

SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR SITES UPSTREAM OF THE HIGHLAND LAKES, THE LAVACA BASIN, AND THE COASTAL BASINS

CL BBEST / BBASC July 18, 2011

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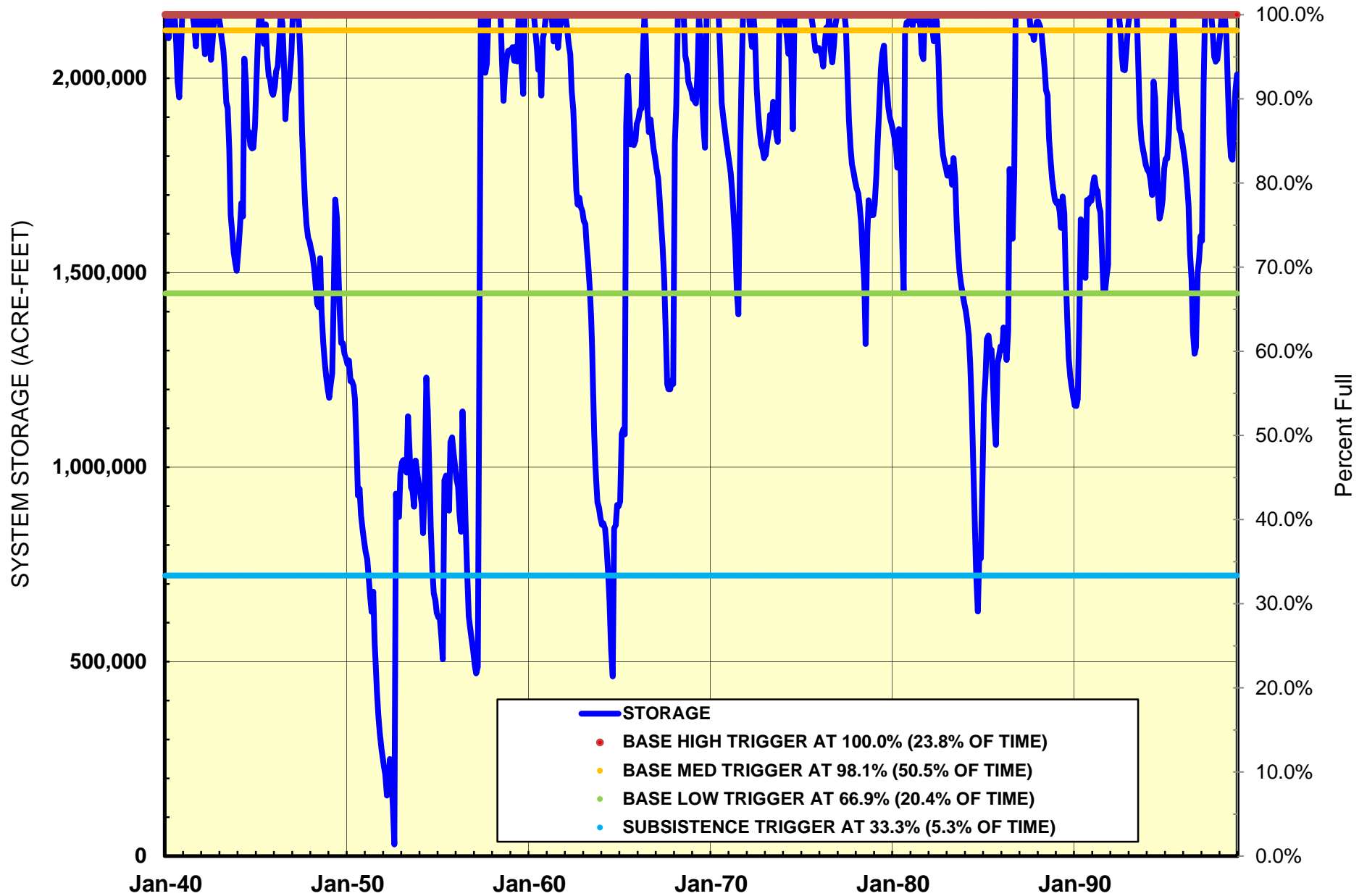
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PAGE #	(1) DATA USED TO DEVELOP STORAGE TRIGGERS						(7) RESULTING STORAGE TRIGGERS																	
	SOURCE DATA	HYDRO CONCEPT	CONSERVATION		TYPE	PERIOD OF RECORD	BASE HIGH (1)				BASE MEDIUM (1)				BASE LOW				SUBSISTENCE					
			TRIGGER TO ENGAGE				TRIGGER TO ENGAGE		TRIGGER TO ENGAGE		TRIGGER TO ENGAGE		TRIGGER TO ENGAGE		TRIGGER TO ENGAGE									
			STOR (KAF)	ELEV (MSL)			% FULL	% TIME	STOR (KAF)	ELEV (MSL)	% FULL	% TIME	STOR (KAF)	ELEV (MSL)	% FULL	% TIME	STOR (KAF)	ELEV (MSL)	% FULL	% TIME				
						GOAL; 25% OF TIME				GOAL; 50% OF TIME				GOAL; 20% OF TIME				GOAL; 5% OF TIME						
	LCRA' HIGHLAND LAKES (BUCHANAN + TRAVIS)																							
(1)	TCEQ RUN3	STORAGE	2,163	N/A	SIM	1940-1998	2,163	N/A	100.0%	23.8%	2,123	N/A	98.1%	50.5%	1,446	N/A	66.9%	20.4%	721	N/A	33.3%	5.3%		
(2)	TCEQ RUN8	STORAGE	2,021	N/A	SIM	1940-1998	2,021	N/A	100.0%	23.8%	2,021	N/A	100.0%	49.9%	1,745	N/A	86.3%	20.7%	1,354	N/A	67.0%	5.5%		
(3)	LCRA	STORAGE	2,011	N/A	HIST	1980-2010	2,547	N/A	126.7%	24.9%	1,928	N/A	95.9%	49.9%	1,591	N/A	79.1%	17.7%	1,104	N/A	54.9%	7.5%		
	LCRA'S LAKE BUCHANAN																							
(4)	TCEQ RUN3	STORAGE	992	1020.0	SIM	1940-1998	992	N/A	100.0%	25.0%	991	N/A	99.9%	48.8%	732	N/A	73.7%	21.0%	444	N/A	44.7%	5.3%		
(5)	TCEQ RUN8	STORAGE	889	1020.0	SIM	1940-1998	889	N/A	100.0%	23.8%	889	N/A	100.0%	50.5%	682	N/A	76.7%	20.7%	386	N/A	43.4%	5.0%		
(6)	LCRA	STORAGE	876	1020.0	HIST	1980-2010	882	1020.3	100.8%	25.5%	831	1018.0	94.9%	47.7%	678	1010.6	77.4%	20.4%	490	999.9	56.0%	6.4%		
	LCRA'S LAKE TRAVIS																							
(7)	TCEQ RUN3	STORAGE	1,171	681.0	SIM	1940-1998	1,171	N/A	100.0%	23.8%	1,137	N/A	97.1%	50.2%	728	N/A	62.2%	20.4%	209	N/A	17.8%	5.5%		
(8)	TCEQ RUN8	STORAGE	1,132	681.0	SIM	1940-1998	1,132	N/A	100.0%	32.0%	1,132	N/A	100.0%	42.3%	1,071	N/A	94.6%	20.7%	960	N/A	84.8%	5.0%		
(9)	LCRA	STORAGE	1,135	681.0	HIST	1980-2010	1,664	704.6	146.6%	26.0%	1,119	680.2	98.6%	49.3%	892	667.2	78.6%	18.2%	634	648.5	55.9%	6.4%		
	LNRA'S LAKE TEXANA																							
(10)	TCEQ RUN3	STORAGE	170.3	45.0	SIM	1940-1996	170.3	N/A	100.0%	30.5%	170.3	N/A	100.0%	43.5%	132.5	N/A	77.8%	20.7%	93.3	N/A	54.8%	5.3%		
(11)	TCEQ RUN8	STORAGE	165.7	45.0	SIM	1940-1996	165.7	N/A	100.0%	36.2%	165.7	N/A	100.0%	36.8%	146.3	N/A	88.3%	22.8%	125.5	N/A	75.7%	4.2%		
(12)	LNRA	STORAGE	161.1	44.0	HIST	1983-2010	166.2	44.5	103.1%	24.0%	162.8	44.2	101.1%	51.9%	152.7	43.1	94.8%	18.4%	127.0	40.1	78.8%	5.6%		
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING FLOW TRIGGERS																	
PAGE #	SOURCE DATA	HYDRO CONCEPT	MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)	TYPE	PERIOD OF RECORD	BASE HIGH		BASE MEDIUM		BASE LOW		SUBSISTENCE												
						TRIGGER TO ENGAGE		TRIGGER TO ENGAGE		TRIGGER TO ENGAGE		TRIGGER TO ENGAGE												
						12 MONTH CUMULATIVE FLOW (KAF)	% TIME	12 MONTH CUMULATIVE FLOW (KAF)	% TIME	12 MONTH CUMULATIVE FLOW (KAF)	% TIME	12 MONTH CUMULATIVE FLOW (KAF)	% TIME											
							GOAL; 25% OF TIME		GOAL; 50% OF TIME		GOAL; 20% OF TIME		GOAL; 5% OF TIME											
	SAN SABA RIVER AT SAN SABA																							
(13)	TCEQ RUN3	FLOW	503,703	SIM	1940-1998	503.7	23.8%	186.0	51.4%	70.2	19.9%	48.7	4.9%											
(14)	TCEQ RUN8	FLOW	516,567	SIM	1940-1998	516.6	24.1%	187.9	51.1%	71.6	20.8%	49.2	4.0%											
(15)	USGS	FLOW	968,106	HIST	1940-1998	968.1	22.6%	180.3	51.4%	66.4	21.4%	39.8	4.6%											
(16)	USGS	FLOW	968,106	HIST	1980-2010	968.1	23.6%	166.0	51.5%	61.1	19.3%	40.5	5.6%											

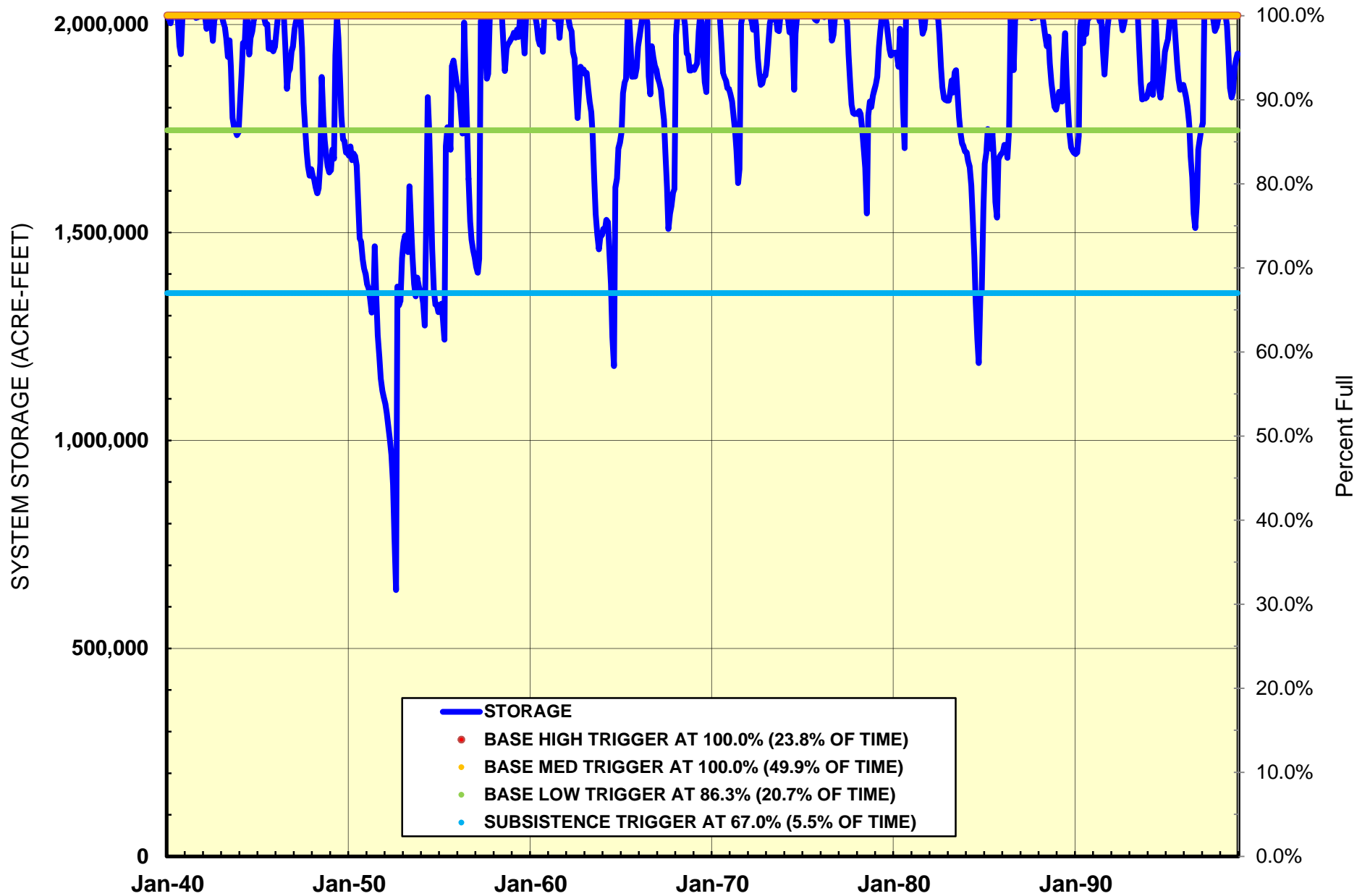
KAF Volume in Thousand Acre-Feet
MSL Elevation Referenced to Mean Sea Level
STO Storage
ELEV Elevation

NOTE 1: Subject reservoir greater than full more frequently than base high, and in some cases, base medium engagement goal.
SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.
HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

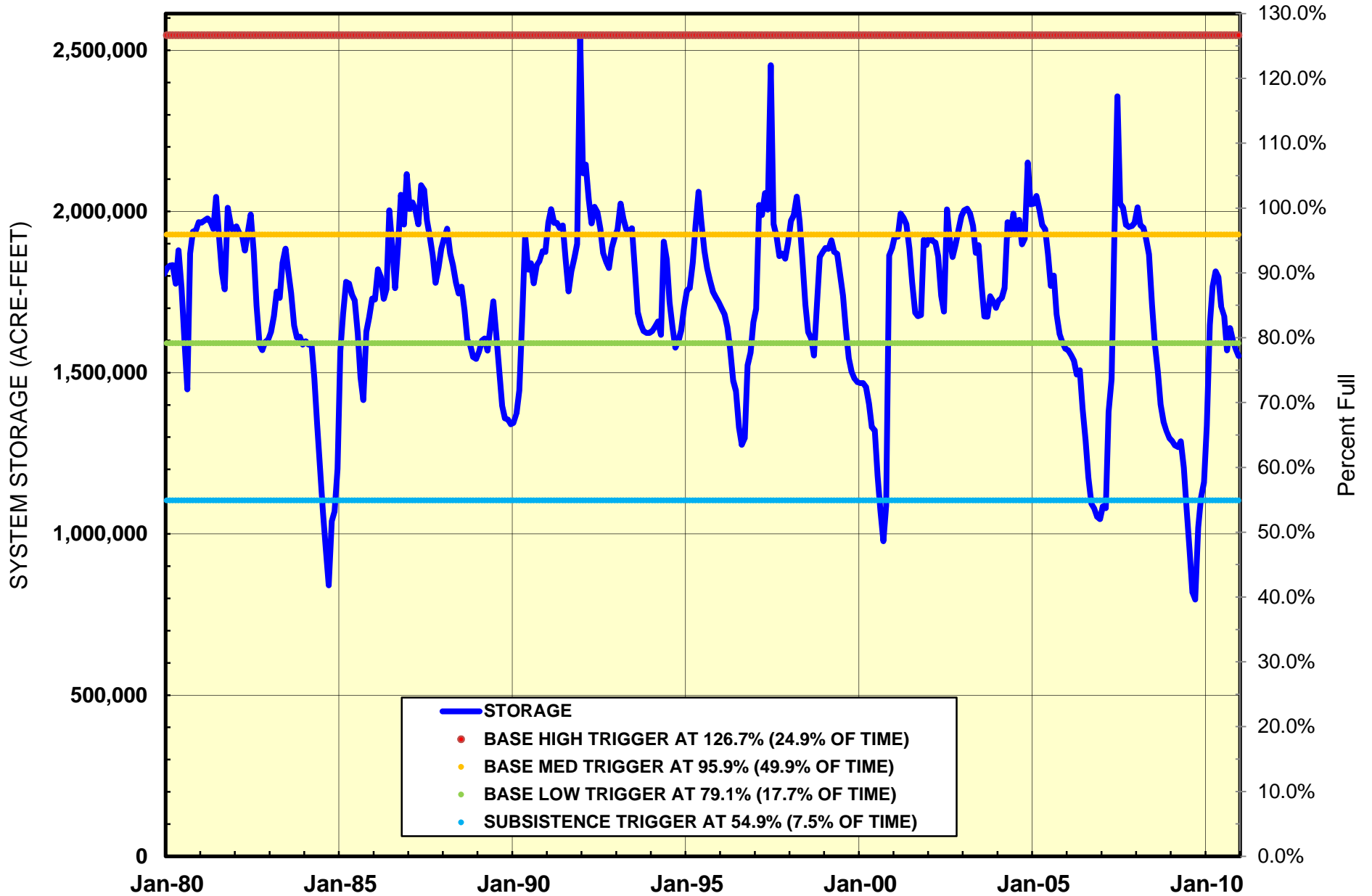
LCRA SYSTEM SIMULATED STORAGE FOR 1940-1998 (TCEQ WAM RUN3) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



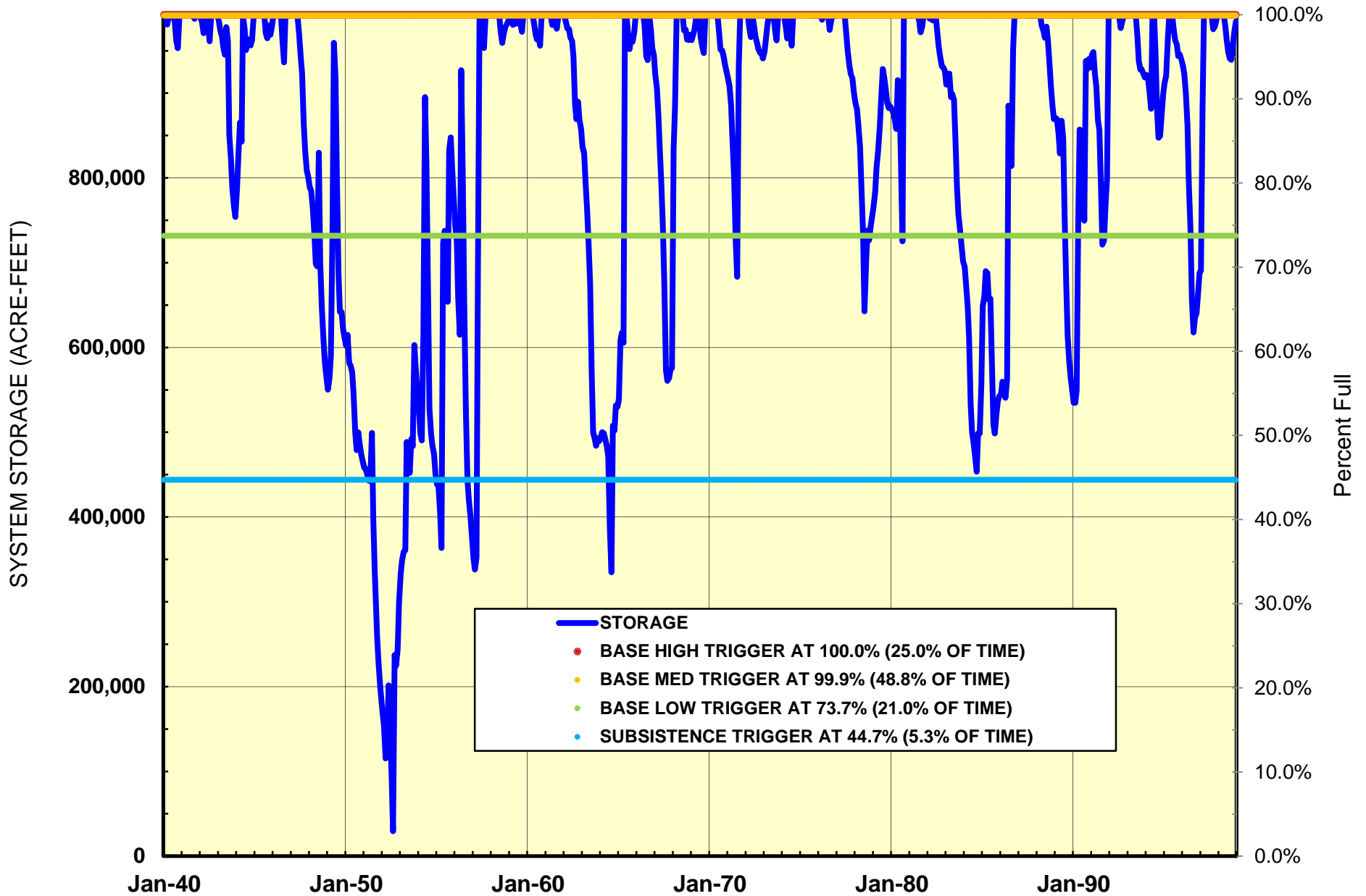
LCRA SYSTEM SIMULATED STORAGE FOR 1940-1998 (TCEQ WAM RUN8) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



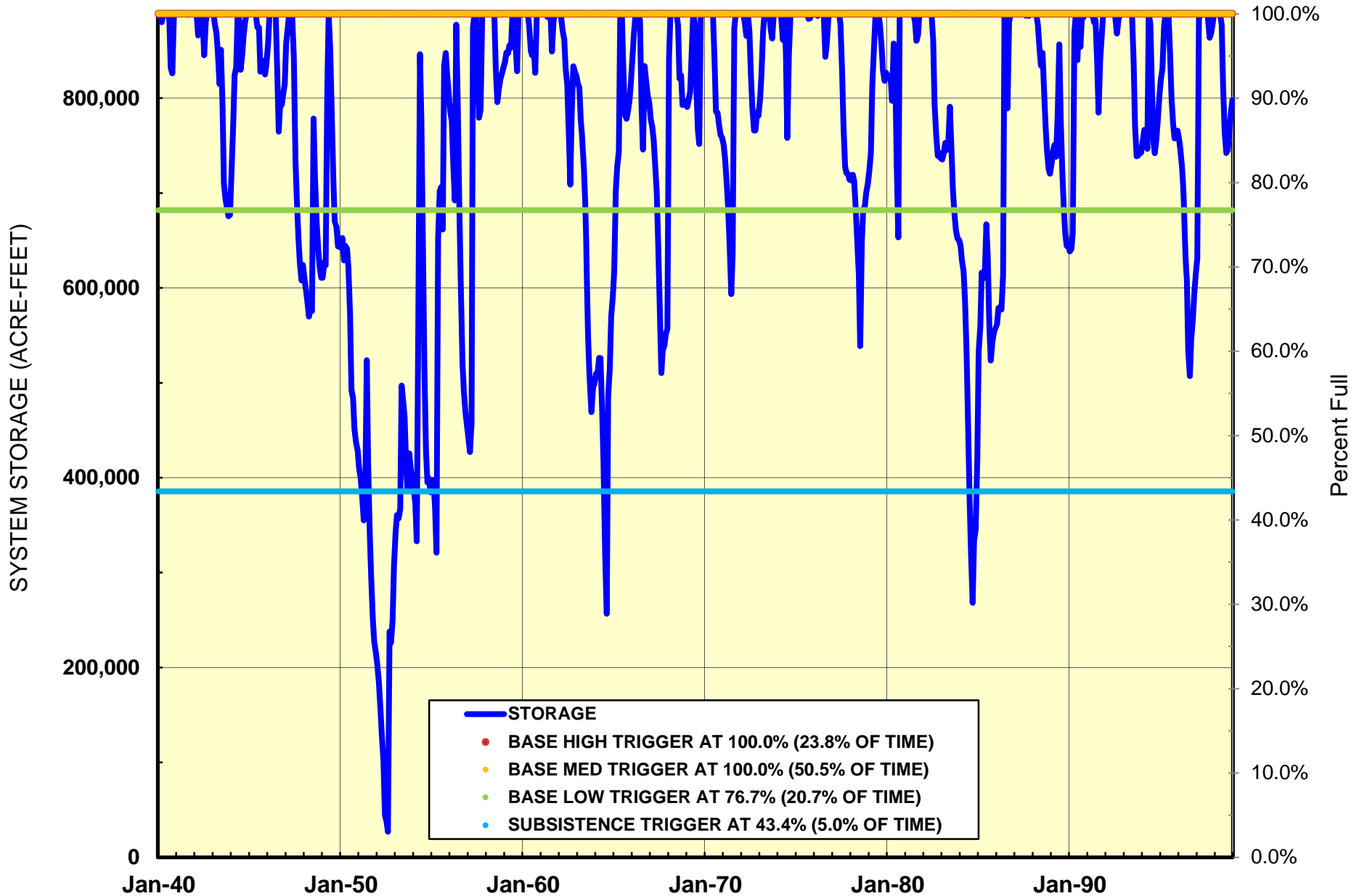
LCRA SYSTEM HISTORICAL STORAGE FOR 1980-2010 (LCRA) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



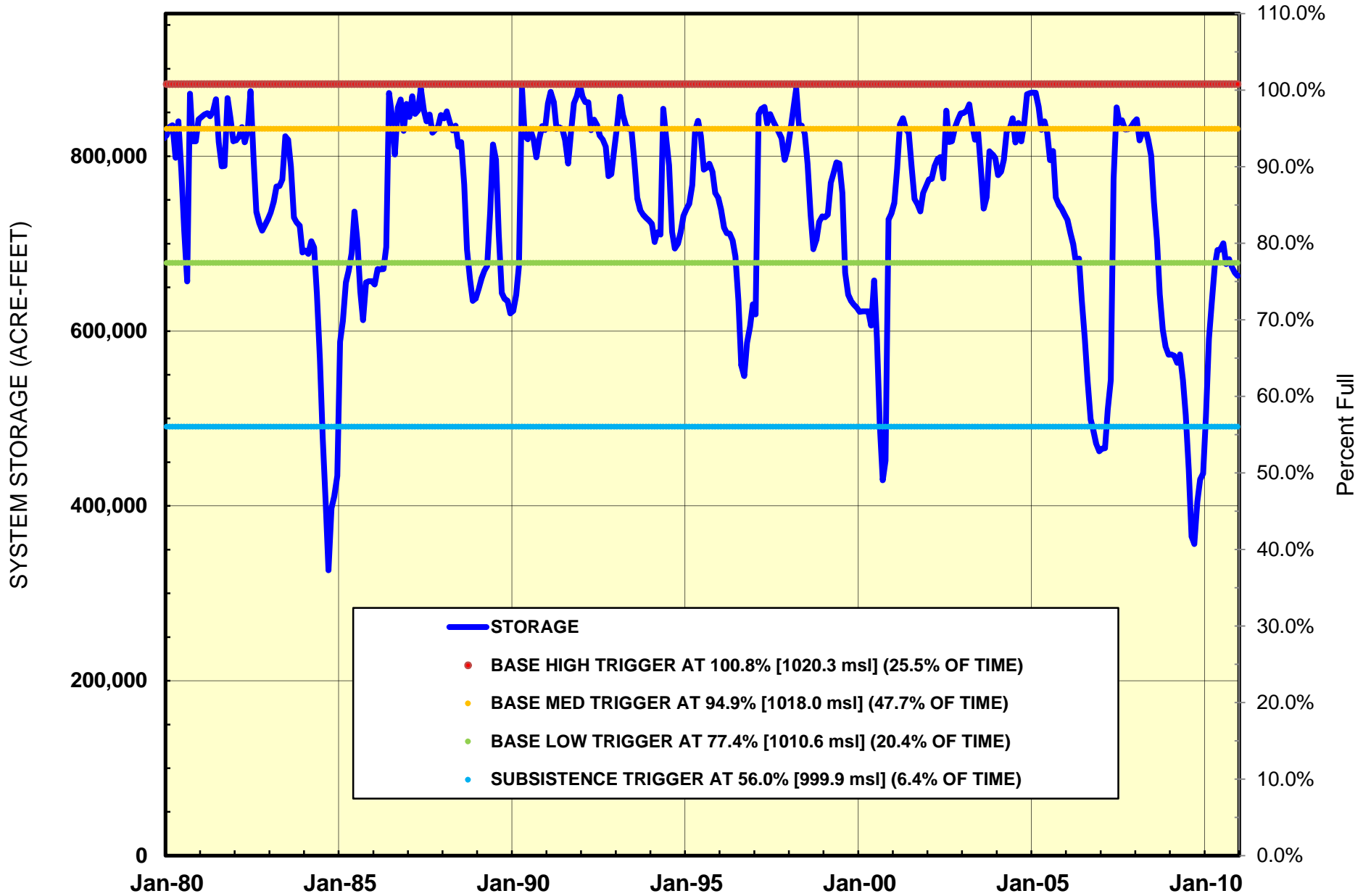
LCRA BUCHANAN SIMULATED STORAGE FOR 1940-1998 (TCEQ WAM RUN3) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



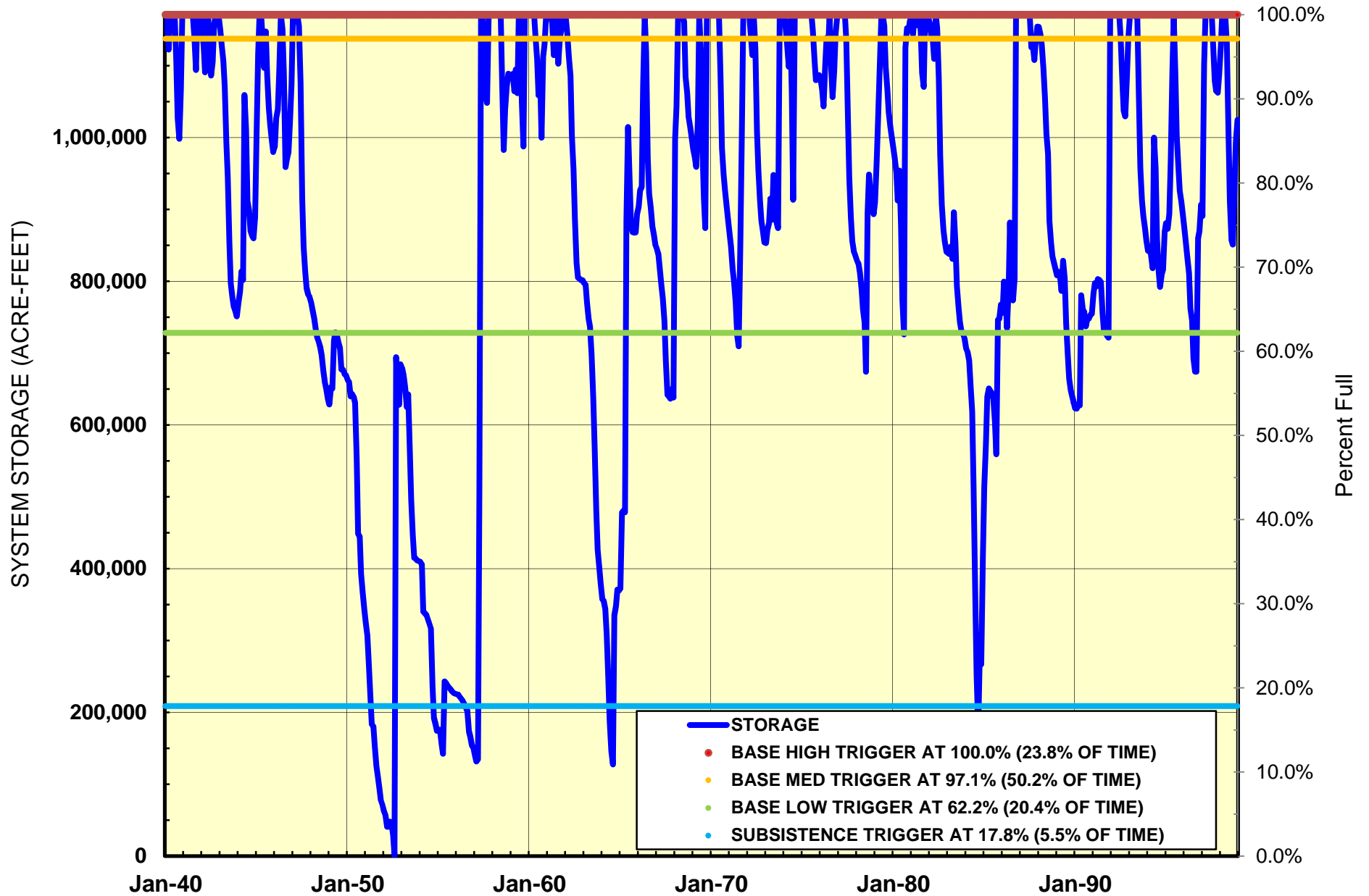
LCRA BUCHANAN SIMULATED STORAGE FOR 1940-1998 (TCEQ WAM RUN8) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



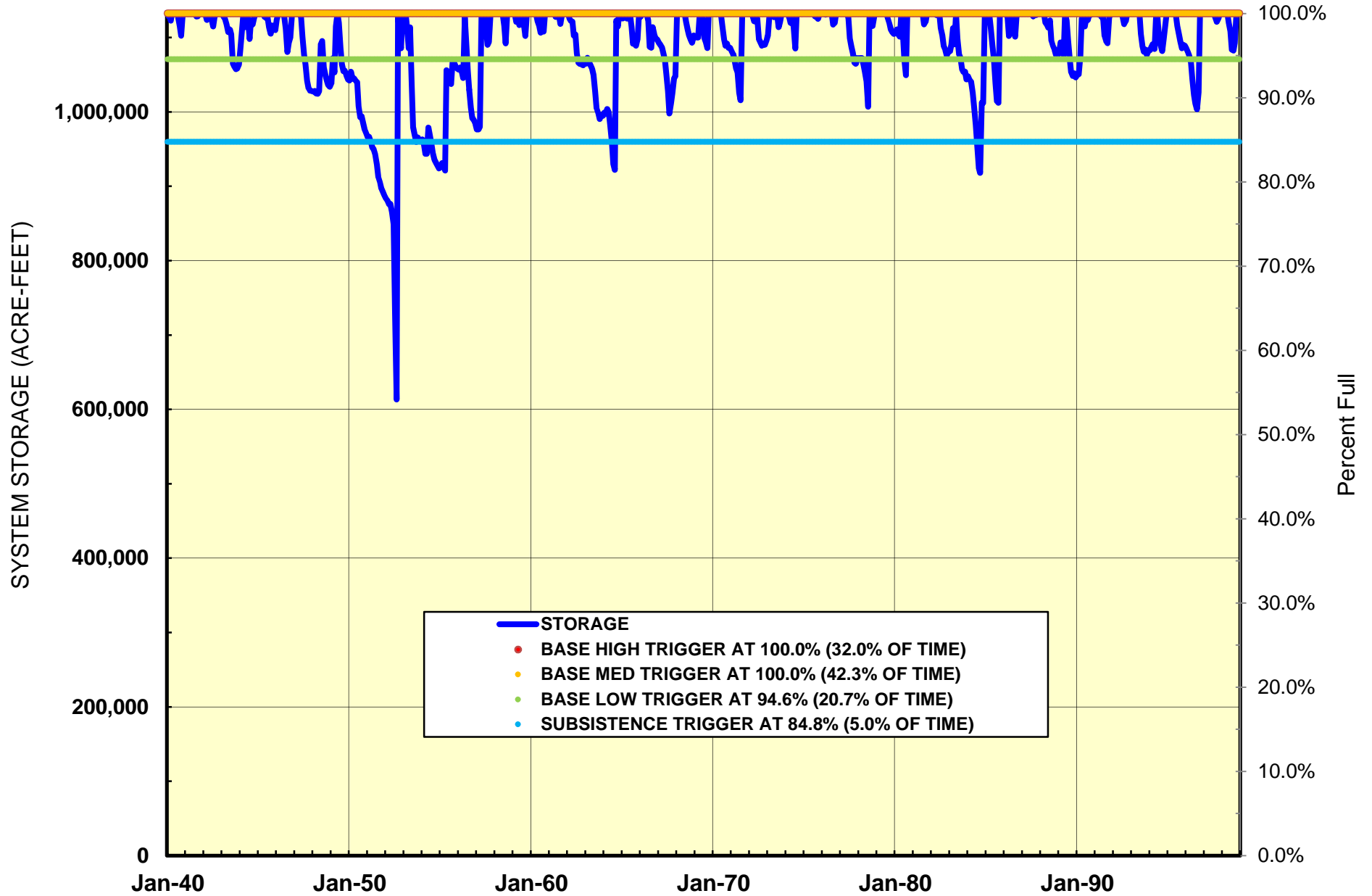
LCRA BUCHANAN HISTORICAL STORAGE FOR 1980-2010 (LCRA) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



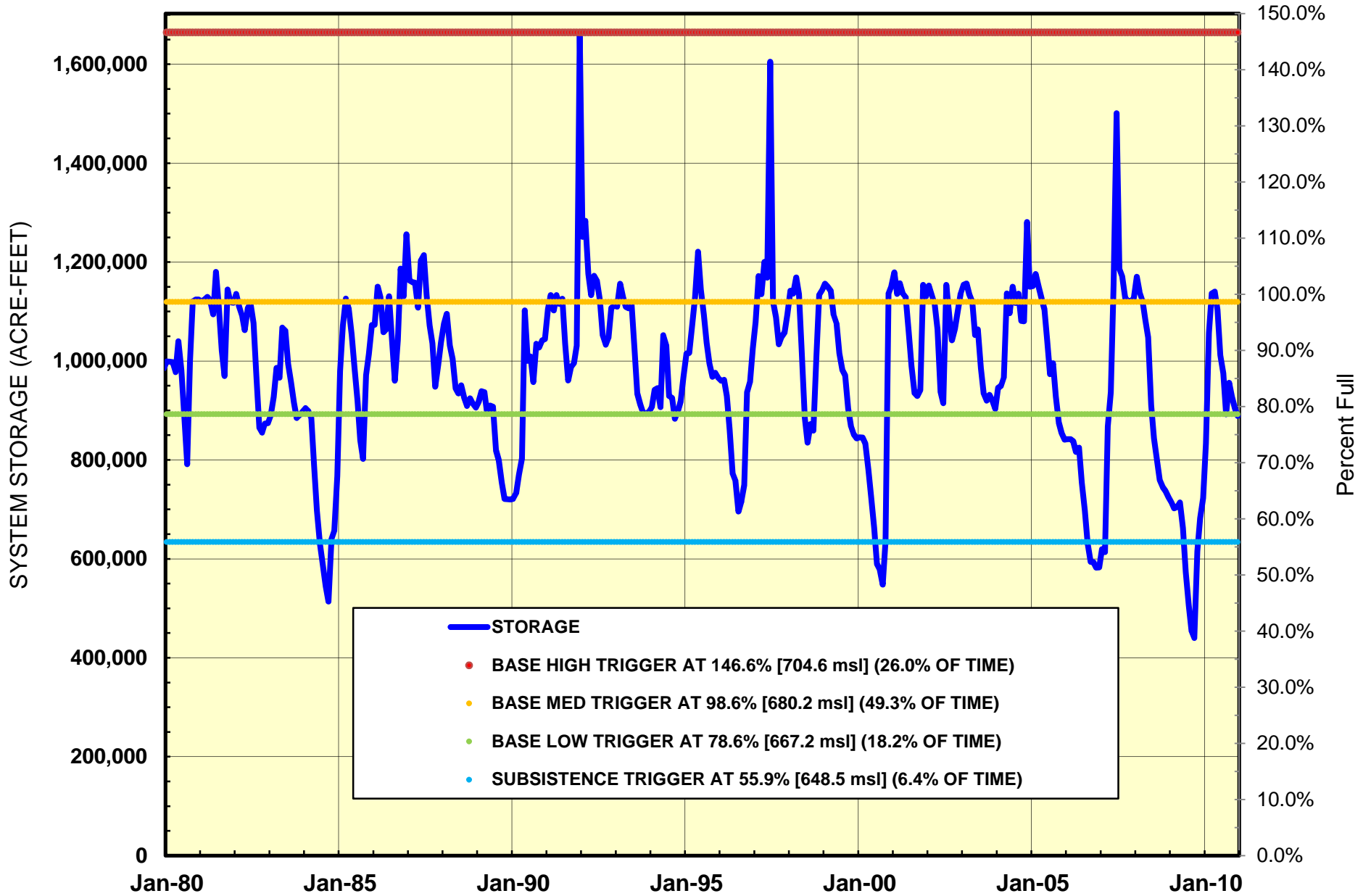
LCRA TRAVIS SIMULATED STORAGE FOR 1940-1998 (TCEQ WAM RUN3) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



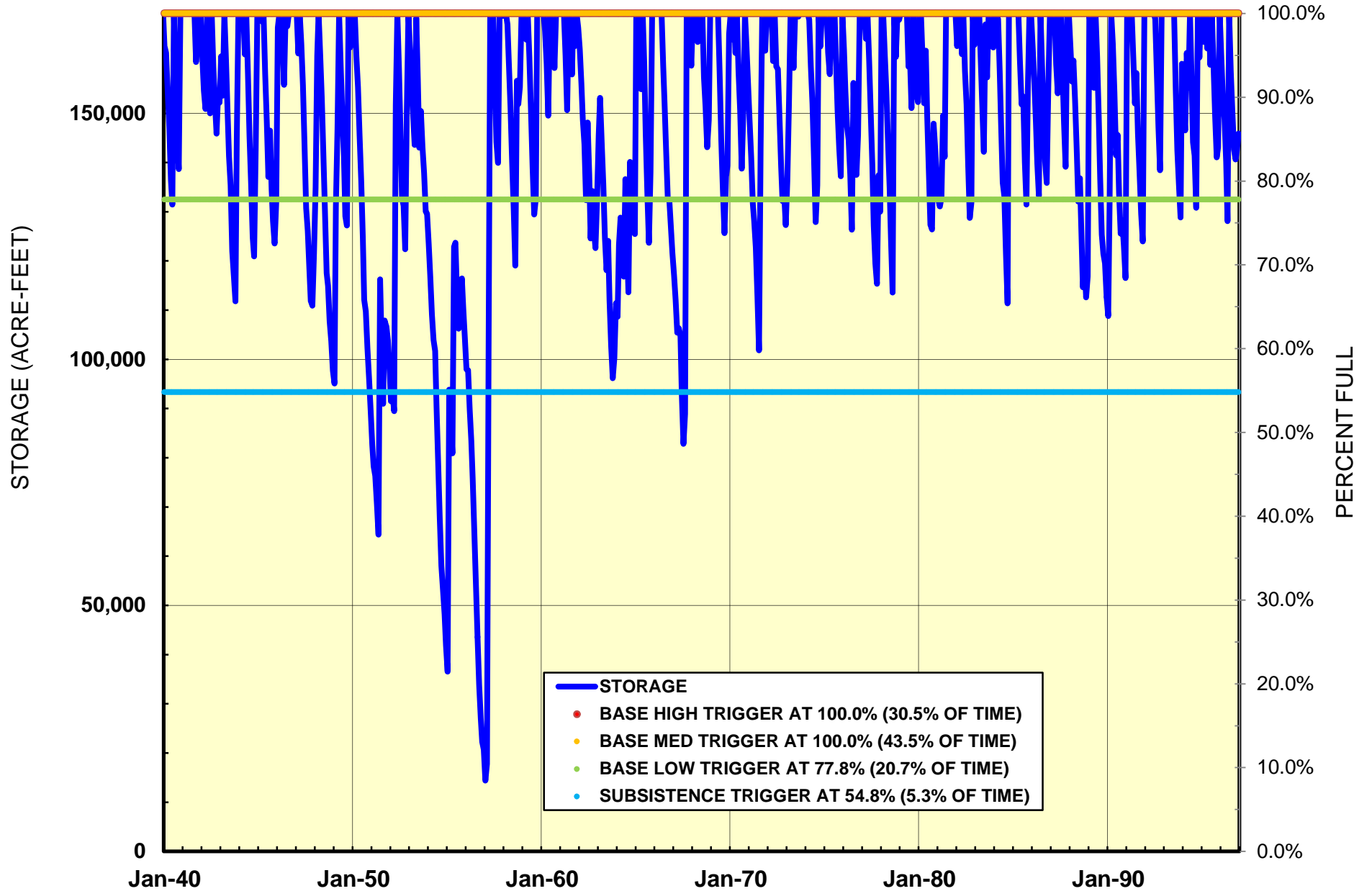
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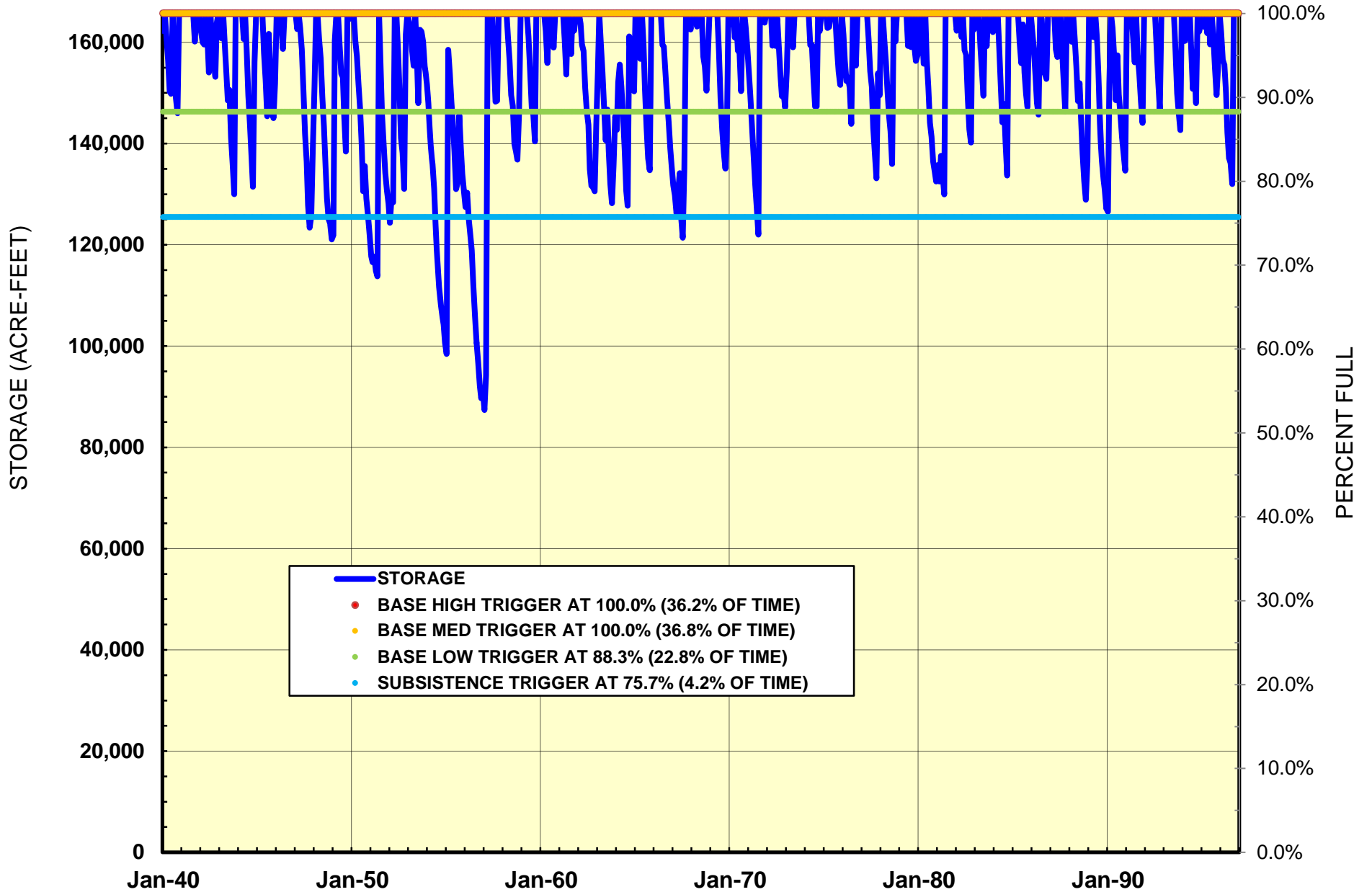
LCRA TRAVIS HISTORICAL STORAGE FOR 1980-2010 (LCRA) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



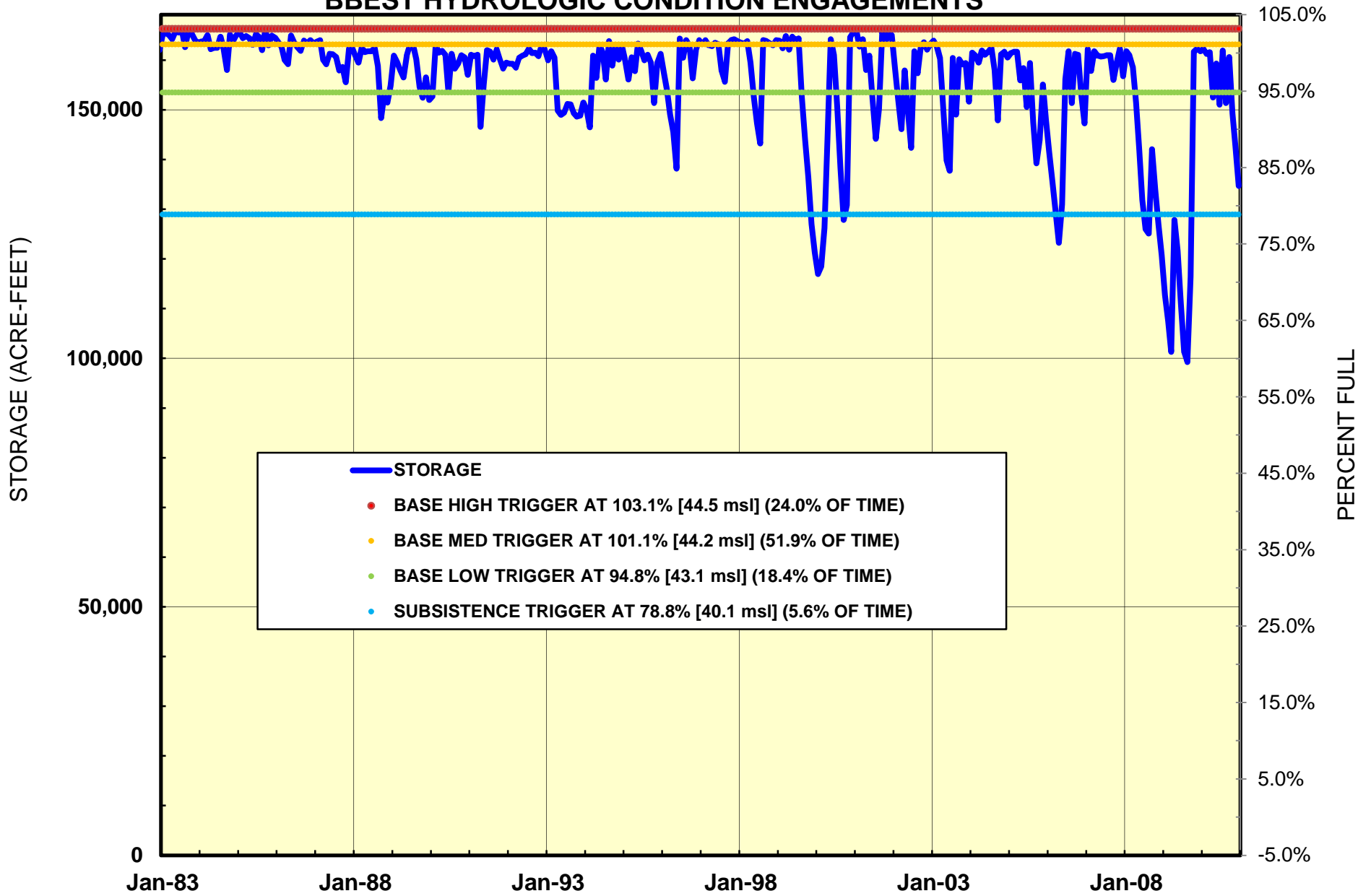
LAKE TEXANA SIMULATED STORAGE FOR 1940-1996 (TCEQ WAM RUN3) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



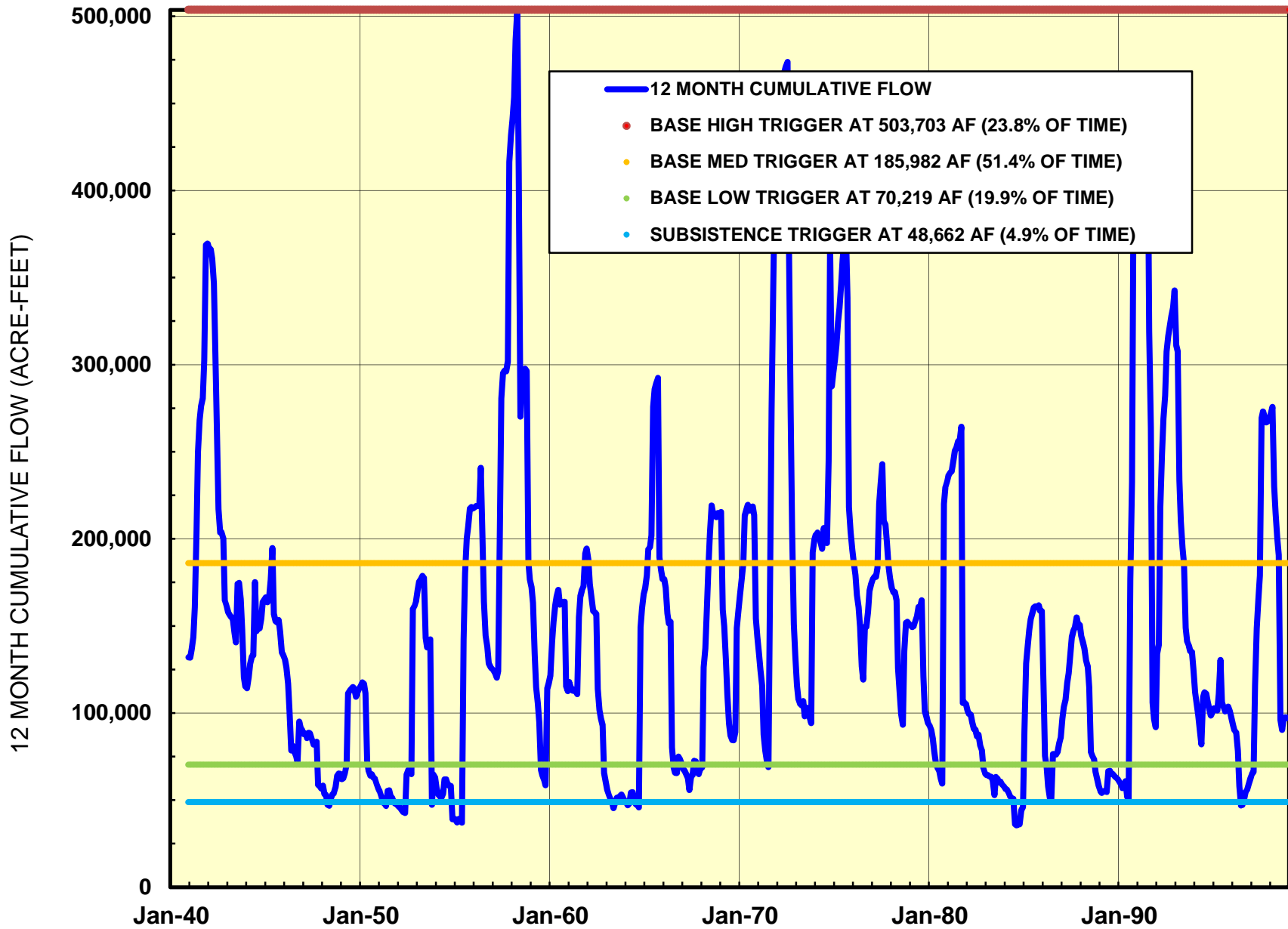
LAKE TEXANA SIMULATED STORAGE FOR 1940-1996 (TCEQ WAM RUN8) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



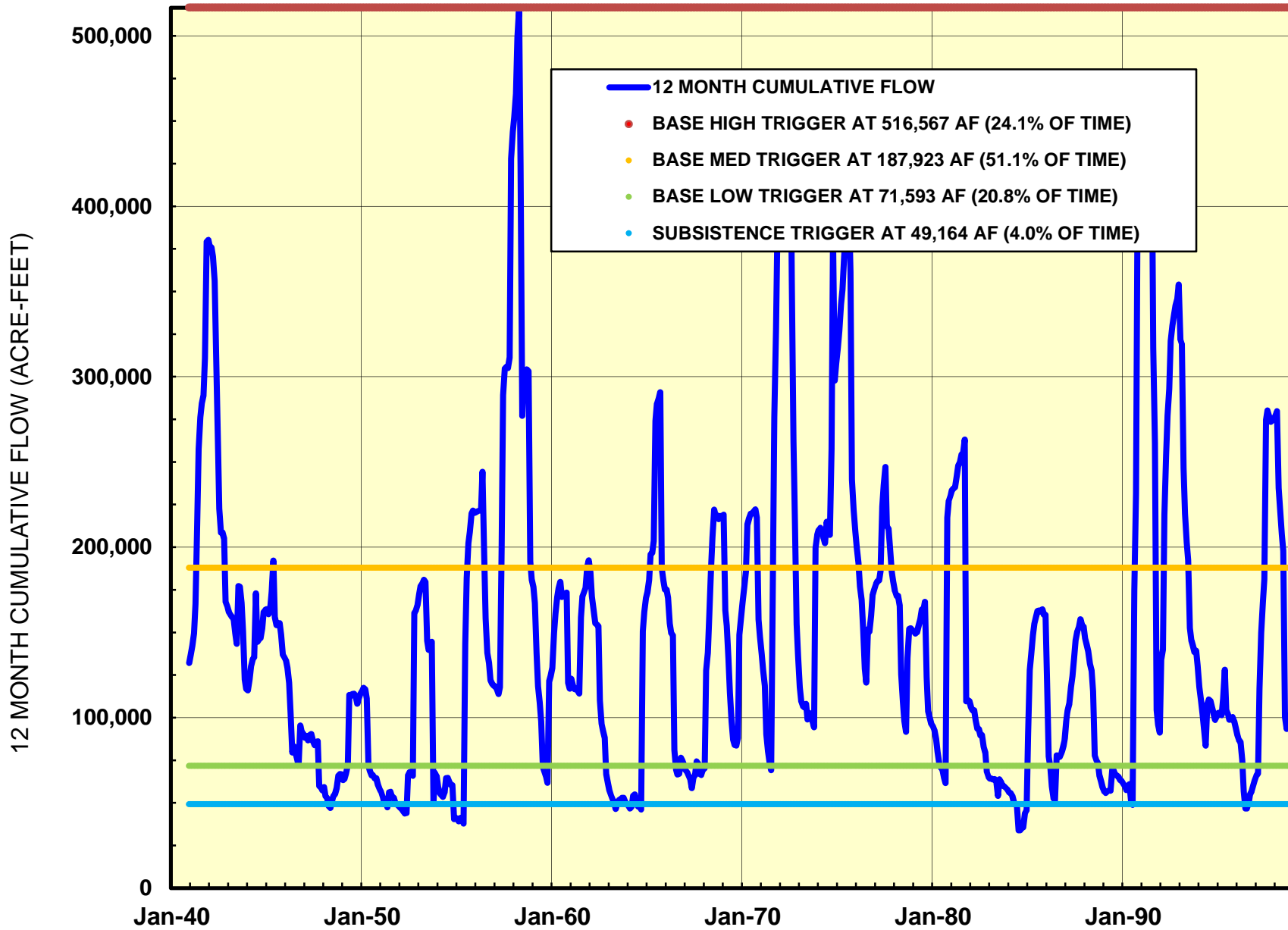
LAKE TEXANA HISTORICAL STORAGE FOR 1983-2010 (LNRA) BBEST HYDROLOGIC CONDITION ENGAGEMENTS



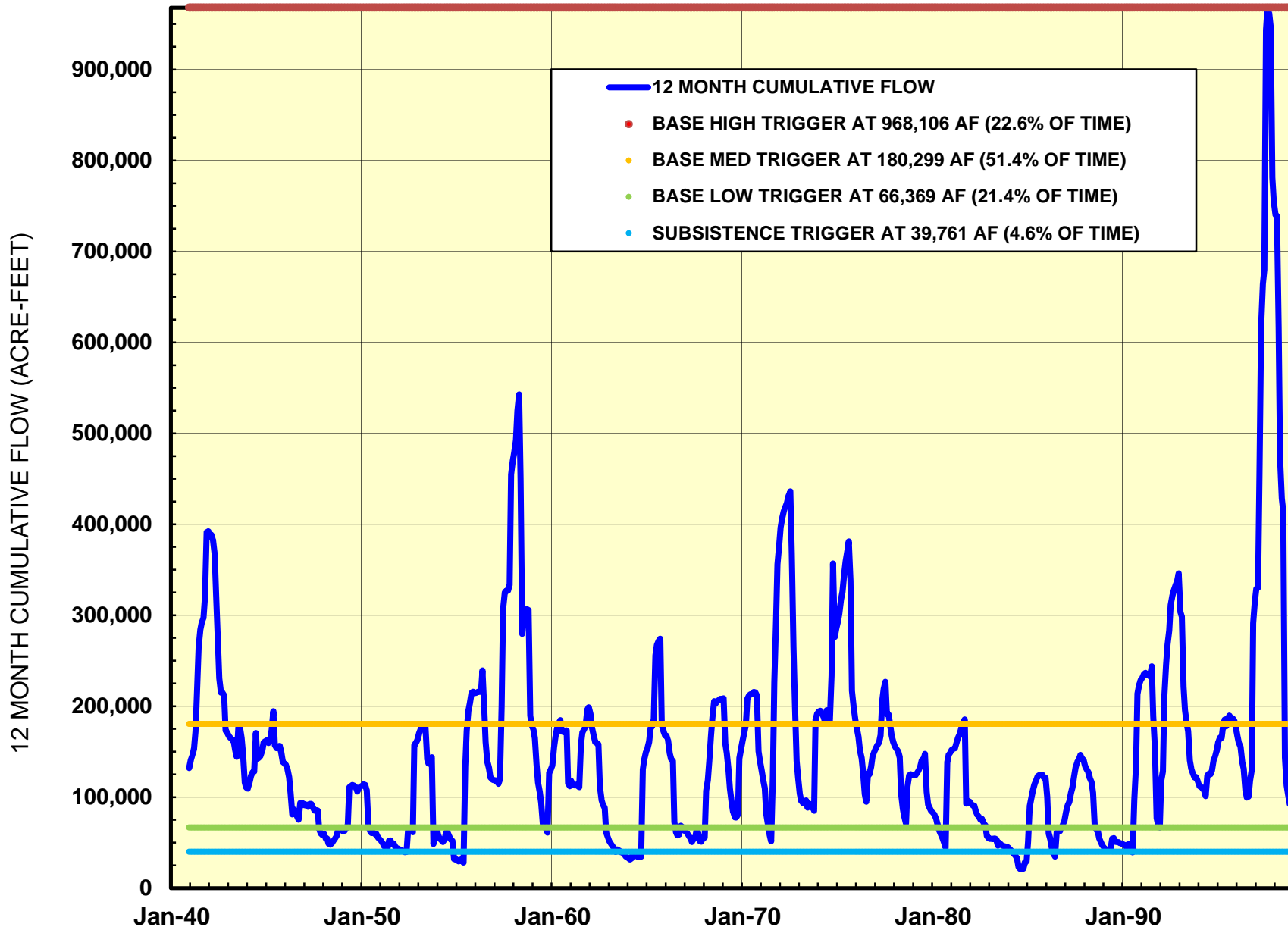
SAN SABA @ SAN SABA SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3) BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SAN SABA @ SAN SABA SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8) BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SAN SABA @ SAN SABA SIMULATED FLOW FOR 1940-1998 (HISTORICAL) BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SAN SABA @ SAN SABA SIMULATED FLOW FOR 1980-2010 (HISTORICAL) BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW

