

Section 2. Plan Area and Basin Setting

Santa Margarita Basin Groundwater Sustainability Plan

Appendix 2E Aquifer Specific Groundwater Budgets

Table 2E 1. Historical Santa Margarita Aquifer Groundwater Budget

Water Budget Components		Historical Water Budget 1985-2018		Annual Average by Water Year Type (AF)			
Average Total for Historical Water Budget (AF)		Annual Average (AF)	Percent of Total Inflow or Outflow	Critically Dry	Dry	Normal	Wet
Inflows (9,000)*	Precipitation Recharge	6,500	51%	3,500	4,800	6,900	9,900
	Subsurface Inflow	0	0%	0	0	0	0
	Return Flows	800	7%	900	800	800	900
	Streambed Recharge	1,700	13%	1,500	1,600	1,700	1,900
	Flow from Other Aquifers	< 100	0%	< 100	< 100	< 100	< 100
Outflows (9,200)*	Groundwater Pumping	1,100	8%	1,400	1,100	1,000	900
	Subsurface Outflow	0	0%	0	0	0	0
	Discharge to Creeks	6,800	53%	5,700	6,100	7,000	8,000
	Flow to Other Aquifers	1,300	14%	900	1,100	1,300	1,700
Storage*	Average Annual Change in Storage	-100	--	-2,100	-1000	200	1,900
	Cumulative Change in Storage	-3,600	--	--	--	--	--

**Small discrepancies between total inflow and outflow may occur due to rounding*

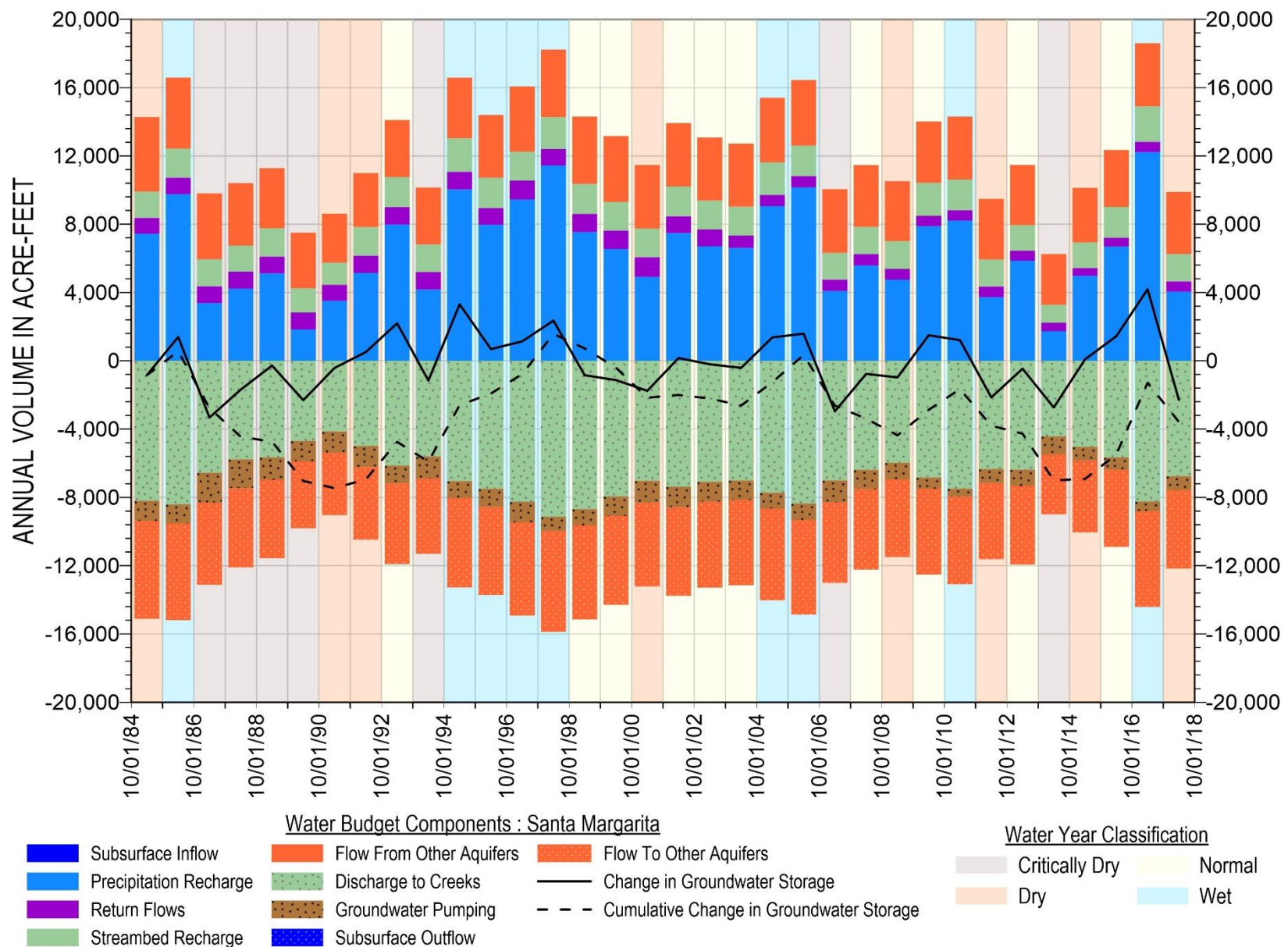


Figure 2E 1. Historical Santa Margarita Aquifer Groundwater Budget

Table 2E 2. Historical Monterey Formation Groundwater Budget

Water Budget Components		Historical Water Budget 1985-2018		Annual Average by Water Year Type (AF)			
Average Total for Historical Water Budget (AF)		Annual Average (AF)	Percent of Total Inflow or Outflow	Critically Dry	Dry	Normal	Wet
Inflows (2,800)*	Precipitation Recharge	1,500	45%	800	1,100	1600	2,200
	Subsurface Inflow	0	0%	0	0	0	0
	Return Flows	200	7%	200	200	200	200
	Streambed Recharge	800	25%	800	800	800	800
	Flow from Other Aquifers	300	12%	300	300	400	400
Outflows (3,000)*	Groundwater Pumping	300	9%	400	300	300	300
	Subsurface Outflow	0	0%	0	0	0	0
	Discharge to Creeks	2,300	67%	2,000	2,000	2,000	2,600
	Flow to Other Aquifers	400	13%	400	400	400	400
Storage*	Average Annual Change in Storage	-100	--	-700	-400	0	400
	Cumulative Change in Storage	-4,000	--	--	--	--	--

* Small discrepancies between total inflow and outflow may occur due to rounding

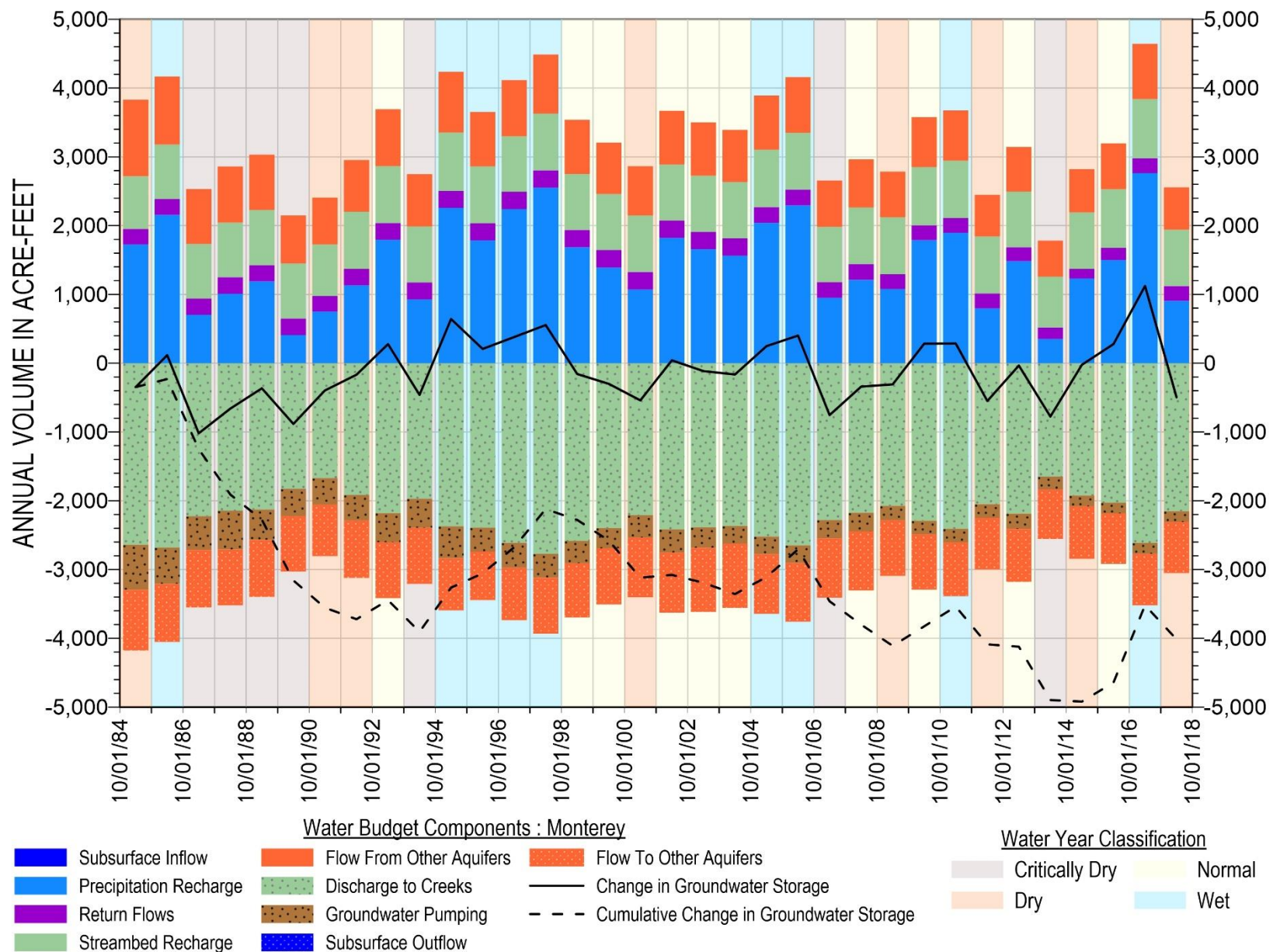


Figure 2E 2. Historical Monterey Formation Groundwater Budget

Table 2E 3. Historical Lompico Aquifer Groundwater Budget

Water Budget Components		Historical Water Budget 1985-2018		Annual Average by Water Year Type (AF)			
Average Total for Historical Water Budget (AF)		Annual Average (AF)	Percent of Total Inflow or Outflow	Critically Dry	Dry	Normal	Wet
Inflows (3,500)*	Precipitation Recharge	1,000	23%	500	700	1,000	1,400
	Subsurface Inflow	0	0%	0	0	0	0
	Return Flows	200	5%	200	200	200	200
	Streambed Recharge	400	9%	300	400	400	400
	Flow from Other Aquifers	1,900	56%	2,500	2,400	2,500	2,800
Outflows (4,000)*	Groundwater Pumping	1,800	38%	1,800	1,700	2,000	1,700
	Subsurface Outflow	0	0%	0	0	0	0
	Discharge to Creeks	1,500	33%	1,600	1,500	1,500	1,700
	Flow to Other Aquifers	700	16%	1,300	1,300	1,300	1,400
Storage*	Average Annual Change in Storage	-600	--	-1,200	-800	-600	0
	Cumulative Change in Storage	-20,400	--	--	--	--	--

**Small discrepancies between total inflow and outflow may occur due to rounding*

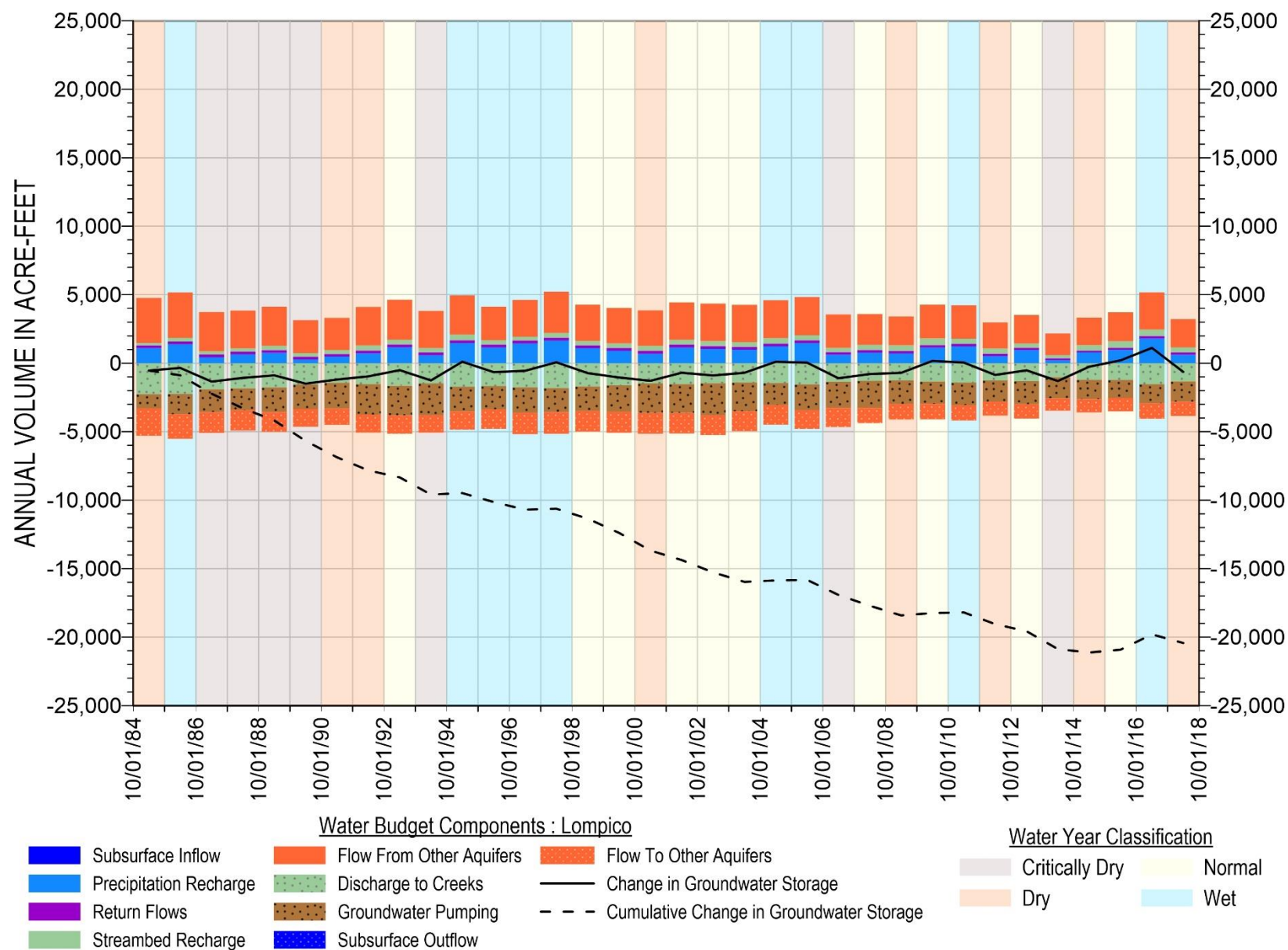


Figure 2E 3. Historical Lompico Aquifer Groundwater Budget

Table 2E 4. Historical Butano Aquifer Groundwater Budget

Water Budget Components		Historical Water Budget 1985-2018		Annual Average by Water Year Type (AF)			
Average Total for Historical Water Budget (AF)		Annual Average (AF)	Percent of Total Inflow or Outflow	Critically Dry	Dry	Normal	Wet
Inflows (8,400)	Precipitation Recharge	4,000	45%	2,100	3,000	4,300	6,200
	Subsurface Inflow	100	1%	100	100	100	100
	Return Flows	200	2%	200	200	200	200
	Streambed Recharge	3,400	37%	2,900	3,200	3,400	3,900
	Flow from Other Aquifers	700	8%	500	600	700	800
Outflows (8,600)	Groundwater Pumping	500	6%	200	400	700	700
	Subsurface Outflow	100	1%	100	100	100	100
	Discharge to Creeks	7,400	80%	6,000	6,700	7,500	9,000
	Flow to Other Aquifers	700	7%	800	600	500	500
Storage	Average Annual Change in Storage	-200	--	-1,400	-700	0	800
	Cumulative Change in Storage	-7,700	--	--	--	--	--

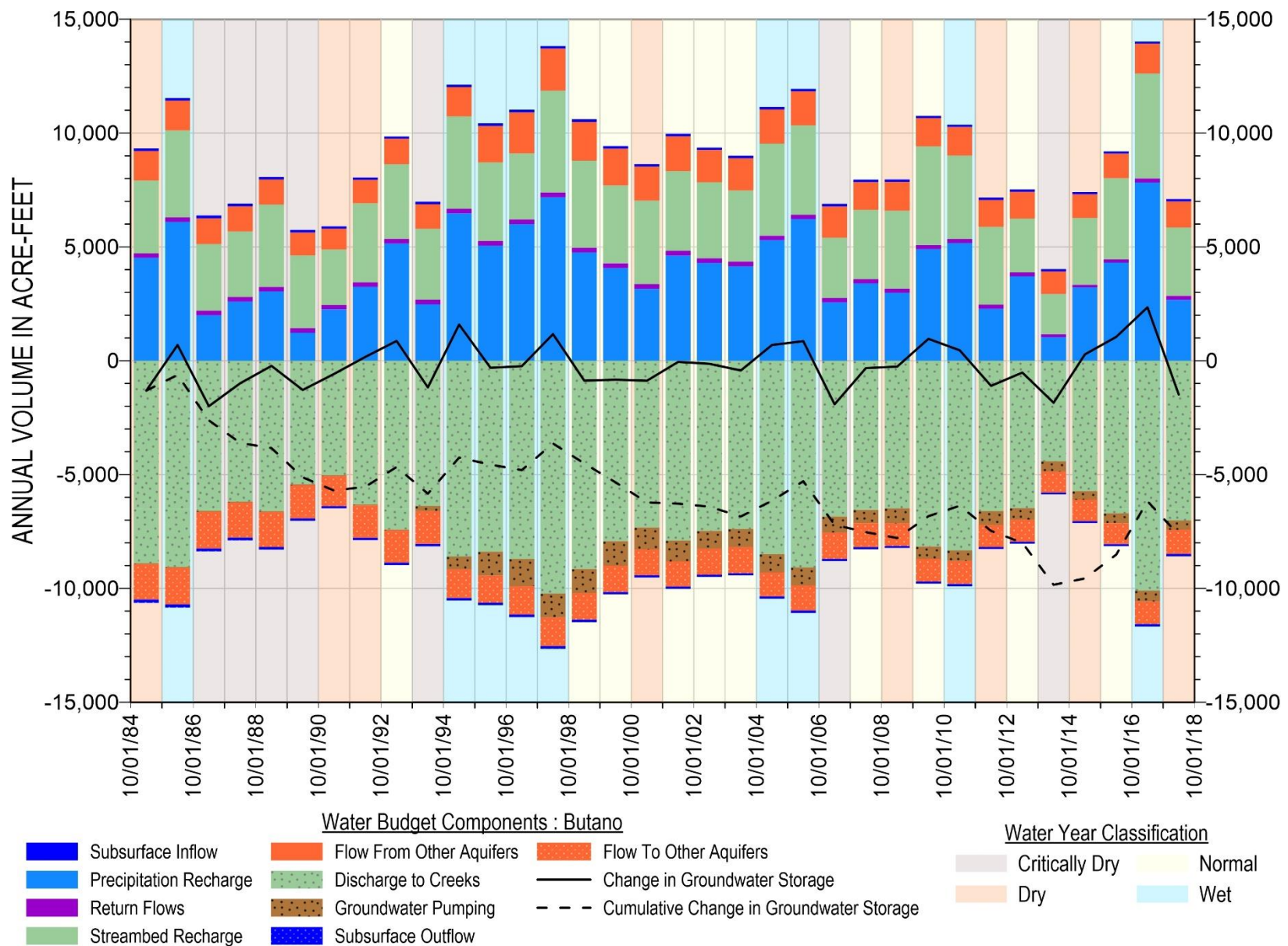


Figure 2E 4. Historical Butano Aquifer Groundwater Budget

Table 2E 5. Current Santa Margarita Aquifer Groundwater Budget

Water Budget Components		Current Water Budget 2010-2018		Historical Water Budget 1985-2018	
		Annual Average (AF)	Percent of Total Inflow or Outflow	Annual Average (AF)	Percent of Total Inflow or Outflow
Average Total for Current Water Budget (AF)					
Inflows (8,500)	Precipitation Recharge	6,200	52%	6,500	51%
	Subsurface Inflow	0	0%	0	0%
	Return Flows	600	5%	800	7%
	Streambed Recharge	1,700	14%	1,700	13%
	Flow from Other Aquifers	< 100	29%	< 100	29%
Outflows (8,400)	Groundwater Pumping	800	7%	1,100	8%
	Subsurface Outflow	0	0%	0	0%
	Discharge to Creeks	6,400	54%	6,800	53%
	Flow to Other Aquifers	1,200	14%	1,300	14%
Storage	Average Annual Change in Storage	<100	--	-100	--
	Cumulative Change in Storage	800	--	-3,600	--

Table 2E 6. Current Monterey Formation Groundwater Budget

Water Budget Components		Current Water Budget 2010-2018		Historical Water Budget 1985-2018	
		Annual Average (AF)	Percent of Total Inflow or Outflow	Annual Average (AF)	Percent of Total Inflow or Outflow
Average Total for Current Water Budget (AF)					
Inflows (2,700)	Precipitation Recharge	1,400	46%	1,500	45%
	Subsurface Inflow	0	0%	0	0%
	Return Flows	200	6%	200	7%
	Streambed Recharge	800	27%	800	25%
	Flow from Other Aquifers	300	21%	300	23%
Outflows (2,700)	Groundwater Pumping	200	6%	300	9%
	Subsurface Outflow	0	0%	0	0%
	Discharge to Creeks	2,100	69%	2,300	67%
	Flow to Other Aquifers	400	15%	400	13%
Storage	Average Annual Change in Storage	<100	--	-100	--
	Cumulative Change in Storage	100	--	-4,000	--

Table 2E 7. Current Lompico Aquifer Groundwater Budget

Water Budget Components		Current Water Budget 2010-2018		Historical Water Budget 1985-2018	
		Annual Average (AF)	Percent of Total Inflow or Outflow	Annual Average (AF)	Percent of Total Inflow or Outflow
Average Total for Current Water Budget (AF)					
Inflows (3,200)	Precipitation Recharge	900	25%	1,000	23%
	Subsurface Inflow	0	0%	0	0%
	Return Flows	200	4%	200	5%
	Streambed Recharge	400	11%	400	9%
	Flow from Other Aquifers	1,700	59%	1,900	63%
Outflows (3,400)	Groundwater Pumping	1,500	39%	1,800	38%
	Subsurface Outflow	0	0%	0	0%
	Discharge to Creeks	1,300	34%	1,500	33%
	Flow to Other Aquifers	600	17%	1,300	16%
Storage	Average Annual Change in Storage	-200	--	-600	--
	Cumulative Change in Storage	-2,000	--	-20,400	--

Table 2E 8. Current Butano Aquifer Groundwater Budget

Water Budget Components		Current Water Budget 2010-2018		Historical Water Budget 1985-2018	
		Annual Average (AF)	Percent of Total Inflow or Outflow	Annual Average (AF)	Percent of Total Inflow or Outflow
Average Total for Current Water Budget (AF)					
Inflows (8,100)*	Precipitation Recharge	3,900	45%	4,100	45%
	Subsurface Inflow	100	1%	100	1%
	Return Flows	200	2%	200	2%
	Streambed Recharge	3,300	38%	3,400	37%
	Flow from Other Aquifers	600	13%	700	14%
Outflows (8,000)*	Groundwater Pumping	500	6%	500	6%
	Subsurface Outflow	<100	1%	100	1%
	Discharge to Creeks	7,100	82%	7,400	80%
	Flow to Other Aquifers	400	5%	700	7%
Storage	Average Annual Change in Storage	< 100	--	-200	--
	Cumulative Change in Storage	100	--	-7,700	--

* Small discrepancies between total inflow and outflow may occur due to rounding

Table 2E 9. Projected Santa Margarita Aquifer Groundwater Budget

Water Budget Components		Projected 2020-2072		Current 2010-2018	Historical 1985-2018
Average Total for Projected Water Budget (AF)		Annual Average (AF)	Percent of Total Inflow or Outflow	Annual Average (AF)	Annual Average (AF)
Inflows (7,800)*	Precipitation Recharge	5,700	52%	6,200	6,500
	Subsurface Inflow	0	0%	0	0
	Return Flows	500	5%	600	800
	Streambed Recharge	1,600	14%	1,700	1,700
	Flow from Other Aquifers	< 100	0%	<100	<100
Outflows (8,100)*	Groundwater Pumping	900	8%	800	1,100
	Subsurface Outflow	0	0%	0	0
	Discharge to Creeks	6,100	54%	6,400	6,800
	Flow to Other Aquifers	1,100	38%	1,200	1,300
Storage*	Average Annual Change in Storage	-200	--	100	-100
	Cumulative Change in Storage	-9,600	--	800	-3,600

**Small discrepancies between total inflow and outflow may occur due to rounding*

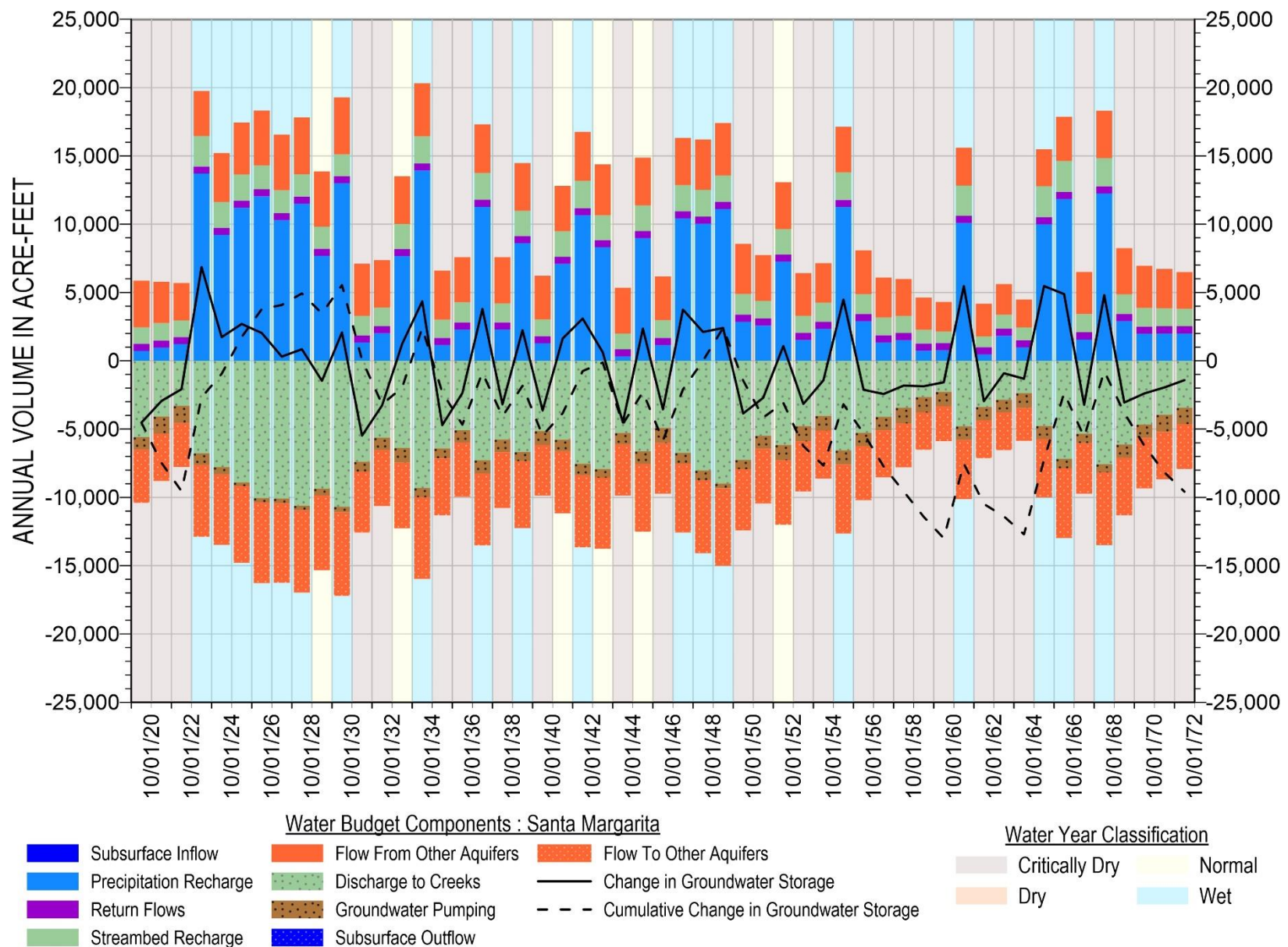


Figure 2E 5. Projected Santa Margarita Aquifer Groundwater Budget

Table 2E 10. Projected Monterey Formation Groundwater Budget

Water Budget Components		Projected 2020-2072		Current 2010-2018	Historical 1985-2018
Average Total for Projected Water Budget (AF)		Annual Average (AF)	Percent of Total Inflow or Outflow	Annual Average (AF)	Annual Average (AF)
Inflows (2,600)*	Precipitation Recharge	1,300	45%	1,400	1,500
	Subsurface Inflow	0	0%	0	0
	Return Flows	200	6%	200	200
	Streambed Recharge	800	28%	800	800
	Flow from Other Aquifers	300	21%	300	300
Outflows (2,600)*	Groundwater Pumping	100	4%	200	300
	Subsurface Outflow	0	0%	0	0
	Discharge to Creeks	2,100	71%	2,100	2,300
	Flow to Other Aquifers	400	15%	400	400
Storage*	Average Annual Change in Storage	-100	--	< 100	-100
	Cumulative Change in Storage	-2,900	--	100	-4,000

**Small discrepancies between total inflow and outflow may occur due to rounding*

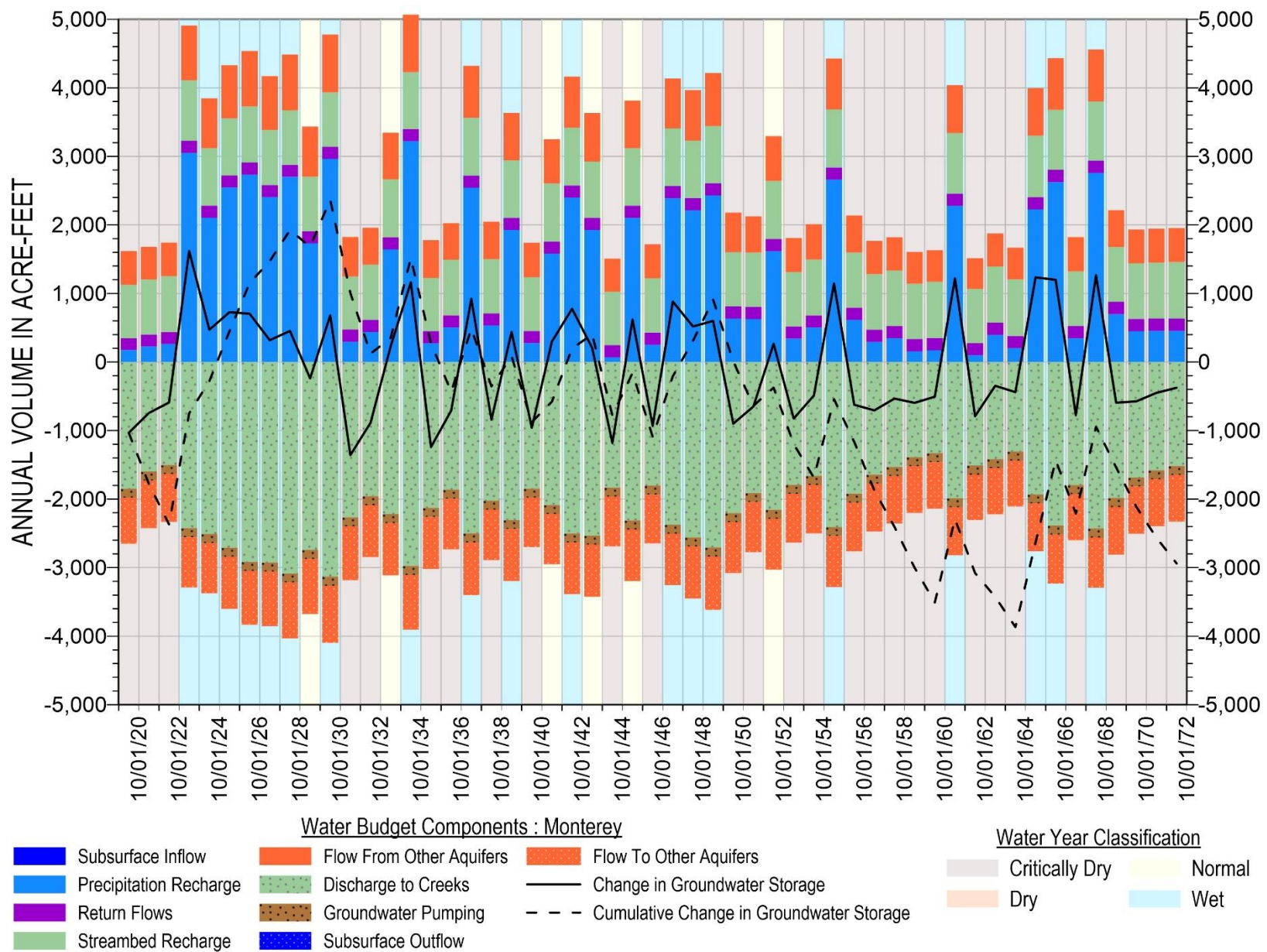


Figure 2E 6. Projected Monterey Formation Groundwater Budget

Table 2E 11. Projected Lompico Aquifer Groundwater Budget

Water Budget Components		Projected 2020-2072		Current 2010-2018	Historical 1985-2018
Average Total for Projected Water Budget (AF)		Annual Average (AF)	Percent of Total Inflow or Outflow	Annual Average (AF)	Annual Average (AF)
Inflows (3,100)*	Precipitation Recharge	900	24%	900	1,000
	Subsurface Inflow	0	0%	0	0
	Return Flows	200	4%	200	200
	Streambed Recharge	400	11%	400	400
	Flow from Other Aquifers	1,600	54%	2,200	2,600
Outflows (3,100)*	Groundwater Pumping	1,200	33%	1,500	,1800
	Subsurface Outflow	0	0%	0	0
	Discharge to Creeks	1,300	35%	1,300	1,500
	Flow to Other Aquifers	600	18%	1,000	1,300
Storage*	Average Annual Change in Storage	-100	--	-200	-600
	Cumulative Change in Storage	-7,000	--	-2,000	-20,400

**Small discrepancies between total inflow and outflow may occur due to rounding*

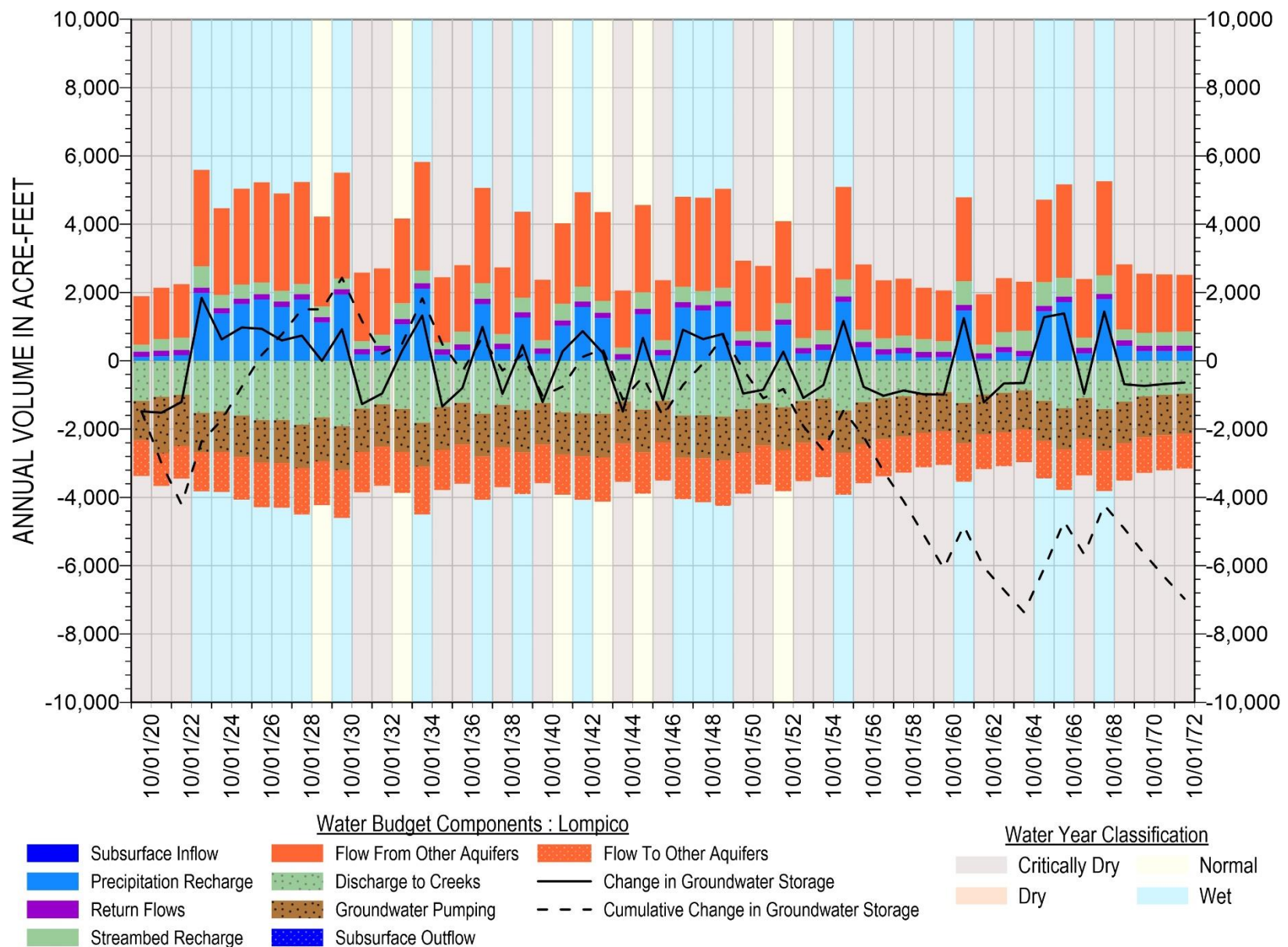


Figure 2E 7. Projected Lompico Aquifer Groundwater Budget

Table 2E 12. Projected Butano Aquifer Groundwater Budget

Water Budget Components		Projected 2020-2072		Current 2010-2018	Historical 1985-2018
Average Total for Projected Water Budget (AF)		Annual Average (AF)	Percent of Total Inflow or Outflow	Annual Average (AF)	Annual Average (AF)
Inflows (7,800)	Precipitation Recharge	3,600	43%	3,900	4,000
	Subsurface Inflow	100	1%	100	100
	Return Flows	200	2%	200	200
	Streambed Recharge	3,300	40%	3,300	3,400
	Flow from Other Aquifers	600	8%	1,200	1,300
Outflows (7,900)	Groundwater Pumping	500	6%	500	500
	Subsurface Outflow	100	1%	100	100
	Discharge to Creeks	6,900	82%	7,100	7,400
	Flow to Other Aquifers	400	5%	1,000	1,200
Storage	Average Annual Change in Storage	-100	--	< 100	-200
	Cumulative Change in Storage	-5,000	--	100	-7,700

**Small discrepancies between total inflow and outflow may occur due to rounding*

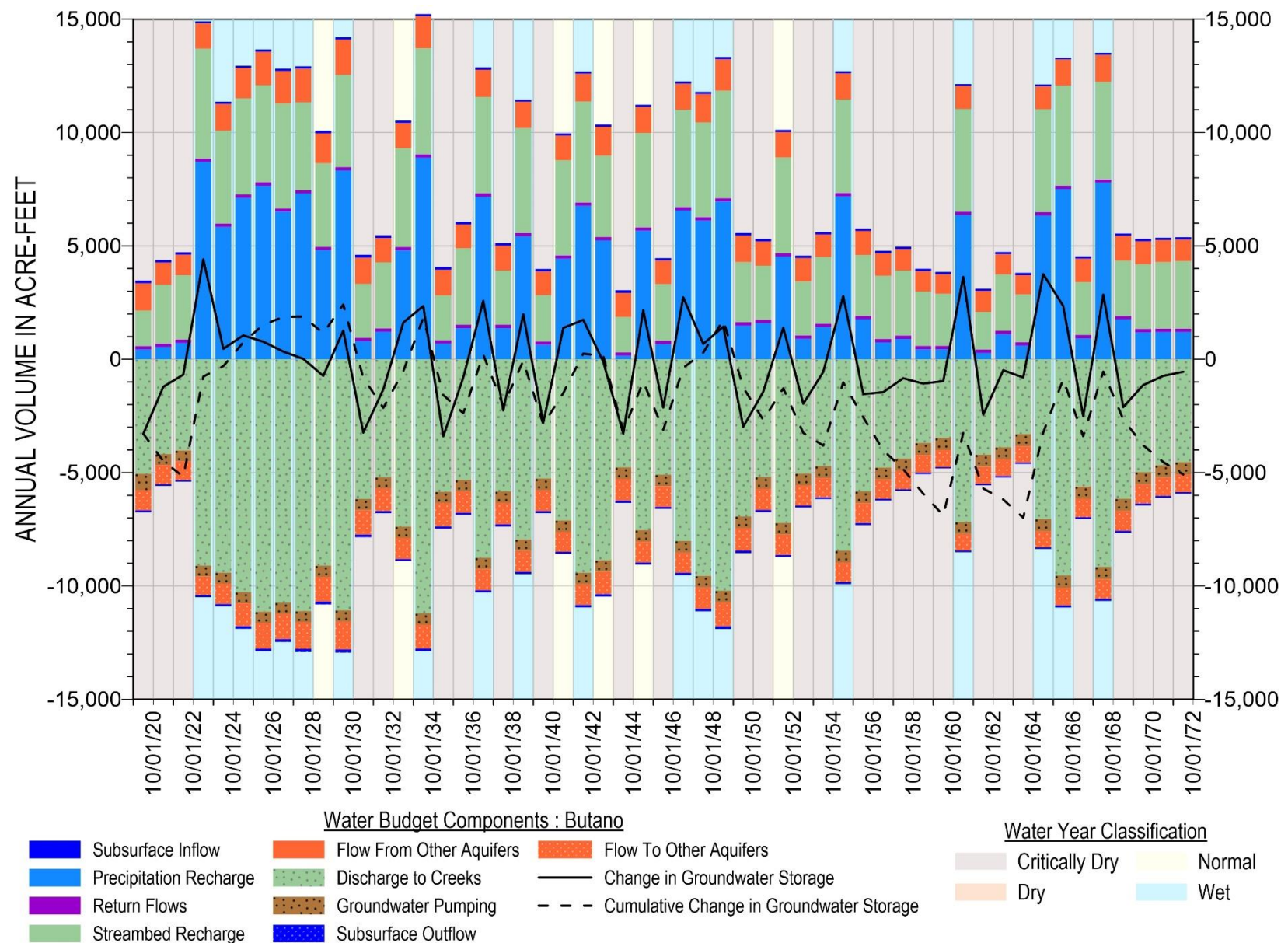


Figure 2E 8. Projected Butano Aquifer Groundwater Budget