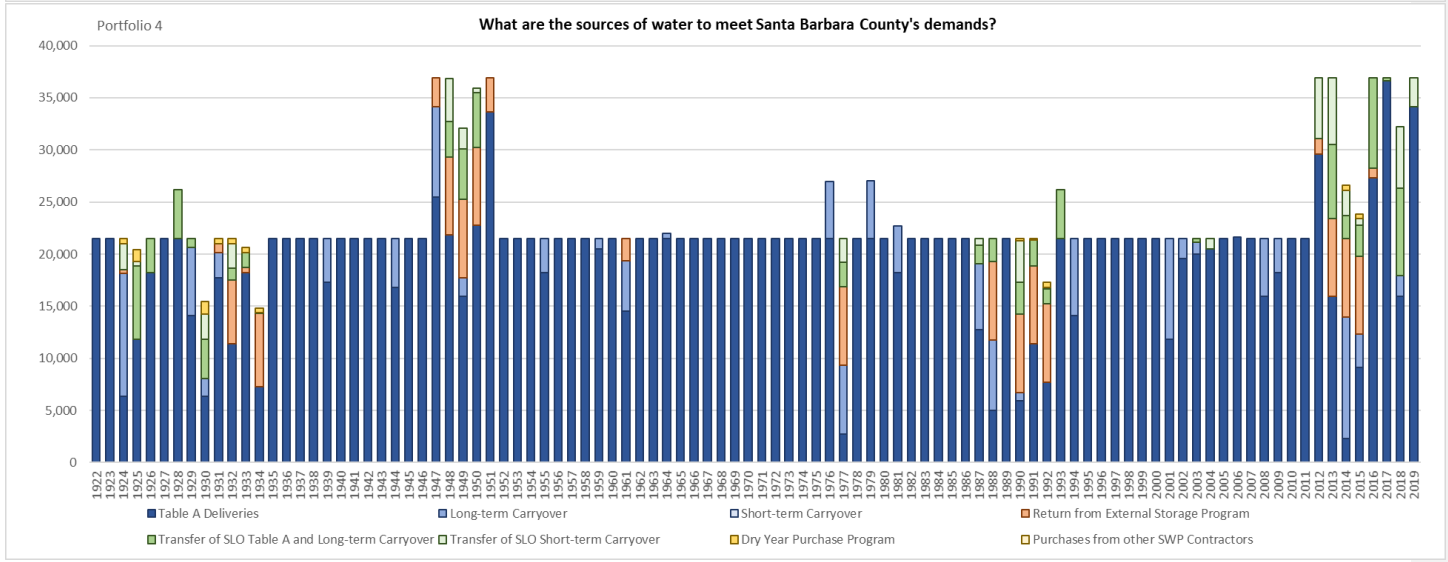
Portfolio 4

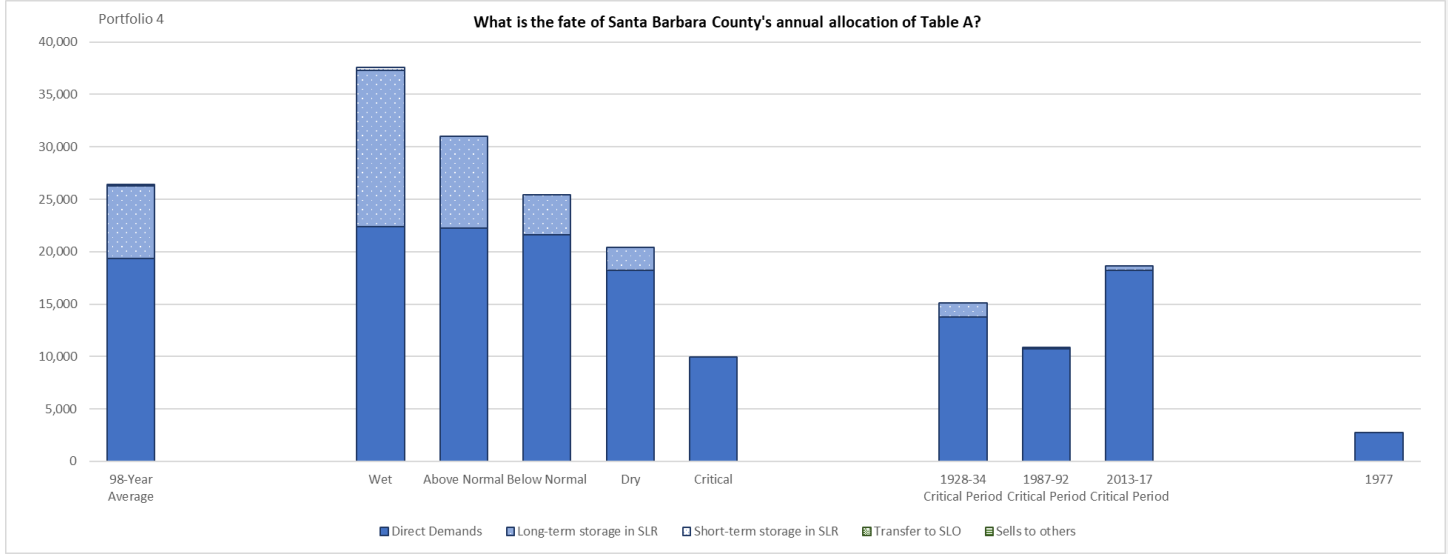
Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
2013	-	-	-	7,106.0	-	-	-	13,484	83	-
2014	-	-	-	2,246.0	-	-	480	4,636	-	-
2015	-	-	-	2,962.0	-	-	480	3,573	-	-
2016	-	-	-	8,678.0	-	-	-	8,678	-	-
2017	-	-	-	246.0	-	-	-	246	-	-
2018	-	-	-	8,419.0	-	-	-	14,320	-	-
2019	-	-	-	-	-	-	-	2,790	-	-
Sum	-	-	-	83,715	-	-	6,535	129,772	1,627	-
Average	-	-	-	854.2	-	-	67	1,324	17	-
Water Year Averages										
Wet	-	-	-	8.2	-	-	-	101	-	-
Above Normal	-	-	-	700.3	-	-	-	700	-	-
Below Normal	-	-	-	1,281.9	-	-	-	2,335	-	-
Dry	-	-	-	1,437.3	-	-	104	1,969	61	-
Critically Dry	-	-	-	1,339.8	-	-	276	2,287	15	-
Critical Period Averages										
1928-34	-	-	-	1,698.9	-	-	446	2,374	94	-
1987-92	-	-	-	1,821.8	-	-	130	2,616	-	-
2013-17	-	-	-	4,247.6	-	-	192	6,123	17	-
Driest 1-Year										
1977	-	-	-	2,370.0	-	-	-	4,625	-	-

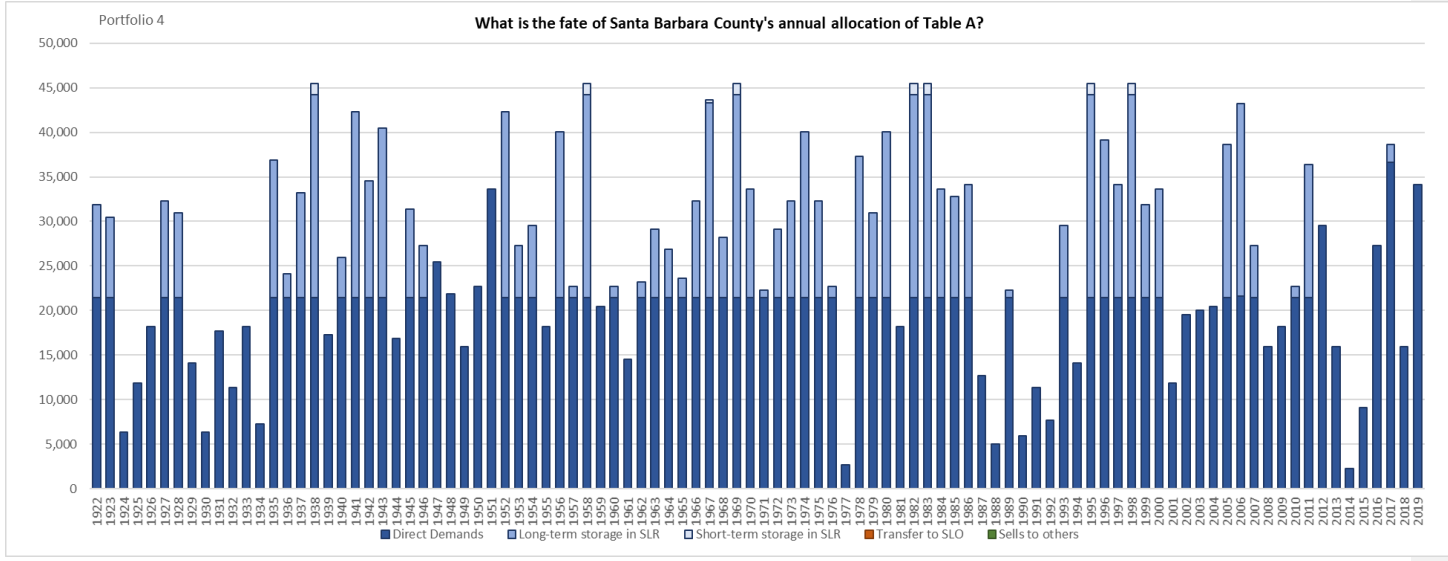
Appendix xx – Modeling

Portfolio 4



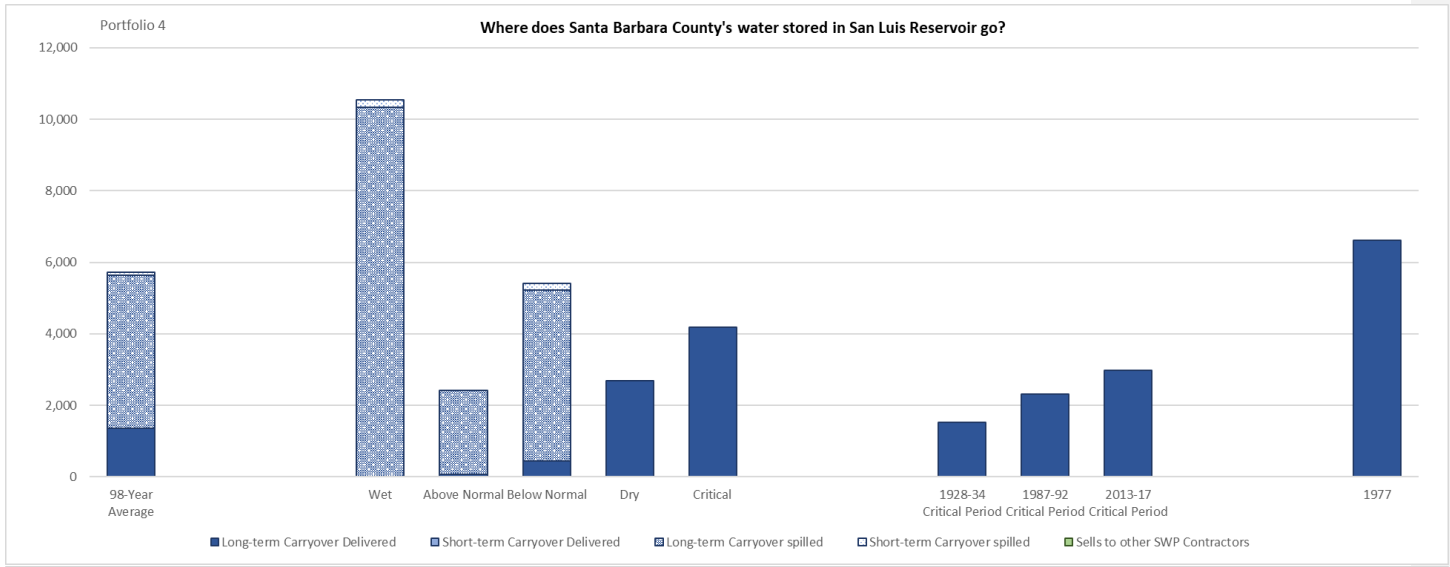


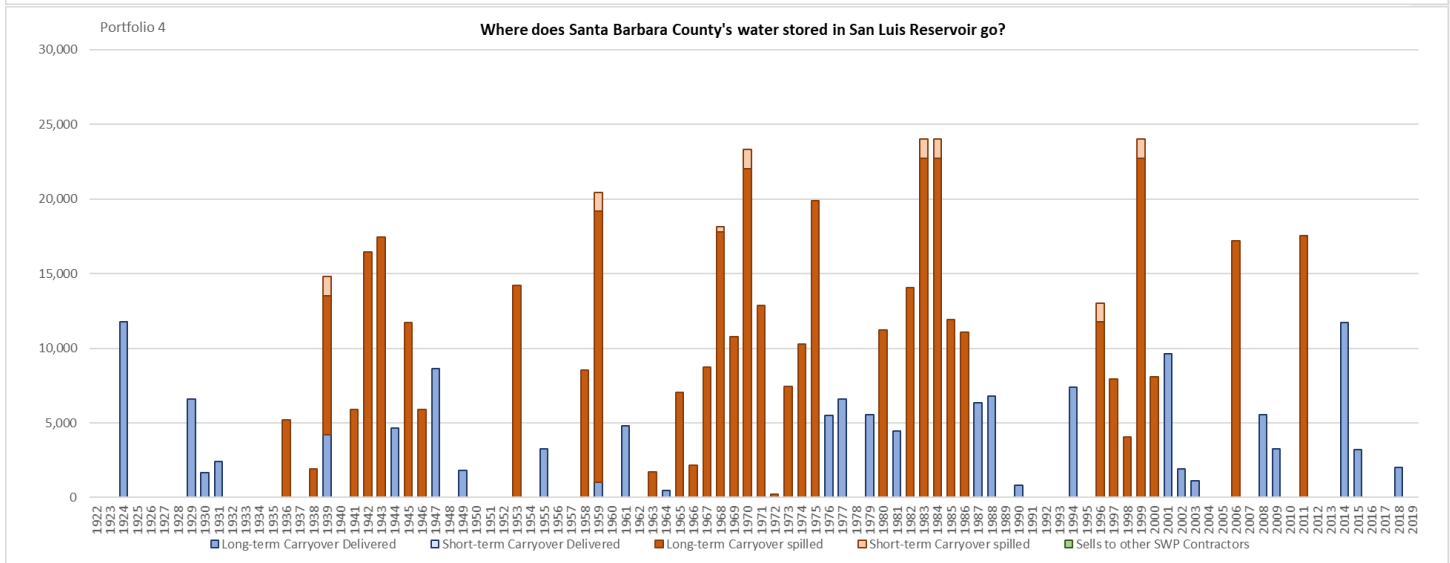


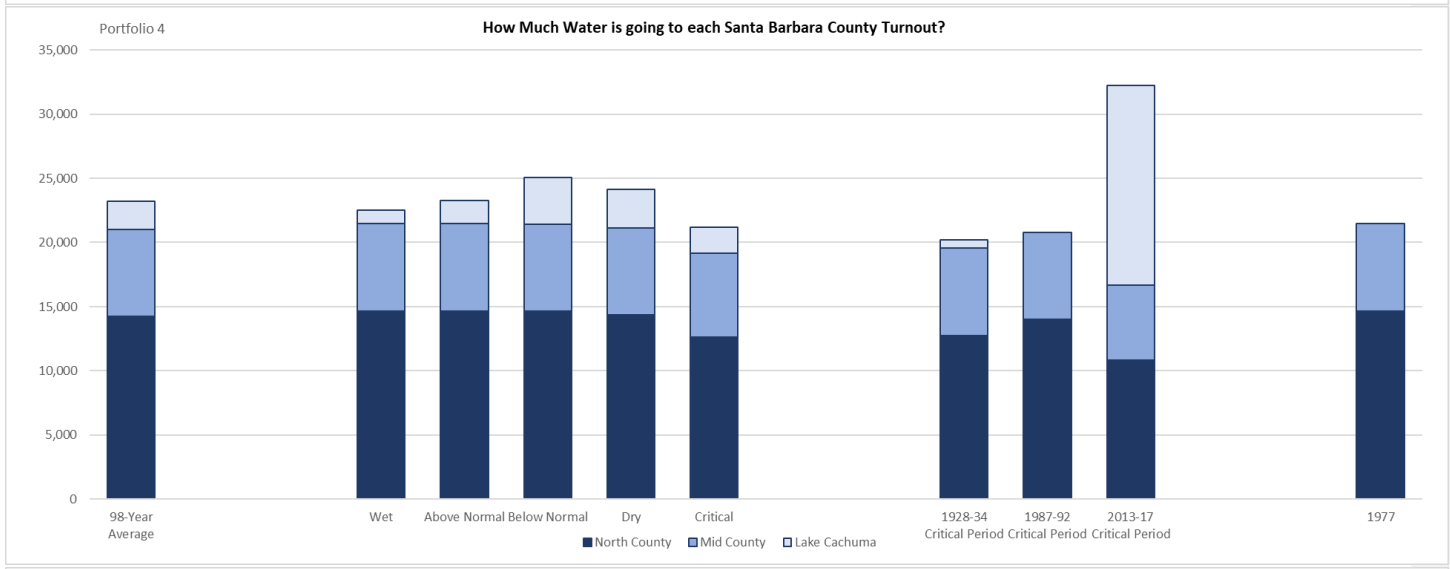


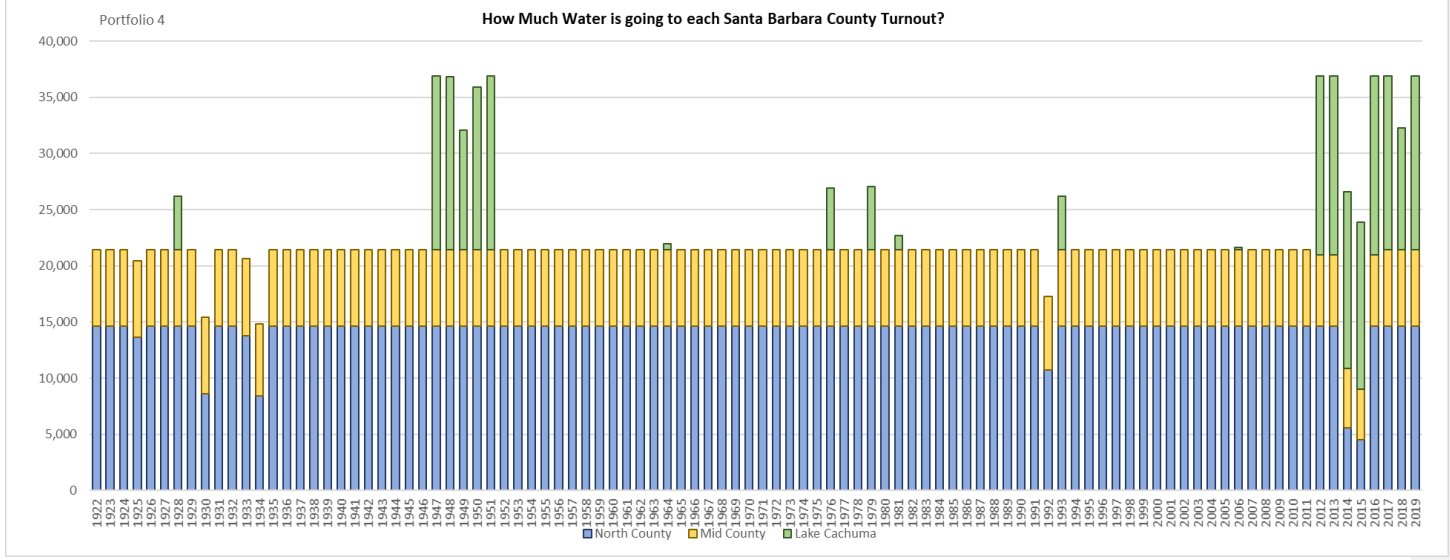
Appendix xx – Modeling

Portfolio 4



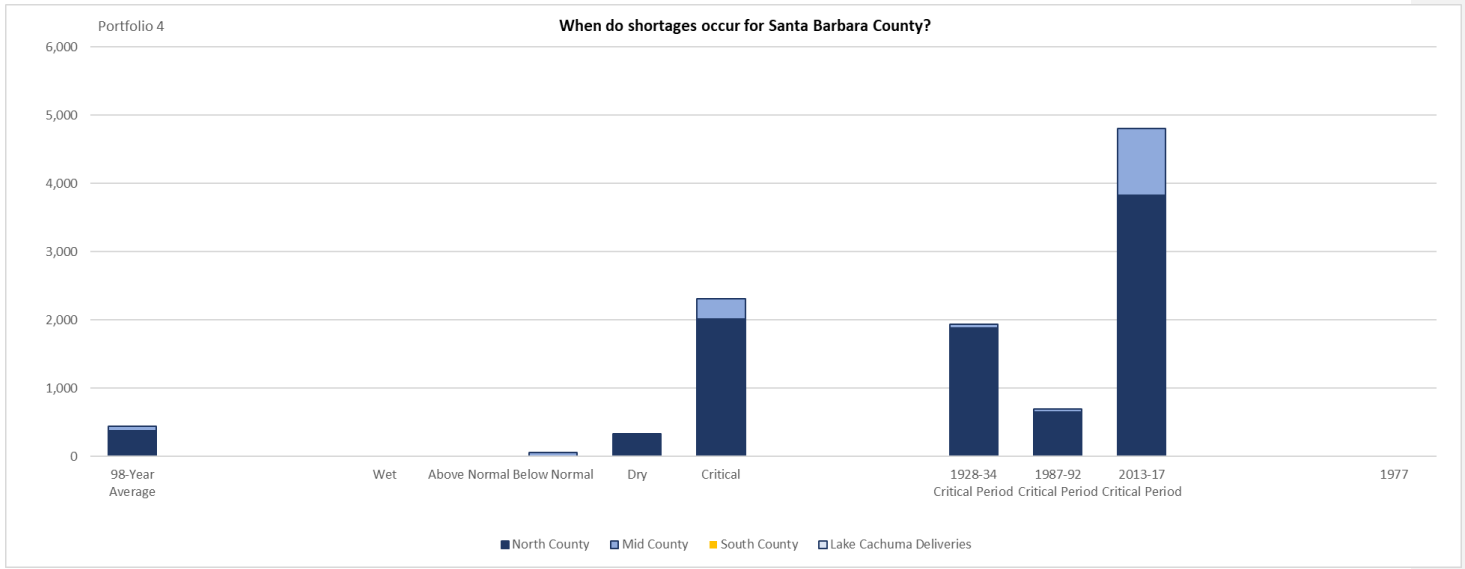


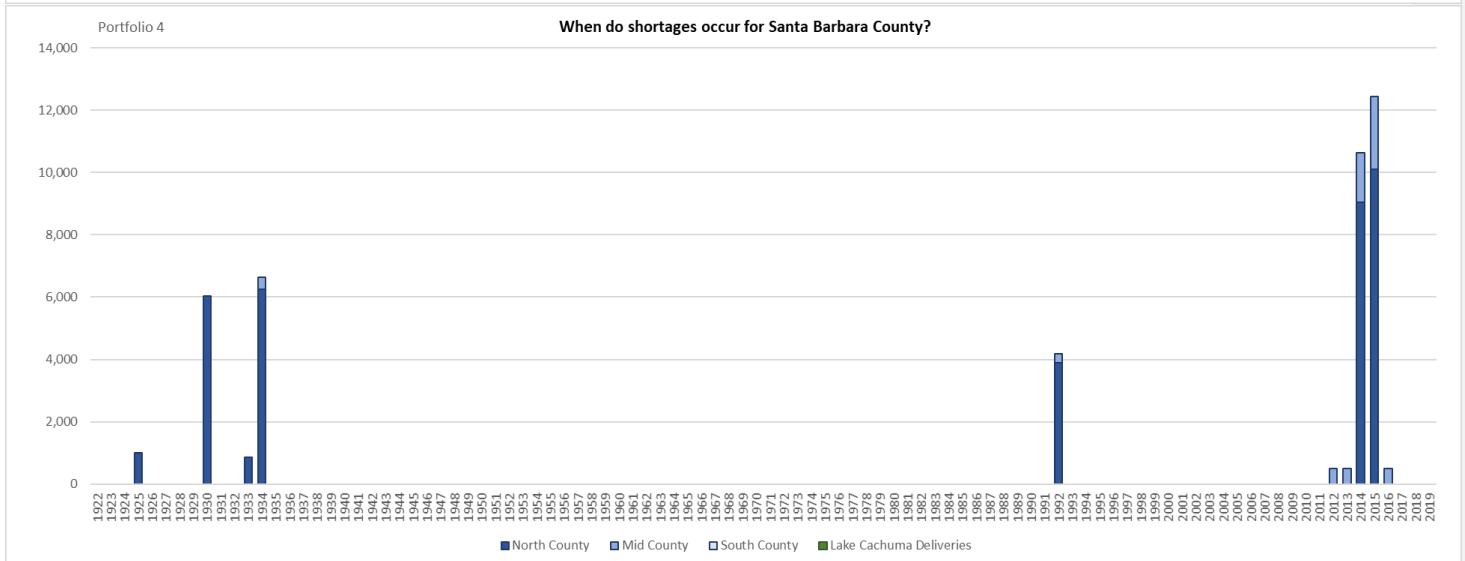


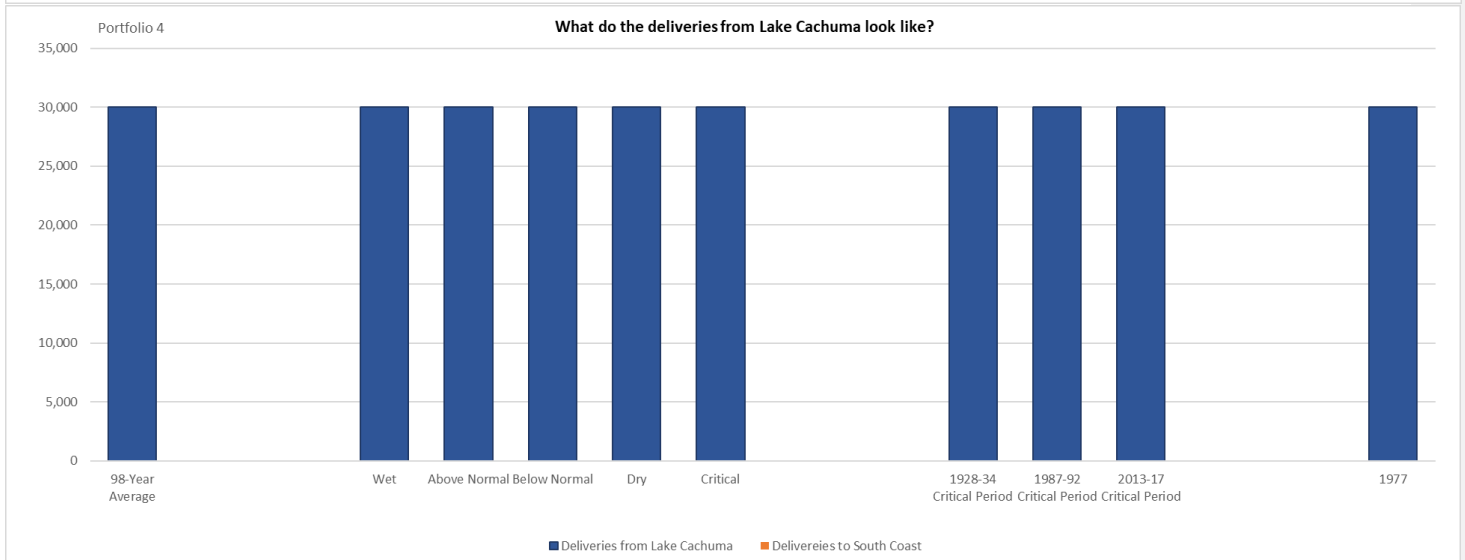


Appendix xx – Modeling

Portfolio 4

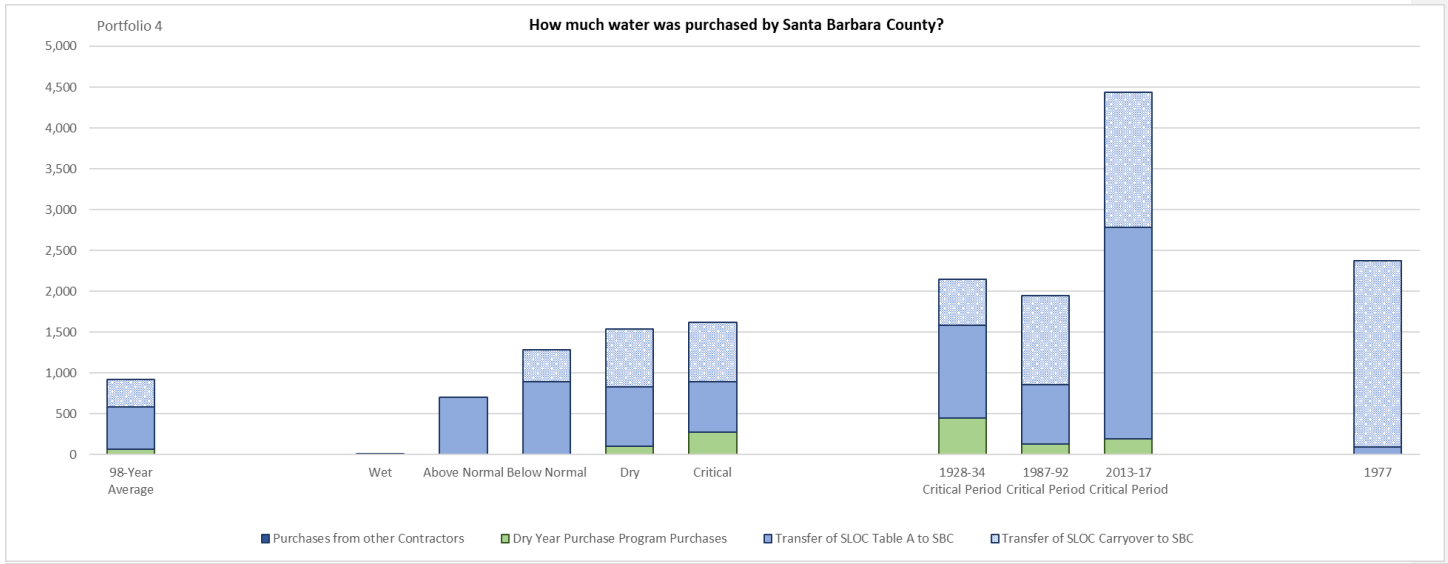


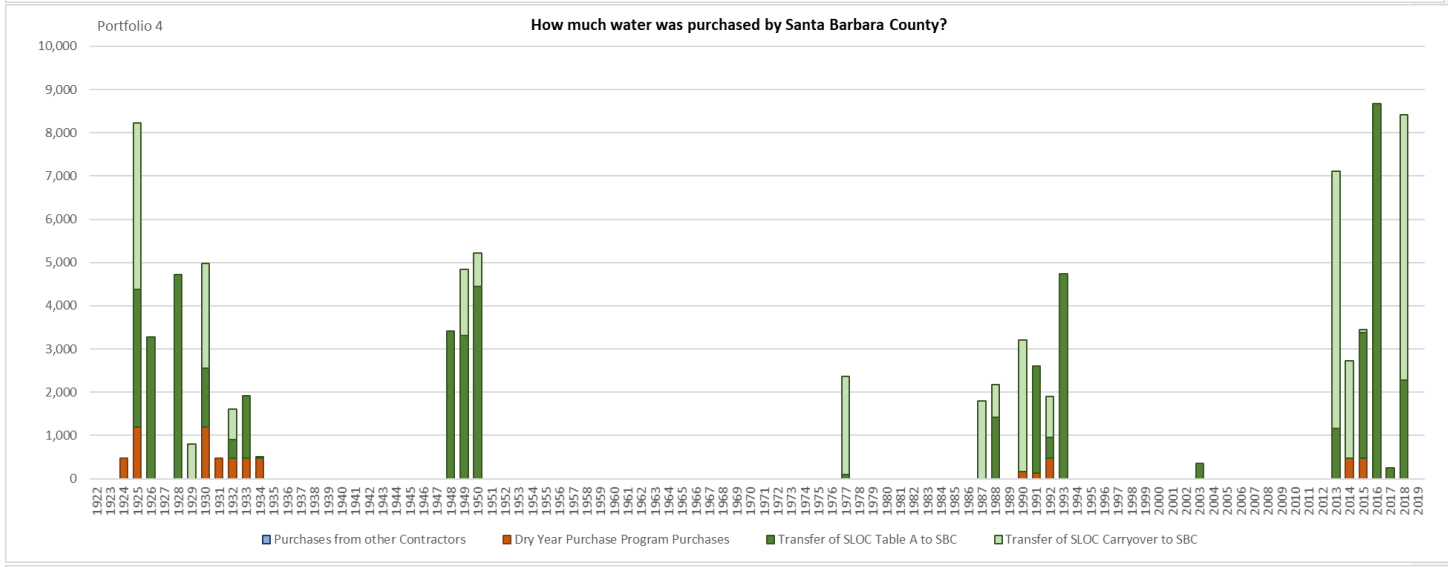


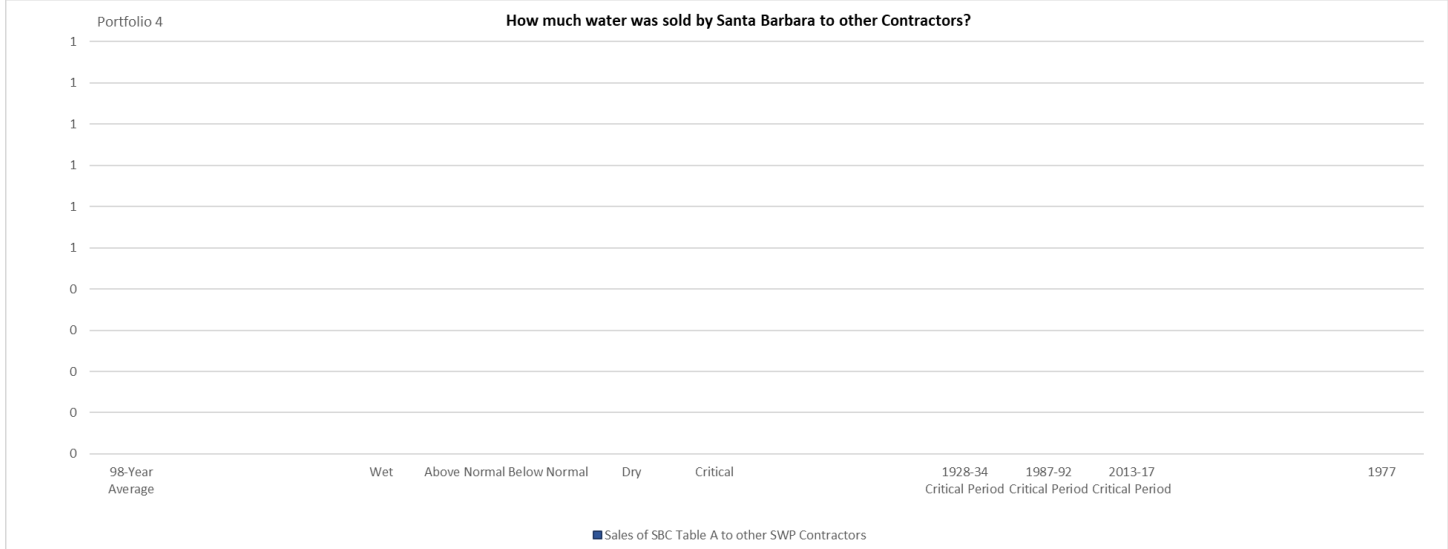


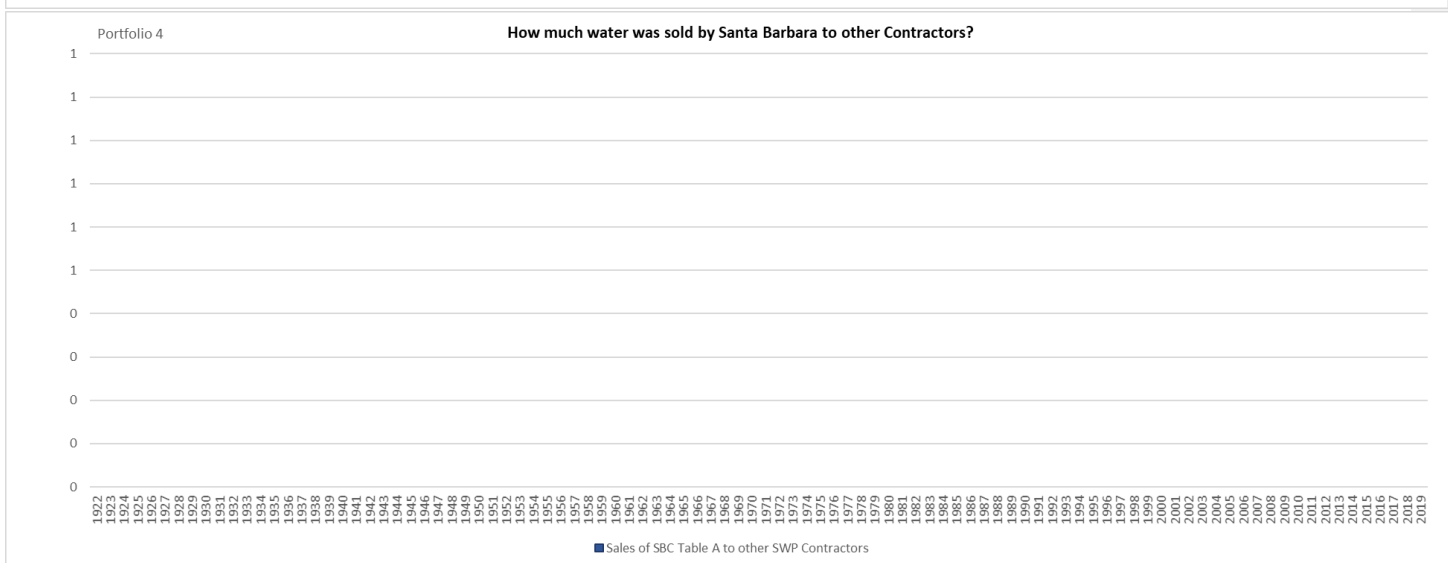
Appendix xx – Modeling

Portfolio 4



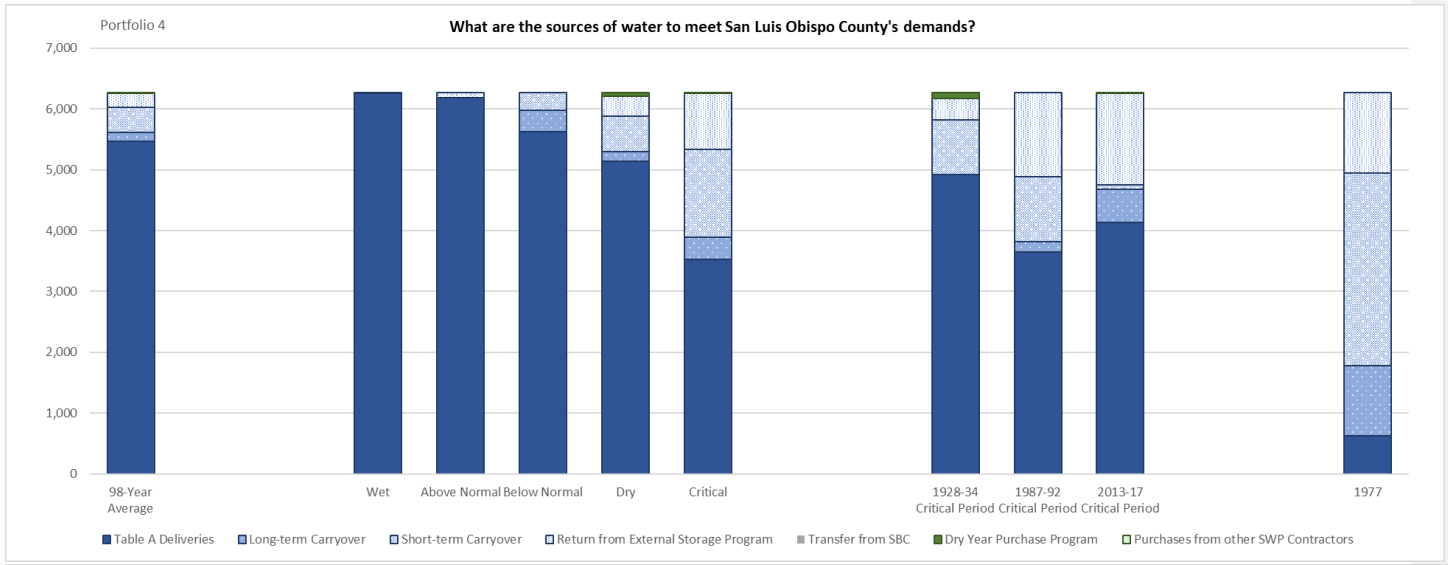


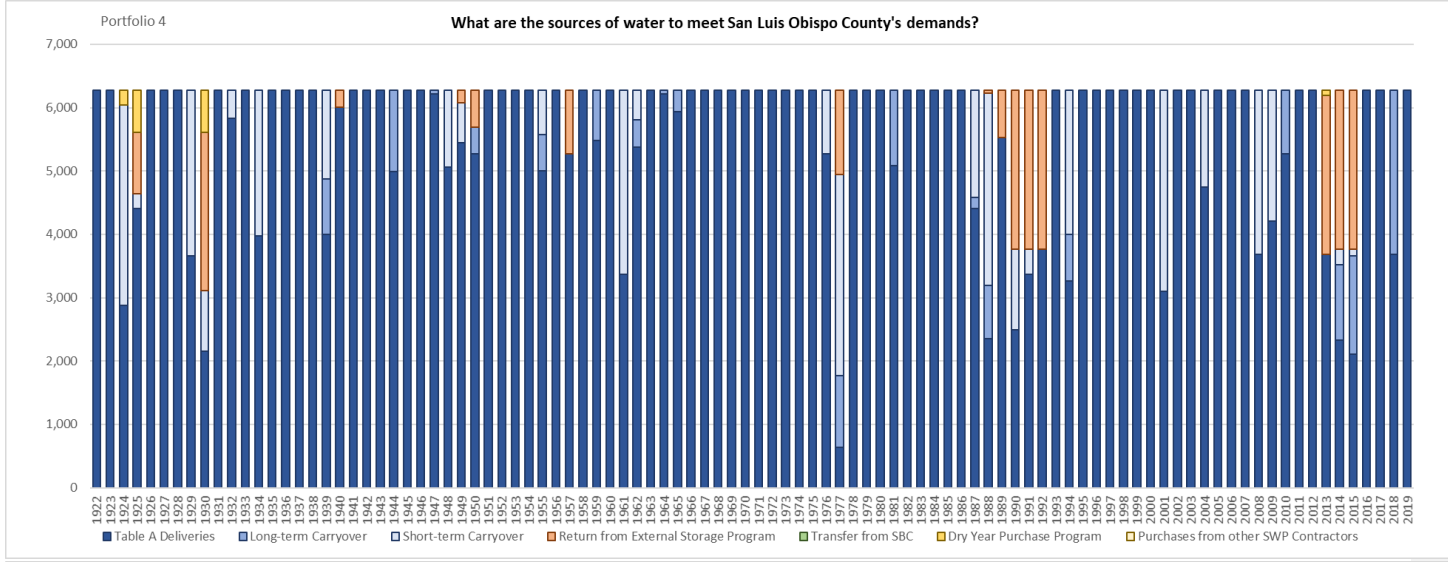


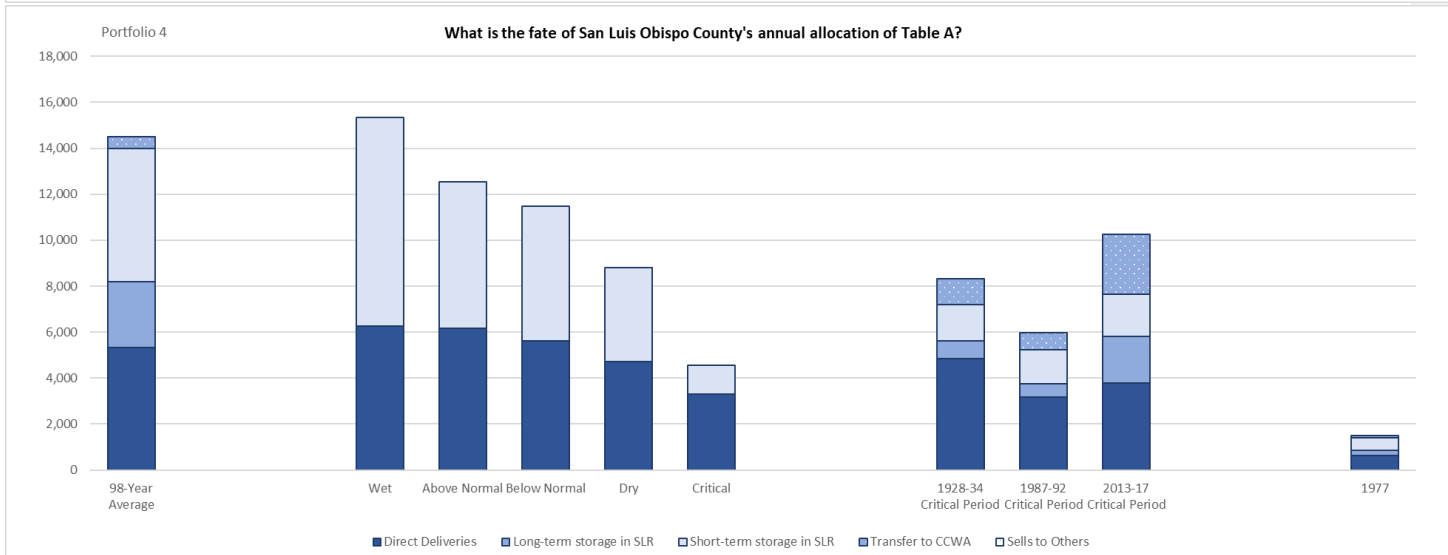


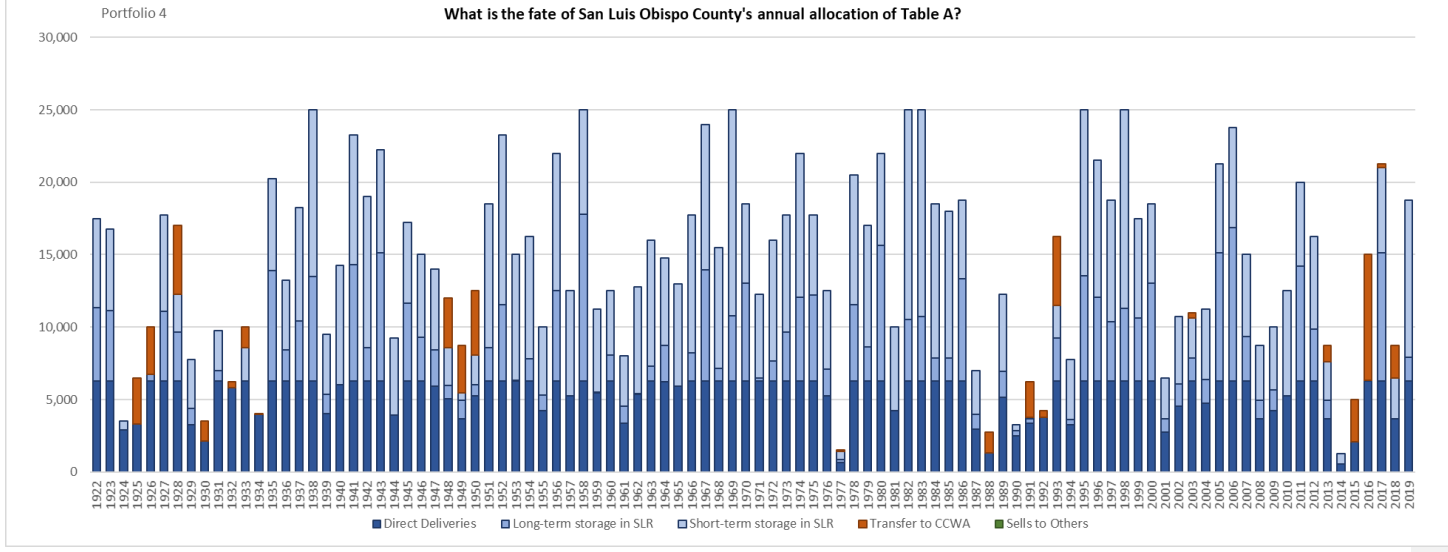
Appendix xx – Modeling

Portfolio 4



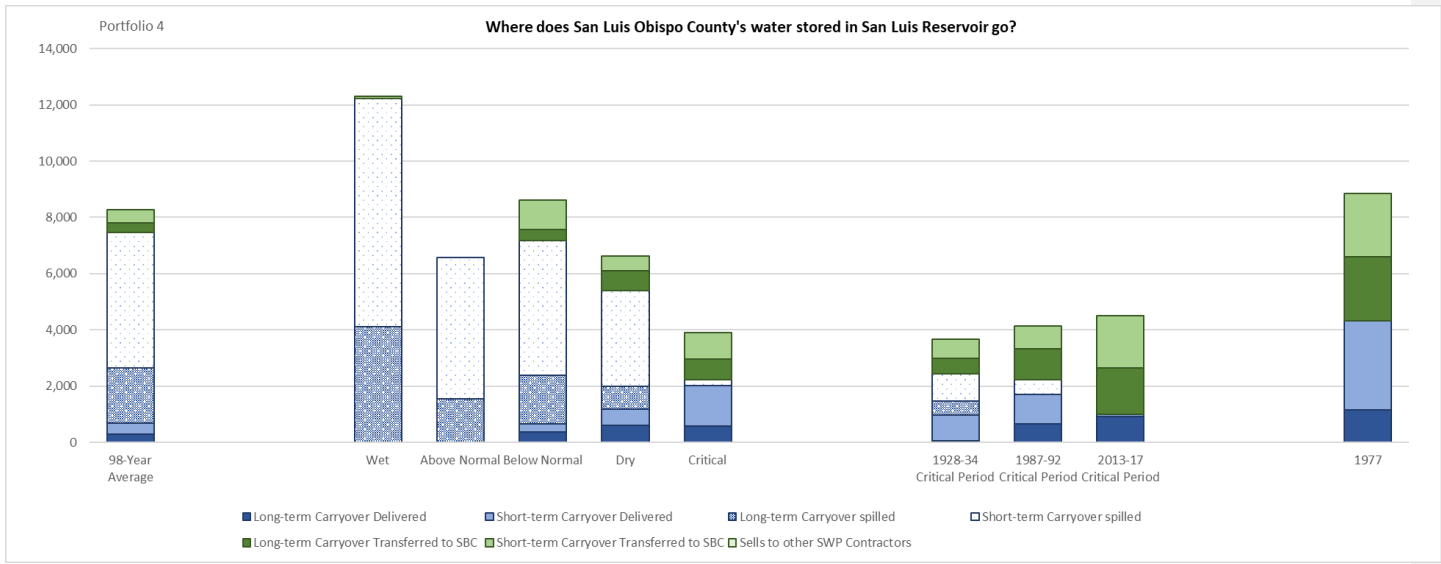


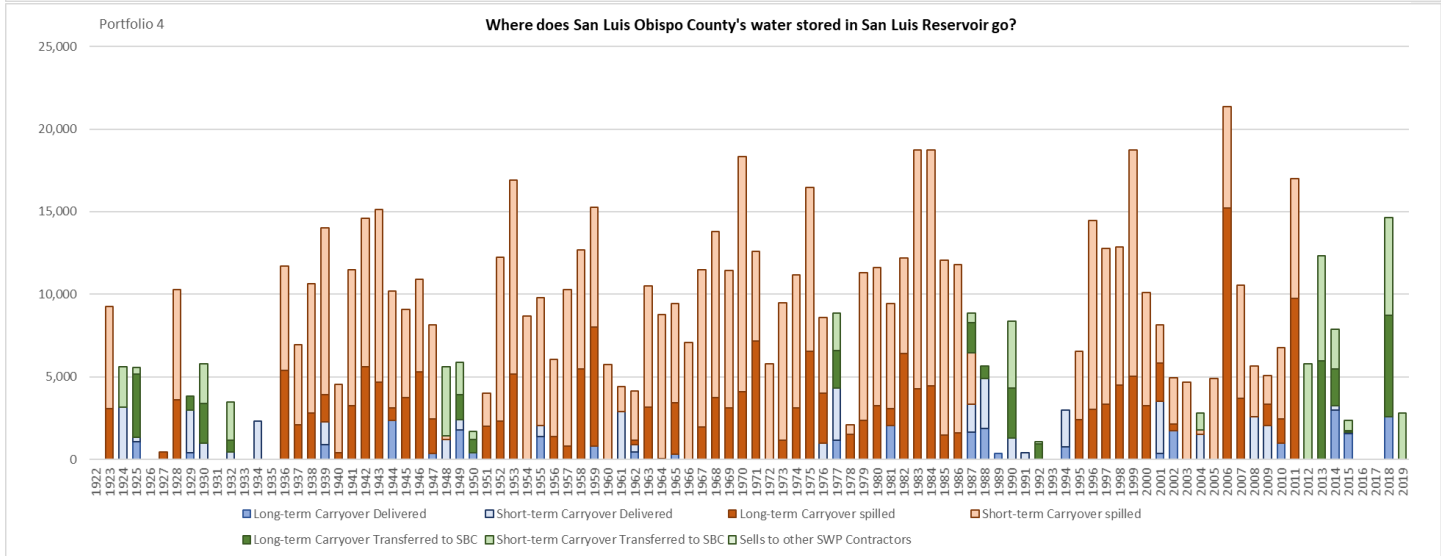


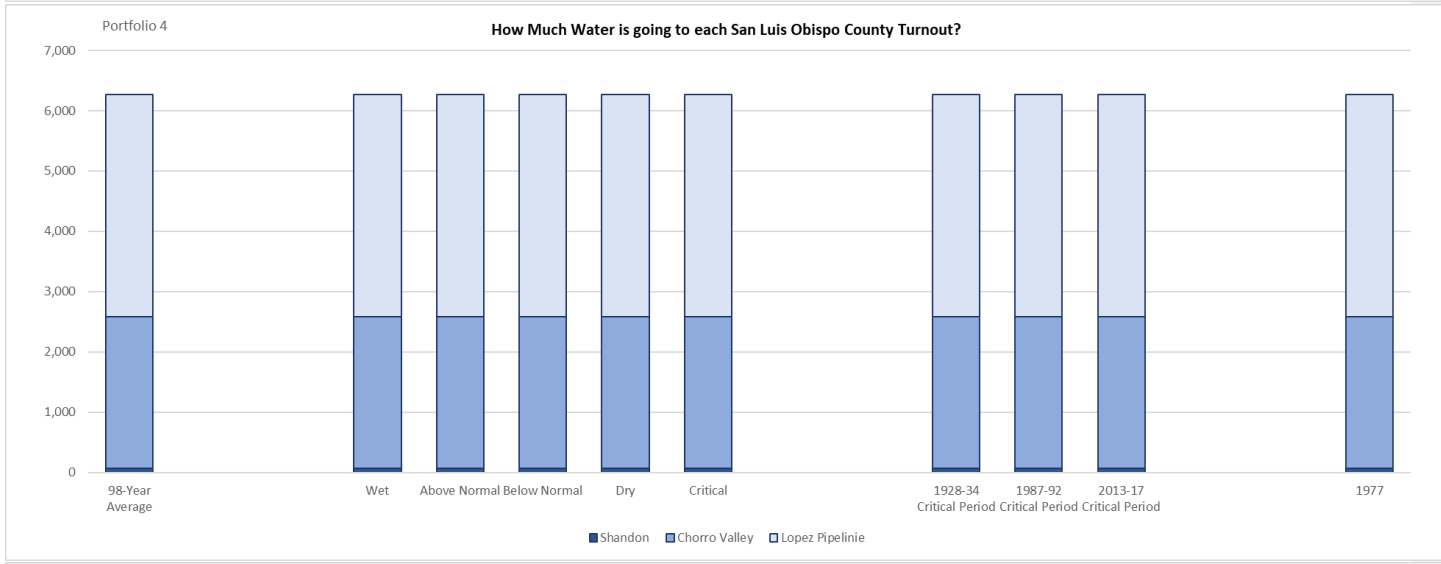


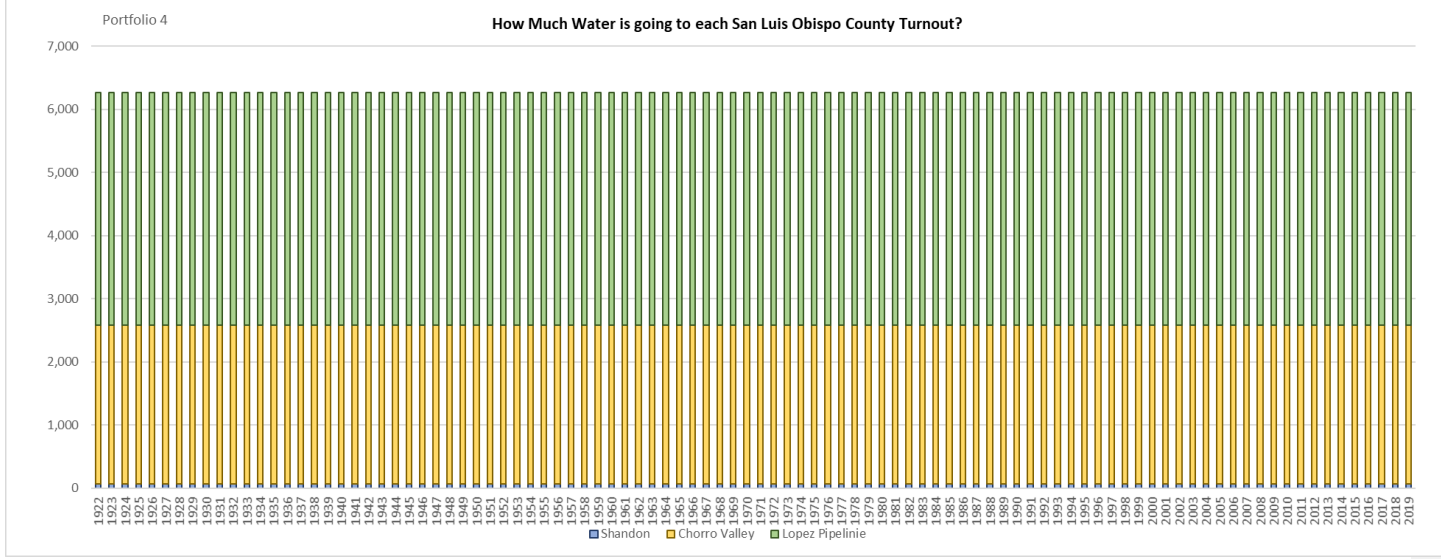
Appendix xx – Modeling

Portfolio 4



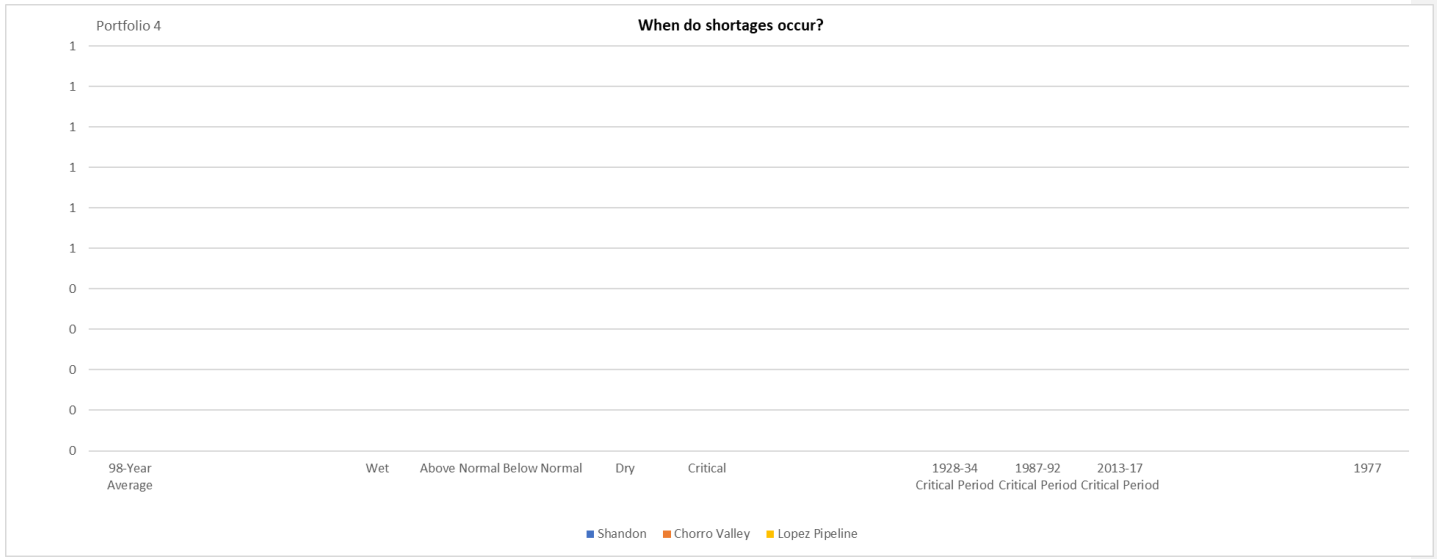


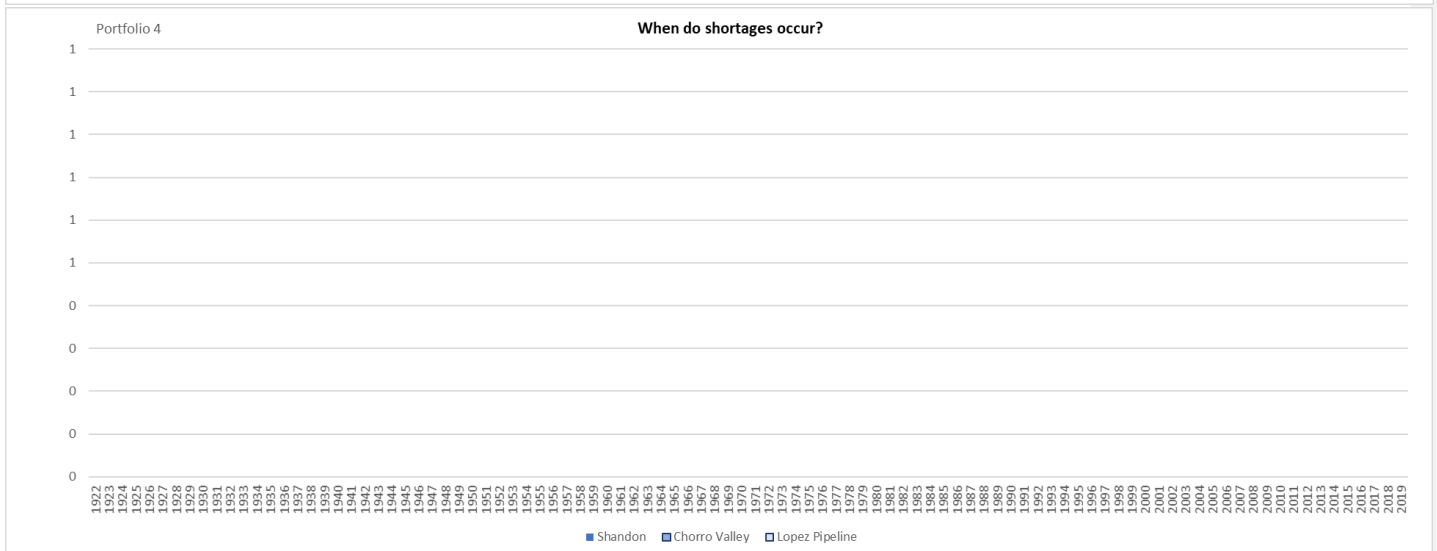


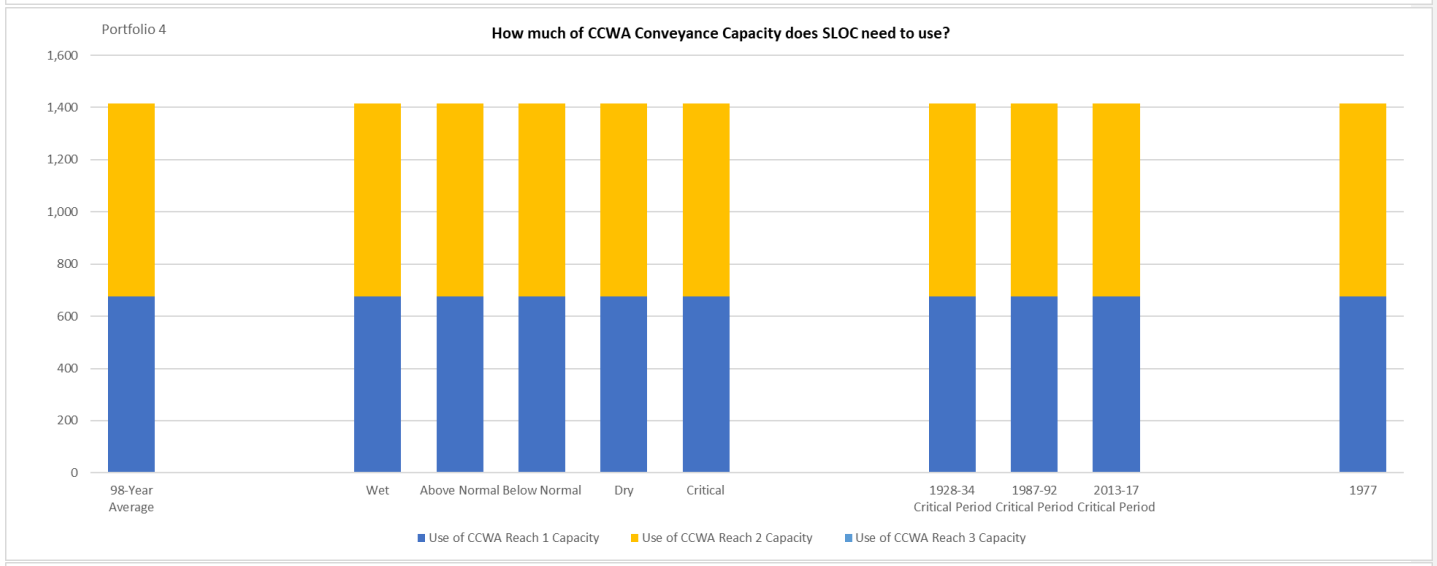


Appendix xx – Modeling

Portfolio 4

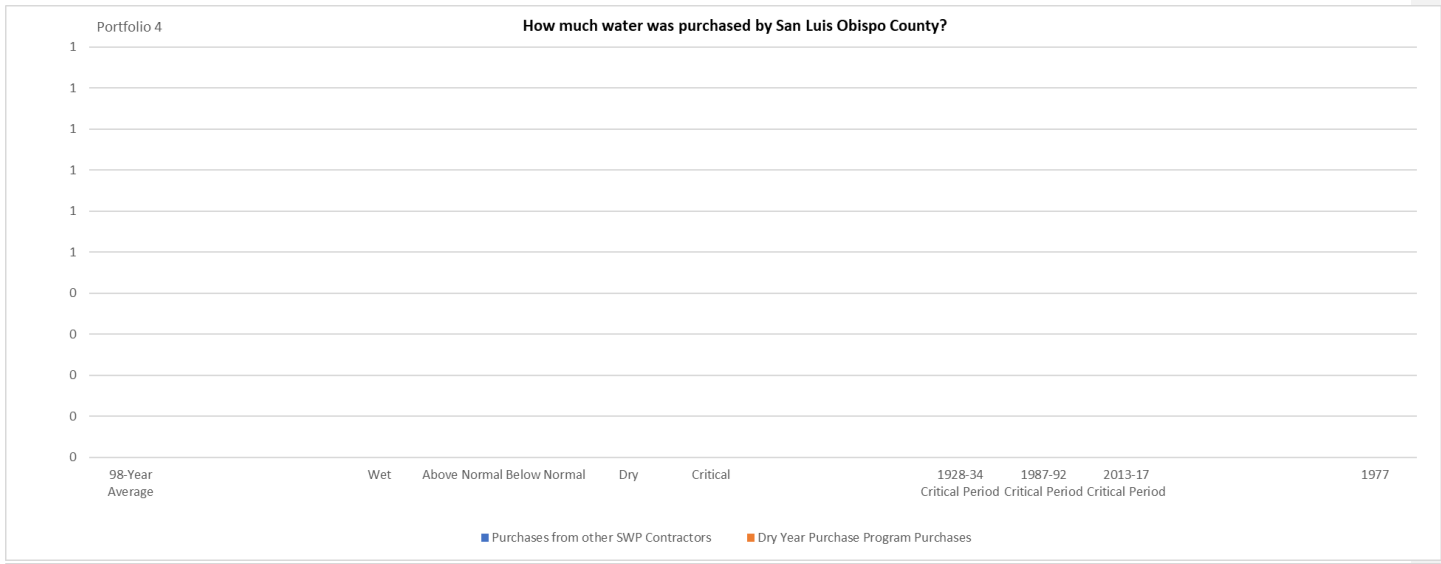


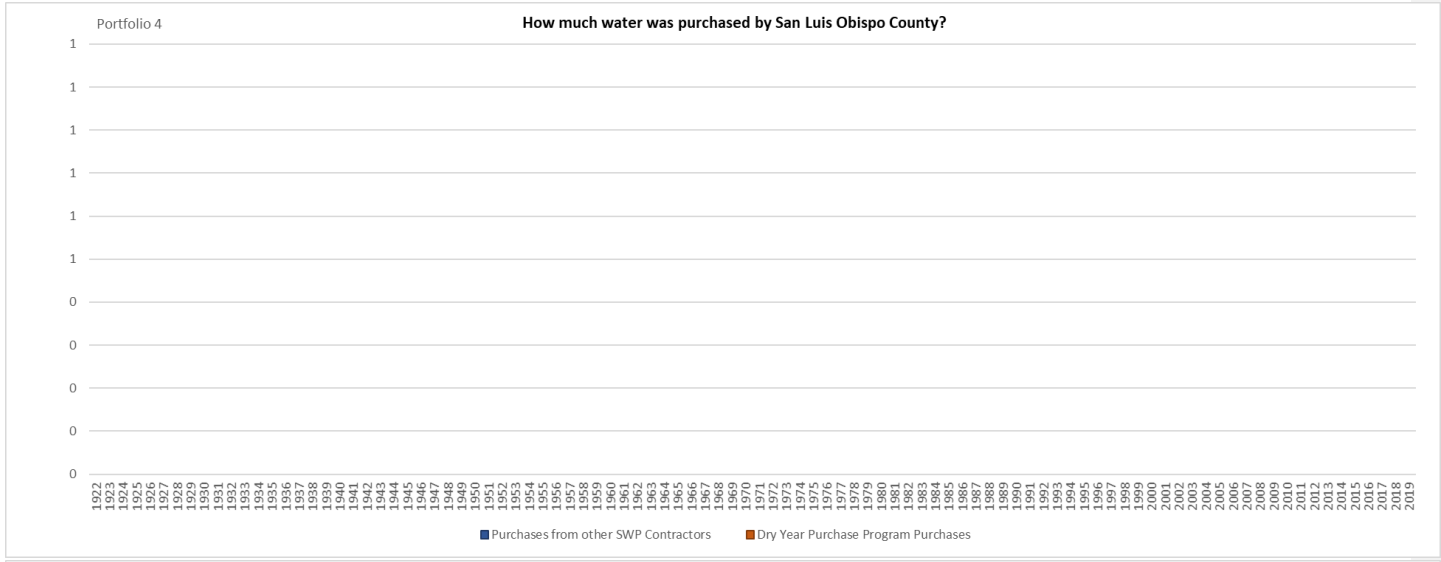


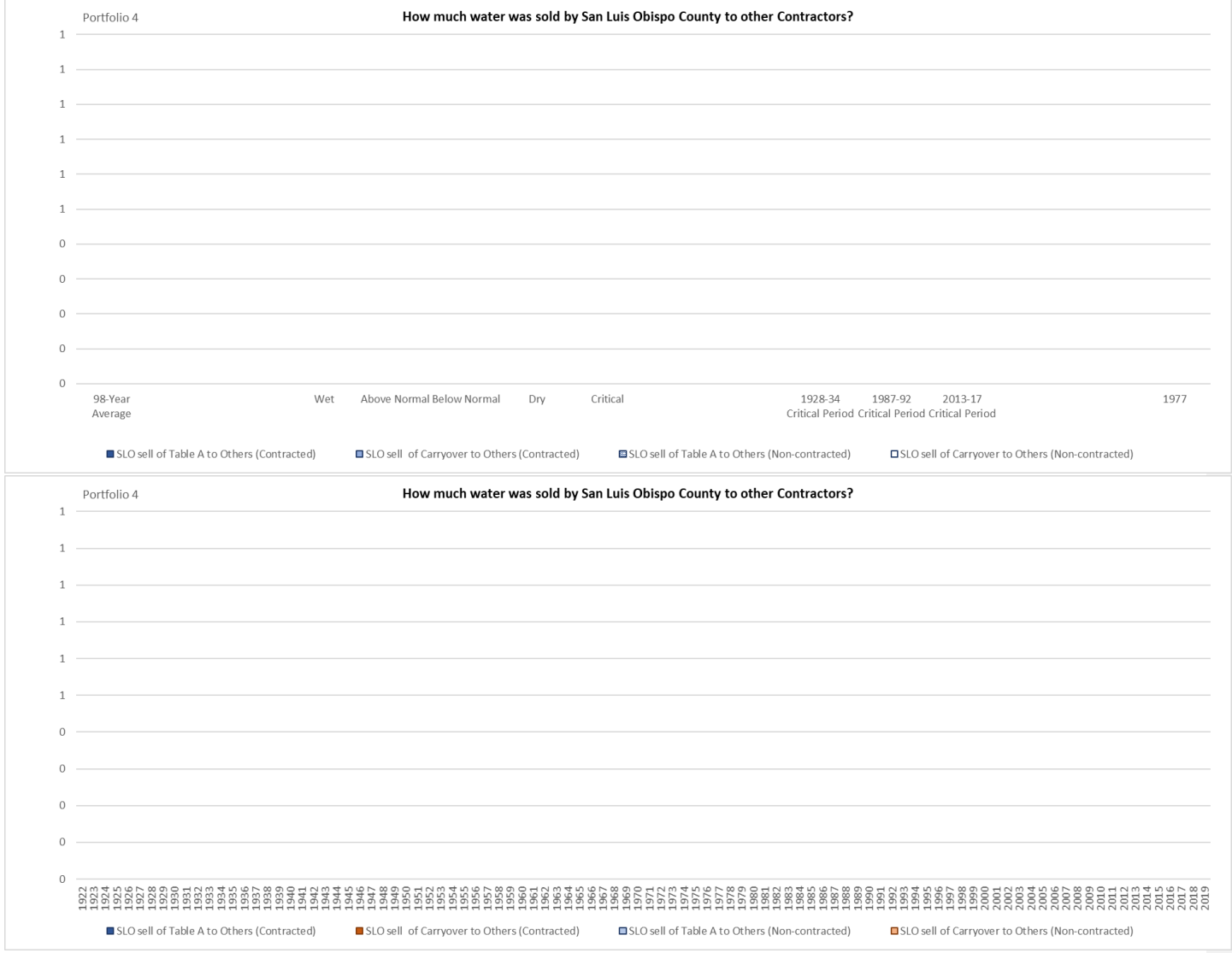


Appendix xx – Modeling

Portfolio 4







Appendix xx – Modeling

Portfolio 4

Portfolio 5 "Water Management Amendment"

The final portfolio that was analyzed includes full implementation of the 2021 SWP Water Management Amendment, which provides for annual and multi-year sales of SWP Table A outside the Central Coast region, among other provisions. For SLOFCWCD, there is no change to deliveries, which were already fully met with the other portfolios. The primary benefit for SLOFCWCD is more revenue from the assumed sale of unused Table A allocations in many years. Having buyers outside of the Central Coast area provides more opportunity for sales, and revenues are increased to $932,431 per year. The portfolio analysis assumes that the price for the sales is the same externally as with the sales within the Central Coast region, but a larger market for sales would be very likely to obtain higher prices.

For CCWA, Portfolio 5 provides nearly the same supply as with Portfolio 4, with purchases potentially spread across a broader group of SWP Contractors than just SLOFCWCD, as is the case with Portfolio 4. Portfolio 5 increases the water supplies to CCWA by 8.5% when compared to Portfolio 1. Shortages for CCWA are reduced from 158 af/year in Portfolio 4 to 97 af/year. The major benefit for CCWA is a reduction in spills of carryover water, unused Table A allocations were sold to other SWP Contractors. The sales of SWP water in mostly wet years provided an average of over $2 million per year, which could offset fixed SWP costs.

Summary of Portfolio 5 Analysis

	Santa Barbara County																													
	Sources of Water Delivered								Fate of Annual Table A Allocation					What Happens to water stored in SLR					How much water is delivered to each turnout			Delivery Shortages				Water Purchases				Sells to Others	
		Carryover		Return from Storage/Exchange Programs			Purchases			Storage in SLR		Transfers		Carryover Delivered		Carryover Spilled		Carryover Sold to Others							Transfers from SLO Table A and Long-term Carryover	Other Transfers				
Time Period	Table A	Long-Term	Short-Term	External	Internal	Transfers from SLO	Dry Year Purchase	SWP Contractors	Direct Delivery	Long-Term	Short-Term	Sells to SLO	Sells to Others	Long-Term	Short-Term	Long-Term	Short-Term		North County	Mid County	Lake Cachuma	North County	Mid-County		Lake Cachuma		Short-term Carryover	Dry Year Purchase	SWP Contractors	SLO	SWP Contractors
98-Year Summary																														
Total	1,896,911	120,474	-	114,260		99,207	6,536	7,993	1,896,911	546,915	-	-	410,703	120,474	-	29,227	-	267,737	1,404,335	663,572	177,474	30,483	5,866		-	60,045	39,162	6,536	7,993	-	678,440
Average	19,356	1,229	-	1,166		1,012	67	82	19,356	5,581	-	-	4,191	1,229	-	298	-	2,732	14,330	6,771	1,811	311	60		-	613	400	67	82	-	6,923
Water Year Averages																														
Wet	22,400	-	-	-		-	-	-	22,400	12,913	-	-	4,525	-	-	974	-	2,266	14,641	6,831	928	-	-		-	-	-	-	-	-	6,792
Above Normal	22,238	79	-	244		-	-	13	22,238	7,860	-	-	2,572	79	-	-	-	1,676	14,641	6,831	1,102	-	-		-	-	-	-	13	-	4,248
Below Normal	21,630	450	-	1,000		1,286	-	-	21,630	1,269	-	-	6,764	450	-	-	-	4,220	14,641	6,769	2,955	-	62		-	484	802	-	-	-	10,984
Dry	18,187	2,146	-	1,217		1,928	104	170	18,187	1,269	-	-	4,962	2,146	-	-	-	4,009	14,492	6,809	2,450	149	22		-	1,397	531	104	170	-	8,972
Critically Dry	9,946	4,188	-	4,456		2,287	276	261	9,946	-	-	-	1,104	4,188	-	-	-	1,104	12,837	6,539	2,038	1,804	292		-	1,345	941	276	261	-	2,209
Critical Period Averages																														
1928-1934	13,789	1,526	-	2,138		1,700	446	571	13,789	1,351	-	-	-	1,526	-	-	-	-	13,394	6,776	-	1,247	55		-	1,025	675	446	571	-	-
1987-1992	10,705	2,324	-	5,000		2,616	130	83	10,705	136	-	-	-	2,324	-	-	-	-	14,090	6,767	-	552	64		-	1,822	794	130	83	-	-
2013-2017	18,248	2,983	-	5,689		5,072	192	200	18,248	401	-	-	-	2,983	-	-	-	-	10,952	5,910	15,523	3,689	921		-	3,212	1,859	192	200	-	-
1977	2,729	6,618	-	7,500		4,625	-	-	2,729	-	-	-	-	6,618	-	-	-	-	14,641	6,831	-	-	-		-	2,370	2,255	-	-	-	-

	San Luis Obispo County																													
	Sources of Water Delivered								Fate of Annual Table A Allocation					What Happens to water stored in SLR					How much water is delivered to each turnout			Delivery Shortages			Water Purchases				Sells to Others	
		Carryover		Return from Storage/Exchange Programs			Purchases			Storage in SLR		Transfers		Carryover Delivered		Carryover Spilled		Carryover Sold to Others							Transfers from SBC					
Time Period	Table A	Long-Term	Short-Term	External	Internal	Transfers from SBC	Dry Year Purchase	SWP Contractors	Direct Delivery	Long-Term	Short-Term	Sells to SBC	Sells to Others	Long-Term	Short-Term	Long-Term	Short-Term		Shandon	Chorro Valley	Lopez Pipeline	Shandon	Chorro Valley	Lopez Pipeline			Dry Year Purchase	SWP Contractors	SBC	SWP Contractors
98-Year Summary																														
Total	522,926	16,335	34,288	39,501		-	1,407	101	519,738	319,812	143,209	34,648	404,343	17,354	34,288	70,494	67,280	228,152	6,566	246,764	361,228	-	-	-			1,407	101	99,207	567,936
Average	5,336	167	350	403		-	14	1	5,303	3,263	1,461	354	4,126	177	350	719	687	2,328	67	2,518	3,686	-	-	-			14	1	1,012	5,795
Water Year Averages																														
Wet	6,223	11	37	-		-	-	-	6,223	-	2,870	-	3,717	11	37	2,350	2,243	52	67	2,518	3,686	-	-	-			-	-	-	3,769
Above Normal	6,180	57	-	33		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
Below Normal	5,540	355	139	238		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
Dry	4,818	179	411	797		-	61	4	4,735	-	1,006	-	4,201	179	411	-	-	4,496	67	2,518	3,686	-	-	-			61	4	1,928	7,503
Critically Dry	3,351	359	1,433	1,127		-	-	-	3,266	-	663	-	769	427	1,433	-	-	3,058	67	2,518	3,686	-	-	-			-	-	2,287	2,217
Critical Period Averages																														
1928-1934	4,784	-	1,021	372		-	94	-	4,745	931	1,696	563	386	-	1,021	-	-	1,495	67	2,518	3,686	-	-	-			94	-	1,700	745
1987-1992	3,201	158	1,245	1,667		-	1	-	3,201	464	1,415	708	171	158	1,245	-	-	2,294	67	2,518	3,686	-	-	-			1	-	2,616	557
2013-2017	3,931	547	276	1,500		-	17	-	3,773	1,985	1,446	1,390	1,656	706	276	-	-	3,681	67	2,518	3,686	-	-	-			17	-	5,072	1,656
1977	632	1,143	1,996	2,500		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-

Appendix xx – Modeling

Portfolio 5

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1922	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1923	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1924	6,368	11,756	-	-	18,124	-	2,451	480	417	3,348	3,102	-	3,169	-	6,271	-	-	-
1925	11,826	-	-	-	11,826	6,150	398	1,199	1,899	9,646	4,639	-	-	872	5,511	-	101	101
1926	18,194	-	-	-	18,194	3,278	-	-	-	3,278	6,271	-	-	-	6,271	-	-	-
1927	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1928	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1929	14,101	6,569	-	-	20,670	802	-	-	-	802	3,266	-	3,005	-	6,271	-	-	-
1930	6,368	1,678	-	627	8,673	3,778	2,402	1,199	2,000	9,379	2,151	-	961	2,500	5,612	-	-	-
1931	17,740	2,436	-	316	20,492	-	-	480	500	980	6,167	-	-	104	6,271	-	-	-
1932	11,372	-	-	5,662	17,034	1,134	2,324	480	500	4,438	5,116	-	1,155	-	6,271	-	-	-
1933	18,194	-	-	864	19,058	1,434	-	480	500	2,414	6,271	-	-	-	6,271	-	-	-
1934	7,278	-	-	7,500	14,778	24	-	480	500	1,004	4,246	-	2,025	-	6,271	-	-	-
1935	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1936	21,472	-	-	-	21,472	-	-	-	-	-	5,585	-	-	686	6,271	-	-	-
1937	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1938	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1939	17,285	4,187	-	-	21,472	-	-	-	-	-	4,004	875	-	1,392	6,271	-	-	-
1940	21,472	-	-	-	21,472	-	-	-	-	-	6,006	-	-	265	6,271	-	-	-
1941	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1942	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1943	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1944	16,830	4,642	-	-	21,472	-	-	-	-	-	3,899	1,275	1,097	-	6,271	-	-	-
1945	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1946	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1947	25,472	8,655	-	2,777	36,904	-	-	-	-	-	5,901	51	-	319	6,271	-	-	-
1948	21,833	-	-	7,500	29,333	3,465	4,106	-	-	7,571	5,058	-	-	1,213	6,271	-	-	-
1949	15,920	1,821	-	7,500	25,241	4,787	1,970	-	-	6,757	3,688	-	83	2,500	6,271	-	-	-
1950	22,743	-	-	7,500	30,243	5,216	480	1	-	5,697	5,268	422	-	581	6,271	-	-	-
1951	33,660	-	-	3,244	36,904	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1952	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1953	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1954	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1955	18,194	3,278	-	-	21,472	-	-	-	-	-	4,215	575	-	1,481	6,271	-	-	-
1956	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1957	21,472	-	-	-	21,472	-	-	-	-	-	5,268	801	-	202	6,271	-	-	-
1958	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1959	20,469	1,003	-	-	21,472	-	-	-	-	-	4,742	791	687	51	6,271	-	-	-
1960	21,472	-	-	-	21,472	-	-	-	-	-	5,268	-	-	1,003	6,271	-	-	-
1961	14,556	4,826	-	2,090	21,472	-	-	-	-	-	3,382	389	-	2,500	6,271	-	-	-
1962	21,472	-	-	-	21,472	-	-	-	-	-	5,374	435	-	462	6,271	-	-	-
1963	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1964	21,472	-	-	-	21,472	-	-	-	-	-	6,217	54	-	-	6,271	-	-	-
1965	21,472	-	-	-	21,472	-	-	-	-	-	5,936	335	-	-	6,271	-	-	-
1966	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1967	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1968	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1969	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1970	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1971	21,472	-	-	-	21,472	-	-	-	-	-	5,163	-	1,108	-	6,271	-	-	-
1972	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1973	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1974	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1975	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1976	21,472	-	-	-	21,472	-	-	-	-	-	5,268	-	1,003	-	6,271	-	-	-
1977	2,729	6,618	-	7,500	16,847	2,370	2,255	-	-	4,625	632	1,143	1,996	2,500	6,271	-	-	-
1978	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1979	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1980	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1981	18,194	3,278	-	-	21,472	-	-	-	-	-	4,215	1,186	-	870	6,271	-	-	-
1982	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-

	Inflows to CBA																	
	SBC Operations										SLO Operations							
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
1983	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1984	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1985	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1986	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1987	12,736	6,338	-	-	19,074	1,806	592	-	-	2,398	2,950	172	3,149	-	6,271	-	-	-
1988	5,003	6,787	-	7,500	19,290	2,182	-	-	-	2,182	1,159	676	3,038	1,398	6,271	-	-	-
1989	21,472	-	-	-	21,472	-	-	-	-	-	5,163	-	-	1,102	6,265	-	-	-
1990	5,913	816	-	7,500	14,229	3,052	4,032	159	-	7,243	2,488	-	1,283	2,500	6,271	-	-	-
1991	11,372	-	-	7,500	18,872	2,462	-	138	-	2,600	3,771	-	-	2,500	6,271	-	-	-
1992	7,733	-	-	7,500	15,233	1,429	138	480	500	2,547	3,673	98	-	2,500	6,271	-	-	-
1993	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1994	14,101	7,371	-	-	21,472	-	-	-	-	-	3,266	737	2,268	-	6,271	-	-	-
1995	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1996	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1997	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1998	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
1999	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2000	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2001	11,826	9,646	-	-	21,472	-	-	-	-	-	2,740	-	3,169	362	6,271	-	-	-
2002	19,559	1,913	-	-	21,472	-	-	-	-	-	4,531	-	-	1,740	6,271	-	-	-
2003	20,014	1,104	-	177	21,295	-	-	-	177	177	6,271	-	-	-	6,271	-	-	-
2004	20,469	-	-	1,003	21,472	-	-	-	-	-	4,742	-	1,529	-	6,271	-	-	-
2005	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2006	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2007	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2008	15,920	5,552	-	-	21,472	-	-	-	-	-	3,688	-	2,185	398	6,271	-	-	-
2009	18,194	3,278	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2010	21,472	-	-	-	21,472	-	-	-	-	-	5,271	1,000	-	-	6,271	-	-	-
2011	21,472	-	-	-	21,472	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2012	29,566	-	-	1,553	31,119	-	5,785	-	-	5,785	6,271	-	-	-	6,271	-	-	-

	Inflows to CBA																	
	SBC Operations									SLO Operations								
Periods	Table A delivered	Long-term Carryover Return from SLR	Short-term Carryover Return from SLR	Return from External Program	Total Inflow to CBA from SBC Supplies	Transfer of SLO Table A and Long-Term Carryover to SBC	Transfer of SLO Short-term Carryover to CCWA	CCWA Drought Purchase	Purchases from Other SWP Contractors	Total Purchases	Table A delivered	Long-term Carryover Returned from SLR	Short-term Carryover Returned from SLR	Return of Contracted Supplies from External Program	Total Inflow to CBA from SLO Supplies	Transfer from SBC to SLO	SLO Purchases from Other SWP Contractors	Total Purchases
2013	15,920	-	-	7,500	23,420	7,106	6,378	-	-	13,484	3,688	-	-	2,500	6,188	-	-	-
2014	2,274	11,698	-	7,500	21,472	2,246	2,376	480	500	5,602	1,208	1,185	1,378	2,500	6,271	-	-	-
2015	9,097	3,219	-	7,500	19,816	3,045	542	480	500	4,567	2,219	1,552	-	2,500	6,271	-	-	-
2016	27,292	-	-	5,947	33,239	3,665	-	-	-	3,665	6,271	-	-	-	6,271	-	-	-
2017	36,658	-	-	-	36,658	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
2018	15,920	2,005	-	-	17,925	614	2,933	-	-	3,547	3,688	2,583	-	-	6,271	-	-	-
2019	34,114	-	-	-	34,114	-	-	-	-	-	6,271	-	-	-	6,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum	1,896,911	120,474	-	114,260	2,131,645	60,045	39,162	6,536	7,993	113,736	522,926	16,335	34,288	39,501	613,050	-	101	101
Average	19,356	1,229	-	1,166	21,751	613	400	67	82	1,161	5,336	167	350	403	6,256	-	1	1
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Year Averages	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wet	22,400	-	-	-	22,400	-	-	-	-	-	6,223	11	37	-	6,271	-	-	-
Above Normal	22,238	79	-	244	22,562	-	-	-	13	13	6,180	57	-	33	6,271	-	-	-
Below Normal	21,630	450	-	1,000	23,080	484	802	-	-	1,286	5,540	355	139	238	6,271	-	-	-
Dry	18,187	2,146	-	1,217	21,550	1,397	531	104	170	2,202	4,818	179	411	797	6,205	-	4	4
Critically Dry	9,946	4,188	-	4,456	18,591	1,345	941	276	261	2,823	3,351	359	1,433	1,127	6,271	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Period Averages	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1928-34	13,789	1,526	-	2,138	17,454	1,025	675	446	571	2,717	4,784	-	1,021	372	6,177	-	-	-
1987-92	10,705	2,324	-	5,000	18,028	1,822	794	130	83	2,828	3,201	158	1,245	1,667	6,270	-	-	-
2013-17	18,248	2,983	-	5,689	26,921	3,212	1,859	192	200	5,464	3,931	547	276	1,500	6,254	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Driest 1-Year	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1977	2,729	6,618	-	7,500	16,847	2,370	2,255	-	-	4,625	632	1,143	1,996	2,500	6,271	-	-	-

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1922	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1923	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1924	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1925	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1926	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1927	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1928	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1929	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1930	18,052	-	5,595	676	67	67	18,052	-	5,466	738	2,518	2,518	18,052	-	3,686	-	3,686	3,686
1931	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1932	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1933	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1934	15,782	-	5,595	676	67	67	15,782	-	5,466	738	2,518	2,518	15,782	-	3,686	-	3,686	3,686
1935	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1936	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1937	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1938	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1939	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1940	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1941	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1942	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1943	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1944	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1945	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1946	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1947	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
1948	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
1949	31,998	-	5,595	676	67	67	31,998	-	5,466	738	2,518	2,518	31,998	-	3,686	-	3,686	3,686
1950	35,940	-	5,595	676	67	67	35,940	-	5,466	738	2,518	2,518	35,940	-	3,686	-	3,686	3,686
1951	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
1952	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1953	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1954	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1955	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1956	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1957	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1958	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1959	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1960	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1961	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1962	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1963	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1964	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1965	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1966	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1967	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1968	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1969	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1970	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1971	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1972	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1973	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1974	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1975	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1976	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1977	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1978	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1979	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1980	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1981	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1982	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
1983	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1984	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1985	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1986	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1987	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1988	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1989	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1990	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1991	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1992	17,780	-	5,595	676	67	67	17,780	-	5,466	738	2,518	2,518	17,780	-	3,686	-	3,686	3,686
1993	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1994	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1995	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1996	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1997	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1998	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
1999	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2000	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2001	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2002	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2003	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2004	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2005	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2006	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2007	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2008	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2009	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2010	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2011	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2012	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686

	Reach 1 Operations						Reach 2 Operations						Reach 3 Operations					
	SBC		SLO				SBC		SLO				SBC		SLO			
Periods	CCWA Reach1 Flow using CCWA Capacity	CCWA Reach1 Flow using SLO Capacity	SLO Reach1 Flow using SLO Capacity	SLO Reach1 Flow using CCWA Capacity	SLO Delivery to Shandon	Shandon Demand	CCWA Reach2 Flow using CCWA Capacity	CCWA Reach2 Flow using SLO Capacity	SLO Reach2 Flow using SLO Capacity	SLO Reach2 Flow using CCWA Capacity	SLO Delivery to Chorro Valley	Chorro Valley Demand	CCWA Reach3 Flow using CCWA Capacity	CCWA Reach3 Flow using SLO Capacity	SLO Reach3 Flow using SLO Capacity	SLO Reach3 Flow using CCWA Capacity	SLO Delivery to Lopez Pipeline	Lopez Pipeline Demand
2013	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
2014	27,074	-	5,595	676	67	67	27,074	-	5,466	738	2,518	2,518	27,074	-	3,686	-	3,686	3,686
2015	24,383	-	5,595	676	67	67	24,383	-	5,466	738	2,518	2,518	24,383	-	3,686	-	3,686	3,686
2016	36,904	-	5,595	676	67	67	36,904	-	5,466	738	2,518	2,518	36,658	246	3,686	-	3,686	3,686
2017	36,658	-	5,595	676	67	67	36,658	-	5,466	738	2,518	2,518	36,658	-	3,686	-	3,686	3,686
2018	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686
2019	34,114	-	5,595	676	67	67	34,114	-	5,466	738	2,518	2,518	34,114	-	3,686	-	3,686	3,686
Sum	2,245,381	-	548,310	66,248	6,566	6,566	2,245,381	-	535,668	72,324	246,764	246,764	2,243,905	1,476	361,228	-	361,228	361,228
Average	22,912	-	5,595	676	67	67	22,912	-	5,466	738	2,518	2,518	22,897	15	3,686	-	3,686	3,686
Water Year Averages																		
Wet	22,400	-	5,595	676	67	67	22,400	-	5,466	738	2,518	2,518	22,400	-	3,686	-	3,686	3,686
Above Normal	22,574	-	5,595	676	67	67	22,574	-	5,466	738	2,518	2,518	22,557	18	3,686	-	3,686	3,686
Below Normal	24,366	-	5,595	676	67	67	24,366	-	5,466	738	2,518	2,518	24,319	46	3,686	-	3,686	3,686
Dry	23,752	-	5,595	676	67	67	23,752	-	5,466	738	2,518	2,518	23,731	21	3,686	-	3,686	3,686
Critically Dry	21,414	-	5,595	676	67	67	21,414	-	5,466	738	2,518	2,518	21,414	-	3,686	-	3,686	3,686
													-	-				
Critical Period Averages													-	-				
1928-34	20,171	-	5,595	676	67	67	20,171	-	5,466	738	2,518	2,518	20,171	-	3,686	-	3,686	3,686
1987-92	20,857	-	5,595	676	67	67	20,857	-	5,466	738	2,518	2,518	20,857	-	3,686	-	3,686	3,686
2013-17	32,385	-	5,595	676	67	67	32,385	-	5,466	738	2,518	2,518	32,286	98	3,686	-	3,686	3,686
Driest 1-Year																		
1977	21,472	-	5,595	676	67	67	21,472	-	5,466	738	2,518	2,518	21,472	-	3,686	-	3,686	3,686

Periods	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1922	21,472	14,641	14,641	6,831	6,831	6,831	-	192,009	11,277	196,000	14,000	30,000	30,000
1923	21,472	14,641	14,641	6,831	6,831	6,831	-	54,915	13,060	193,855	14,000	30,000	30,000
1924	21,472	14,641	14,641	6,831	6,831	6,831	-	-	11,956	137,899	14,000	30,000	30,000
1925	21,472	14,641	14,641	6,831	6,831	6,831	-	19,917	10,241	103,575	14,000	30,000	30,000
1926	21,472	14,641	14,641	6,831	6,831	6,831	-	88,712	10,244	138,043	14,000	30,000	30,000
1927	21,472	14,641	14,641	6,831	6,831	6,831	-	96,630	11,677	178,996	14,000	30,000	30,000
1928	21,472	14,641	14,641	6,831	6,831	6,831	-	38,724	12,124	161,596	14,000	30,000	30,000
1929	21,472	14,641	14,641	6,831	6,831	6,831	-	35,543	11,416	141,723	14,000	30,000	30,000
1930	18,052	11,221	14,641	6,831	6,831	6,831	-	24,442	10,469	111,696	14,000	30,000	30,000
1931	21,472	14,641	14,641	6,831	6,831	6,831	-	19,422	9,256	77,862	14,000	30,000	30,000
1932	21,472	14,641	14,641	6,831	6,831	6,831	-	132,123	10,096	155,889	14,000	30,000	30,000
1933	21,472	14,641	14,641	6,831	6,831	6,831	-	12,988	10,786	114,091	14,000	30,000	30,000
1934	15,782	9,334	14,641	6,448	6,448	6,831	-	36,250	9,662	96,679	14,000	30,000	30,000
1935	21,472	14,641	14,641	6,831	6,831	6,831	-	106,812	10,330	149,161	14,000	30,000	30,000
1936	21,472	14,641	14,641	6,831	6,831	6,831	-	49,754	11,225	143,690	14,000	30,000	30,000
1937	21,472	14,641	14,641	6,831	6,831	6,831	-	152,344	12,112	196,000	14,000	30,000	30,000
1938	21,472	14,641	14,641	6,831	6,831	6,831	-	186,211	13,101	196,000	14,000	30,000	30,000
1939	21,472	14,641	14,641	6,831	6,831	6,831	-	41,411	12,808	180,603	14,000	30,000	30,000
1940	21,472	14,641	14,641	6,831	6,831	6,831	-	29,816	12,018	154,401	14,000	30,000	30,000
1941	21,472	14,641	14,641	6,831	6,831	6,831	-	368,484	12,311	196,000	14,000	30,000	30,000
1942	21,472	14,641	14,641	6,831	6,831	6,831	-	30,806	12,611	170,195	14,000	30,000	30,000
1943	21,472	14,641	14,641	6,831	6,831	6,831	-	161,889	12,611	196,000	14,000	30,000	30,000
1944	21,472	14,641	14,641	6,831	6,831	6,831	-	104,761	13,101	196,000	14,000	30,000	30,000
1945	21,472	14,641	14,641	6,831	6,831	6,831	-	45,795	12,890	184,905	14,000	30,000	30,000
1946	21,472	14,641	14,641	6,831	6,831	6,831	-	75,561	12,890	196,000	14,000	30,000	30,000
1947	36,904	14,641	14,641	22,263	6,831	6,831	15,432	10,655	12,523	165,564	14,000	30,000	30,000
1948	36,904	14,641	14,641	22,263	6,831	6,831	15,432	-	11,189	125,807	14,000	30,000	30,000
1949	31,998	14,641	14,641	17,357	6,831	6,831	10,526	3,514	9,680	86,167	14,000	30,000	30,000
1950	35,940	14,641	14,641	21,299	6,831	6,831	14,468	13,837	8,468	62,004	14,000	30,000	30,000
1951	36,904	14,641	14,641	22,263	6,831	6,831	15,432	-	7,327	26,109	14,000	30,000	30,000
1952	21,472	14,641	14,641	6,831	6,831	6,831	-	246,309	9,873	196,000	14,000	30,000	30,000

	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
Periods	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1953	21,472	14,641	14,641	6,831	6,831	6,831	-	12,635	12,272	152,363	14,000	30,000	30,000
1954	21,472	14,641	14,641	6,831	6,831	6,831	-	42,047	11,193	139,217	14,000	30,000	30,000
1955	21,472	14,641	14,641	6,831	6,831	6,831	-	48,976	10,832	133,361	14,000	30,000	30,000
1956	21,472	14,641	14,641	6,831	6,831	6,831	-	65,238	10,917	143,682	14,000	30,000	30,000
1957	21,472	14,641	14,641	6,831	6,831	6,831	-	30,099	10,647	119,134	14,000	30,000	30,000
1958	21,472	14,641	14,641	6,831	6,831	6,831	-	265,046	11,641	196,000	14,000	30,000	30,000
1959	21,472	14,641	14,641	6,831	6,831	6,831	-	21,331	12,434	160,897	14,000	30,000	30,000
1960	21,472	14,641	14,641	6,831	6,831	6,831	-	3,797	10,798	109,896	14,000	30,000	30,000
1961	21,472	14,641	14,641	6,831	6,831	6,831	-	-	8,825	57,071	14,000	30,000	30,000
1962	21,472	14,641	14,641	6,831	6,831	6,831	-	152,344	9,696	155,719	14,000	30,000	30,000
1963	21,472	14,641	14,641	6,831	6,831	6,831	-	27,977	11,056	128,640	14,000	30,000	30,000
1964	21,472	14,641	14,641	6,831	6,831	6,831	-	11,857	9,745	86,752	14,000	30,000	30,000
1965	21,472	14,641	14,641	6,831	6,831	6,831	-	57,744	9,039	91,457	14,000	30,000	30,000
1966	21,472	14,641	14,641	6,831	6,831	6,831	-	106,812	10,129	144,140	14,000	30,000	30,000
1967	21,472	14,641	14,641	6,831	6,831	6,831	-	173,909	12,116	196,000	14,000	30,000	30,000
1968	21,472	14,641	14,641	6,831	6,831	6,831	-	3,231	12,097	143,134	14,000	30,000	30,000
1969	21,472	14,641	14,641	6,831	6,831	6,831	-	309,518	12,097	196,000	14,000	30,000	30,000
1970	21,472	14,641	14,641	6,831	6,831	6,831	-	19,776	12,405	159,371	14,000	30,000	30,000
1971	21,472	14,641	14,641	6,831	6,831	6,831	-	55,764	11,710	159,425	14,000	30,000	30,000
1972	21,472	14,641	14,641	6,831	6,831	6,831	-	7,261	10,808	111,878	14,000	30,000	30,000
1973	21,472	14,641	14,641	6,831	6,831	6,831	-	167,263	11,503	196,000	14,000	30,000	30,000
1974	21,472	14,641	14,641	6,831	6,831	6,831	-	75,349	13,101	196,000	14,000	30,000	30,000
1975	21,472	14,641	14,641	6,831	6,831	6,831	-	92,176	13,101	196,000	14,000	30,000	30,000
1976	21,472	14,641	14,641	6,831	6,831	6,831	-	3,868	12,108	143,760	14,000	30,000	30,000
1977	21,472	14,641	14,641	6,831	6,831	6,831	-	37,805	10,793	126,772	14,000	30,000	30,000
1978	21,472	14,641	14,641	6,831	6,831	6,831	-	308,669	11,786	196,000	14,000	30,000	30,000
1979	21,472	14,641	14,641	6,831	6,831	6,831	-	99,953	13,101	196,000	14,000	30,000	30,000
1980	21,472	14,641	14,641	6,831	6,831	6,831	-	152,203	13,101	196,000	14,000	30,000	30,000
1981	21,472	14,641	14,641	6,831	6,831	6,831	-	51,875	13,004	190,871	14,000	30,000	30,000
1982	21,472	14,641	14,641	6,831	6,831	6,831	-	58,238	12,931	192,178	14,000	30,000	30,000

	Reach 4 Operations			Reach 5 Operations			Lake Cachuma Operations						
	SBC			SBC									
Periods	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
1983	21,472	14,641	14,641	6,831	6,831	6,831	-	356,323	13,028	196,000	14,000	30,000	30,000
1984	21,472	14,641	14,641	6,831	6,831	6,831	-	28,826	12,574	168,252	14,000	30,000	30,000
1985	21,472	14,641	14,641	6,831	6,831	6,831	-	16,877	11,316	129,813	14,000	30,000	30,000
1986	21,472	14,641	14,641	6,831	6,831	6,831	-	112,114	11,659	186,268	14,000	30,000	30,000
1987	21,472	14,641	14,641	6,831	6,831	6,831	-	-	11,673	130,595	14,000	30,000	30,000
1988	21,472	14,641	14,641	6,831	6,831	6,831	-	72,521	10,949	148,167	14,000	30,000	30,000
1989	21,472	14,641	14,641	6,831	6,831	6,831	-	403	10,260	94,310	14,000	30,000	30,000
1990	21,472	14,641	14,641	6,831	6,831	6,831	-	-	8,244	42,066	14,000	30,000	30,000
1991	21,472	14,641	14,641	6,831	6,831	6,831	-	108,933	8,327	98,672	14,000	30,000	30,000
1992	17,780	11,332	14,641	6,448	6,448	6,831	-	167,121	11,252	196,000	14,000	30,000	30,000
1993	21,472	14,641	14,641	6,831	6,831	6,831	-	334,360	13,101	196,000	14,000	30,000	30,000
1994	21,472	14,641	14,641	6,831	6,831	6,831	-	15,575	12,327	155,248	14,000	30,000	30,000
1995	21,472	14,641	14,641	6,831	6,831	6,831	-	366,102	12,327	196,000	14,000	30,000	30,000
1996	21,472	14,641	14,641	6,831	6,831	6,831	-	41,187	12,804	180,383	14,000	30,000	30,000
1997	21,472	14,641	14,641	6,831	6,831	6,831	-	59,768	12,568	183,583	14,000	30,000	30,000
1998	21,472	14,641	14,641	6,831	6,831	6,831	-	465,884	12,865	196,000	14,000	30,000	30,000
1999	21,472	14,641	14,641	6,831	6,831	6,831	-	18,239	12,376	157,863	14,000	30,000	30,000
2000	21,472	14,641	14,641	6,831	6,831	6,831	-	51,869	11,581	154,151	14,000	30,000	30,000
2001	21,472	14,641	14,641	6,831	6,831	6,831	-	151,409	12,306	196,000	14,000	30,000	30,000
2002	21,472	14,641	14,641	6,831	6,831	6,831	-	6,421	12,156	146,265	14,000	30,000	30,000
2003	21,472	14,641	14,641	6,831	6,831	6,831	-	17,144	10,501	108,908	14,000	30,000	30,000
2004	21,472	14,641	14,641	6,831	6,831	6,831	-	18,695	9,137	74,466	14,000	30,000	30,000
2005	21,472	14,641	14,641	6,831	6,831	6,831	-	388,819	10,792	196,000	14,000	30,000	30,000
2006	21,472	14,641	14,641	6,831	6,831	6,831	-	100,283	13,101	196,000	14,000	30,000	30,000
2007	21,472	14,641	14,641	6,831	6,831	6,831	-	4,920	12,128	144,792	14,000	30,000	30,000
2008	21,472	14,641	14,641	6,831	6,831	6,831	-	108,331	12,128	196,000	14,000	30,000	30,000
2009	21,472	14,641	14,641	6,831	6,831	6,831	-	13,188	12,282	152,906	14,000	30,000	30,000
2010	21,472	14,641	14,641	6,831	6,831	6,831	-	75,948	11,845	173,009	14,000	30,000	30,000
2011	21,472	14,641	14,641	6,831	6,831	6,831	-	131,349	12,664	196,000	14,000	30,000	30,000
2012	36,904	14,641	14,641	22,263	6,336	6,831	15,927	6,429	12,453	161,903	14,000	30,000	30,000

Periods	Reach 4 Operations SBC			Reach 5 Operations SBC			Lake Cachuma Operations						
	CCWA Reach 4 Flow	SBC Delivery to North County	North County Demand	CCWA Reach 5 Flow	SBC Delivery to Mid County	Mid County Demand	CCWA Inflow to Lake Cachuma	Stream Inflow	Losses	EoY Storage	Releases	Deliveries from the Reservoir	Reservoir Delivery Demand
2013	36,904	14,641	14,641	22,263	6,336	6,831	15,927	3,520	11,127	126,223	14,000	30,000	30,000
2014	27,074	5,599	14,641	21,475	5,548	6,831	15,927	3,942	9,805	92,287	14,000	30,000	30,000
2015	24,383	5,236	14,641	19,147	4,499	6,831	14,648	2,264	8,484	56,715	14,000	30,000	30,000
2016	36,904	14,641	14,641	22,263	6,336	6,831	15,927	4,694	7,227	26,109	14,000	30,000	30,000
2017	36,658	14,641	14,641	22,017	6,831	6,831	15,186	87,303	7,612	76,986	14,000	30,000	30,000
2018	21,472	14,641	14,641	6,831	6,831	6,831	-	3,373	7,661	28,698	14,000	30,000	30,000
2019	34,114	14,641	14,641	19,473	6,831	6,831	12,642	104,953	7,990	94,303	14,000	30,000	30,000
Sum	2,245,381	1,404,335	1,434,818	841,046	663,572	669,438	177,474	8,291,482	1,104,948	14,495,169	1,372,000	2,940,000	2,940,000
Average	22,912	14,330	14,641	8,582	6,771	6,831	1,811	84,607	11,275	147,910	14,000	30,000	30,000
Water Year Averages													
Wet	22,400	14,641	14,641	7,759	6,831	6,831	928	142,380	11,858	172,832	14,000	30,000	30,000
Above Normal	22,574	14,641	14,641	7,933	6,831	6,831	1,102	123,800	11,446	158,465	14,000	30,000	30,000
Below Normal	24,366	14,641	14,641	9,725	6,769	6,831	2,955	38,054	10,998	133,664	14,000	30,000	30,000
Dry	23,752	14,492	14,641	9,260	6,809	6,831	2,450	40,225	11,196	135,522	14,000	30,000	30,000
Critically Dry	21,414	12,837	14,641	8,577	6,539	6,831	2,038	50,188	10,365	122,405	14,000	30,000	30,000
Critical Period Averages													
1928-34	20,171	13,394	14,641	6,776	6,776	6,831	-	42,785	10,544	122,791	14,000	30,000	30,000
1987-92	20,857	14,090	14,641	6,767	6,767	6,831	-	58,163	10,118	118,302	14,000	30,000	30,000
2013-17	32,385	10,952	14,641	21,433	5,910	6,831	15,523	20,345	8,851	75,664	14,000	30,000	30,000
Driest 1-Year													
1977	21,472	14,641	14,641	6,831	6,831	6,831	-	37,805	10,793	126,772	14,000	30,000	30,000

	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
Periods	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1922	2,752	-	-	-	4,556	-	-	-	-	7,616	-	993	1,105	-	144
1923	9,004	-	-	-	9,690	-	-	3,681	-	-	-	-	789	-	103
1924	-	11,756	-	-	398	3,395	2,451	430	-	-	-	-	-	-	-
1925	-	-	-	-	-	-	2,788	-	-	-	-	-	-	872	-
1926	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1927	1,225	-	-	-	390	-	-	-	-	9,598	-	1,252	1,210	-	158
1928	9,458	-	-	-	7,234	-	-	-	-	-	-	-	894	-	117
1929	-	6,569	-	-	4,484	3,005	802	2,509	-	-	-	-	-	-	-
1930	-	1,678	-	-	-	961	4,831	-	-	-	627	-	-	2,500	-
1931	-	2,436	-	-	3,479	-	-	-	-	-	316	-	-	104	-
1932	-	-	-	-	-	1,155	2,324	-	-	-	5,662	-	-	-	-
1933	-	-	-	-	2,295	-	-	-	-	-	864	-	-	-	-
1934	-	-	-	-	-	2,025	-	-	-	-	7,500	-	-	-	-
1935	-	-	-	-	-	-	-	-	-	10,000	-	1,304	2,264	-	295
1936	-	-	-	-	2,146	-	-	-	-	2,636	-	344	-	686	-
1937	-	-	-	-	-	-	-	2,146	-	10,000	-	1,304	1,421	-	185
1938	18,102	-	-	-	9,181	-	-	-	-	4,641	-	605	2,317	-	302
1939	-	4,187	13,915	-	-	875	-	8,306	-	-	-	-	-	1,392	-
1940	-	-	-	-	-	-	-	-	-	2,723	-	355	-	265	-
1941	10,830	-	-	-	13,619	-	-	-	-	-	-	-	3,360	-	-
1942	9,185	-	10,000	-	10,992	-	-	-	12,060	3,912	-	-	1,737	-	-
1943	19,011	-	4,661	4,628	10,640	-	-	-	12,152	-	-	-	-	-	-
1944	-	4,642	15,095	-	-	2,372	-	8,667	-	-	-	-	-	-	-
1945	4,656	-	-	-	2,480	-	-	-	-	-	-	-	-	-	-
1946	5,820	-	-	-	3,088	-	-	-	-	-	-	-	-	-	-
1947	-	8,655	-	-	4,106	51	-	4,783	-	-	2,777	-	-	319	-
1948	-	-	-	-	3,477	-	4,106	-	-	-	7,500	-	-	1,213	-
1949	-	1,821	-	-	480	83	3,706	-	-	-	7,500	-	-	2,500	-
1950	-	-	-	-	-	422	480	-	-	-	7,500	-	-	581	-
1951	-	-	-	-	-	-	-	-	-	-	3,244	-	-	-	-
1952	9,498	-	-	-	11,843	-	-	-	-	4,130	-	539	2,338	-	-

	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
Periods	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1953	-	-	4,359	-	3,088	-	-	-	9,019	5,820	-	759	-	-	-
1954	794	-	2,655	-	4,338	-	-	4,547	-	7,300	-	952	-	-	-
1955	-	3,278	-	-	-	575	-	5,128	-	-	-	-	-	1,481	-
1956	8,556	-	-	-	5,729	-	-	-	-	10,000	-	1,304	-	-	-
1957	-	-	8,556	-	-	801	-	4,794	-	1,271	-	166	-	202	-
1958	22,743	-	-	-	12,185	-	-	134	-	-	-	-	-	-	-
1959	-	1,003	3,616	-	1,627	1,478	-	1,469	-	-	-	-	-	51	-
1960	1,271	-	14,569	-	-	-	-	10,041	-	-	-	-	-	1,003	-
1961	-	4,826	-	-	-	389	-	-	-	-	2,090	-	-	2,500	-
1962	1,726	-	-	-	1,175	435	-	-	-	-	-	-	-	462	-
1963	7,639	-	-	-	4,083	-	-	-	-	-	-	-	-	-	-
1964	-	-	9,365	-	-	54	-	4,869	-	-	-	-	-	-	-
1965	2,181	-	-	-	2,031	335	-	-	-	-	-	-	-	-	-
1966	-	-	2,181	-	-	-	-	2,031	-	2,090	-	273	-	-	-
1967	21,833	-	-	-	10,787	-	-	-	-	-	-	-	-	-	-
1968	-	-	21,833	-	-	-	-	10,787	-	-	-	-	-	-	-
1969	10,704	-	-	-	14,626	-	-	-	-	3,310	-	-	4,103	-	-
1970	12,188	-	10,000	-	12,229	-	-	-	14,239	-	-	-	-	-	-
1971	816	-	186	-	1,772	1,108	-	1,428	4,351	-	-	-	-	-	-
1972	-	-	13,522	-	-	-	-	7,501	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1974	11,694	-	-	-	11,034	-	-	-	-	-	-	-	1,557	-	-
1975	10,823	-	5,458	-	6,937	-	-	-	7,606	-	-	-	-	-	-
1976	1,271	-	11,712	-	6,059	1,003	-	6,423	-	-	-	-	-	-	-
1977	-	6,618	-	-	-	3,139	4,400	1,459	-	-	7,500	-	-	2,500	-
1978	8,327	-	-	-	8,299	-	-	-	-	7,500	-	978	-	-	-
1979	-	-	8,327	-	-	-	-	8,299	-	-	-	-	-	-	-
1980	18,556	-	-	-	9,366	-	-	-	-	-	-	-	-	-	-
1981	-	3,278	15,278	-	-	1,186	-	8,180	-	-	-	-	-	870	-
1982	12,353	-	-	-	14,463	-	-	-	-	1,661	-	-	4,266	-	-

Periods	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
1983	22,743	-	8,729	3,624	15,285	-	-	-	14,463	-	-	-	3,444	-	-
1984	12,188	-	4,541	17,658	6,770	-	-	-	14,986	-	-	-	-	-	-
1985	198	-	12,447	-	109	-	-	6,912	-	-	-	-	-	-	-
1986	12,642	-	-	-	10,797	-	-	-	-	-	-	-	-	-	-
1987	-	6,338	-	-	4,050	3,321	2,398	1,614	-	-	-	-	-	-	-
1988	-	6,787	-	-	-	3,714	1,614	704	-	-	7,500	-	-	1,398	-
1989	816	-	-	-	7,087	-	-	-	-	-	-	-	-	1,102	-
1990	-	816	-	-	-	1,283	6,322	-	-	-	7,500	-	-	2,500	-
1991	-	-	-	-	138	-	121	-	-	-	7,500	-	-	2,500	-
1992	-	-	-	-	-	98	990	-	-	-	7,500	-	-	2,500	-
1993	7,371	-	-	-	6,606	-	-	-	-	723	-	94	-	-	-
1994	-	7,371	-	-	-	3,005	-	3,760	-	-	-	-	-	-	-
1995	8,989	-	-	-	9,488	-	-	-	-	10,000	-	1,304	4,266	-	-
1996	6,635	-	8,989	-	12,438	-	-	-	9,175	10,000	-	1,304	2,791	-	-
1997	-	-	6,635	-	10,847	-	-	-	12,529	9,277	-	1,210	1,632	-	-
1998	10,102	-	-	-	17,418	-	-	-	11,069	3,912	-	-	1,311	-	-
1999	10,368	-	4,432	3,317	5,661	-	-	-	16,125	-	-	-	-	-	-
2000	12,188	-	12,246	-	9,939	-	-	6,693	-	-	-	-	-	-	-
2001	-	9,646	-	-	-	3,169	-	7,031	-	-	-	-	-	362	-
2002	-	1,913	-	-	-	-	-	-	-	-	-	-	-	1,740	-
2003	-	1,104	-	-	3,120	-	-	-	-	-	177	-	-	-	-
2004	-	-	-	-	-	1,529	-	1,513	-	-	1,003	-	-	-	-
2005	17,191	-	-	-	8,832	-	-	-	-	-	-	-	-	-	-
2006	20,249	-	-	-	10,609	-	-	-	-	1,357	-	177	-	-	-
2007	5,820	-	17,863	-	5,273	-	-	8,759	-	-	-	-	-	-	-
2008	-	5,552	16,567	-	-	2,185	-	12,848	-	-	-	-	-	398	-
2009	-	3,278	-	-	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	1,000	-	-	-	-	-	-	-	-	-
2011	14,917	-	-	-	13,729	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	9,979	-	5,785	-	-	-	1,553	-	-	-	-

Periods	San Luis Reservoir Operations									External Storage/Exchange Program Operations					
	SBC Use of SLR				SLO Use of SLR					SBC Use			SLO Use		
	CCWA Total Carryover Deliver to SLR	CCWA Total Carryover Returned from SLR	CCWA Long-term Carryover sell to Others	CCWA Total Carryover Loss	SLO Total Carryover Deliver to SLR	SLO Total Carryover Return from SLR	SLO Total Transfer of Carryover to SBC	SLO Total Sell of Carryover to Others	SLO Total Loss	CCWA Put to External Program	CCWA Return from External Program	CCWA Leave Behind to External Program	SLO Total Put to External Program	SLO Total Return from External Program	SLO Total Leave Behind to External Program
2013	-	-	-	-	4,849	-	13,271	-	-	-	7,500	-	-	2,500	-
2014	-	11,698	-	-	542	3,244	4,441	-	-	-	7,500	-	-	2,500	-
2015	-	3,219	-	-	-	1,664	694	-	-	-	7,500	-	-	2,500	-
2016	-	-	-	-	-	-	-	-	-	-	5,947	-	-	-	-
2017	2,005	-	-	-	11,765	-	-	-	-	-	-	-	-	-	-
2018	-	2,005	-	-	-	2,583	3,035	6,147	-	-	-	-	-	-	-
2019	-	-	-	-	2,479	-	-	-	-	-	-	-	-	-	-
Sum	417,438	120,474	267,737	29,227	422,216	51,642	64,559	163,593	137,774	129,477	114,260	15,217	40,805	39,501	1,304
Average	4,260	1,229	2,732	298	4,308	527	659	1,669	1,406	1,321	1,166	155	416	403	13
Water Year Averages															
Wet	10,392	-	2,266	974	9,569	48	-	52	4,592	2,521	-	273	1,141	-	15
Above Normal	5,781	79	1,676	-	4,372	57	-	1,145	-	2,080	244	271	150	33	20
Below Normal	974	450	4,220	-	1,918	494	808	3,022	-	295	1,000	39	49	238	6
Dry	399	2,146	4,009	-	1,387	591	1,195	3,302	-	870	1,217	113	160	797	21
Critically Dry	-	4,188	1,104	-	756	1,861	1,611	1,447	-	-	4,456	-	-	1,127	-
Critical Period Averages															
1928-34	1,351	1,526	-	-	2,499	1,021	1,137	358	-	-	2,138	-	128	372	17
1987-92	136	2,324	-	-	1,879	1,403	1,908	386	-	-	5,000	-	-	1,667	-
2013-17	401	2,983	-	-	3,431	982	3,681	-	-	-	5,689	-	-	1,500	-
Driest 1-Year															
1977	-	6,618	-	-	-	3,139	4,400	1,459	-	-	7,500	-	-	2,500	-

Appendix xx – Modeling

Portfolio 5

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1922	-	-	-	-	5,568	-	-	-	-	-
1923	-	-	-	-	-	3,681	-	-	-	-
1924	-	-	-	-	226	430	897	2,451	-	-
1925	-	-	-	6,150.0	-	-	3,098	6,548	760	-
1926	-	-	-	3,278.0	451	-	-	3,278	-	-
1927	-	-	-	-	9,879	-	-	-	-	-
1928	-	-	-	-	2,601	-	-	-	-	-
1929	-	-	-	802.0	-	2,509	-	802	-	-
1930	-	-	-	3,778.0	-	-	3,199	6,180	659	-
1931	-	-	-	-	104	-	980	-	-	-
1932	-	-	-	1,134.0	-	-	980	3,458	-	-
1933	-	-	-	1,434.0	-	-	980	1,434	-	-
1934	-	-	-	24.0	-	-	980	24	-	-
1935	-	5,372	-	-	11,715	-	-	-	-	-
1936	-	-	-	-	5,519	-	-	-	-	-
1937	-	1,733	-	-	10,558	2,146	-	-	-	-
1938	-	1,271	-	-	7,231	-	-	-	-	-
1939	-	-	13,915	-	5,496	8,306	-	-	-	-
1940	-	1,732	-	-	8,244	-	-	-	-	-
1941	-	10,000	-	-	-	-	-	-	-	-
1942	-	-	10,000	-	-	-	-	-	-	-
1943	-	-	4,661	-	5,339	-	-	-	-	-
1944	-	-	15,095	-	5,351	8,667	-	-	-	-
1945	-	5,257	-	-	8,499	-	-	-	-	-
1946	-	-	-	-	5,641	-	-	-	-	-
1947	-	-	-	-	3,993	4,783	-	-	-	-
1948	-	-	-	3,465.0	-	-	-	7,571	-	-
1949	-	-	-	4,787.0	1,531	-	-	6,757	-	-
1950	-	-	-	5,216.0	2,016	-	1	5,696	-	-
1951	-	-	-	-	12,229	-	-	-	-	-
1952	-	7,202	-	-	2,798	-	-	-	-	-

Appendix xx – Modeling

Portfolio 5

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1953	-	-	4,359	-	5,641	-	-	-	-	-
1954	-	-	2,655	-	5,641	4,547	-	-	-	-
1955	-	-	-	-	5,785	5,128	-	-	-	-
1956	-	-	-	-	10,000	-	-	-	-	-
1957	-	-	8,556	-	7,232	4,794	-	-	-	-
1958	-	1,271	-	-	6,544	134	-	-	-	-
1959	-	-	3,616	-	4,881	1,469	-	-	-	-
1960	-	-	14,569	-	7,232	10,041	-	-	-	-
1961	-	-	-	-	4,618	-	-	-	-	-
1962	-	-	-	-	6,201	-	-	-	-	-
1963	-	-	-	-	5,646	-	-	-	-	-
1964	-	5,365	9,365	-	8,533	4,869	-	-	-	-
1965	-	-	-	-	5,033	-	-	-	-	-
1966	-	8,733	2,181	-	11,479	2,031	-	-	-	-
1967	-	362	-	-	6,942	-	-	-	-	-
1968	-	6,729	21,833	-	9,229	10,787	-	-	-	-
1969	-	10,000	-	-	-	-	-	-	-	-
1970	-	-	10,000	-	-	-	-	-	-	-
1971	-	-	186	-	5,315	1,428	-	-	-	-
1972	-	7,639	13,522	-	9,729	7,501	-	-	-	-
1973	-	10,823	-	-	11,479	-	-	-	-	-
1974	-	6,862	-	-	3,138	-	-	-	-	-
1975	-	-	5,458	-	4,542	-	-	-	-	-
1976	-	-	11,712	-	1,173	6,423	-	-	-	-
1977	-	-	-	2,370.0	643	1,459	-	4,625	-	-
1978	-	-	-	-	5,930	-	-	-	-	-
1979	-	9,458	8,327	-	10,729	8,299	-	-	-	-
1980	-	-	-	-	6,363	-	-	-	-	-
1981	-	-	15,278	-	5,785	8,180	-	-	-	-
1982	-	10,000	-	-	-	-	-	-	-	-

Appendix xx – Modeling

Portfolio 5

Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
1983	-	1,271	8,729	-	-	-	-	-	-	-
1984	-	-	4,541	-	5,459	-	-	-	-	-
1985	-	11,080	12,447	-	11,620	6,912	-	-	-	-
1986	-	-	-	-	1,682	-	-	-	-	-
1987	-	-	-	1,806.0	-	1,614	-	2,398	-	-
1988	-	-	-	2,182.0	1,023	704	-	2,182	-	-
1989	-	-	-	-	-	-	-	-	6	-
1990	-	-	-	3,052.0	-	-	159	7,084	-	-
1991	-	-	-	2,462.0	-	-	138	2,462	-	-
1992	-	-	-	1,429.0	-	-	980	1,567	-	-
1993	-	-	-	-	3,373	-	-	-	-	-
1994	-	-	-	-	4,484	3,760	-	-	-	-
1995	-	5,025	-	-	4,975	-	-	-	-	-
1996	-	1,011	8,989	-	-	-	-	-	-	-
1997	-	3,365	6,635	-	-	-	-	-	-	-
1998	-	10,000	-	-	-	-	-	-	-	-
1999	-	-	4,432	-	5,568	-	-	-	-	-
2000	-	-	12,246	-	2,290	6,693	-	-	-	-
2001	-	-	-	-	3,760	7,031	-	-	-	-
2002	-	-	-	-	6,219	-	-	-	-	-
2003	-	-	-	-	1,609	-	177	-	-	-
2004	-	-	-	-	6,508	1,513	-	-	-	-
2005	-	-	-	-	6,147	-	-	-	-	-
2006	-	134	-	-	6,870	-	-	-	-	-
2007	-	-	17,863	-	3,456	8,759	-	-	-	-
2008	-	-	16,567	-	5,062	12,848	-	-	-	-
2009	-	-	-	-	3,729	-	-	-	-	-
2010	-	1,271	-	-	7,229	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	5,785	-	-

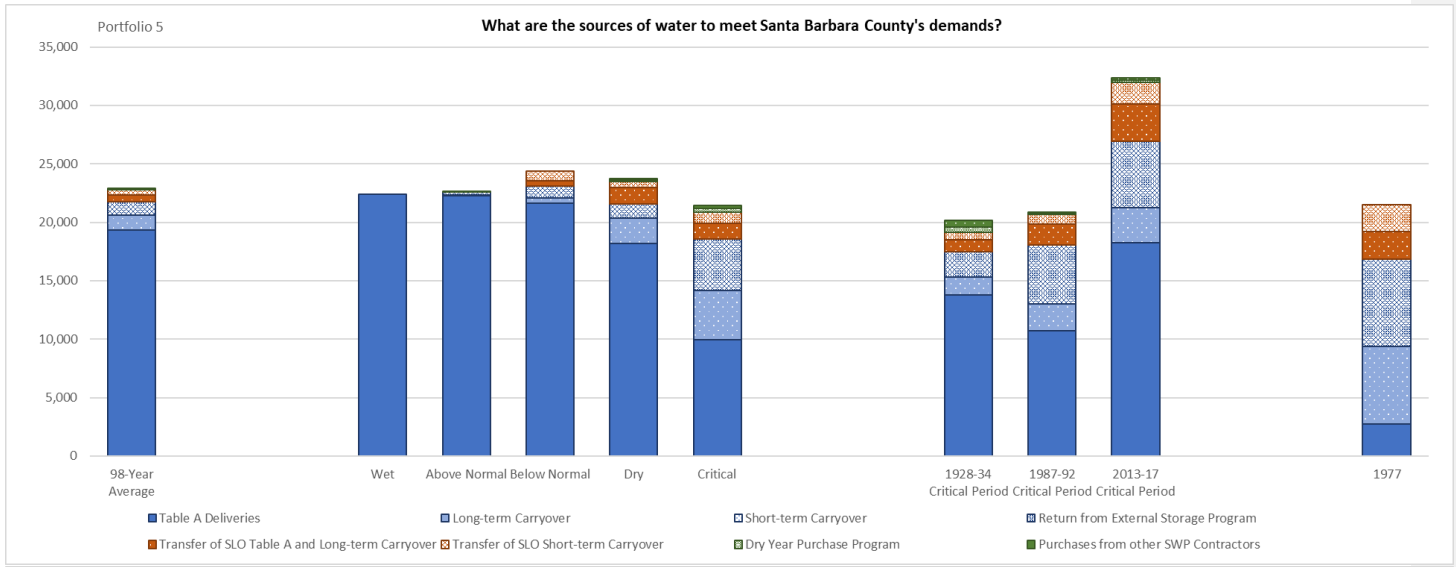
Appendix xx – Modeling

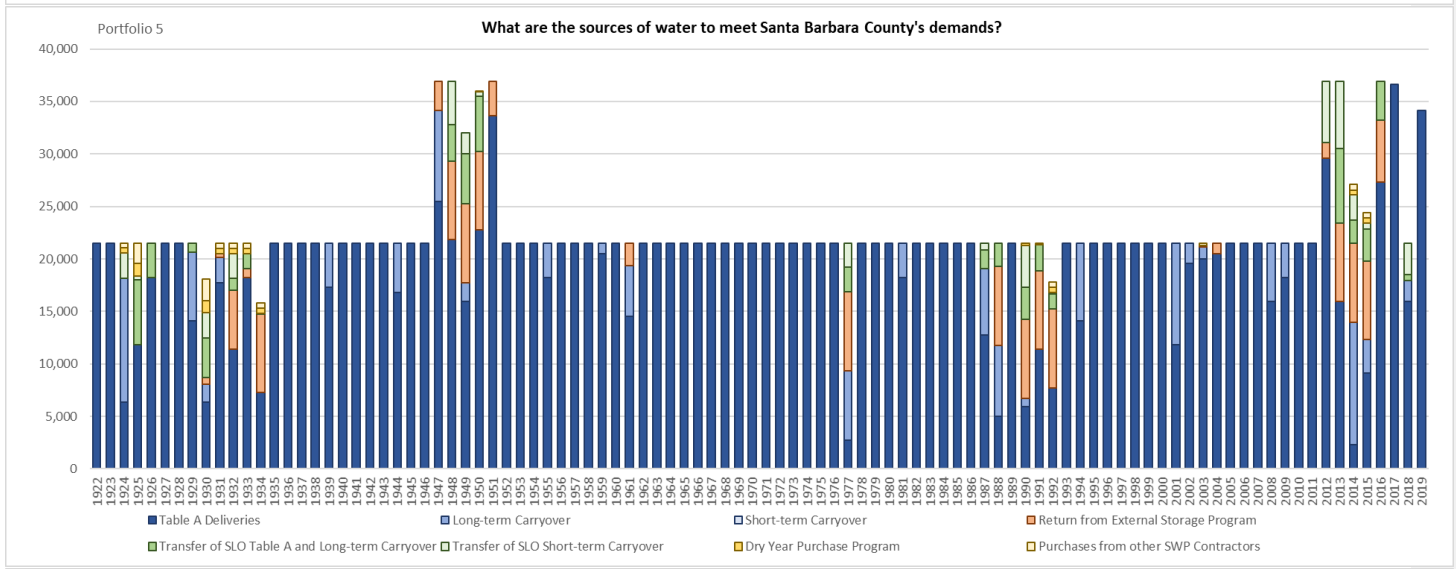
Portfolio 5

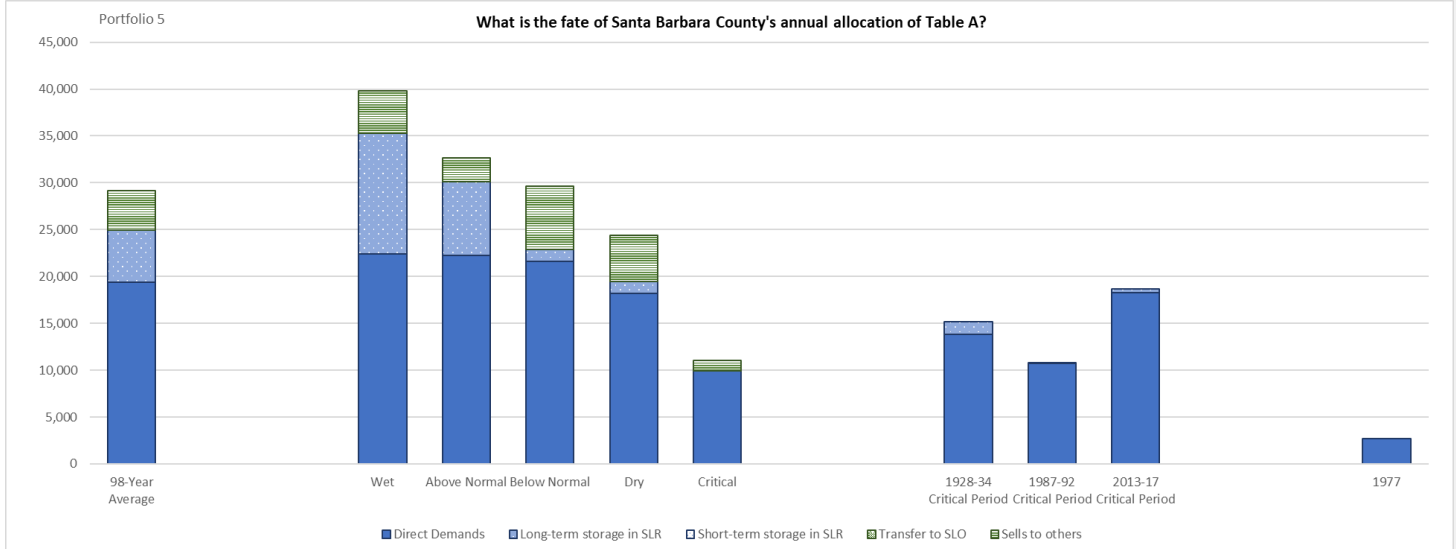
Periods	Sales to Others						Purchases from Others			
	SBC			SLO			SBC		SLO	
	SBC Transfer to SLO	SBC sale of Table A to Other SWP Contractors	SBC sale of Long-term Carryover to Other SWP Contractors	SLO Transfer of Table A and Long-Term Carryover to SBC	SLO Sale of Table A to Other SWP Contractors	SLO Sale of Carryover to Other SWP Contractors	SBC Purchases from Others	SBC Purchases from SLO	SLOPurchases from Others	SLO Purchases from SBC
2013	-	-	-	7,106.0	-	-	-	13,484	83	-
2014	-	-	-	2,246.0	-	-	980	4,622	-	-
2015	-	-	-	3,045.0	-	-	980	3,587	-	-
2016	-	-	-	3,665.0	5,064	-	-	3,665	-	-
2017	-	-	-	-	3,214	-	-	-	-	-
2018	-	-	-	614.0	4,550	6,147	-	3,547	-	-
2019	-	-	-	-	10,000	-	-	-	-	-
Sum	-	142,966	267,737	60,045	404,343	163,593	14,529	99,207	1,508	-
Average	-	1,459	2,732	612.7	4,126	1,669	148	1,012	15	-
Water Year Averages										
Wet	-	2,259	2,266	-	3,717	52	-	-	-	-
Above Normal	-	897	1,676	-	6,333	1,145	13	-	-	-
Below Normal	-	2,544	4,220	484.0	6,000	3,022	-	1,286	-	-
Dry	-	953	4,009	1,396.6	4,201	3,302	274	1,928	66	-
Critically Dry	-	-	1,104	1,345.3	769	1,447	537	2,287	-	-
Critical Period Averages										
1928-34	-	-	-	1,024.6	386	358	1,017	1,700	94	-
1987-92	-	-	-	1,821.8	171	386	213	2,616	1	-
2013-17	-	-	-	3,212.4	1,656	-	392	5,072	17	-
Driest 1-Year										
1977	-	-	-	2,370.0	643	1,459	-	4,625	-	-

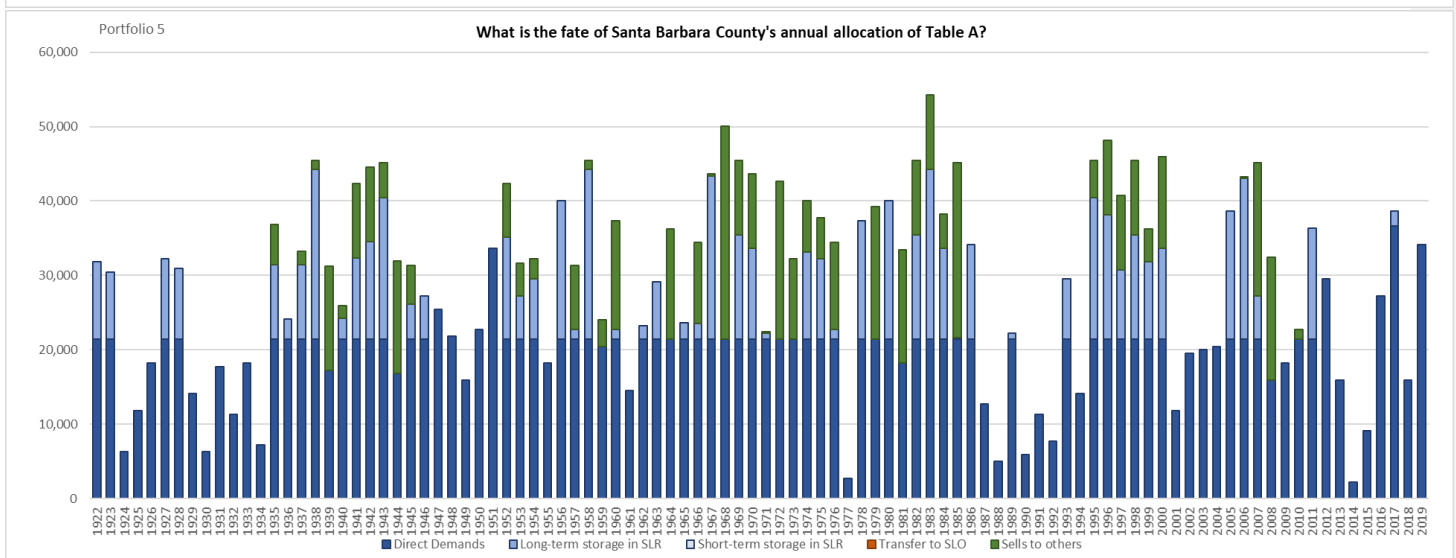
Appendix xx – Modeling

Portfolio 5



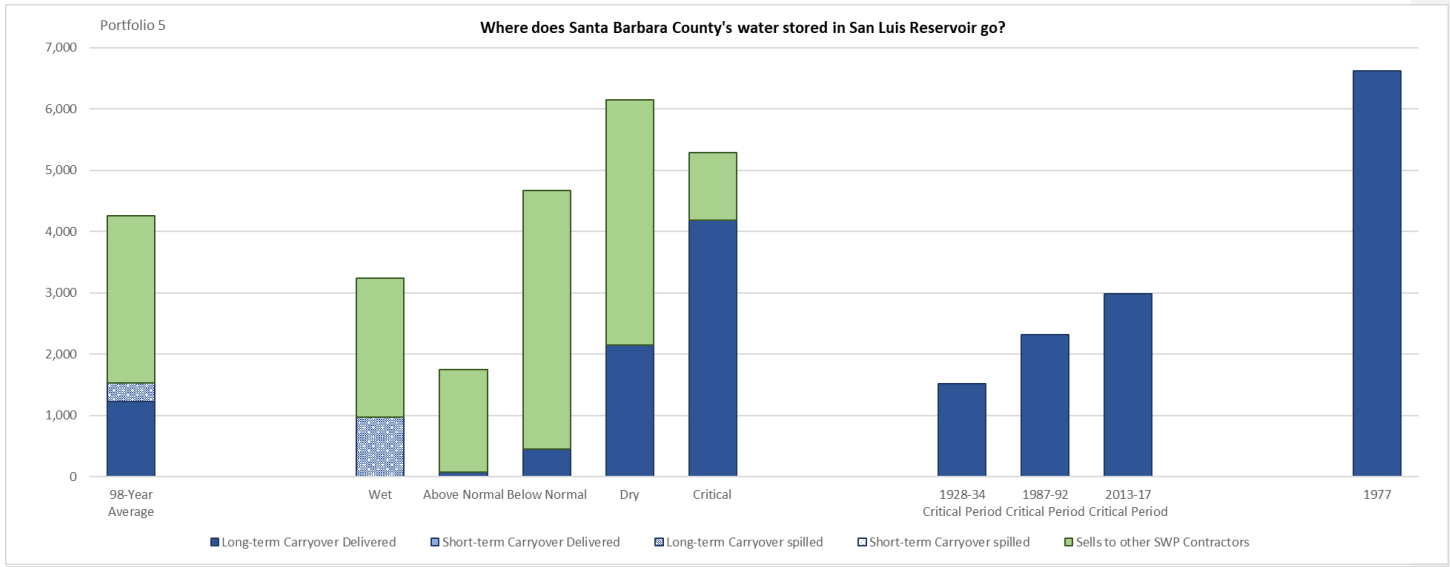


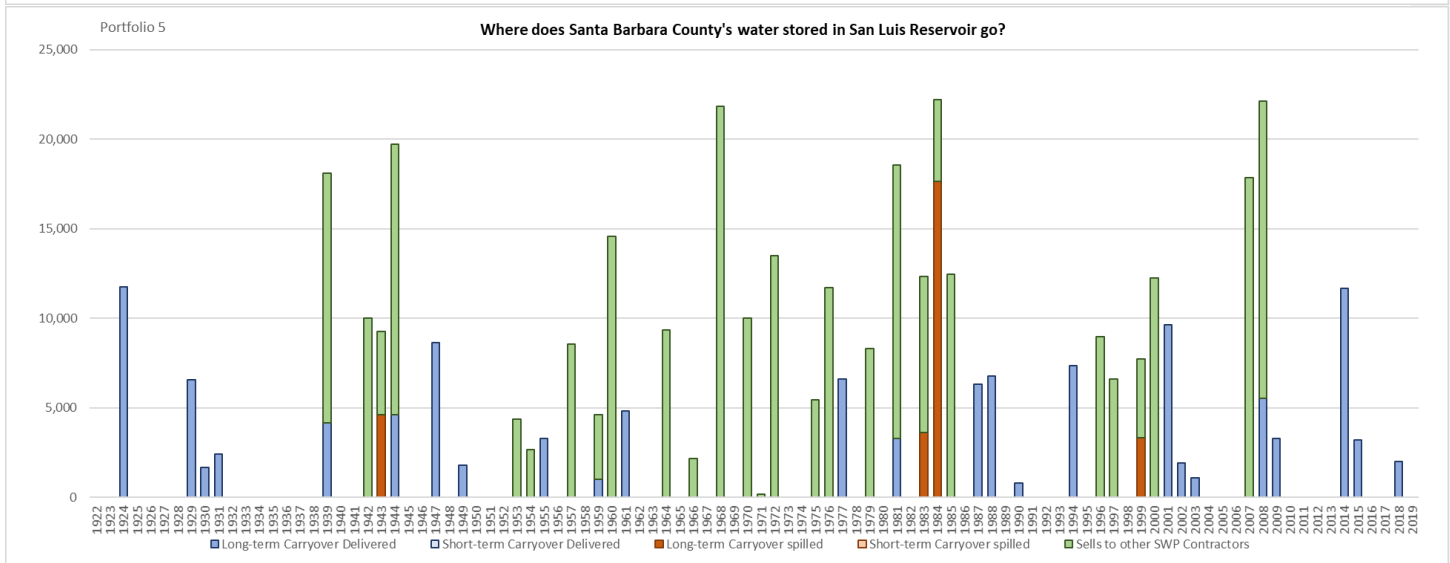


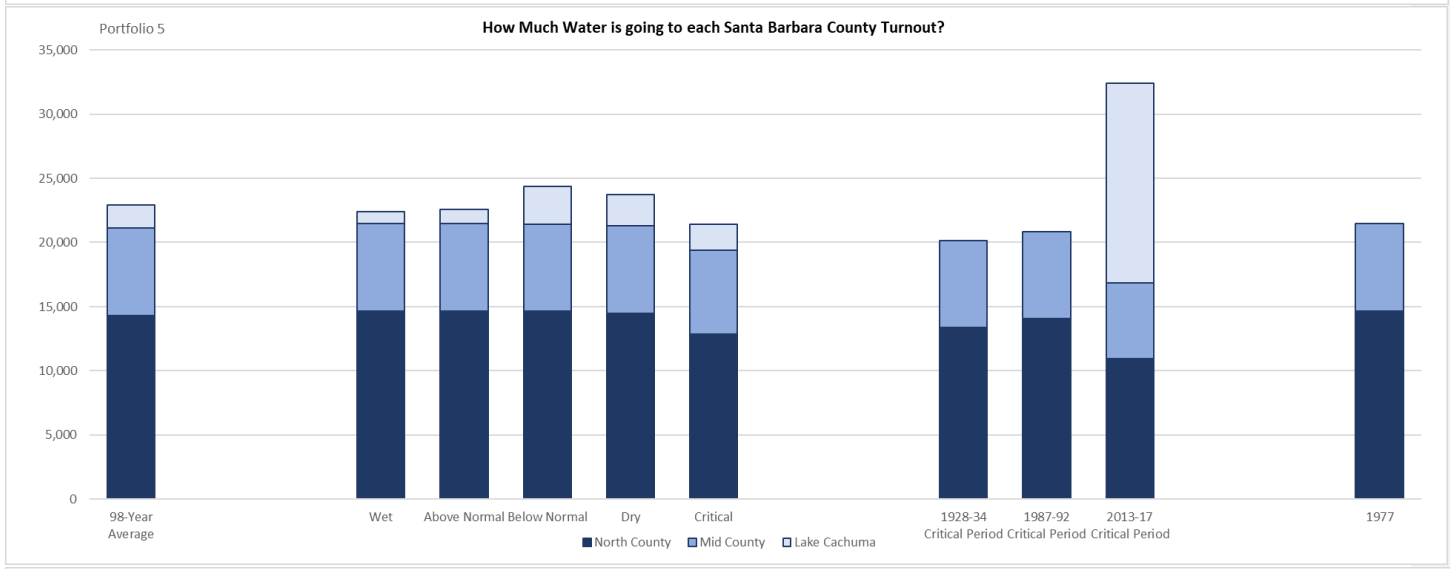


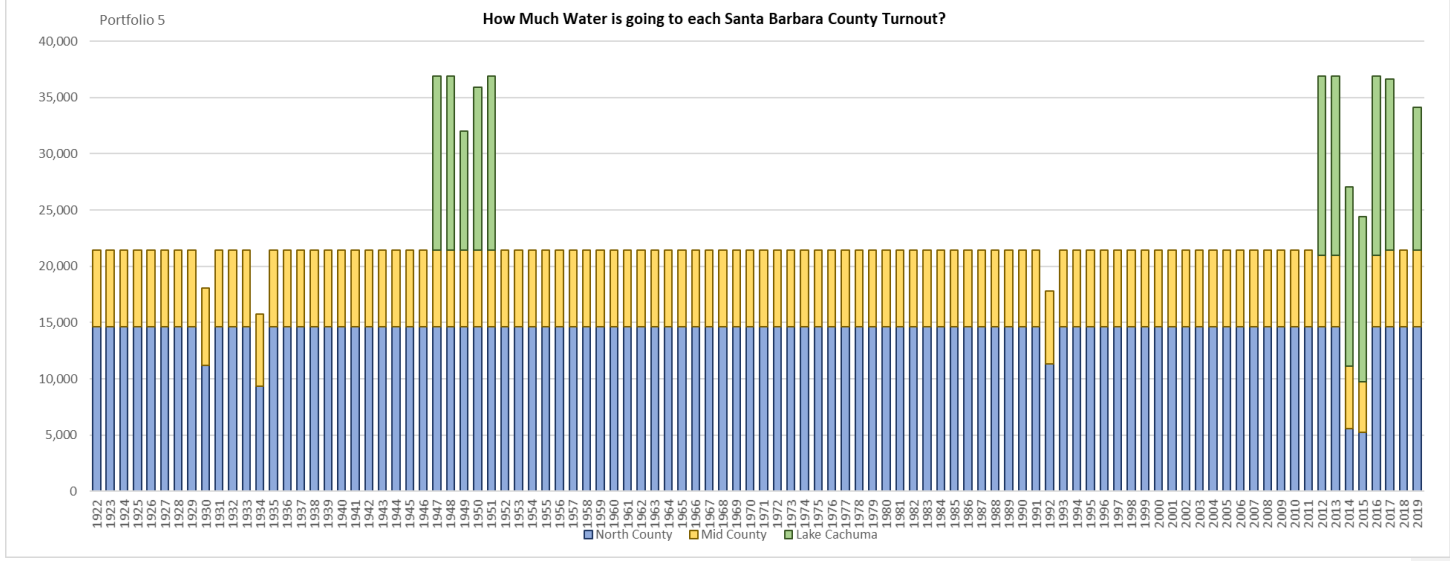
Appendix xx – Modeling

Portfolio 5



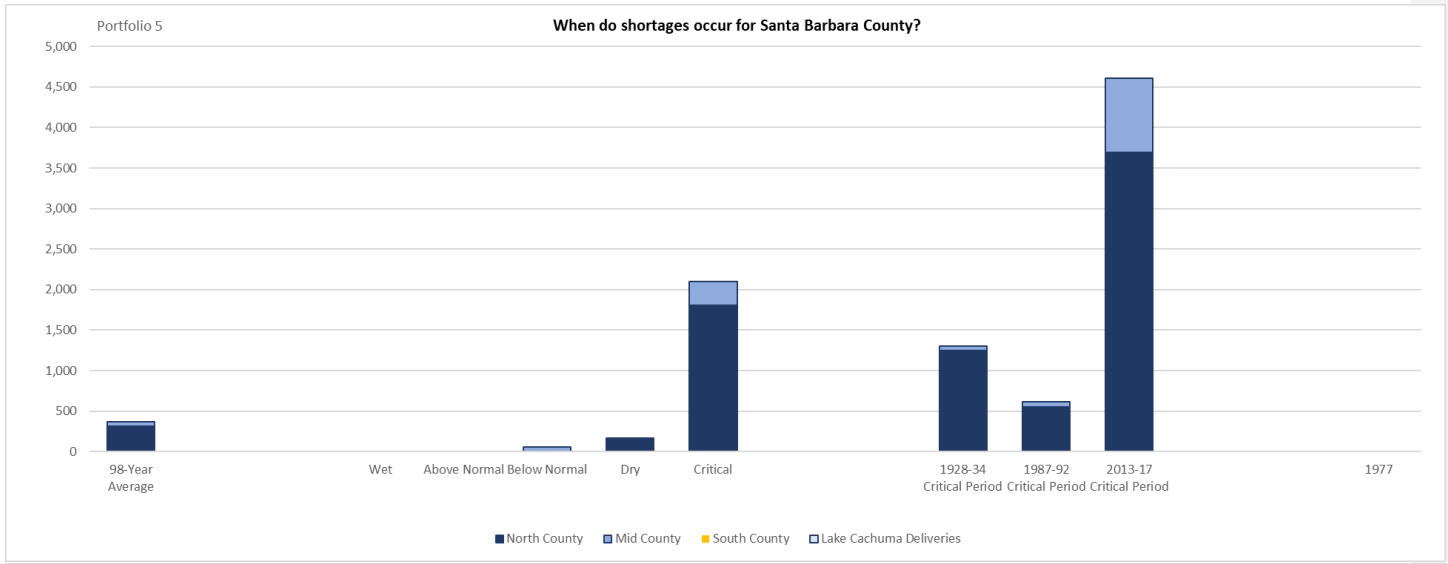


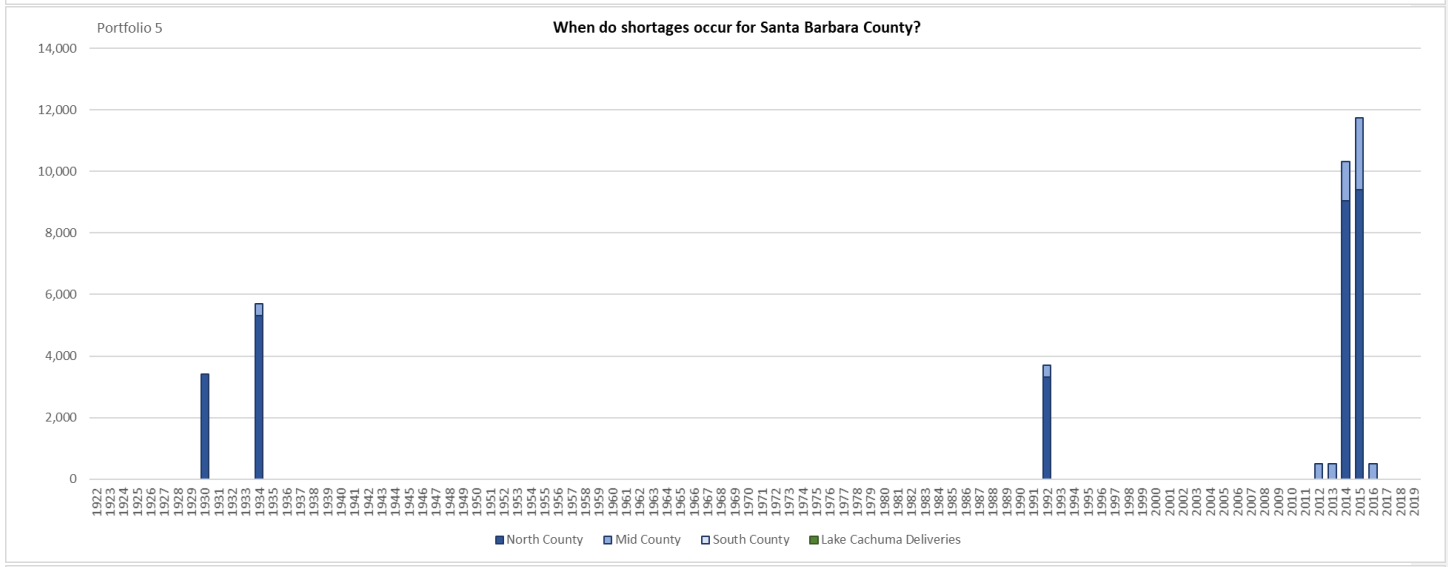


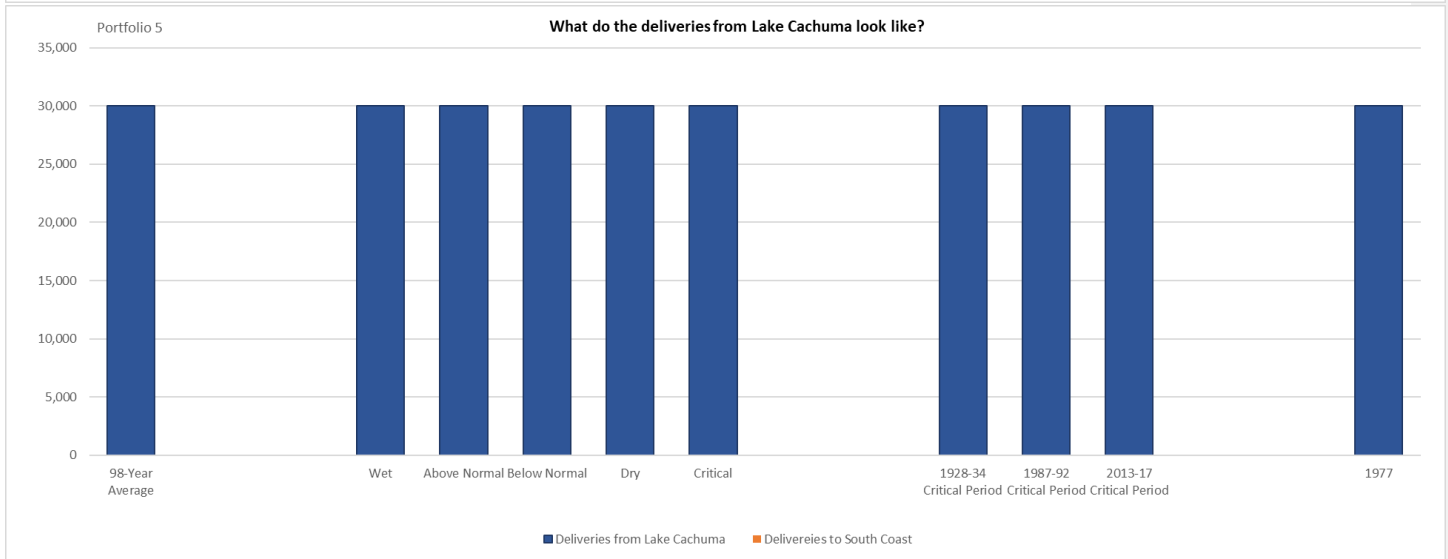


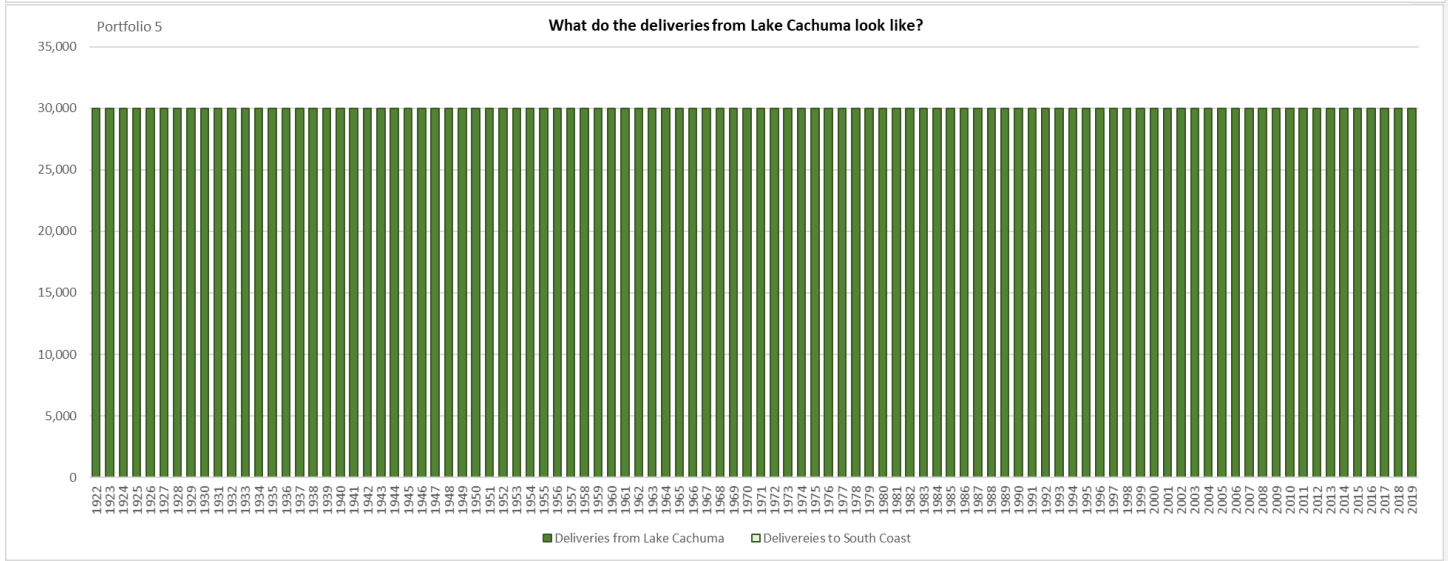
Appendix xx – Modeling

Portfolio 5



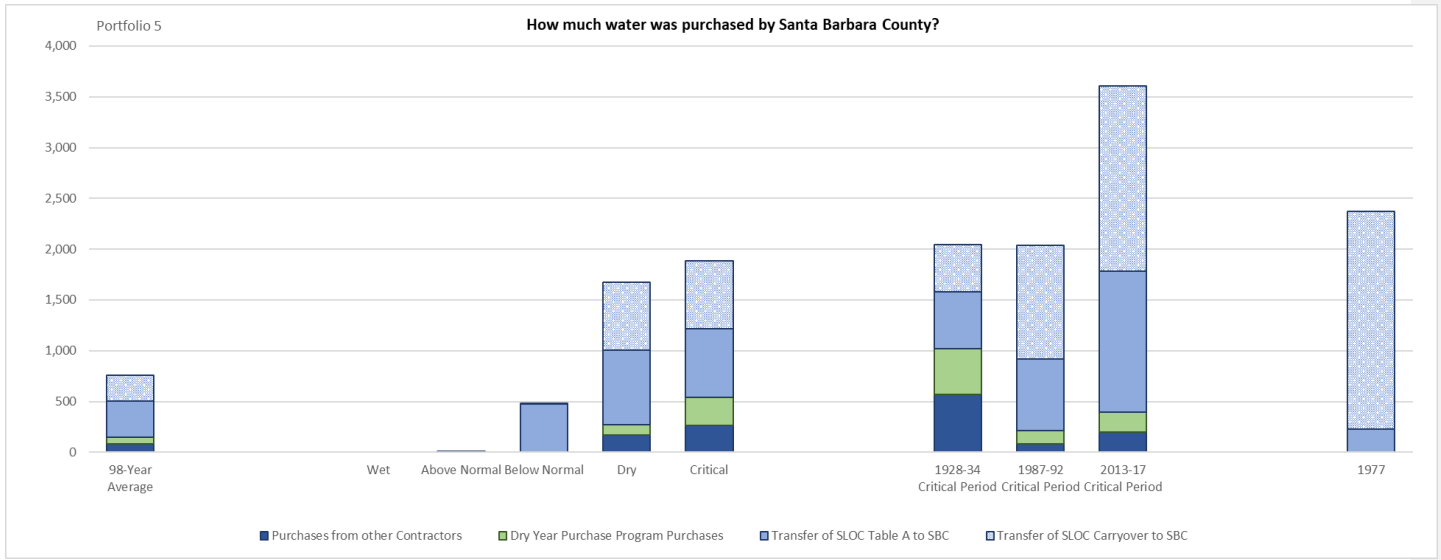


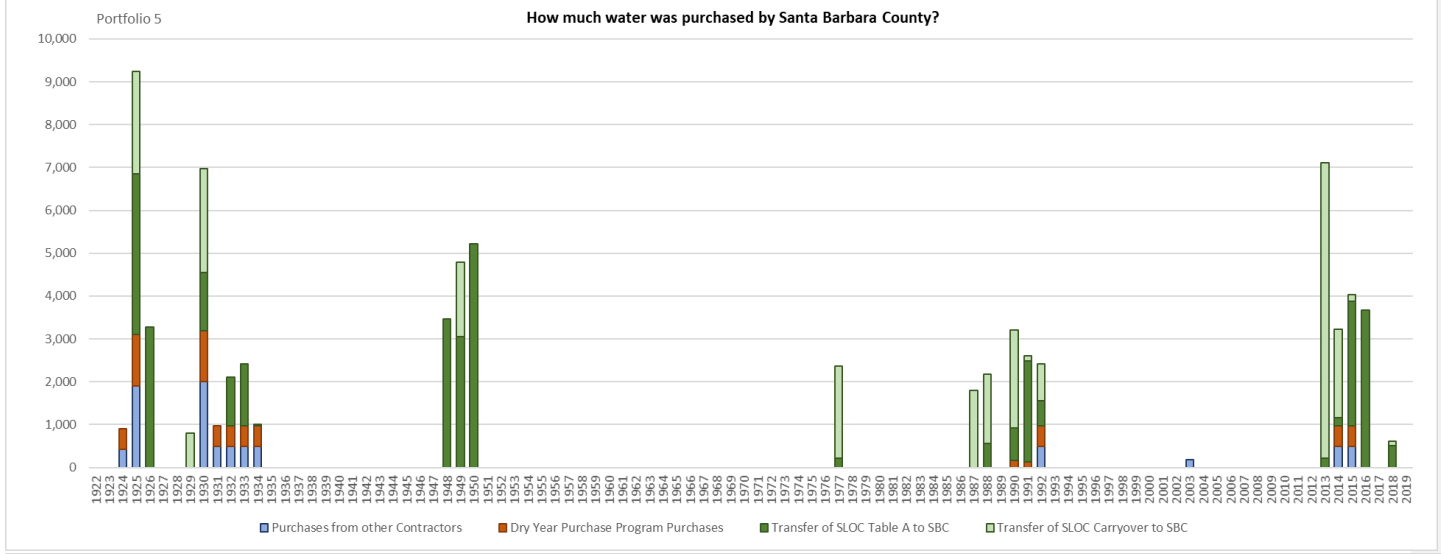


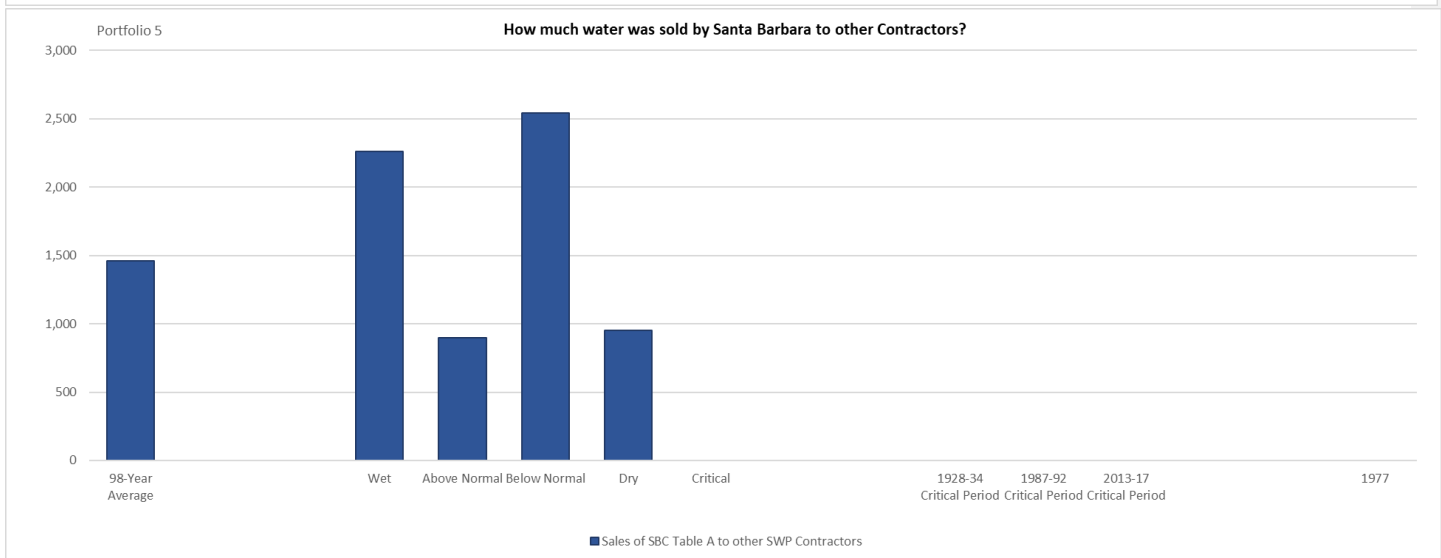


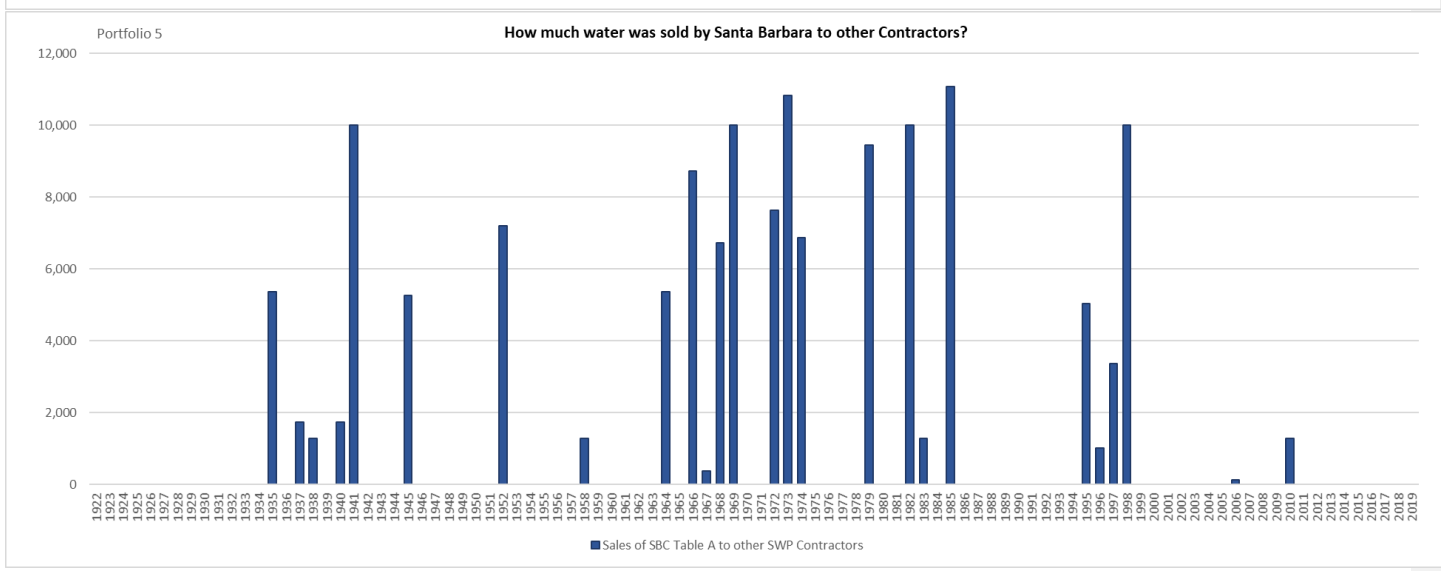
Appendix xx – Modeling

Portfolio 5









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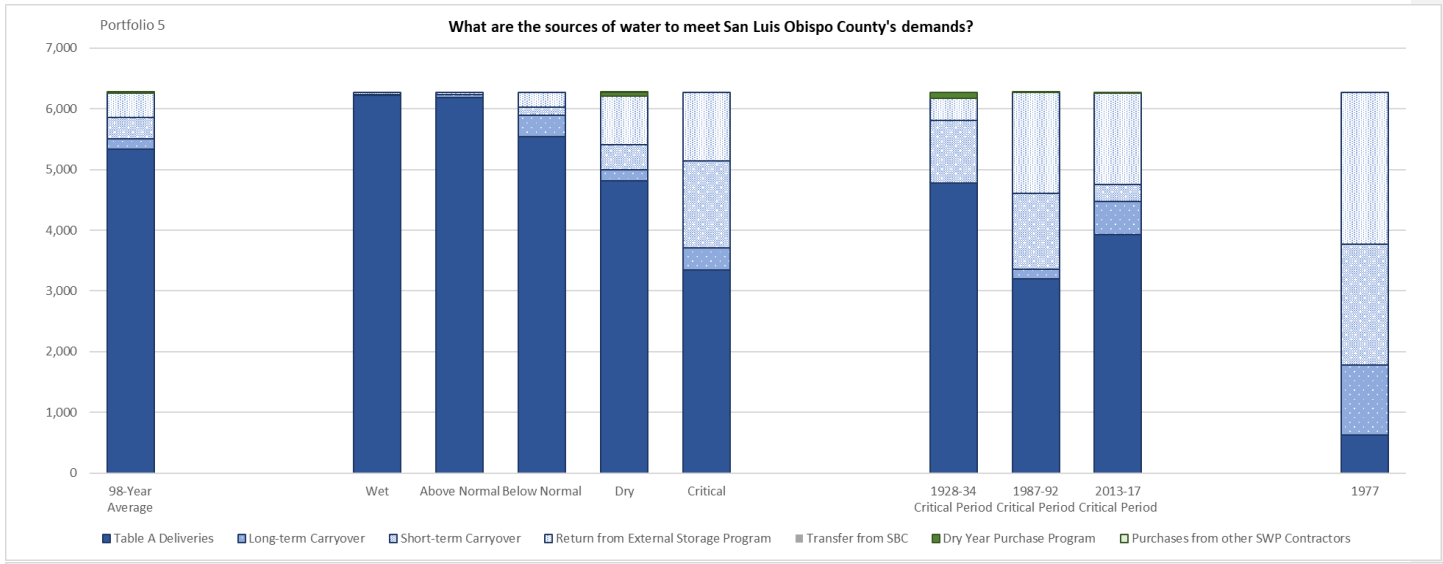

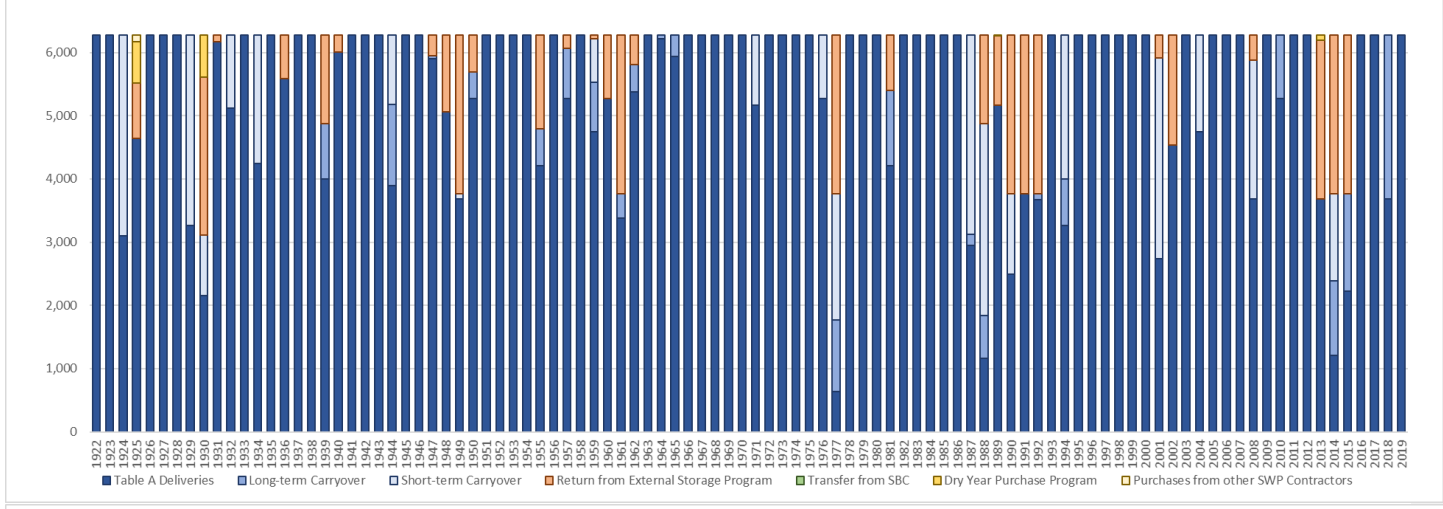

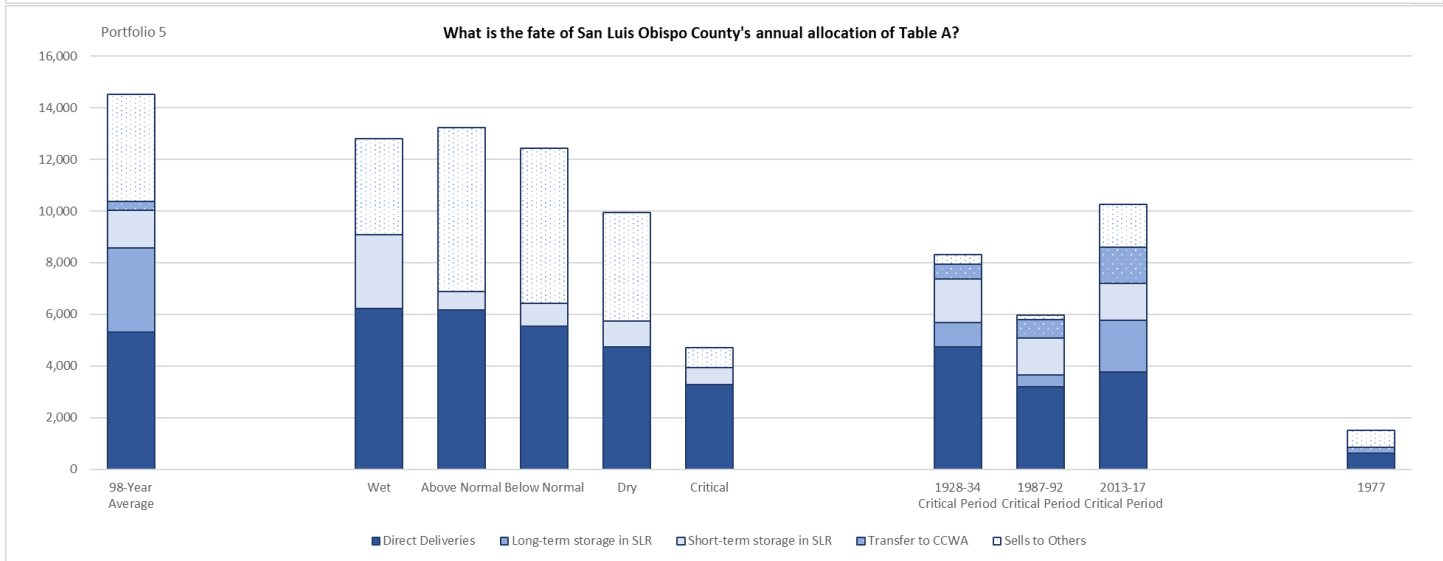

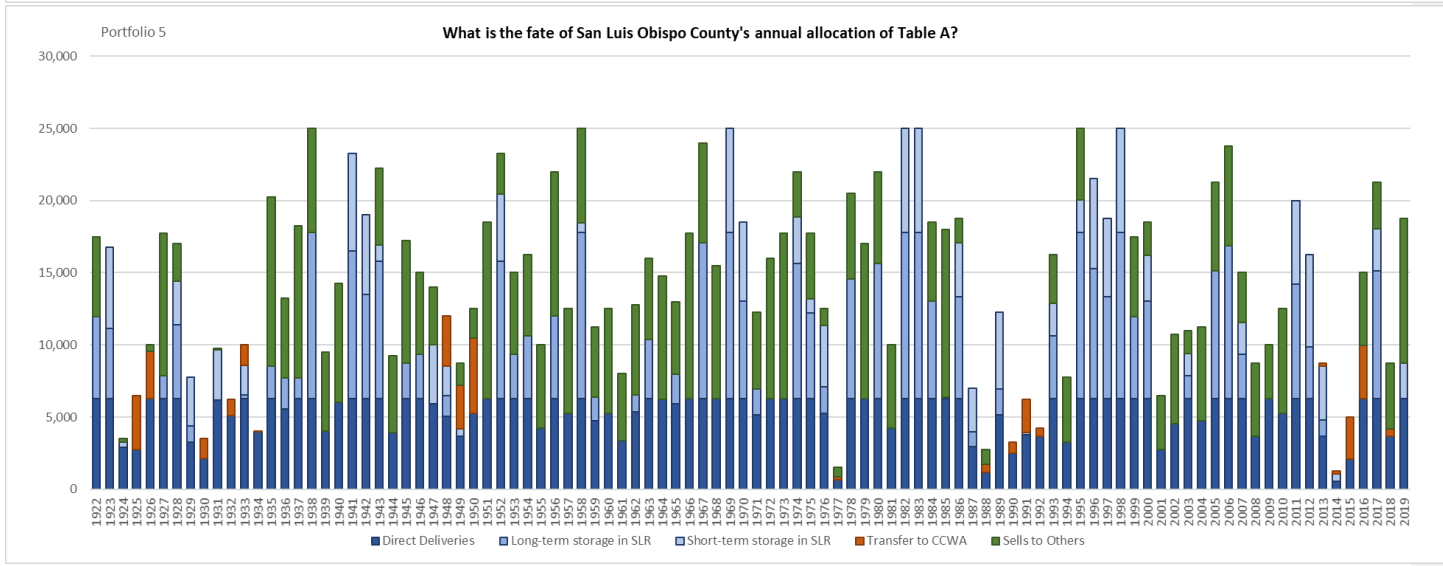

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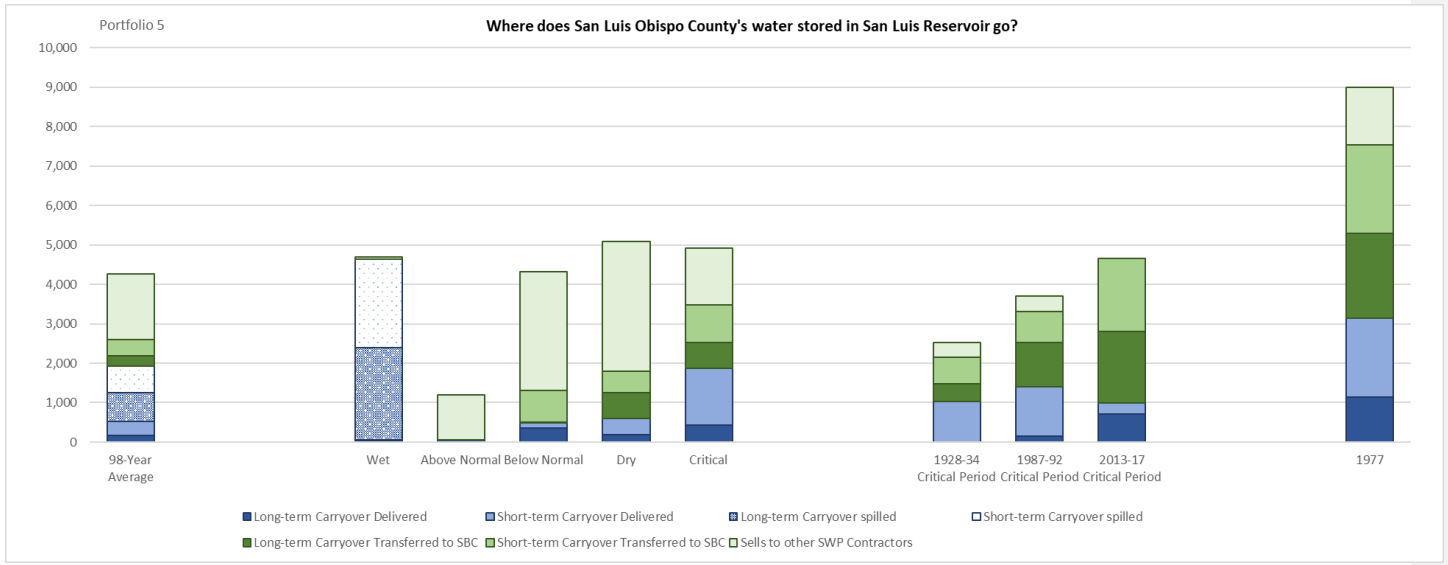

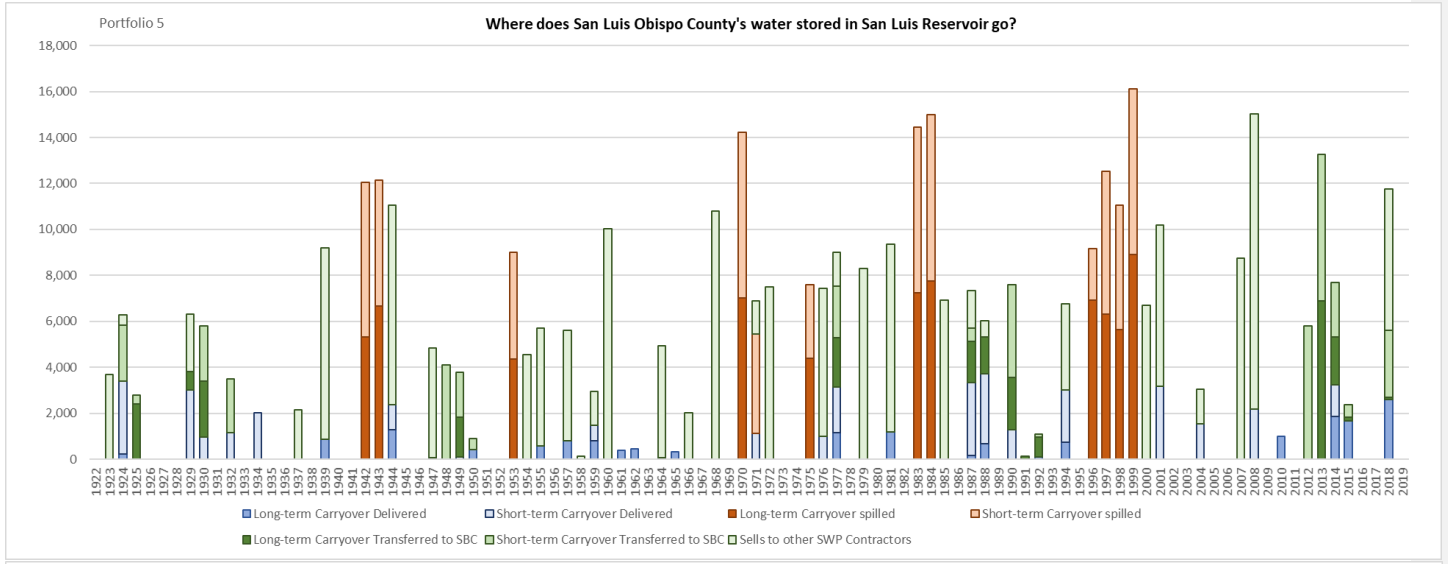

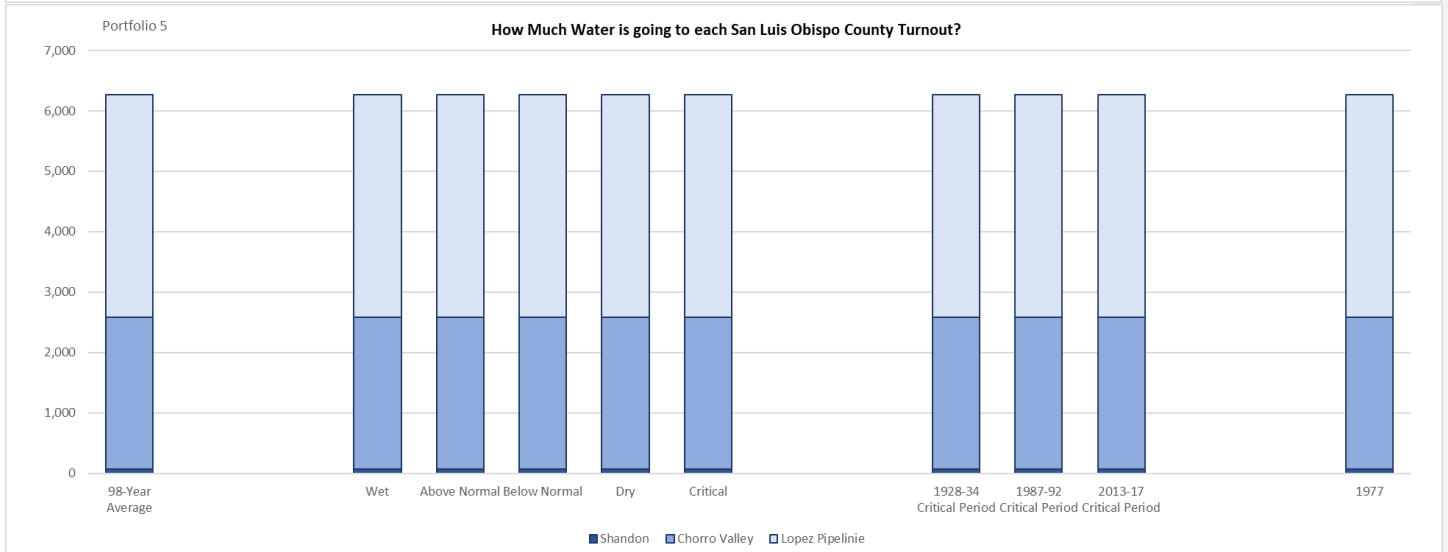

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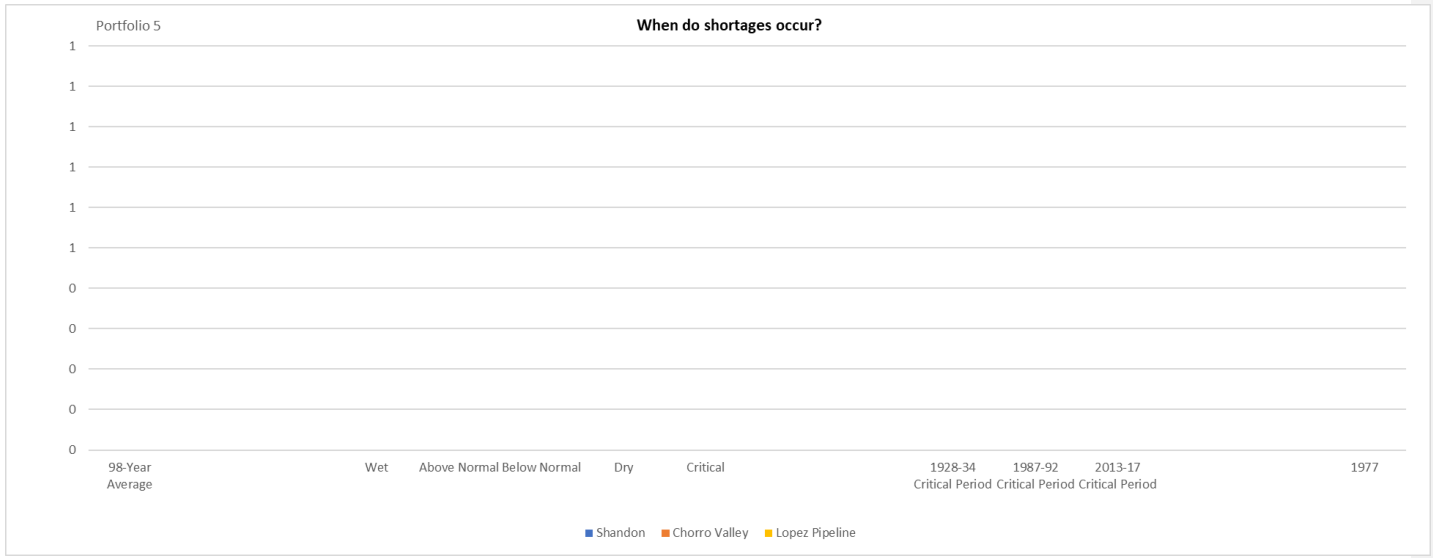

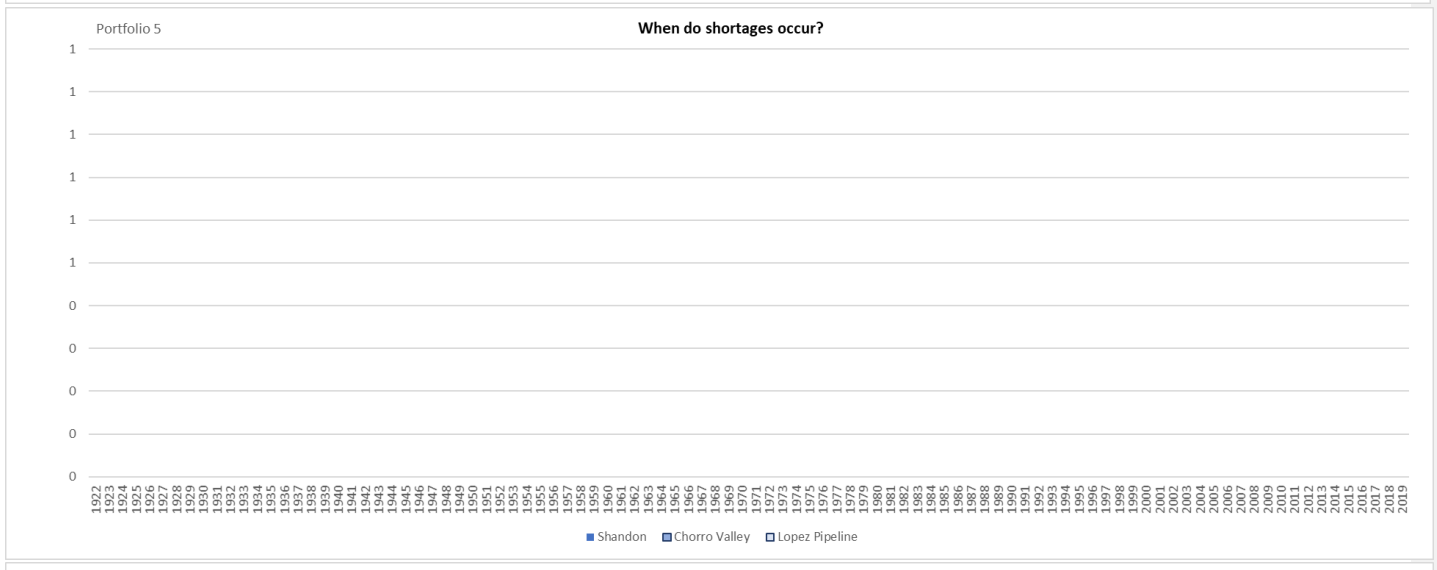

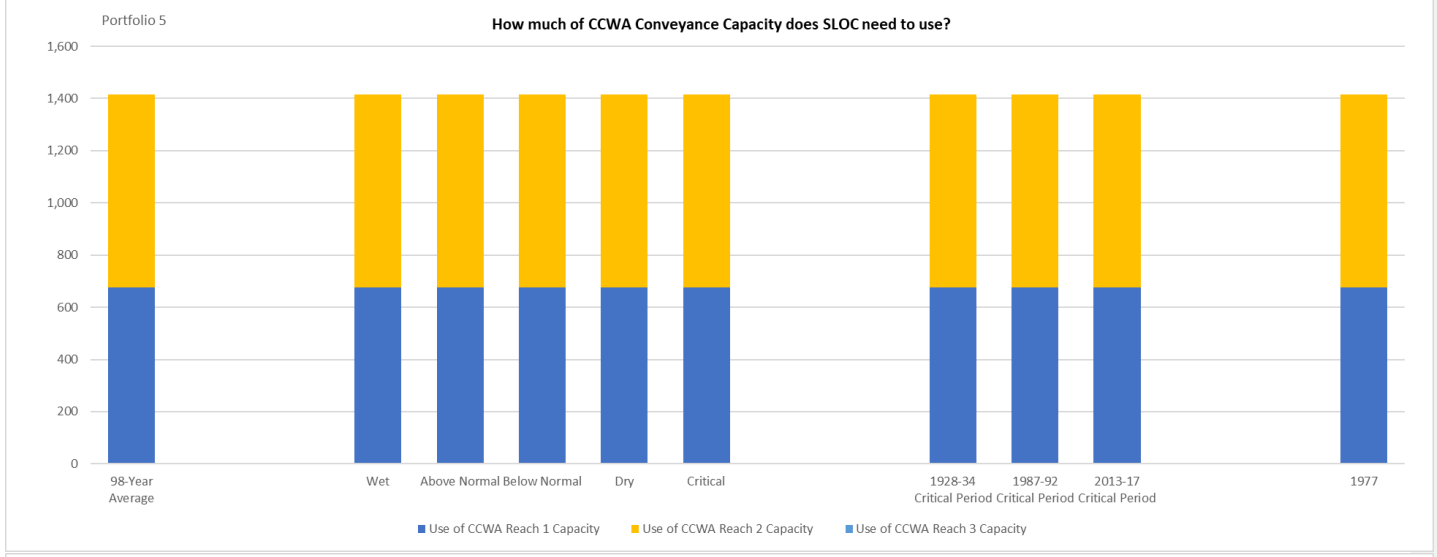

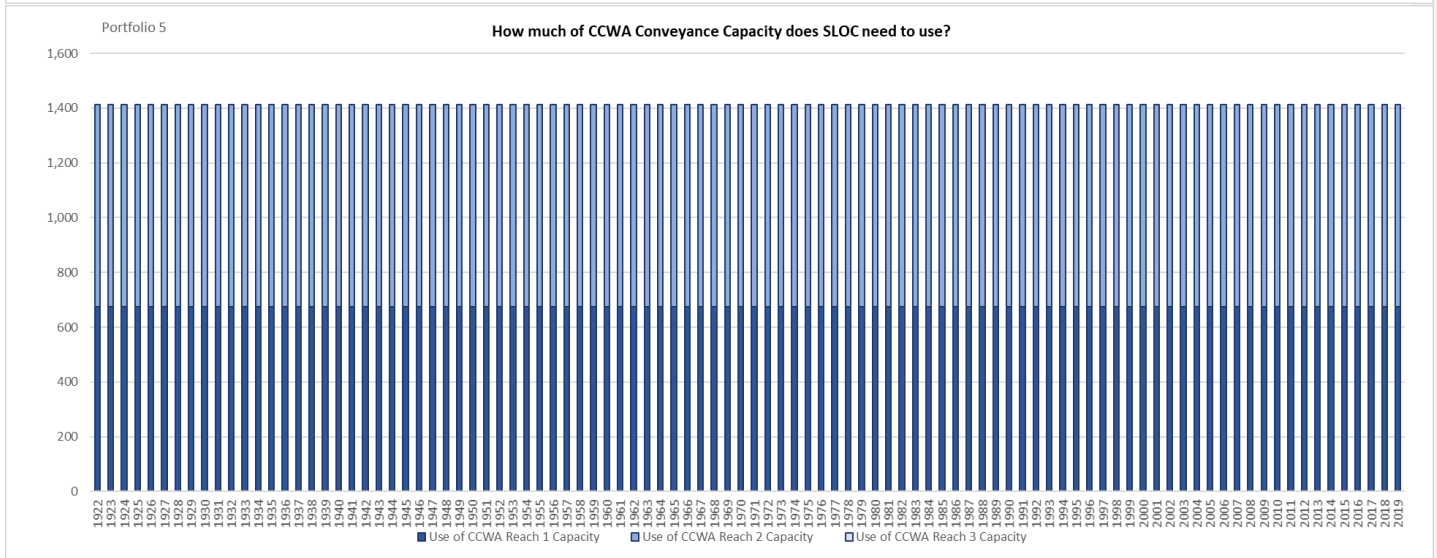

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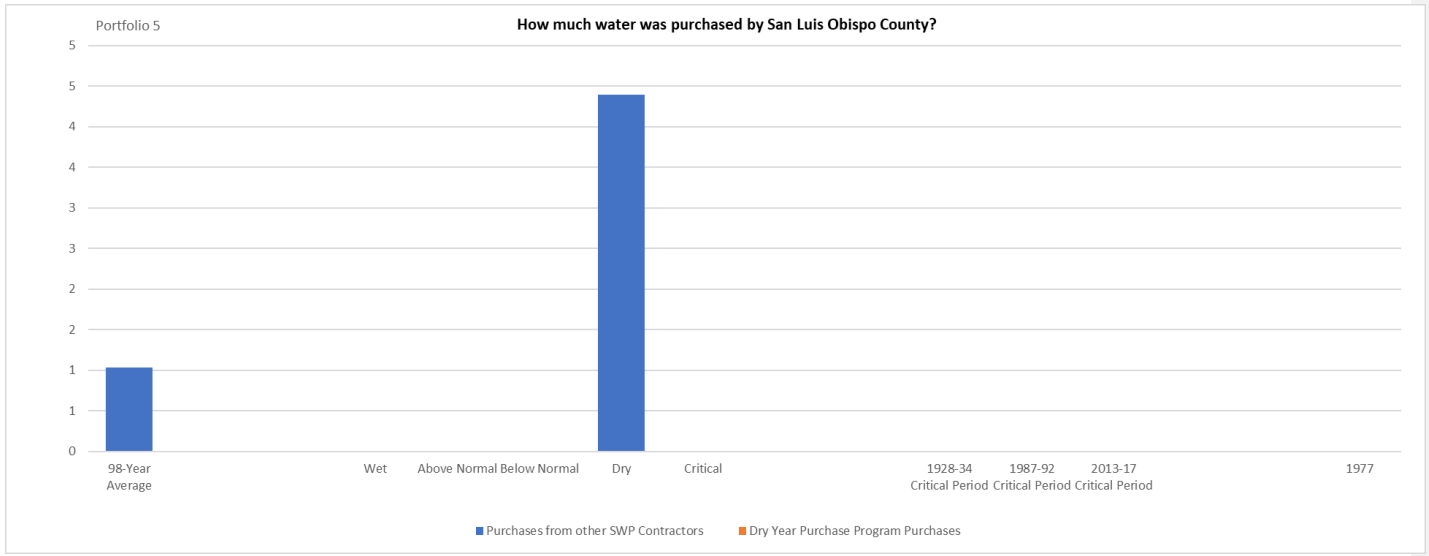

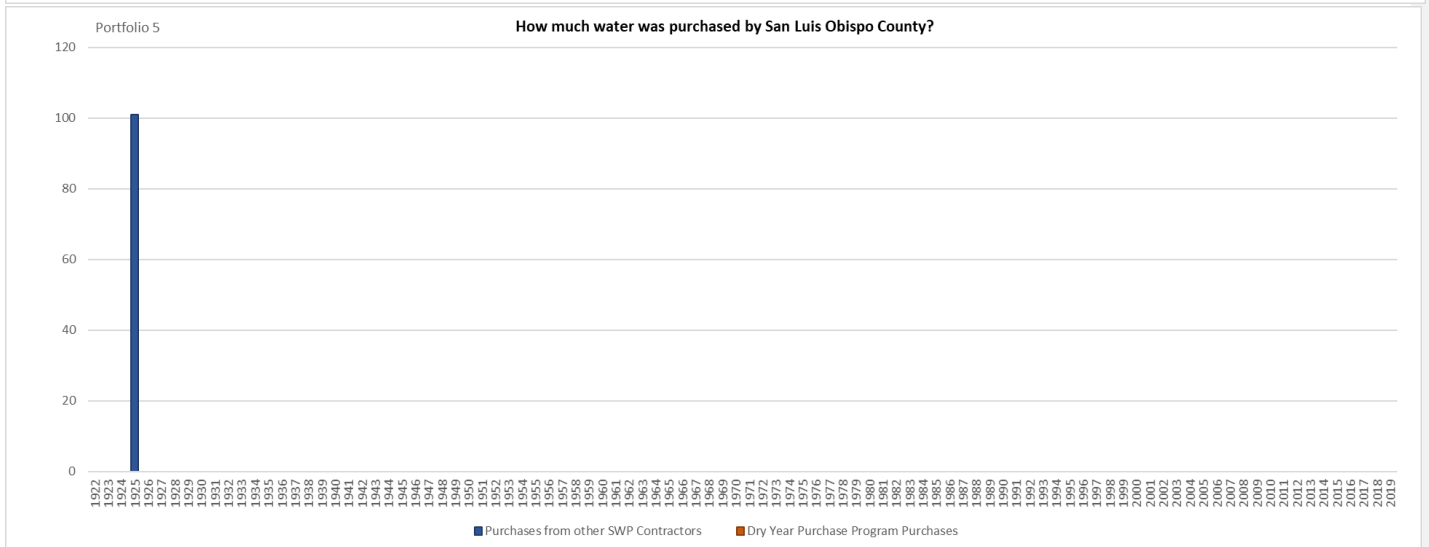

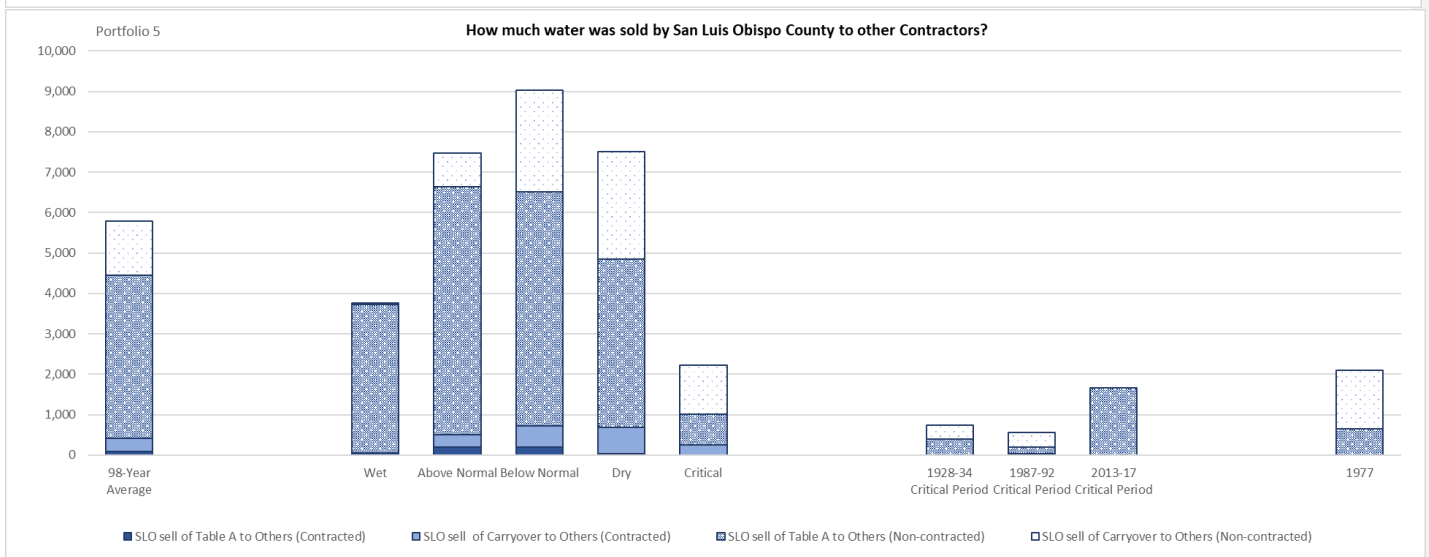

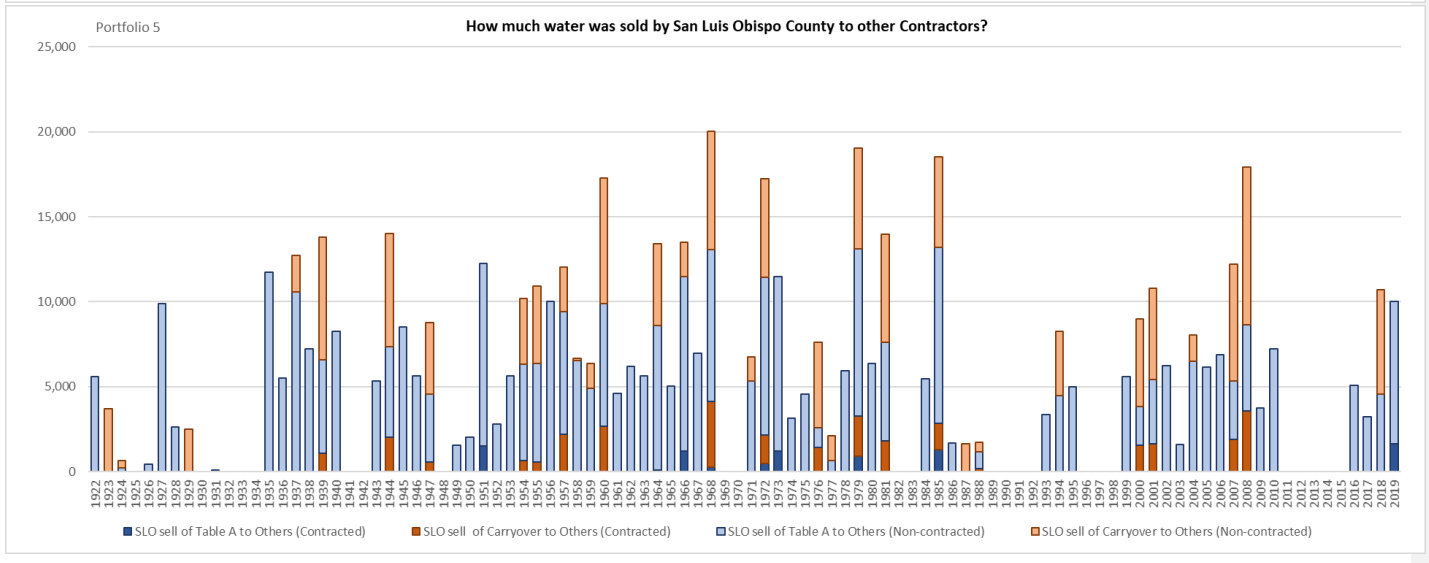

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