SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR COLORADO AT SILVER SITE

CL BBEST / BBASC August 10, 2011

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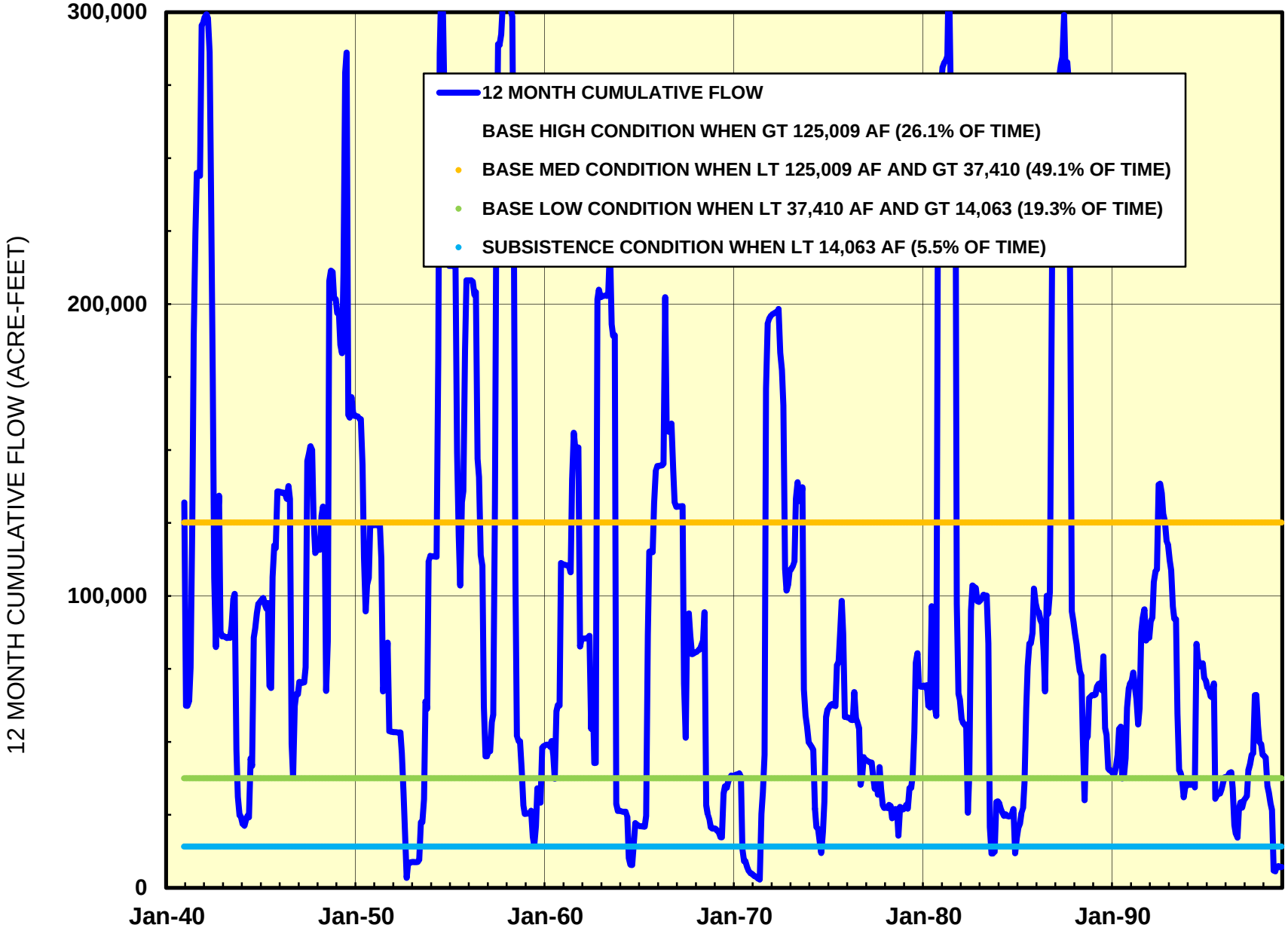
PAGE #	(1) SOURCE DATA	(2) HYDRO CONCEPT	(3) MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)	(4)	(5) TYPE	(6) PERIOD OF RECORD	(7) BASE HIGH TRIGGER GOAL; 25% OF TIME ENGAGED WHEN GREATER THAN:	(8) % OF TIME ENGAGED	(9) BASE MEDIUM TRIGGER GOAL; 50% OF TIME ENGAGED WHEN BETWEEN:	(10) % OF TIME ENGAGED	(11) BASE LOW TRIGGER GOAL; 20% OF TIME ENGAGED WHEN BETWEEN:	(12) % OF TIME ENGAGED	(13) SUBSISTENCE TRIGGER GOAL; 5% OF TIME ENGAGED WHEN LESS THAN:	(14) % OF TIME ENGAGED
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING TRIGGERS (BASED ON FLOW FOR PREVIOUS 12 MONTH PERIOD IN ACRE-FEET)							
	COLORADO AT SILVER													
(1)	TCEQ RUN3	FLOW	315,926		SIM	1940-1998	125,009	26.1%	125,009 AND 37,410	49.1%	37,410 AND 14,063	19.3%	14,063	5.5%
(2)	TCEQ RUN8	FLOW	329,015		SIM	1940-1998	101,438	25.0%	101,438 AND 25,918	49.4%	25,918 AND 8,183	20.1%	8,183	5.5%
(3)	USGS	FLOW	686,983		HIST	1957-1998	91,538	27.2%	91,538 AND 27,013	49.6%	27,013 AND 10,665	18.3%	10,665	4.9%
(4)	USGS	FLOW	266,337		HIST	1980-2010	57,491	23.7%	57,491 AND 16,597	49.5%	16,597 AND 4,094	21.0%	4,094	5.9%

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

SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.
HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

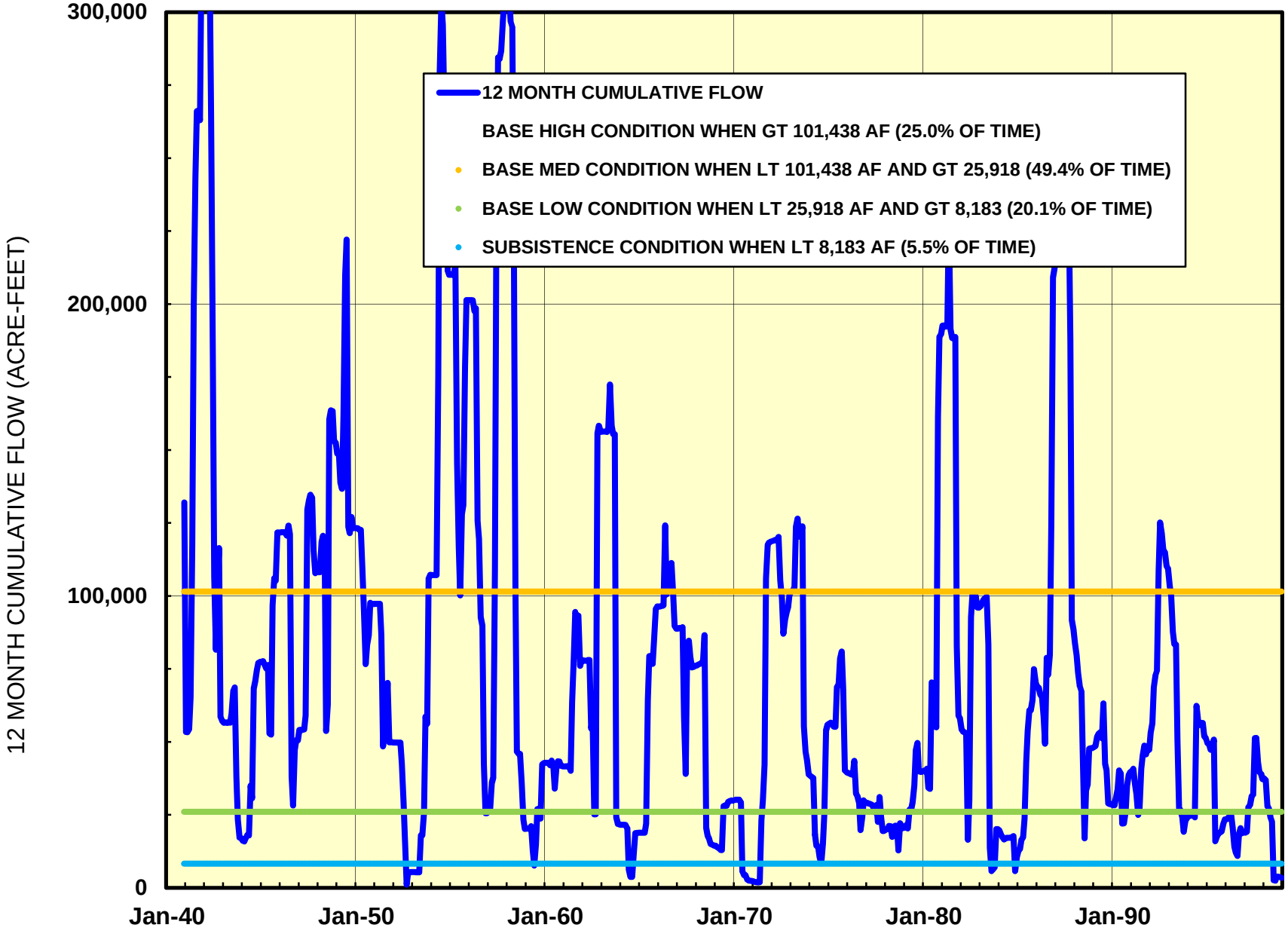
COLORADO AT SILVER SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



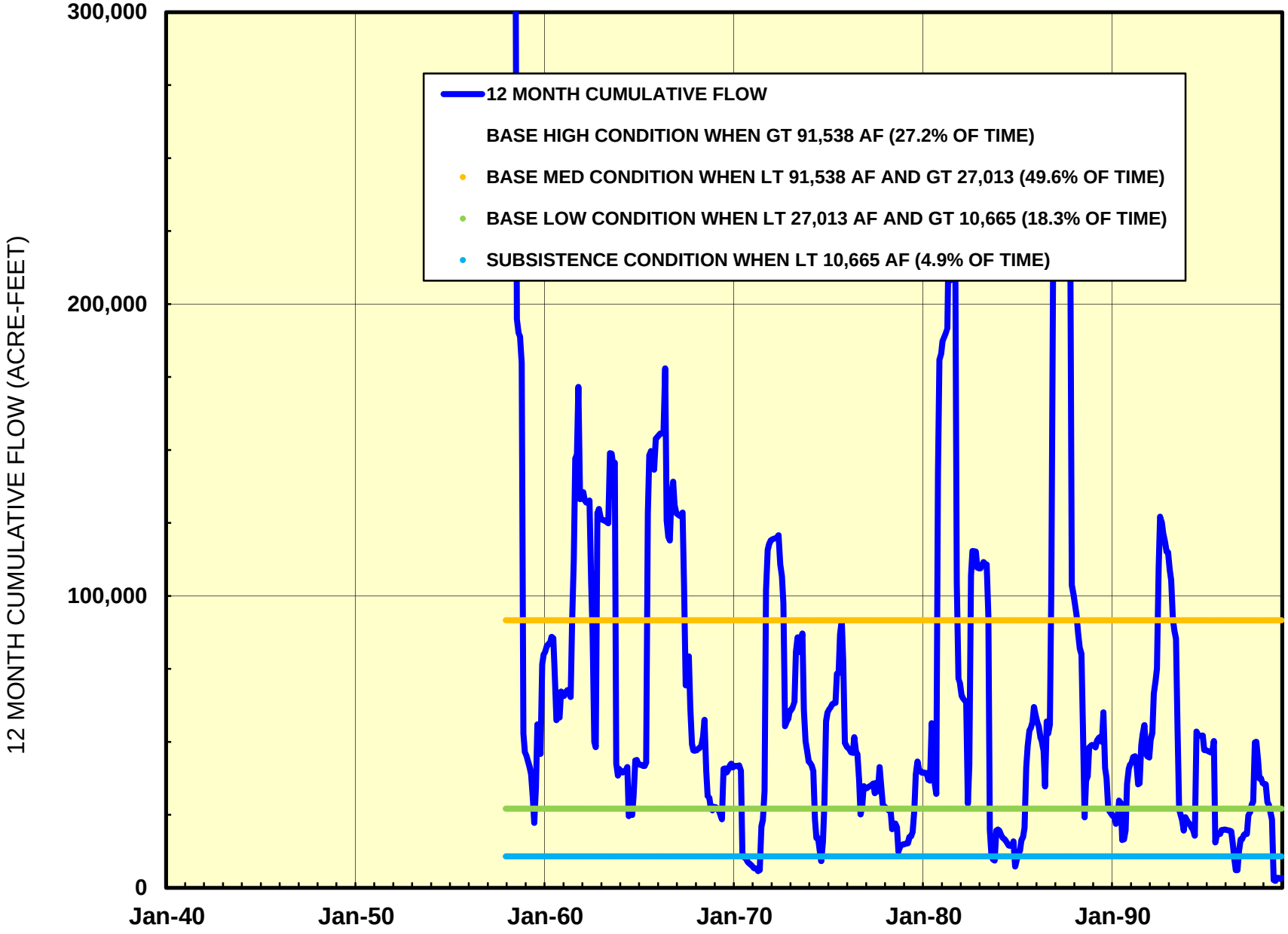
COLORADO AT SILVER SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW

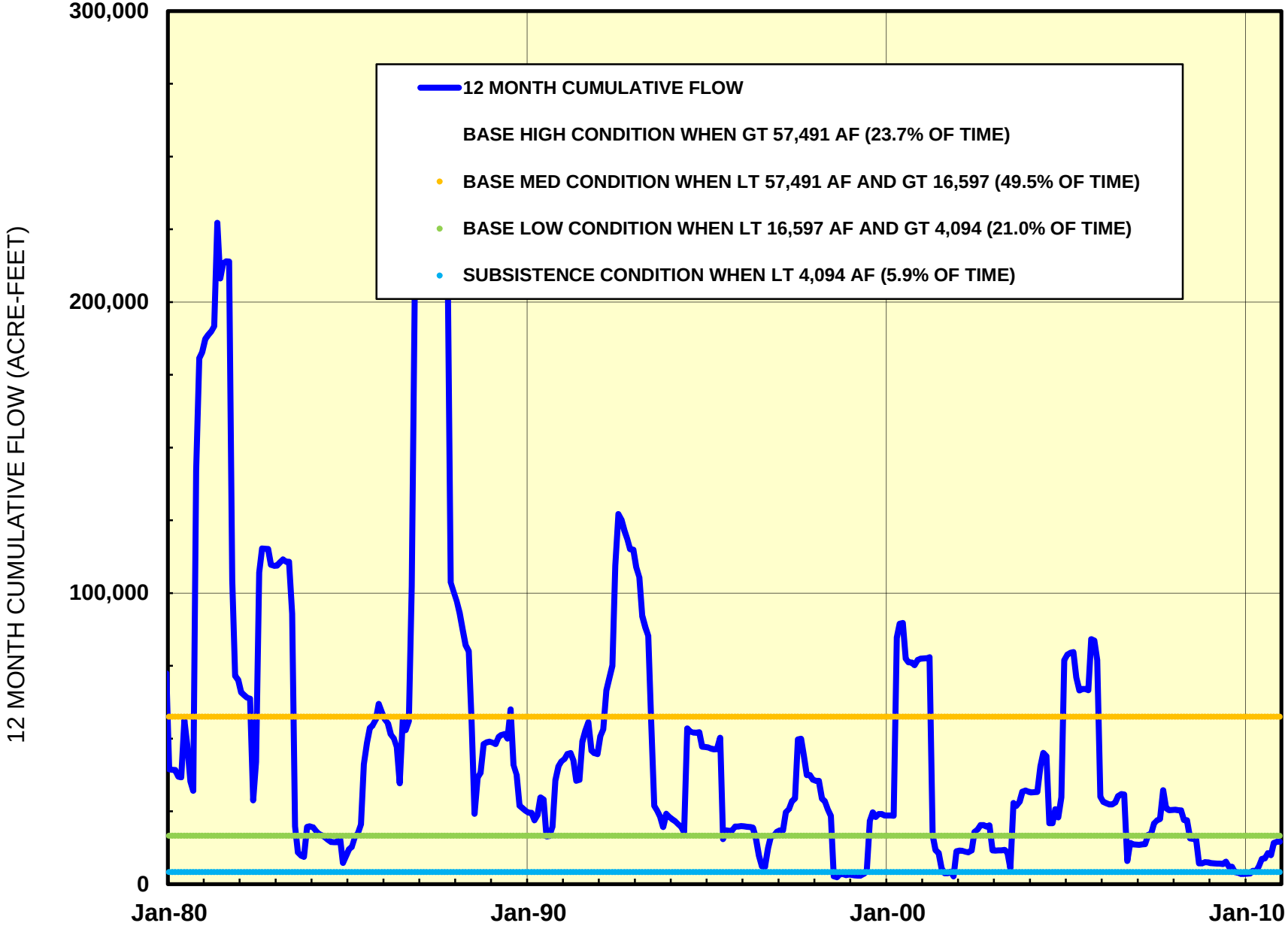


COLORADO AT SILVER HISTORICAL FLOW FOR 1957-1998 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



COLORADO AT SILVER HISTORICAL FLOW FOR 1980-2010 (OBSERVED)
BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR COLORADO NEAR NEAR BALLINGER SITE

CL BBEST / BBASC August 10, 2011

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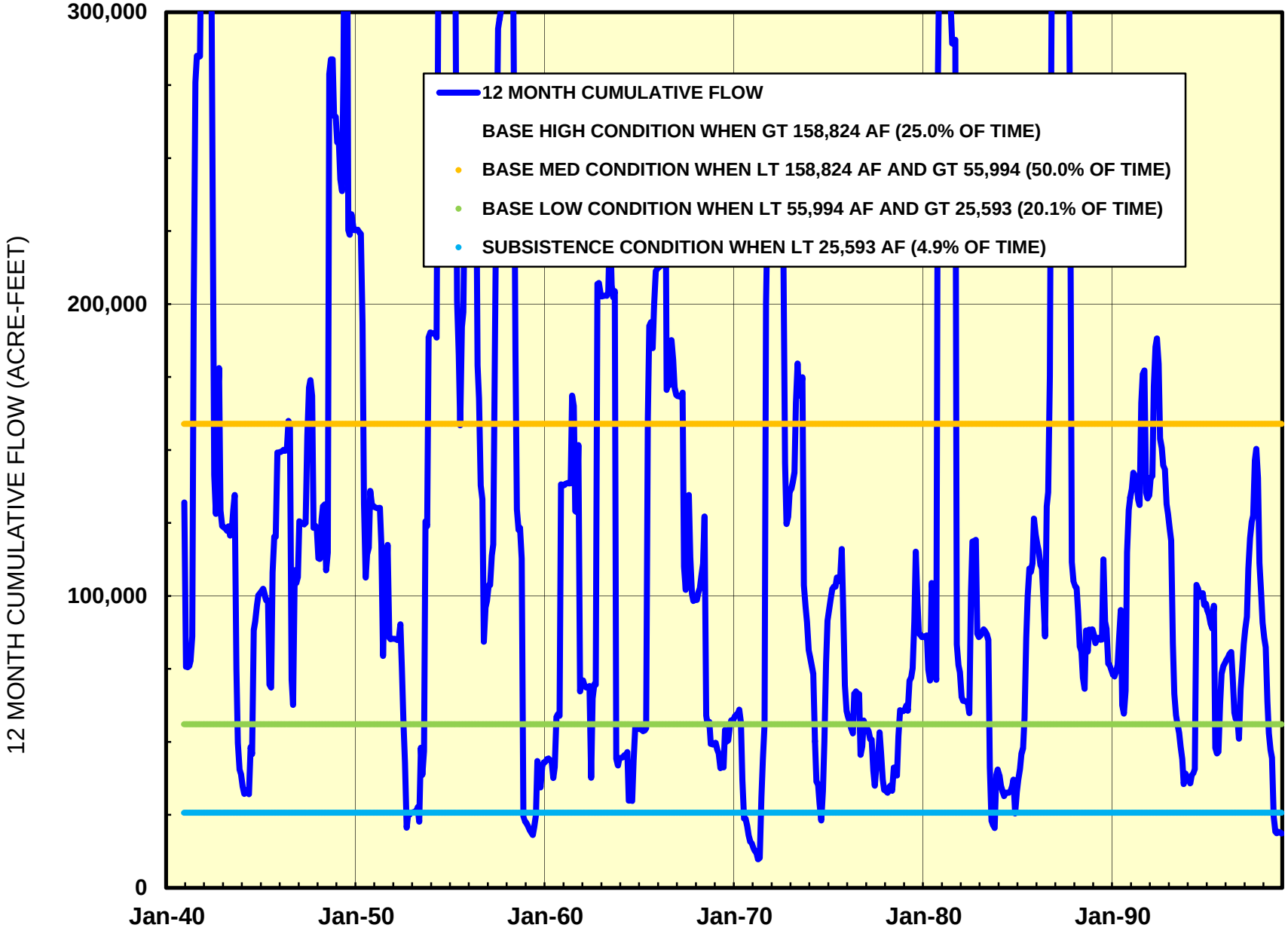
PAGE #	(1) SOURCE DATA	(2) HYDRO CONCEPT	(3) MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)	(4)	(5) TYPE	(6) PERIOD OF RECORD	(7) BASE HIGH TRIGGER GOAL; 25% OF TIME ENGAGED WHEN GREATER THAN:	(8) % OF TIME ENGAGED	(9) BASE MEDIUM TRIGGER GOAL; 50% OF TIME ENGAGED WHEN BETWEEN:	(10) % OF TIME ENGAGED	(11) BASE LOW TRIGGER GOAL; 20% OF TIME ENGAGED WHEN BETWEEN:	(12) % OF TIME ENGAGED	(13) SUBSISTENCE TRIGGER GOAL; 5% OF TIME ENGAGED WHEN LESS THAN:	(14) % OF TIME ENGAGED
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING TRIGGERS (BASED ON FLOW FOR PREVIOUS 12 MONTH PERIOD IN ACRE-FEET)							
	COLORADO NEAR BALLINGER													
(1)	TCEQ RUN3	FLOW	469,291		SIM	1940-1998	158,824	25.0%	158,824 AND 55,994	50.0%	55,994 AND 25,593	20.1%	25,593	4.9%
(2)	TCEQ RUN8	FLOW	463,037		SIM	1940-1998	120,115	25.9%	120,115 AND 41,395	49.7%	41,395 AND 20,677	19.0%	20,677	5.5%
(3)	USGS	FLOW	688,381		HIST	1940-1998	135,078	24.4%	135,078 AND 30,887	50.3%	30,887 AND 10,358	20.1%	10,358	5.2%
(4)	USGS	FLOW	326,983		HIST	1980-2010	67,703	24.2%	67,703 AND 11,154	53.2%	11,154 AND 3,117	17.2%	3,117	5.4%

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

SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.
HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

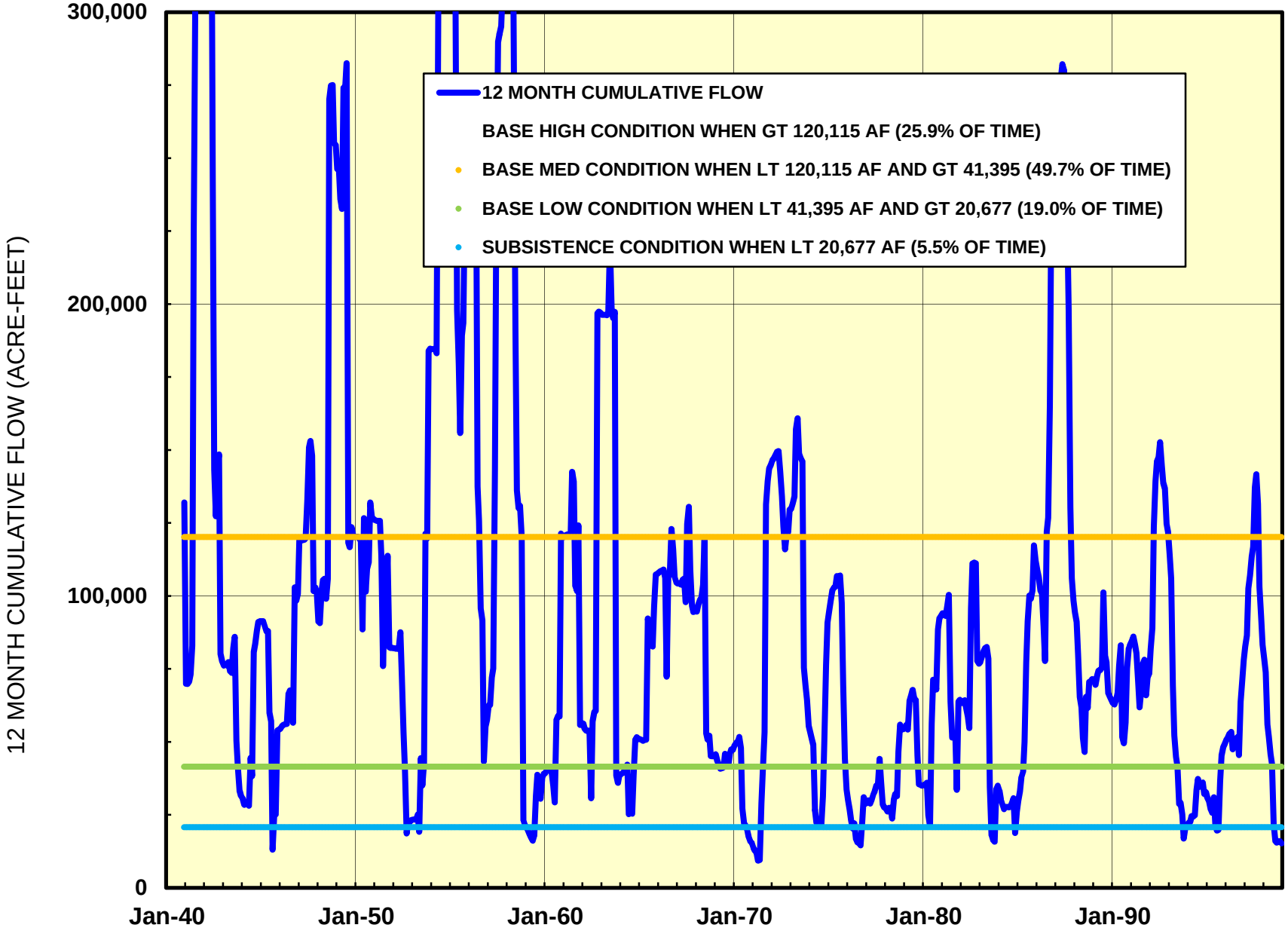
COLORADO NR BALLINGER SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



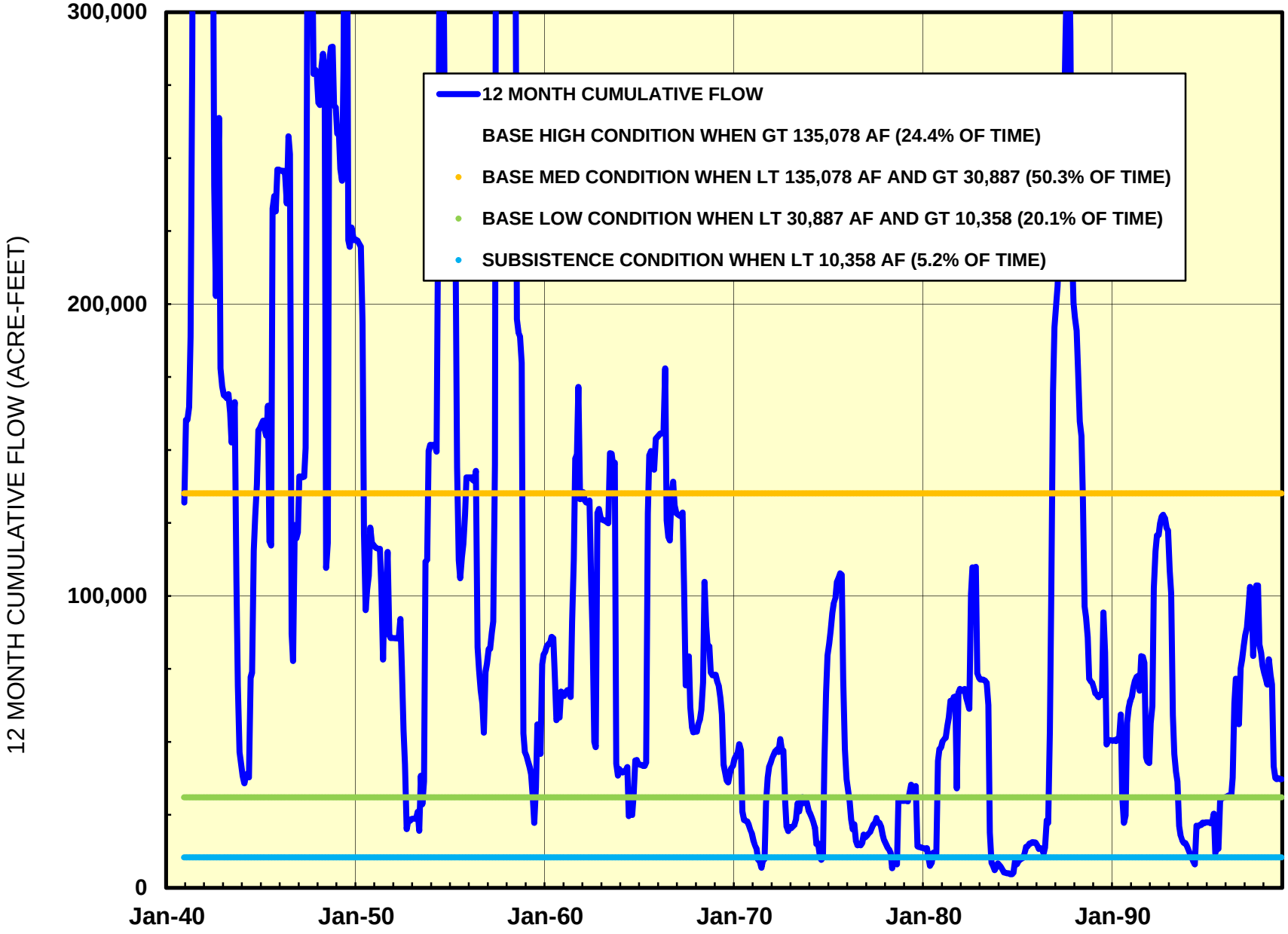
COLORADO NR BALLINGER SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



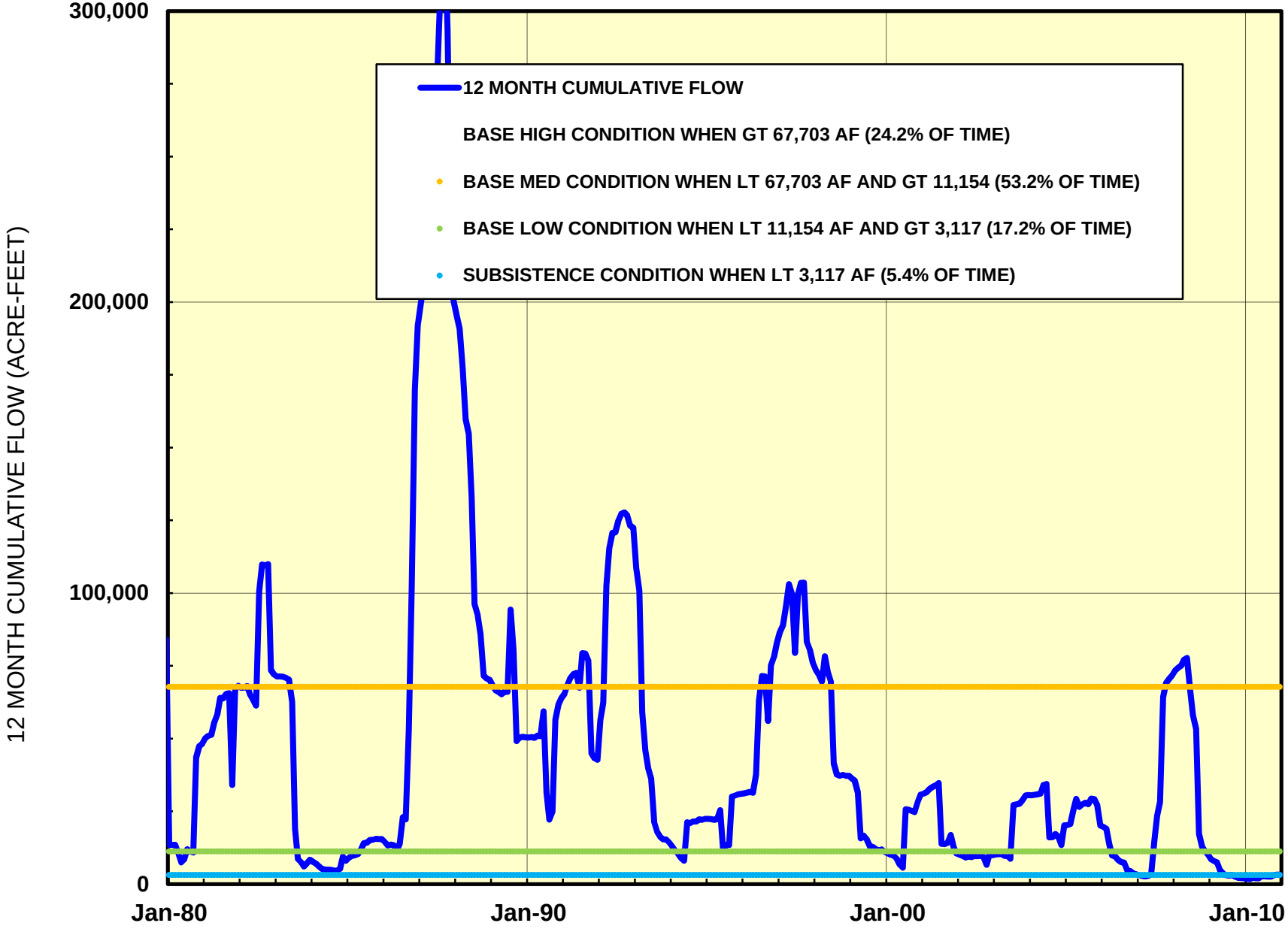
COLORADO NR BALLINGER HISTORICAL FLOW FOR 1940-1998 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



COLORADOR NR BALLINGER HISTORICAL FLOW FOR 1980-2010 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR ELM CREEK NEAR BALLINGER SITE

CL BBEST / BBASC August 10, 2011

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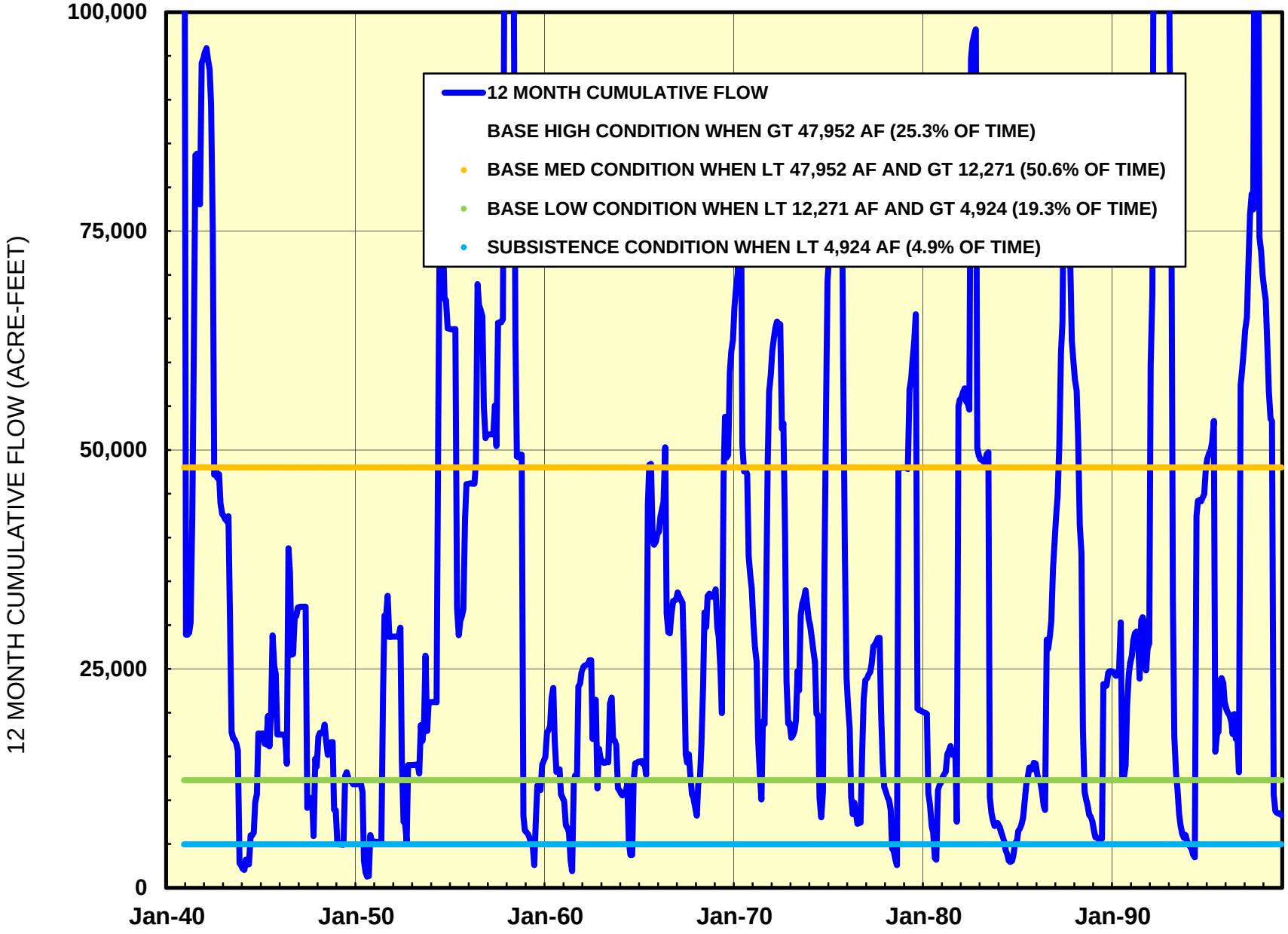
PAGE #	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING TRIGGERS (BASED ON FLOW FOR PREVIOUS 12 MONTH PERIOD IN ACRE-FEET)							
							BASE HIGH TRIGGER GOAL; 25% OF TIME		BASE MEDIUM TRIGGER GOAL; 50% OF TIME		BASE LOW TRIGGER GOAL; 20% OF TIME		SUBSISTENCE TRIGGER GOAL; 5% OF TIME	
	SOURCE DATA	HYDRO CONCEPT	MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)		TYPE	PERIOD OF RECORD	ENGAGED WHEN GREATER THAN:	% OF TIME ENGAGED	ENGAGED WHEN BETWEEN:	% OF TIME ENGAGED	ENGAGED WHEN BETWEEN:	% OF TIME ENGAGED	ENGAGED WHEN LESS THAN:	% OF TIME ENGAGED
	ELM CREEK NEAR BALLINGER													
(1)	TCEQ RUN3	FLOW	139,464		SIM	1940-1998	47,952	25.3%	47,952 AND 12,271	50.6%	12,271 AND 4,924	19.3%	4,924	4.9%
(2)	TCEQ RUN8	FLOW	135,521		SIM	1940-1998	46,139	25.6%	46,139 AND 11,945	49.4%	11,945 AND 4,853	20.1%	4,853	4.9%
(3)	USGS	FLOW	141,315		HIST	1940-1998	48,239	24.7%	48,239 AND 11,568	51.4%	11,568 AND 2,951	19.0%	2,951	4.9%
(4)	USGS	FLOW	141,315		HIST	1980-2010	46,564	24.7%	46,564 AND 4,989	49.5%	4,989 AND 820	22.0%	820	3.8%

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

SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.
HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

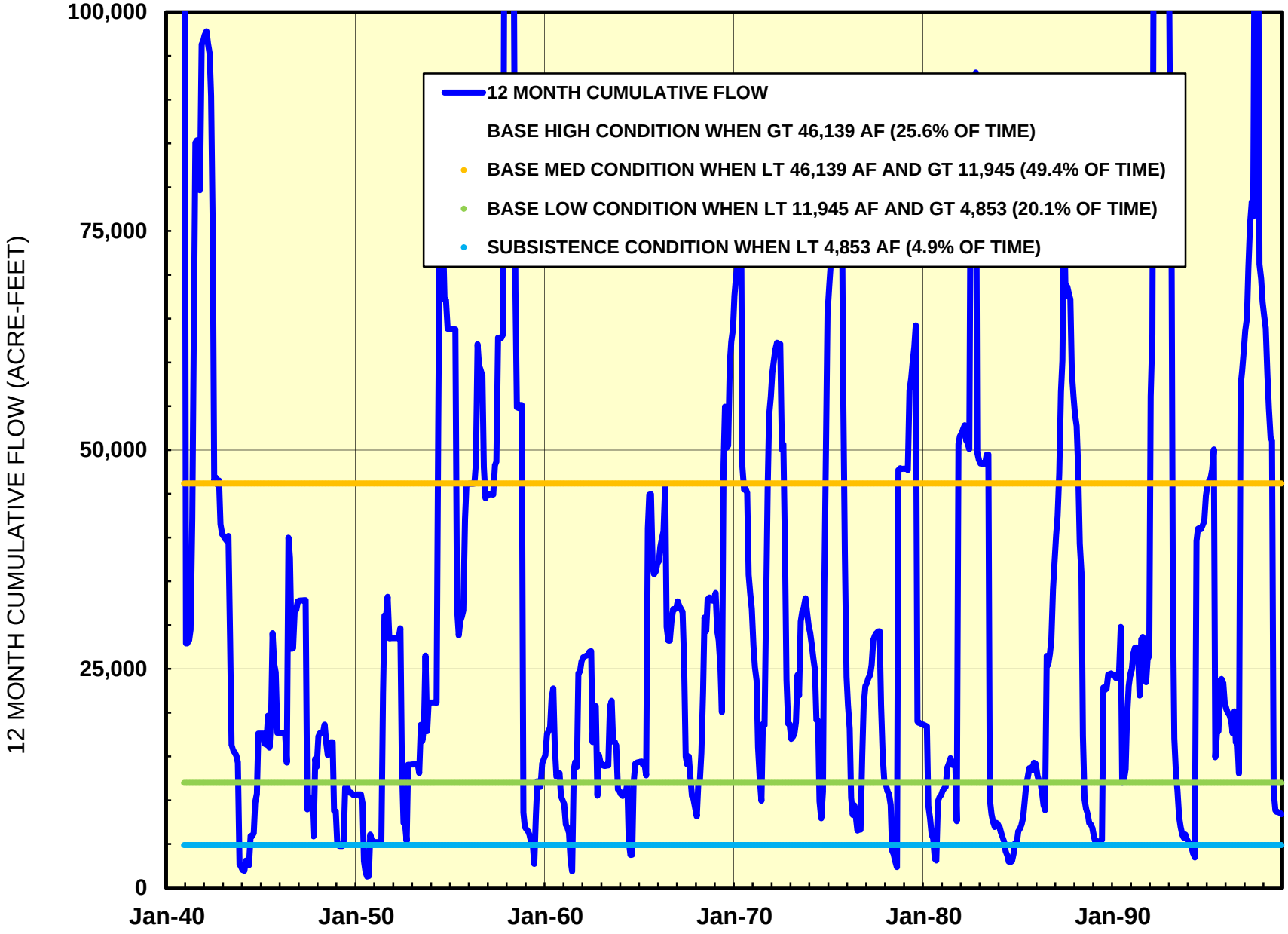
ELM CREEK NR BALLINGER SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



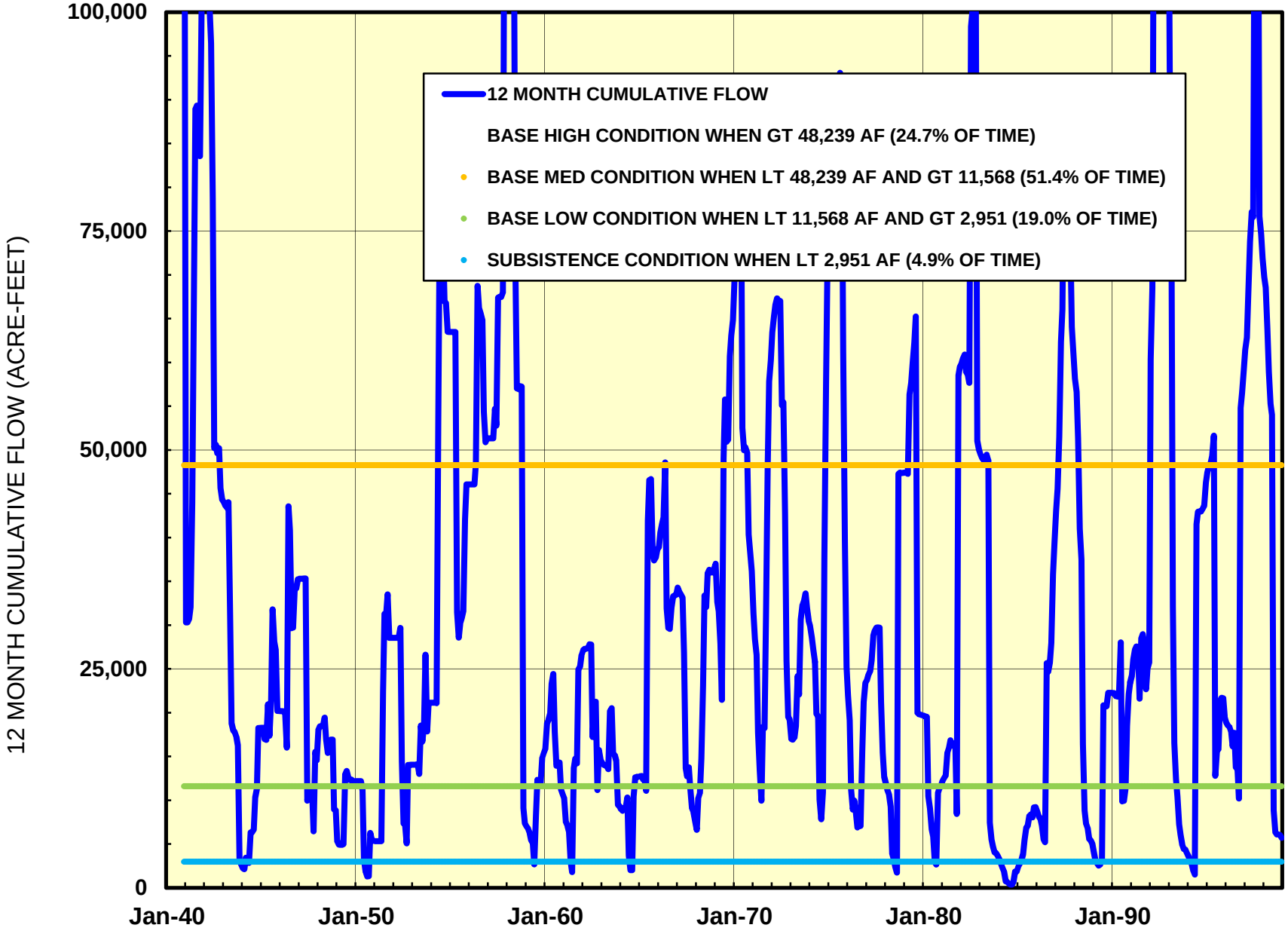
ELM CREEK NR BALLINGER SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW

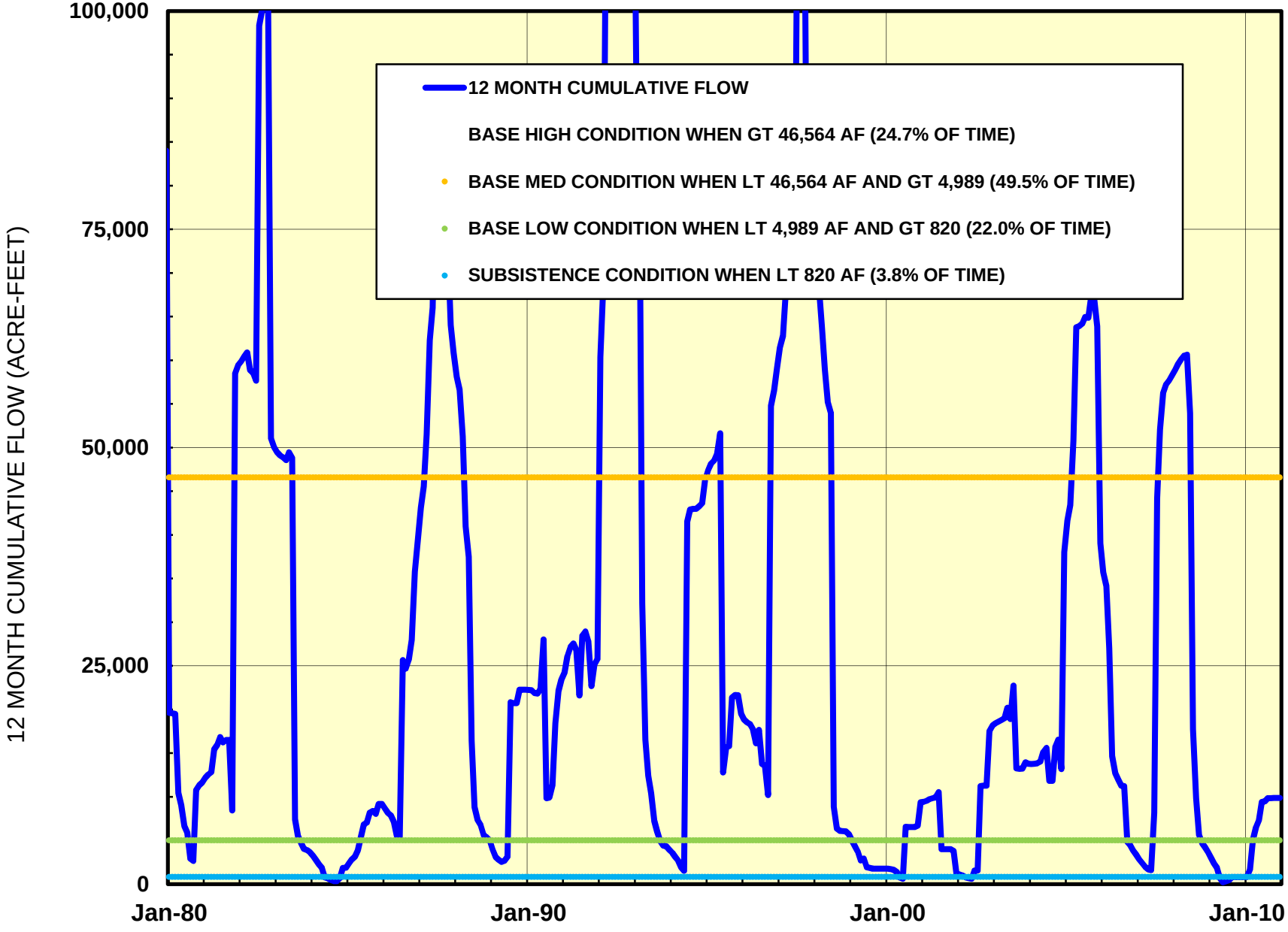


ELM CREEK NR BALLINGER HISTORICAL FLOW FOR 1940-1998 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



ELM CREEK NR BALLINGER HISTORICAL FLOW FOR 1980-2010 (OBSERVED)
BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR SOUTH CONCHO AT CHRISTOVAL

CL BBEST / BBASC August 10, 2011

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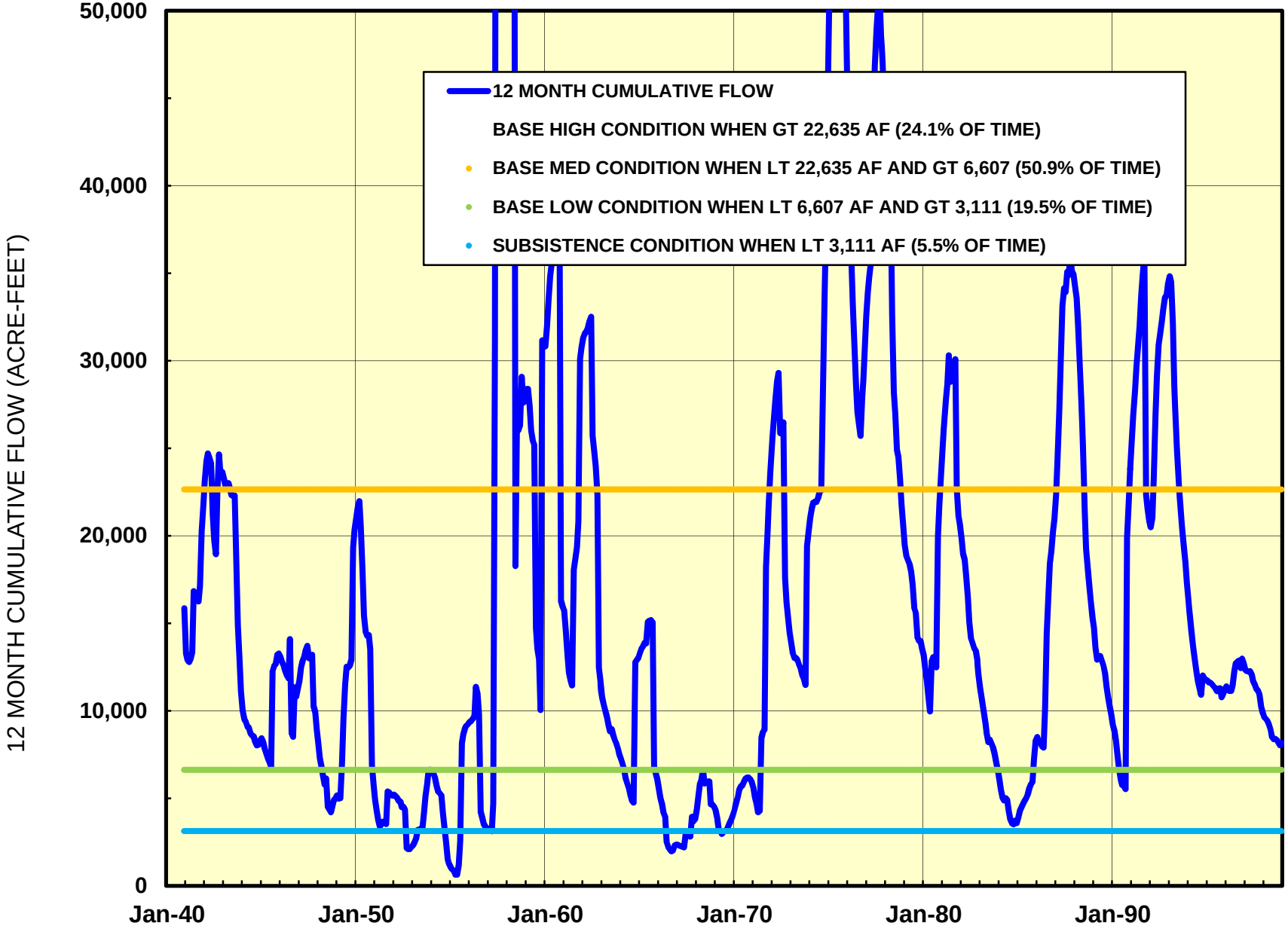
PAGE #	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING TRIGGERS (BASED ON FLOW FOR PREVIOUS 12 MONTH PERIOD IN ACRE-FEET)							
							BASE HIGH TRIGGER GOAL; 25% OF TIME		BASE MEDIUM TRIGGER GOAL; 50% OF TIME		BASE LOW TRIGGER GOAL; 20% OF TIME		SUBSISTENCE TRIGGER GOAL; 5% OF TIME	
	SOURCE DATA	HYDRO CONCEPT	MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)		TYPE	PERIOD OF RECORD	ENGAGED WHEN GREATER THAN:	% OF TIME ENGAGED	ENGAGED WHEN BETWEEN:	% OF TIME ENGAGED	ENGAGED WHEN BETWEEN:	% OF TIME ENGAGED	ENGAGED WHEN LESS THAN:	% OF TIME ENGAGED
	SOUTH CONCHO AT CHRISTOVAL													
(1)	TCEQ RUN3	FLOW	113,035		SIM	1940-1998	22,635	24.1%	22,635 AND 6,607	50.9%	6,607 AND 3,111	19.5%	3,111	5.5%
(2)	TCEQ RUN8	FLOW	113,198		SIM	1940-1998	23,002	23.6%	23,002 AND 6,717	50.9%	6,717 AND 3,183	19.8%	3,183	5.7%
(3)	USGS	FLOW	114,223		HIST	1940-1995	24,788	23.7%	24,788 AND 6,915	51.3%	6,915 AND 3,489	19.2%	3,489	5.8%
(4)	USGS	FLOW	34,512		HIST	2002-2010	21,655	20.8%	21,655 AND 7,376	50.0%	7,376 AND 5,267	18.8%	5,267	10.4%

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

SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.
HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

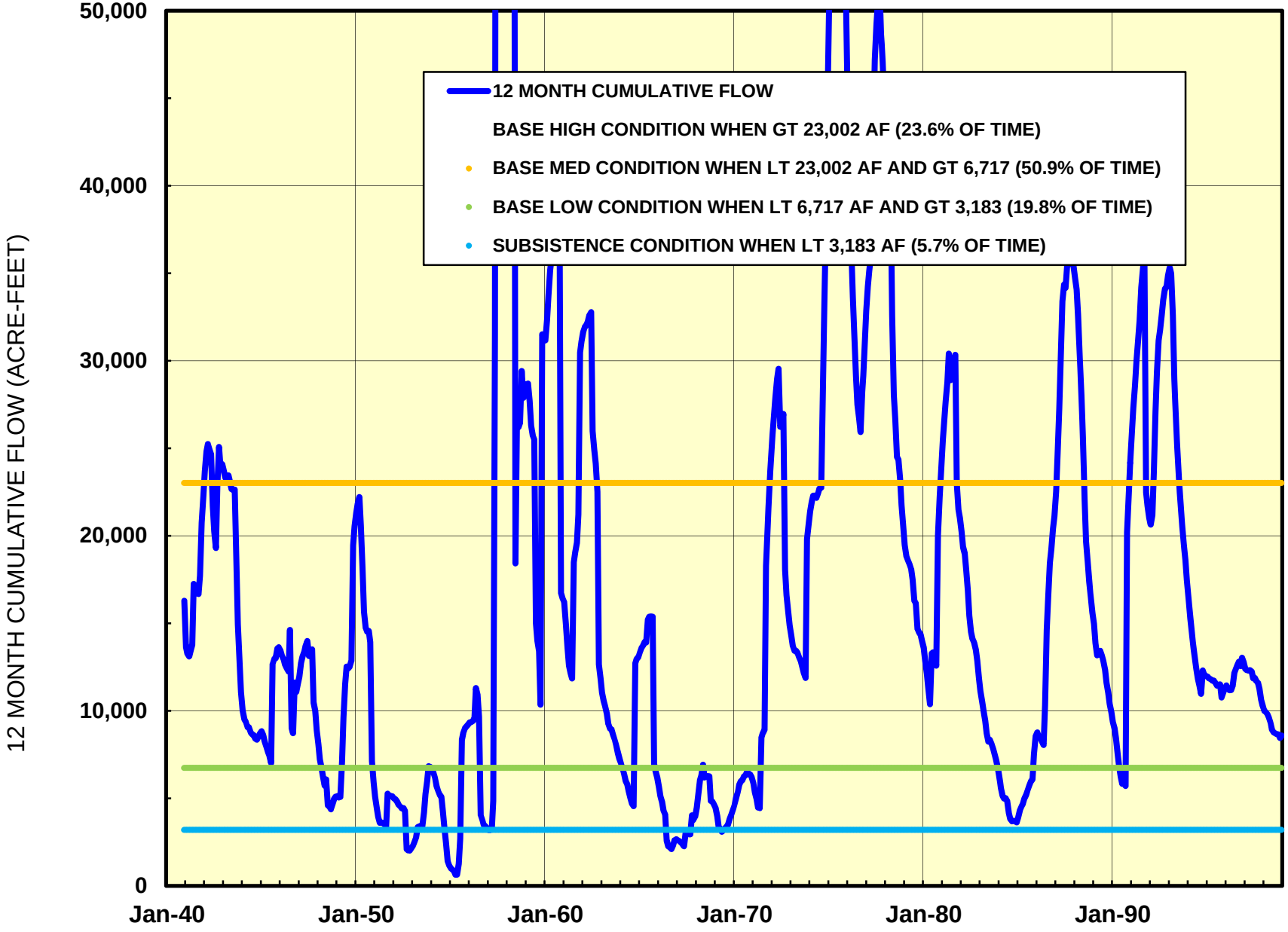
S CONCHO AT CHRISTOVAL SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



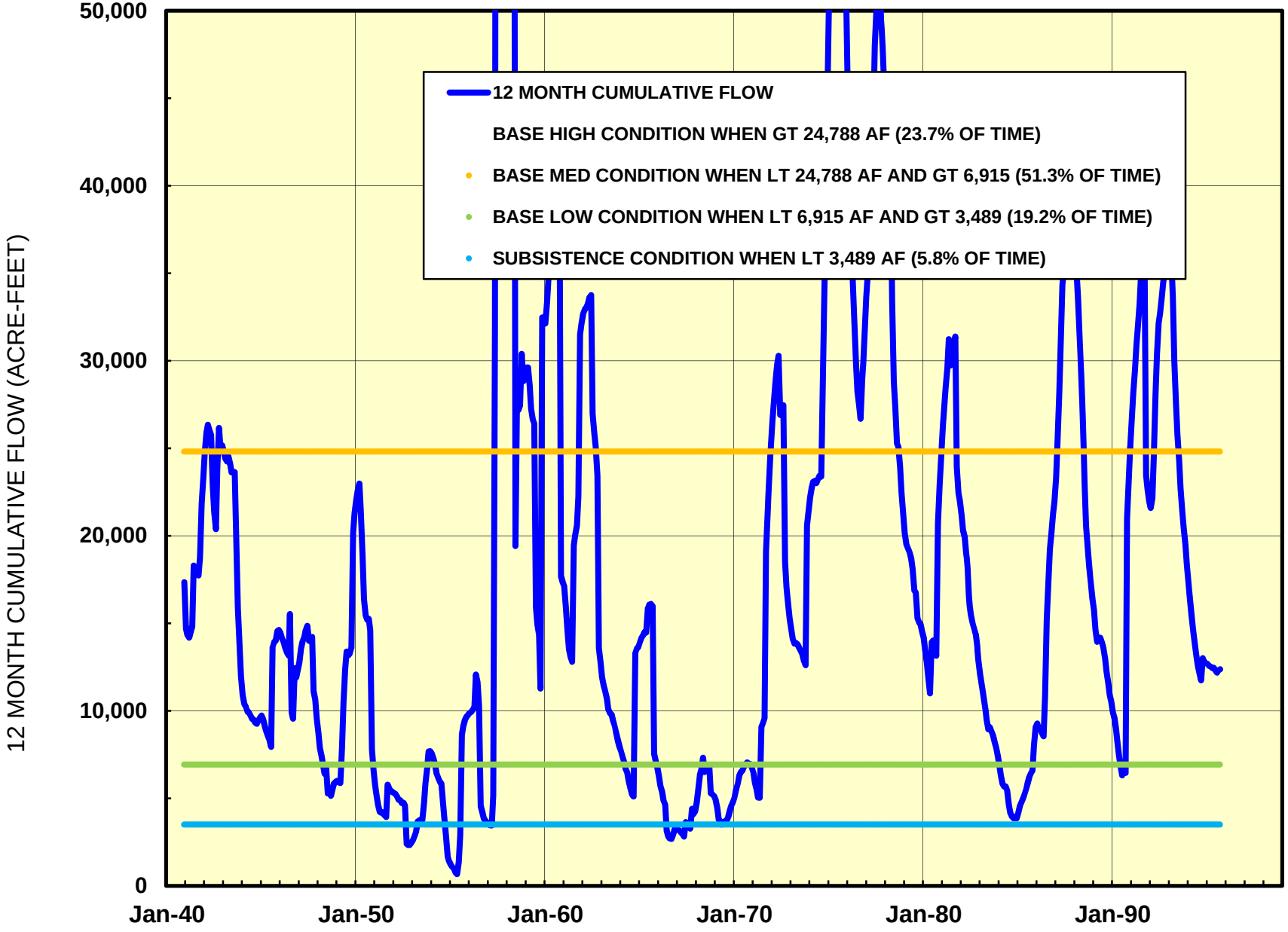
S CONCHO AT CHRISTOVAL SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



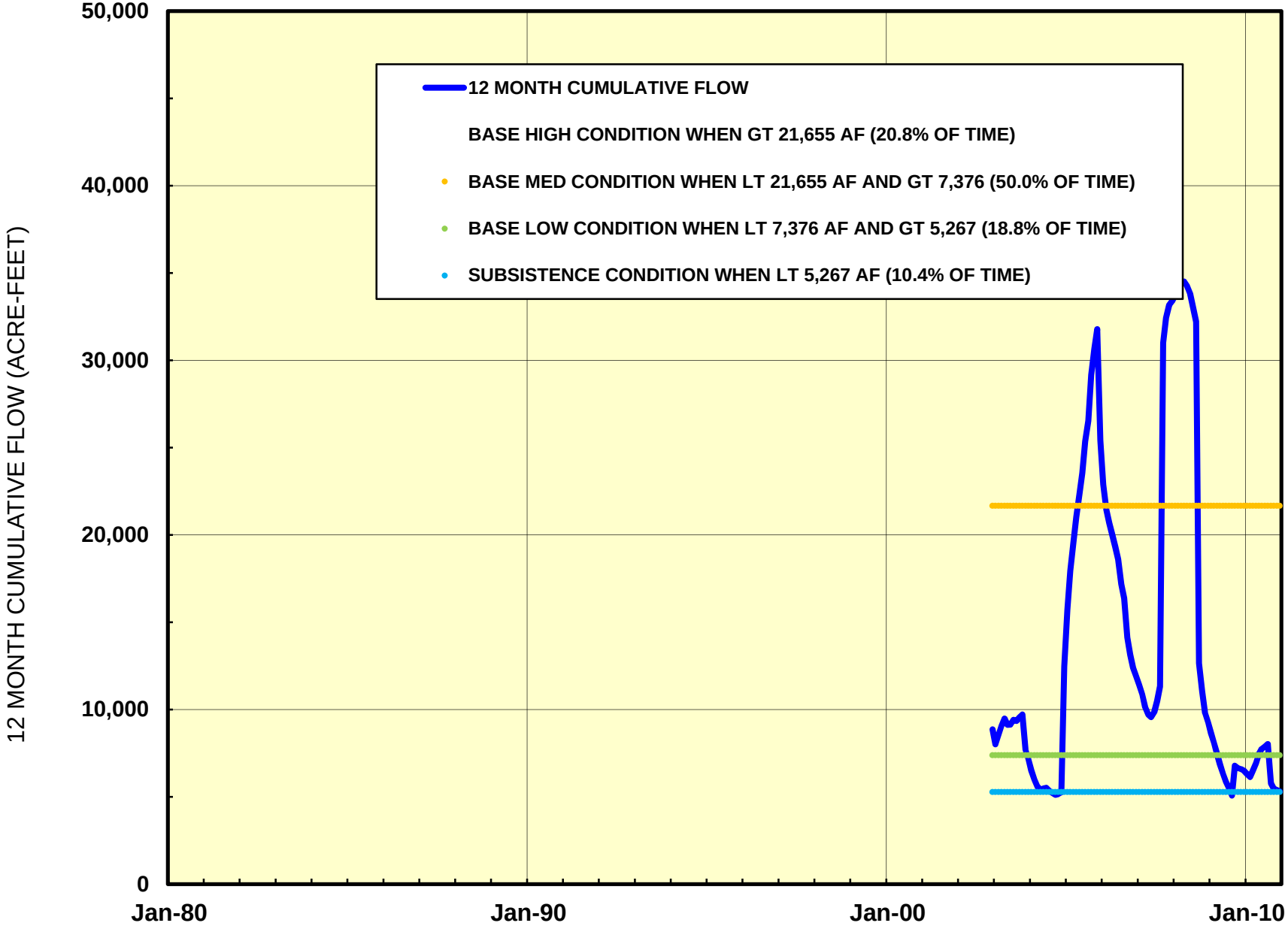
S CONCHO AT CHRISTOVAL HISTORICAL FLOW FOR 1940-1995 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



S CONCHO AT CHRISTOVAL HISTORICAL FLOW FOR 2003-2010 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR CONCHO AT PAINT ROCK SITE

CL BBEST / BBASC August 10, 2011

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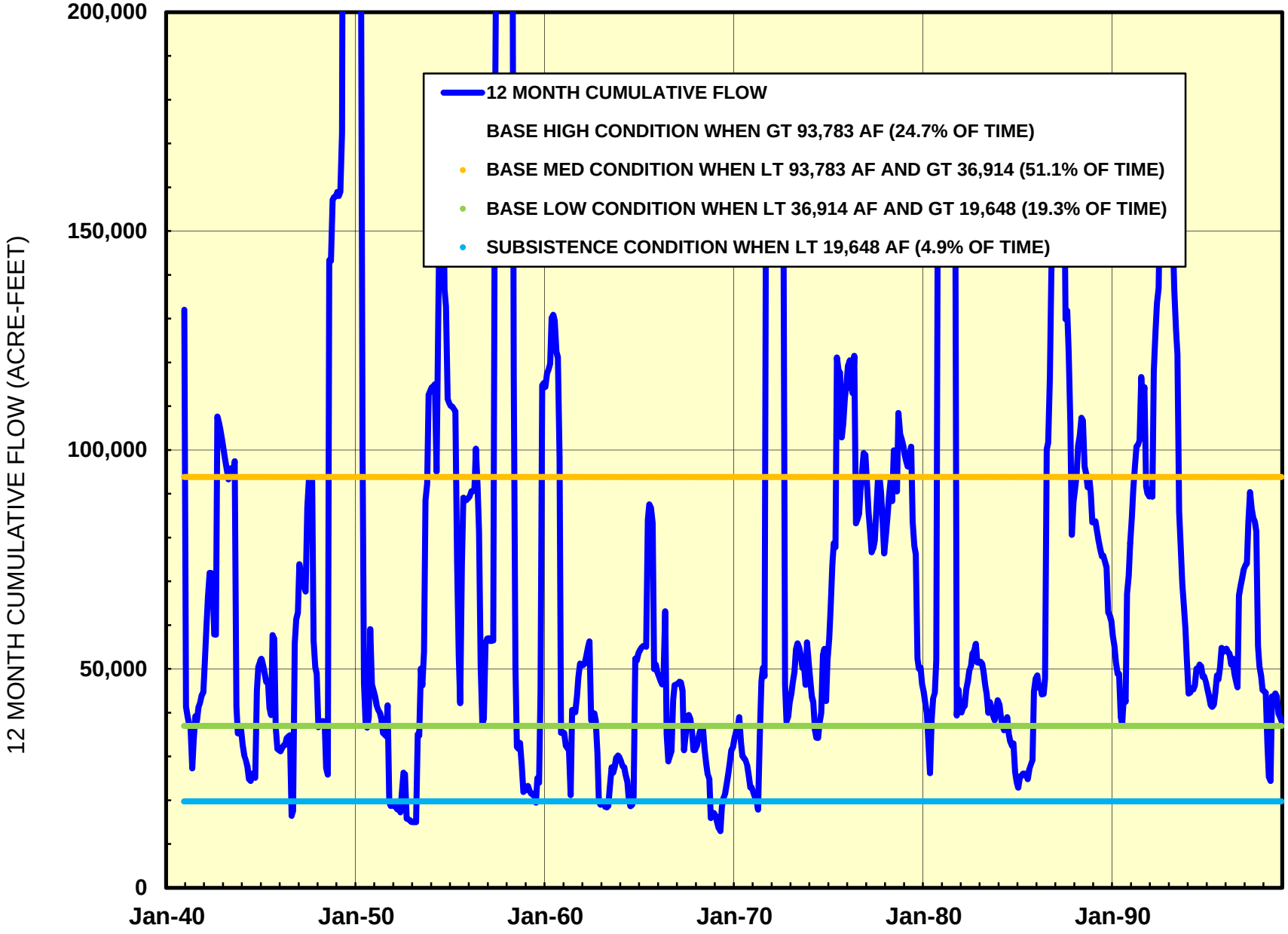
PAGE #	(1) SOURCE DATA	(2) HYDRO CONCEPT	(3) MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)	(4)	(5) TYPE	(6) PERIOD OF RECORD	(7) BASE HIGH TRIGGER GOAL; 25% OF TIME: ENGAGED WHEN GREATER THAN:	(8) % OF TIME ENGAGED	(9) BASE MEDIUM TRIGGER GOAL; 50% OF TIME: ENGAGED WHEN BETWEEN:	(10) % OF TIME ENGAGED	(11) BASE LOW TRIGGER GOAL; 20% OF TIME: ENGAGED WHEN BETWEEN:	(12) % OF TIME ENGAGED	(13) SUBSISTENCE TRIGGER GOAL; 5% OF TIME: ENGAGED WHEN LESS THAN:	(14) % OF TIME ENGAGED
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING TRIGGERS (BASED ON FLOW FOR PREVIOUS 12 MONTH PERIOD IN ACRE-FEET)							
	CONCHO AT PAINT ROCK													
(1)	TCEQ RUN3	FLOW	351,903		SIM	1940-1998	93,783	24.7%	93,783 AND 36,914	51.1%	36,914 AND 19,648	19.3%	19,648	4.9%
(2)	TCEQ RUN8	FLOW	317,672		SIM	1940-1998	88,123	23.9%	88,123 AND 34,448	51.7%	34,448 AND 18,566	19.3%	18,566	5.2%
(3)	USGS	FLOW	555,764		HIST	1940-1998	83,100	25.9%	83,100 AND 24,163	48.0%	24,163 AND 11,048	21.3%	11,048	4.9%
(4)	USGS	FLOW	194,844		HIST	1980-2010	49,899	25.8%	49,899 AND 17,003	48.9%	17,003 AND 7,110	18.3%	7,110	7.0%

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

SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.
HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

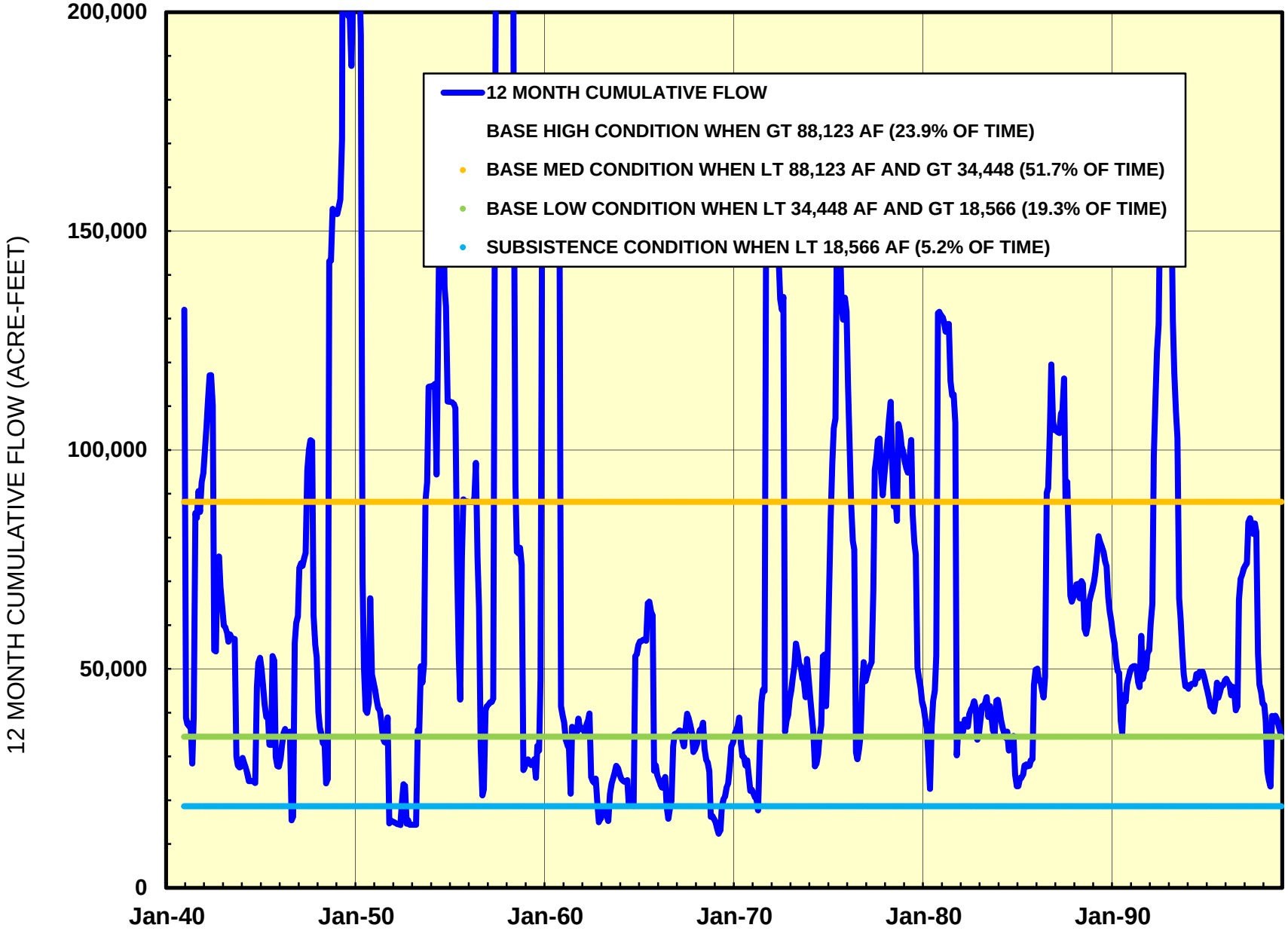
CONCHO AT PAINT ROCK SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



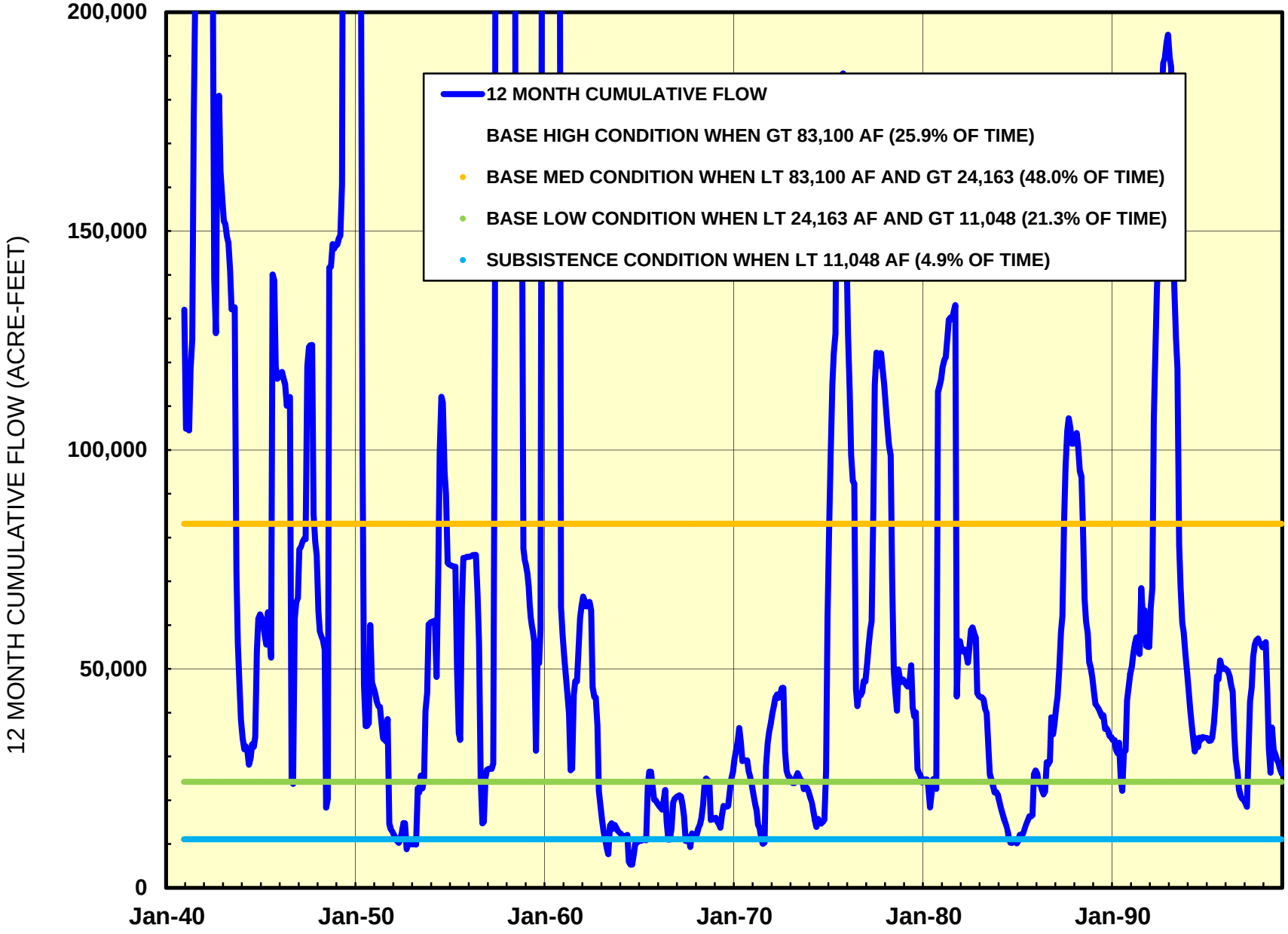
CONCHO AT PAINT ROCK SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW

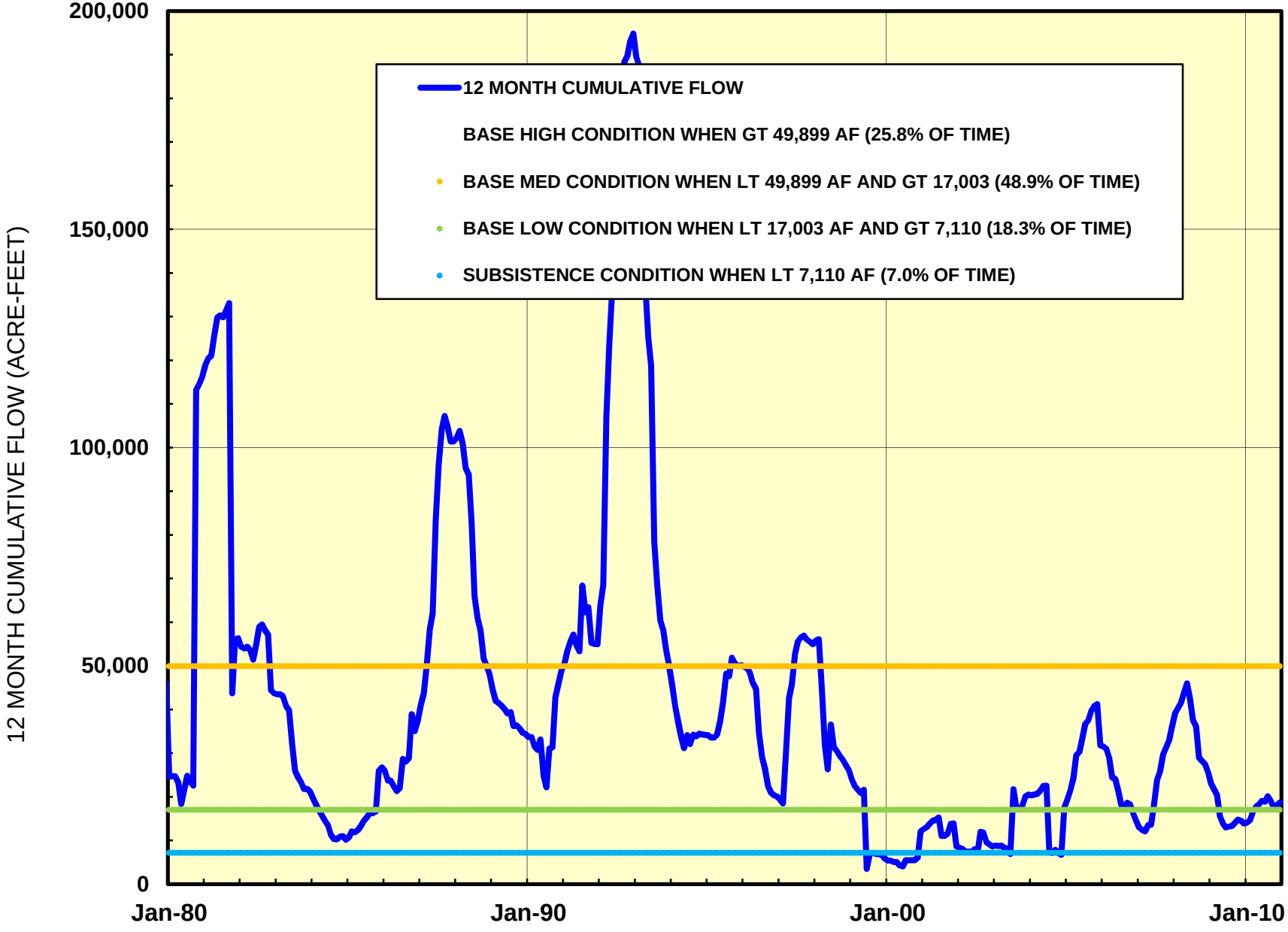


CONCHO AT PAINT ROCK HISTORICAL FLOW FOR 1940-1998 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



CONCHO AT PAINT ROCK HISTORICAL FLOW FOR 1980-2010 (OBSERVED)
BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR PECAN BAYOU NEAR MULLIN SITE

CL BBEST / BBASC August 10, 2011

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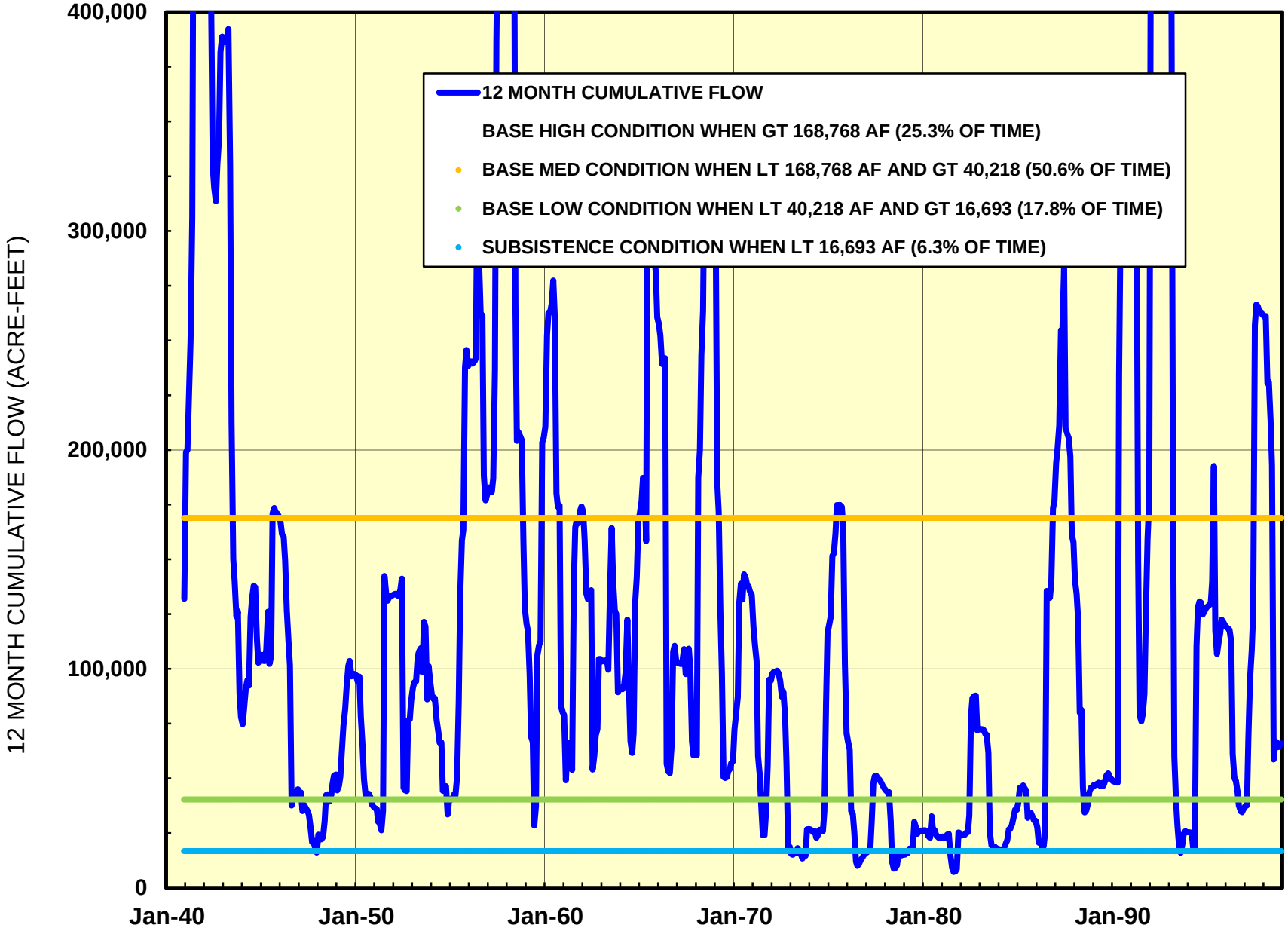
PAGE #	(1) SOURCE DATA	(2) HYDRO CONCEPT	(3) MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)	(4)	(5) TYPE	(6) PERIOD OF RECORD	(7) BASE HIGH TRIGGER GOAL; 25% OF TIME ENGAGED WHEN GREATER THAN:	(8) % OF TIME ENGAGED	(9) BASE MEDIUM TRIGGER GOAL; 50% OF TIME ENGAGED WHEN BETWEEN:	(10) % OF TIME ENGAGED	(11) BASE LOW TRIGGER GOAL; 20% OF TIME ENGAGED WHEN BETWEEN:	(12) % OF TIME ENGAGED	(13) SUBSISTENCE TRIGGER GOAL; 5% OF TIME ENGAGED WHEN LESS THAN:	(14) % OF TIME ENGAGED
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING TRIGGERS (BASED ON FLOW FOR PREVIOUS 12 MONTH PERIOD IN ACRE-FEET)							
	PECAN BAYOU NEAR MULLIN													
(1)	TCEQ RUN3	FLOW	898,155		SIM	1940-1998	168,768	25.3%	168,768 AND 40,218	50.6%	40,218 AND 16,693	17.8%	16,693	6.3%
(2)	TCEQ RUN8	FLOW	959,412		SIM	1940-1998	184,850	26.1%	184,850 AND 51,224	48.9%	51,224 AND 20,903	19.0%	20,903	6.0%
(3)	USGS	FLOW	961,724		HIST	1940-1998	155,135	23.9%	155,135 AND 29,979	50.6%	29,979 AND 7,837	20.7%	7,837	4.9%
(4)	USGS	FLOW	961,724		HIST	1980-2010	187,741	25.3%	187,741 AND 26,695	48.9%	26,695 AND 11,864	19.4%	11,864	6.5%

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

SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.
HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

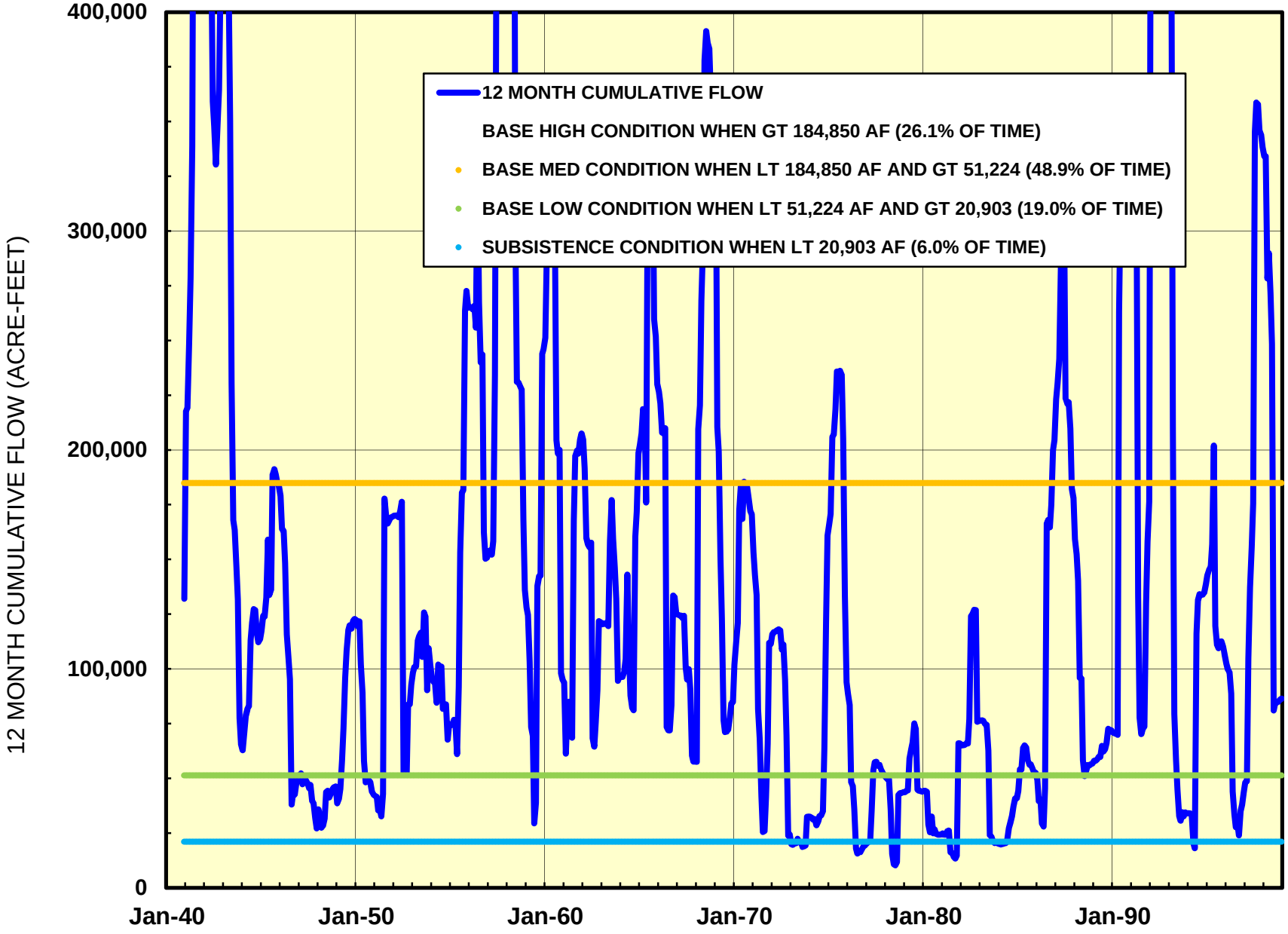
PECAN BAYOU NR MULLIN SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



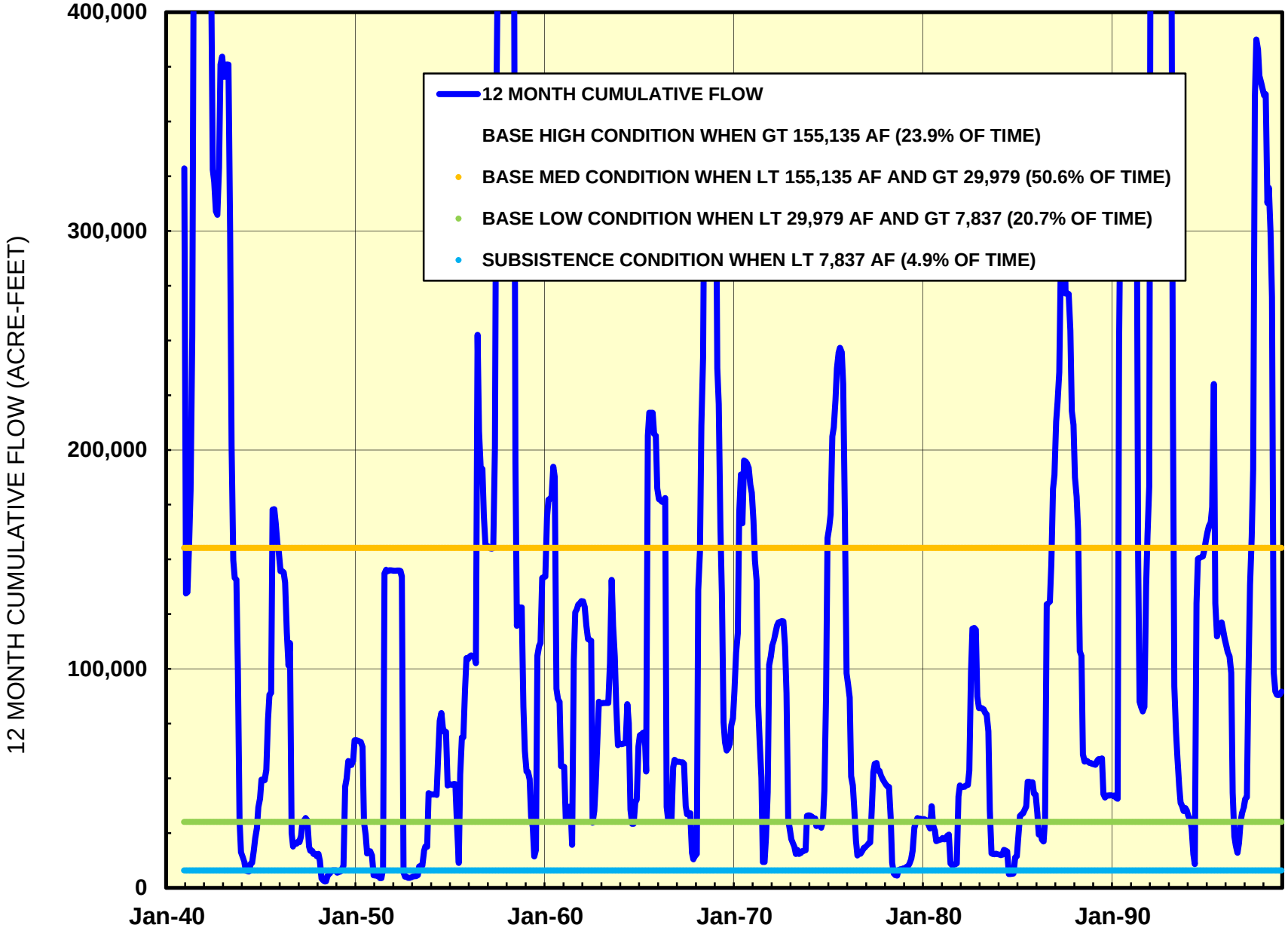
PECAN BAYOU NR MULLIN SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW

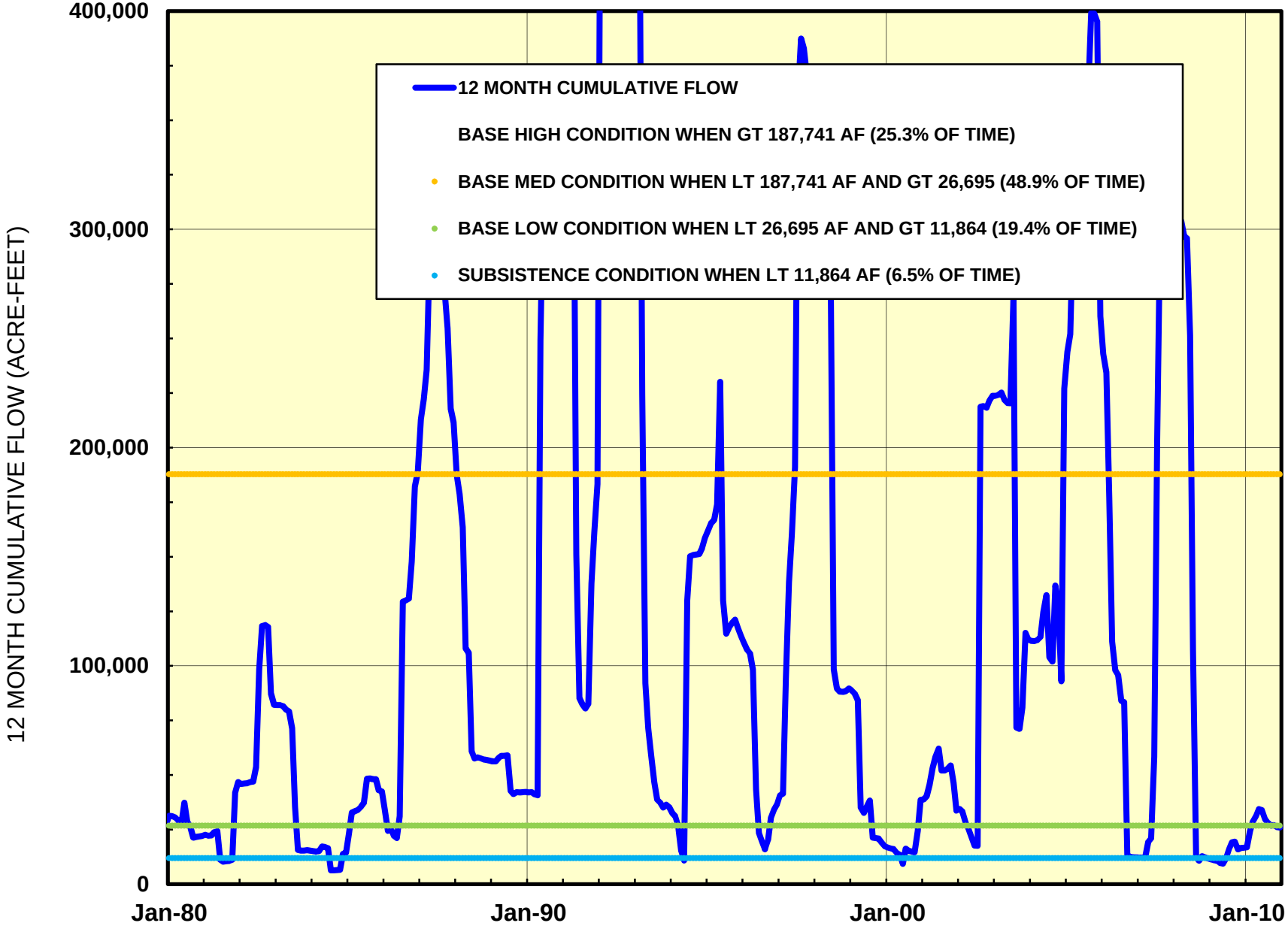


PECAN BAYOU NEAR MULLIN HISTORICAL FLOW FOR 1940-1998 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



PECAN BAYOU NR MULLIN HISTORICAL FLOW FOR 1980-2010 (OBSERVED)
BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR SAN SABA AT SAN SABA SITE

CL BBEST / BBASC August 10, 2011

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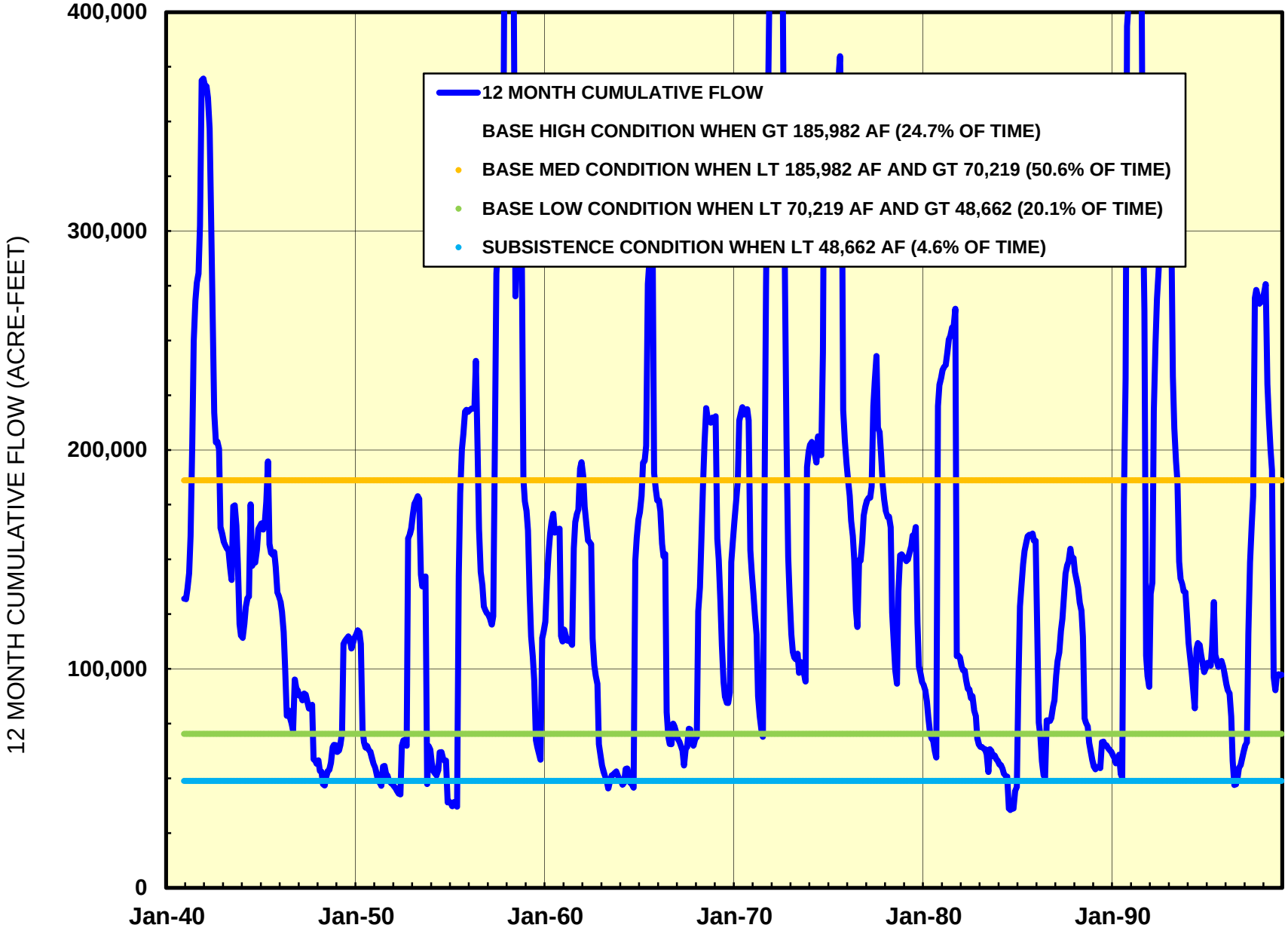
PAGE #	(1) SOURCE DATA	(2) HYDRO CONCEPT	(3) MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)	(4)	(5) TYPE	(6) PERIOD OF RECORD	(7) BASE HIGH TRIGGER GOAL; 25% OF TIME ENGAGED WHEN GREATER THAN:	(8) % OF TIME ENGAGED	(9) BASE MEDIUM TRIGGER GOAL; 50% OF TIME ENGAGED WHEN BETWEEN:	(10) % OF TIME ENGAGED	(11) BASE LOW TRIGGER GOAL; 20% OF TIME ENGAGED WHEN BETWEEN:	(12) % OF TIME ENGAGED	(13) SUBSISTENCE TRIGGER GOAL; 5% OF TIME ENGAGED WHEN LESS THAN:	(14) % OF TIME ENGAGED
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING TRIGGERS (BASED ON FLOW FOR PREVIOUS 12 MONTH PERIOD IN ACRE-FEET)							
	SAN SABA RIVER AT SAN SABA													
(1)	TCEQ RUN3	FLOW	503,703		SIM	1940-1998	185,982	24.7%	185,982 AND 70,219	50.6%	70,219 AND 48,662	20.1%	48,662	4.6%
(2)	TCEQ RUN8	FLOW	516,567		SIM	1940-1998	187,923	25.0%	187,923 AND 71,593	50.3%	71,593 AND 49,164	21.0%	49,164	3.7%
(3)	USGS	FLOW	968,106		HIST	1940-1998	180,299	24.4%	180,299 AND 66,369	50.6%	66,369 AND 39,761	20.7%	39,761	4.3%
(4)	USGS	FLOW	968,106		HIST	1980-2010	166,002	23.7%	166,002 AND 61,099	51.6%	61,099 AND 40,545	19.4%	40,545	5.4%

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

SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.
HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

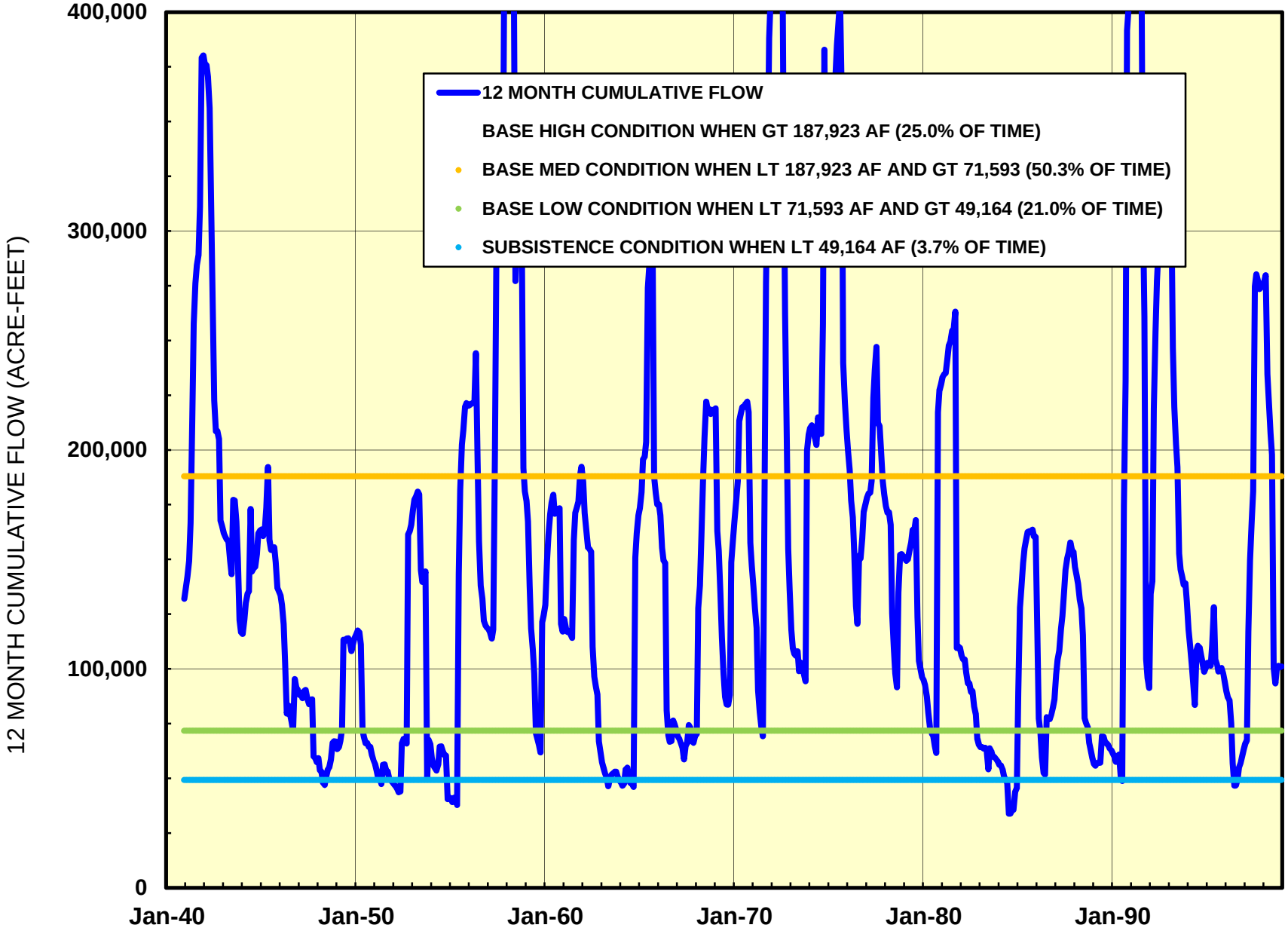
SAN SABA AT SAN SABA SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



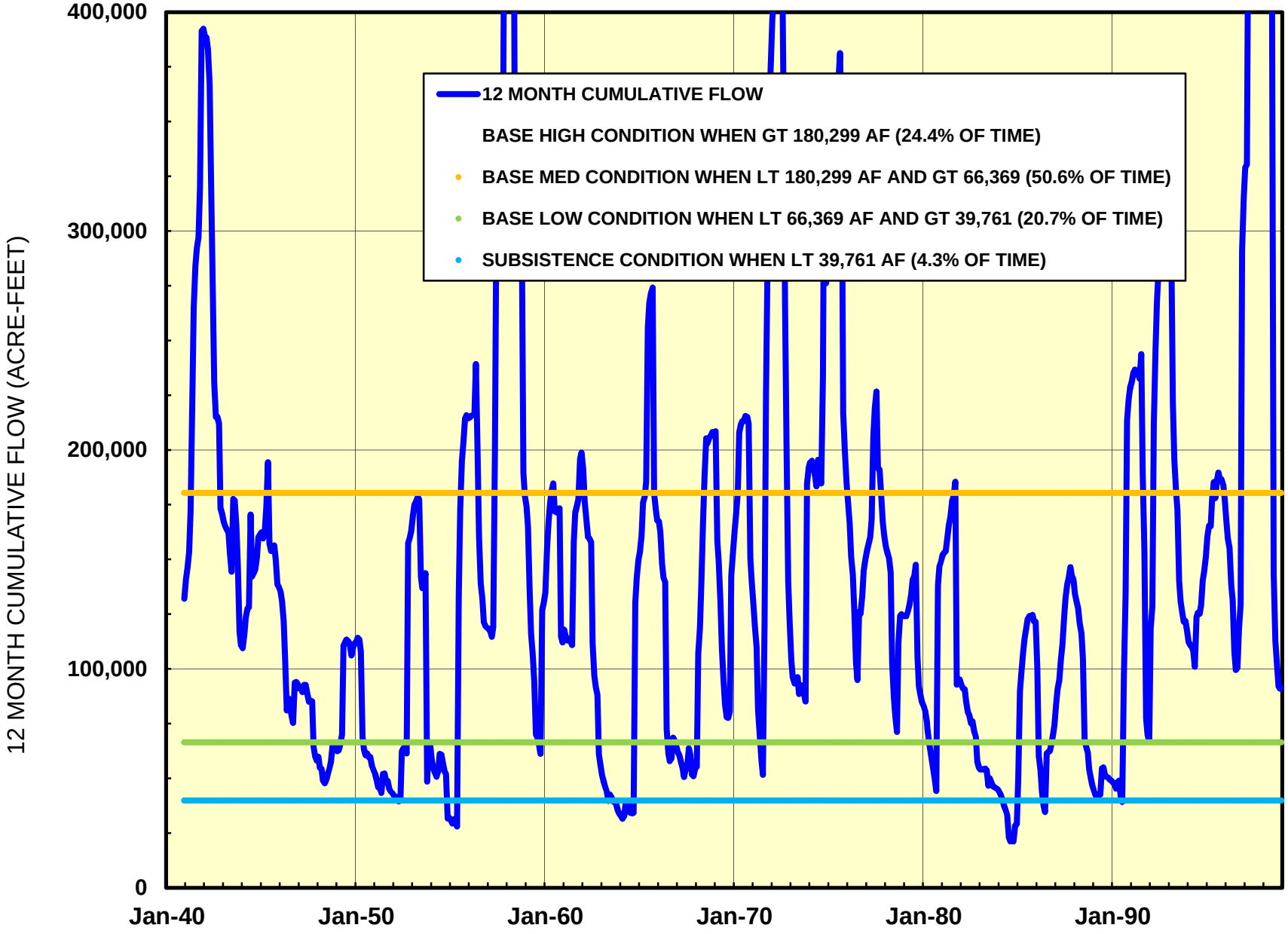
SAN SABA AT SAN SABA SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW

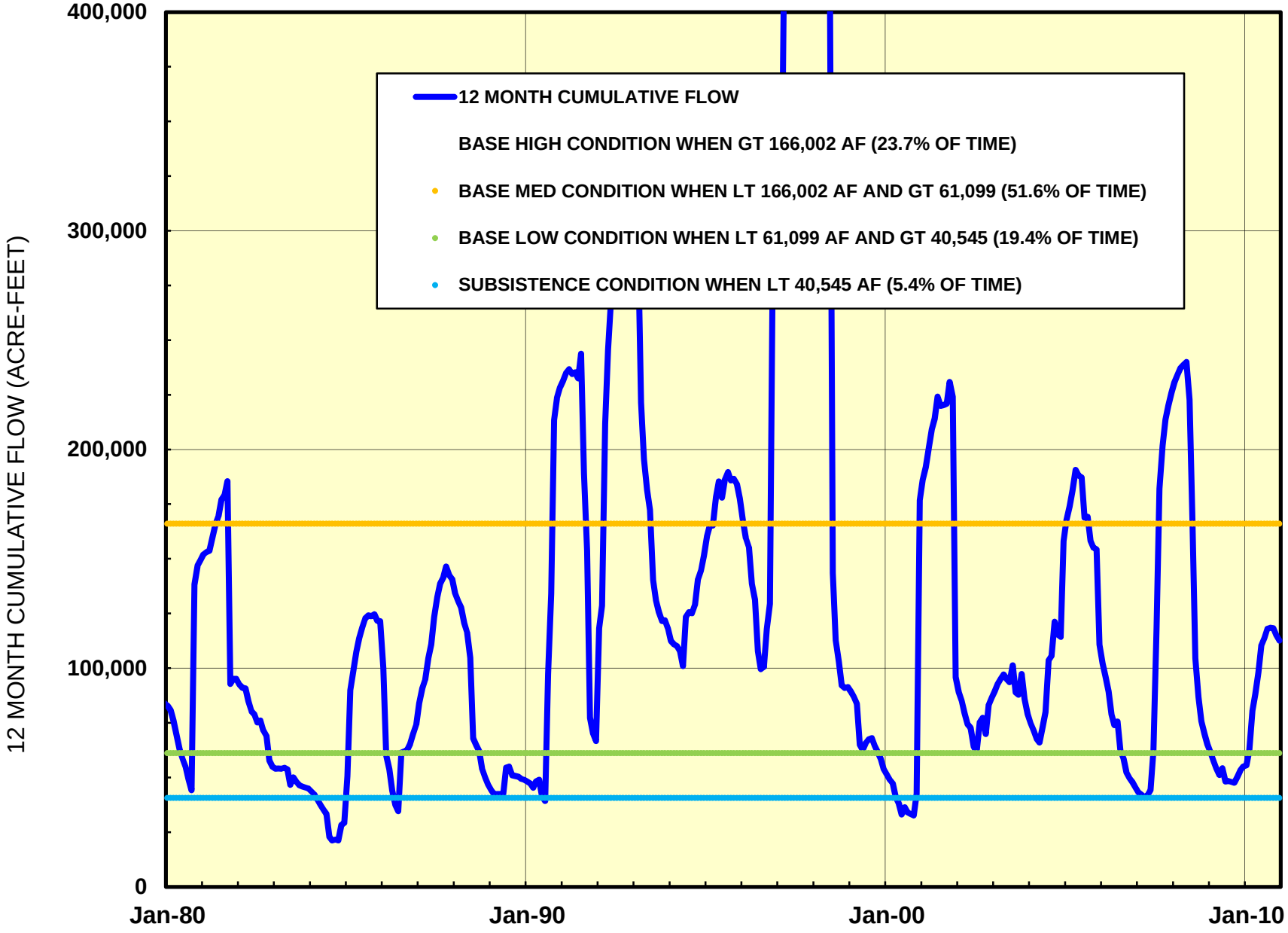


SAN SABA AT SAN SABA HISTORICAL FLOW FOR 1940-1998 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



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



SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR COLORADO NEAR SAN SABA SITE

CL BBEST / BBASC August 10, 2011

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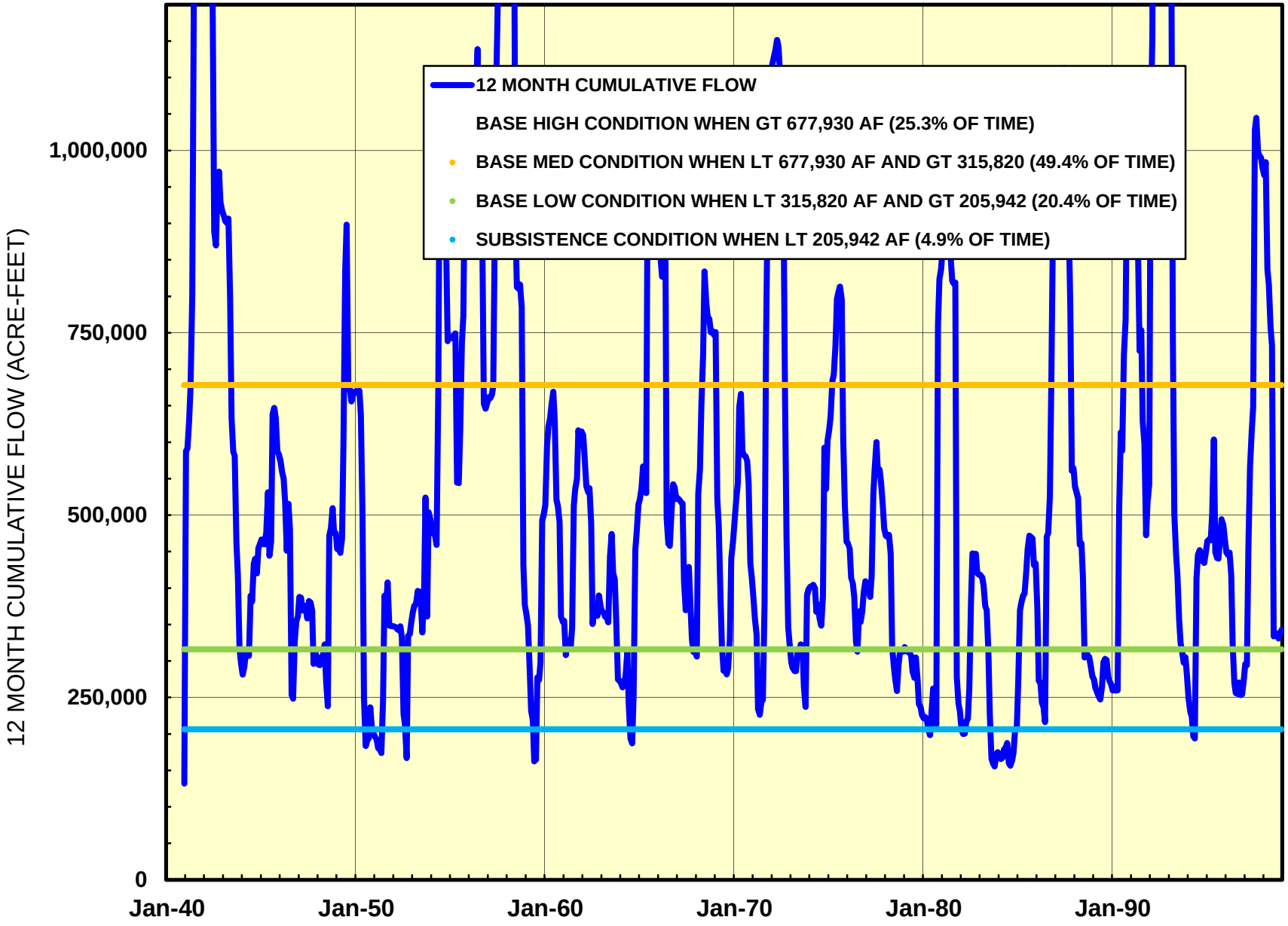
PAGE #	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING TRIGGERS (BASED ON FLOW FOR PREVIOUS 12 MONTH PERIOD IN ACRE-FEET)							
							BASE HIGH TRIGGER GOAL; 25% OF TIME		BASE MEDIUM TRIGGER GOAL; 50% OF TIME		BASE LOW TRIGGER GOAL; 20% OF TIME		SUBSISTENCE TRIGGER GOAL; 5% OF TIME	
	SOURCE DATA	HYDRO CONCEPT	MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)		TYPE	PERIOD OF RECORD	ENGAGED WHEN GREATER THAN:	% OF TIME ENGAGED	ENGAGED WHEN BETWEEN:	% OF TIME ENGAGED	ENGAGED WHEN BETWEEN:	% OF TIME ENGAGED	ENGAGED WHEN LESS THAN:	% OF TIME ENGAGED
	COLORADO NEAR SAN SABA													
(1)	TCEQ RUN3	FLOW	2,121,360		SIM	1940-1998	677,930	25.3%	677,930 AND 315,820	49.4%	315,820 AND 205,942	20.4%	205,942	4.9%
(2)	TCEQ RUN8	FLOW	2,584,411		SIM	1940-1998	637,722	25.6%	637,722 AND 285,601	48.9%	285,601 AND 179,400	20.7%	179,400	4.9%
(3)	USGS	FLOW	3,083,742		HIST	1940-1998	806,041	25.6%	806,041 AND 330,965	49.1%	330,965 AND 192,824	20.7%	192,824	4.6%
(4)	USGS	FLOW	2,300,694		HIST	1980-2010	568,972	24.2%	568,972 AND 205,106	52.2%	205,106 AND 80,507	17.2%	80,507	6.5%

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

SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.
HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

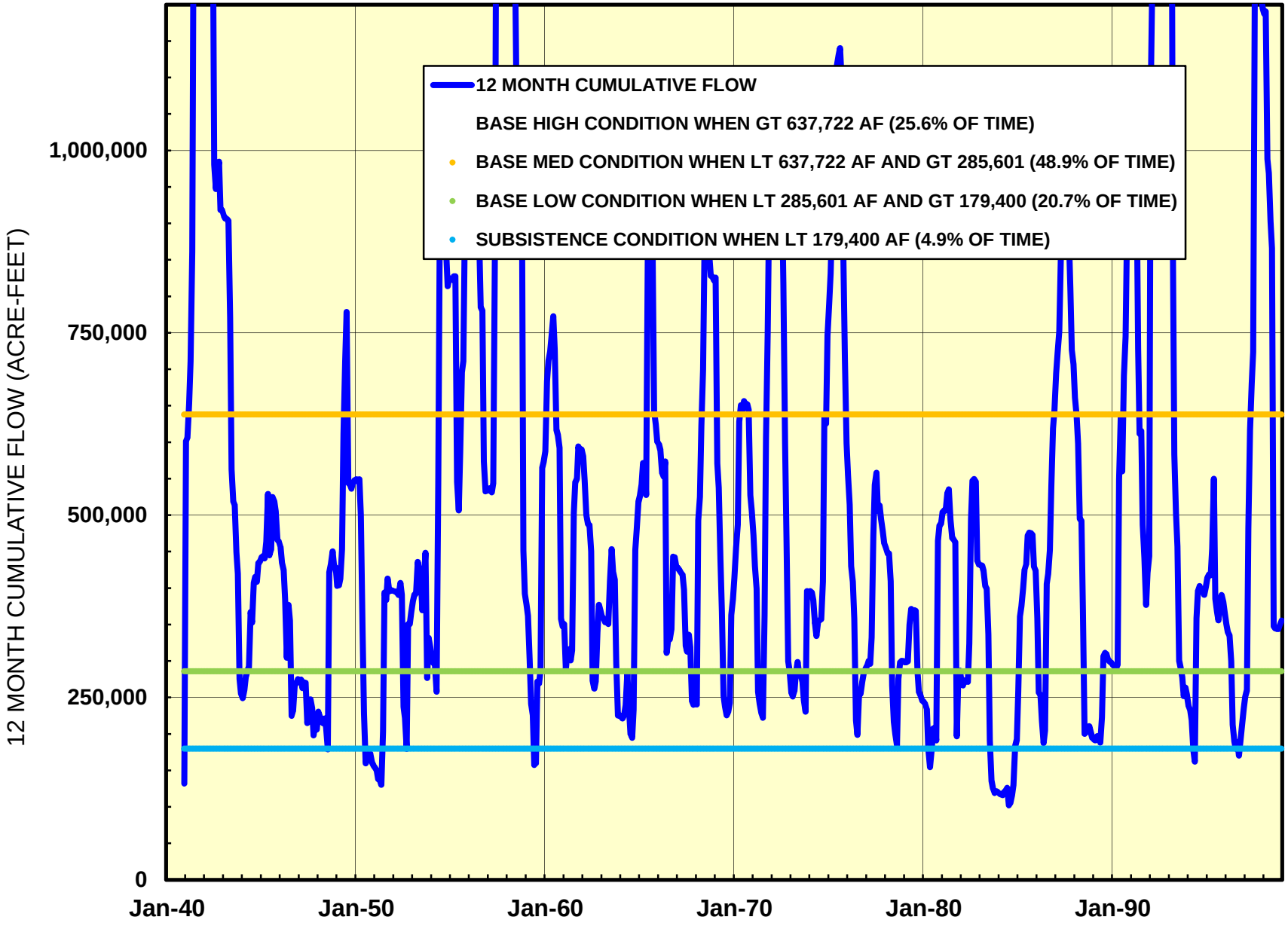
COLORADO NR SAN SABA SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW

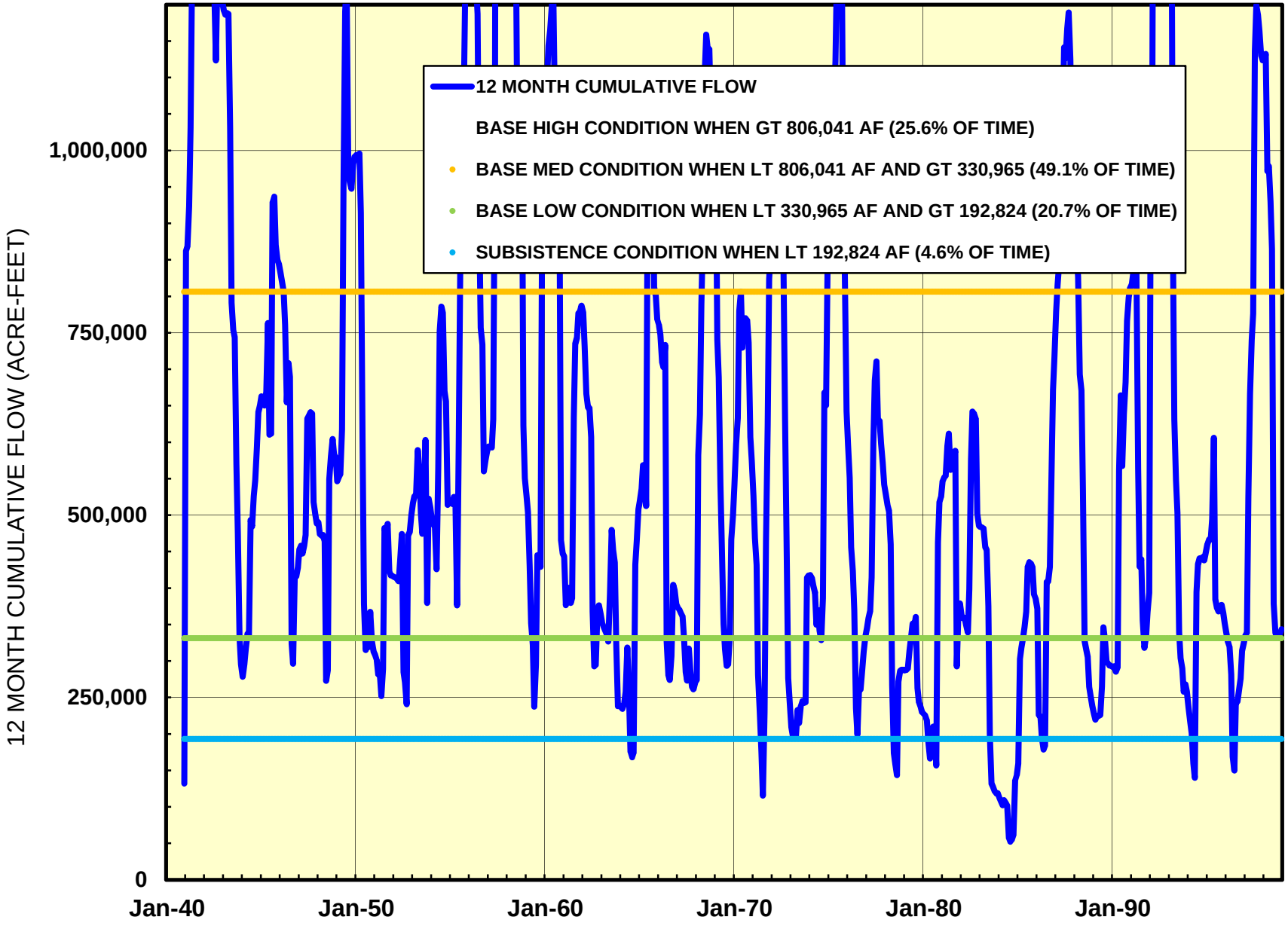


COLORADO NR SAN SABA SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8)

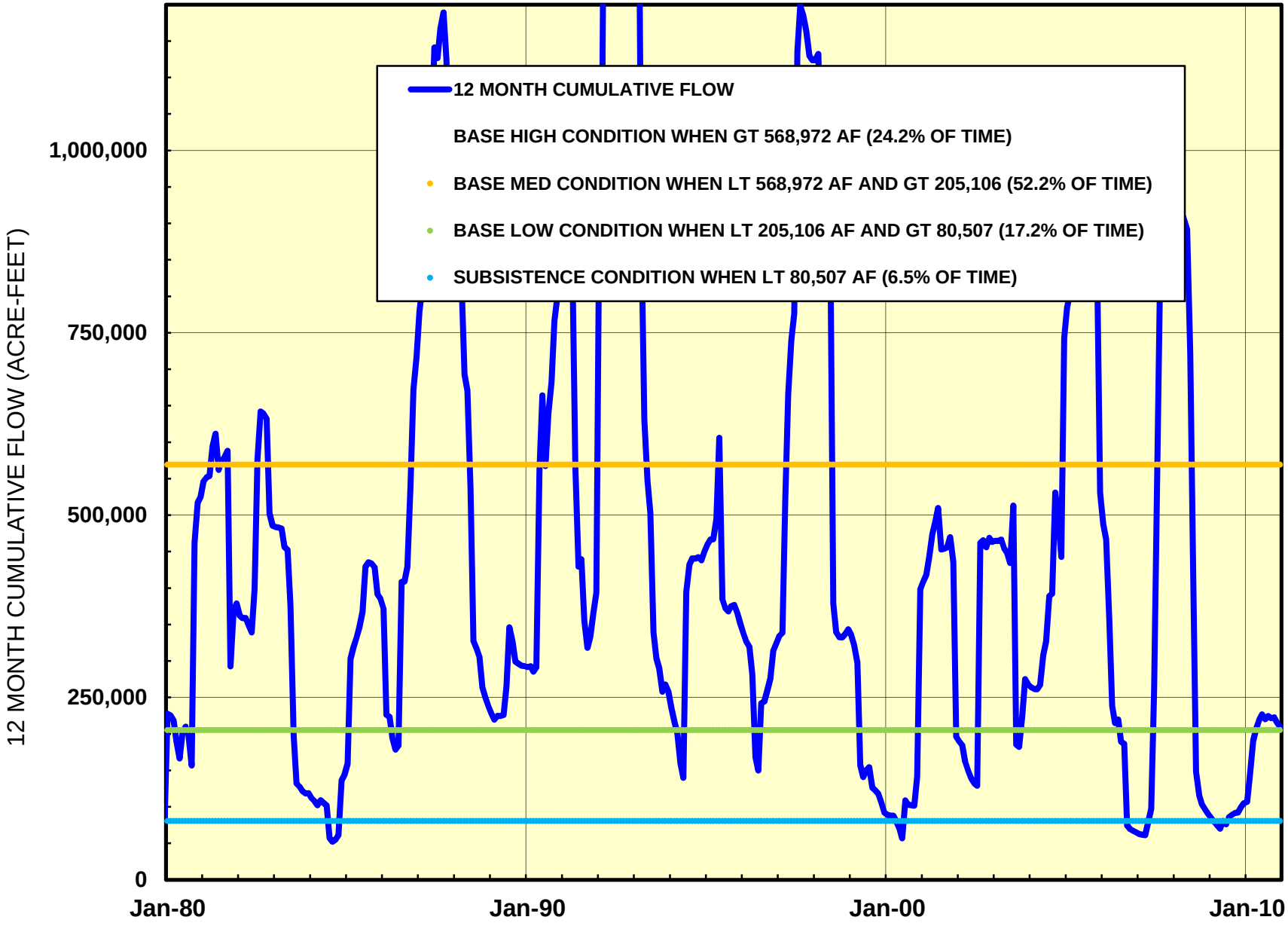
BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



COLORADO NR SAN SABA HISTORICAL FLOW FOR 1940-1998 (OBSERVED)
BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



COLORADO NR SAN SABA HISTORICAL FLOW FOR 1980-2010 (OBSERVED)
BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR LLANO AT LLANO SITE

CL BBEST / BBASC August 10, 2011

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PAGE #	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING TRIGGERS (BASED ON FLOW FOR PREVIOUS 12 MONTH PERIOD IN ACRE-FEET)							
							BASE HIGH TRIGGER GOAL; 25% OF TIME		BASE MEDIUM TRIGGER GOAL; 50% OF TIME		BASE LOW TRIGGER GOAL; 20% OF TIME		SUBSISTENCE TRIGGER GOAL; 5% OF TIME	
	SOURCE DATA	HYDRO CONCEPT	MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)		TYPE	PERIOD OF RECORD	ENGAGED WHEN GREATER THAN:	% OF TIME ENGAGED	ENGAGED WHEN BETWEEN:	% OF TIME ENGAGED	ENGAGED WHEN BETWEEN:	% OF TIME ENGAGED	ENGAGED WHEN LESS THAN:	% OF TIME ENGAGED
	LLANO AT LLANO													
(1)	TCEQ RUN3	FLOW	961,451		SIM	1940-1998	358,826	25.0%	358,826 AND 142,110	49.1%	142,110 AND 64,208	20.1%	64,208	5.7%
(2)	TCEQ RUN8	FLOW	966,182		SIM	1940-1998	360,065	25.0%	360,065 AND 144,293	49.1%	144,293 AND 64,243	20.1%	64,243	5.7%
(3)	USGS	FLOW	968,106		HIST	1940-1998	361,107	25.6%	361,107 AND 143,127	47.7%	143,127 AND 60,035	21.3%	60,035	5.5%
(4)	USGS	FLOW	968,106		HIST	1980-2010	364,535	23.7%	364,535 AND 145,657	50.0%	145,657 AND 90,810	20.4%	90,810	5.9%

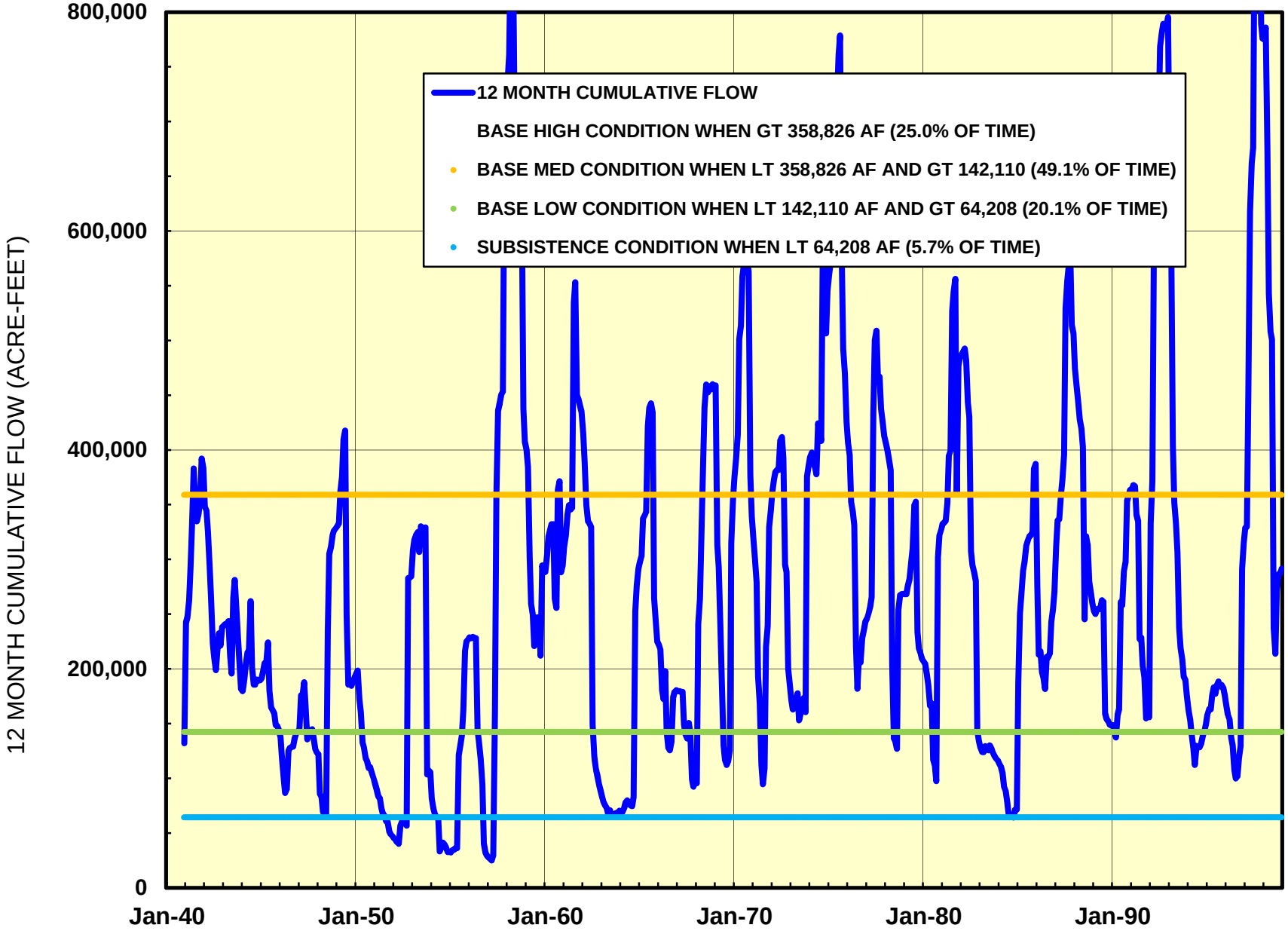
KAF	Volume in Thousand Acre-Feet
MSL	Elevation Referenced to Mean Sea Le
STO	Storage
ELEV	Elevation

SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.

HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

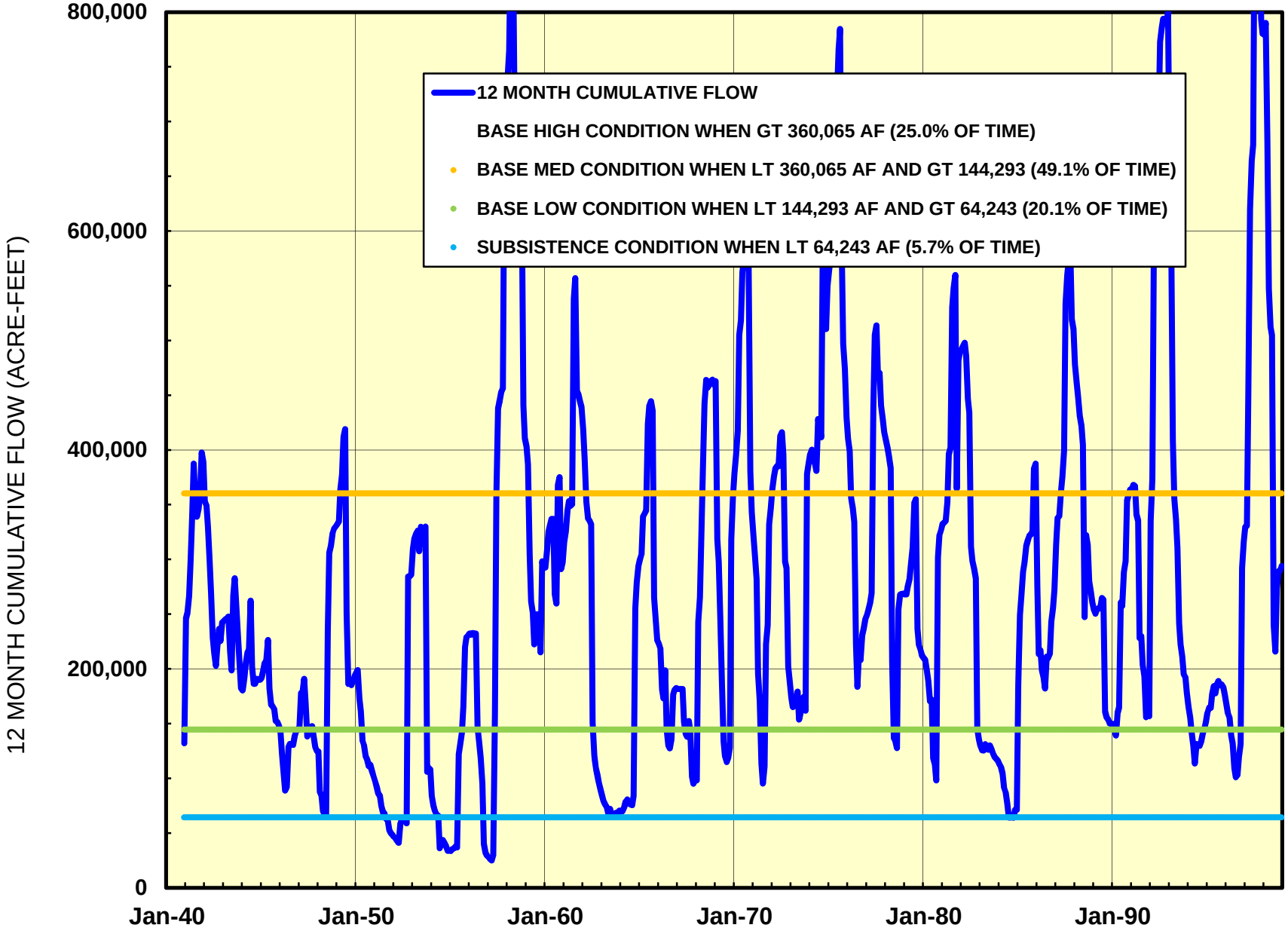
LLANO AT LLANO SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



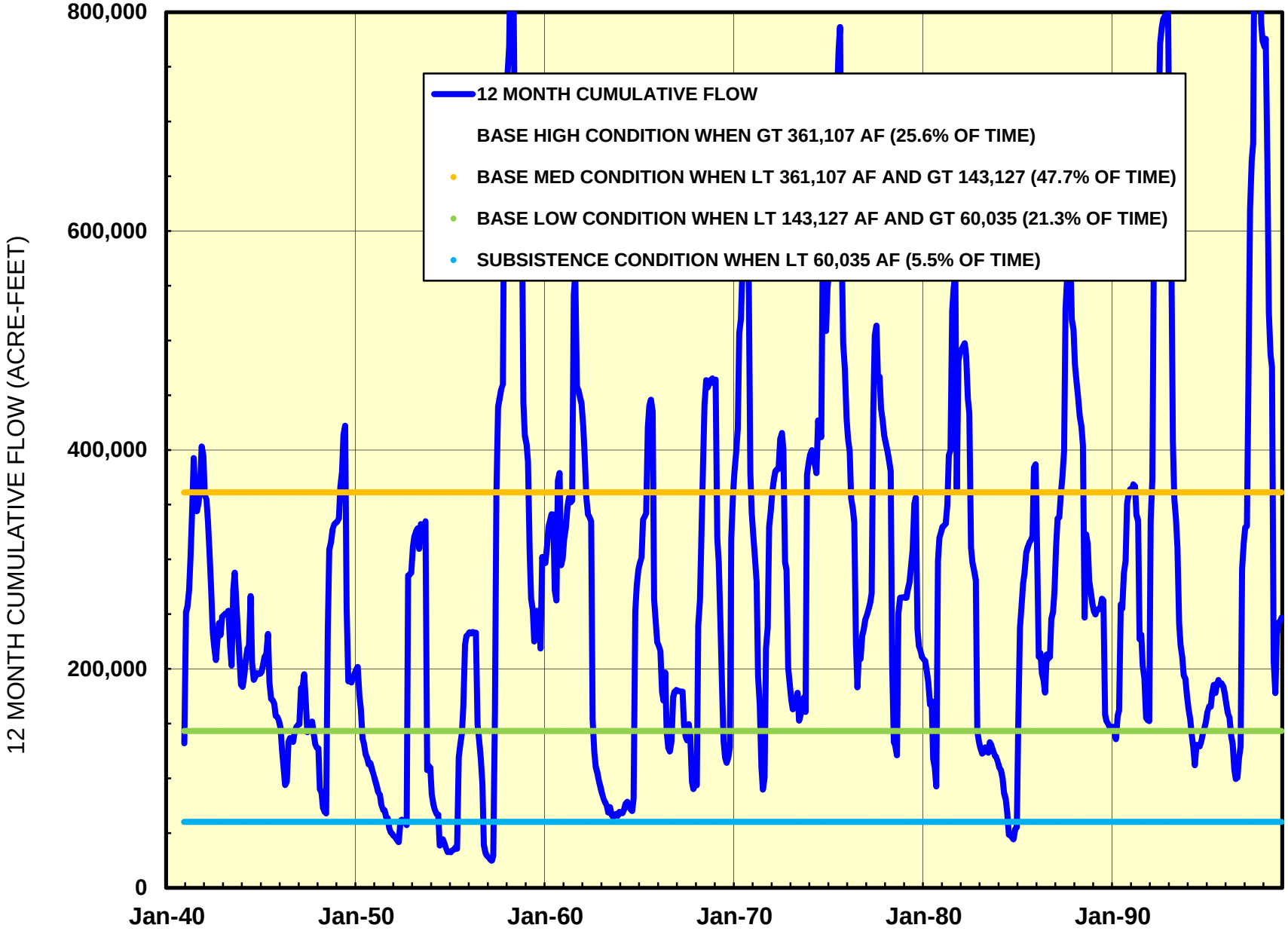
LLANO AT LLANO SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



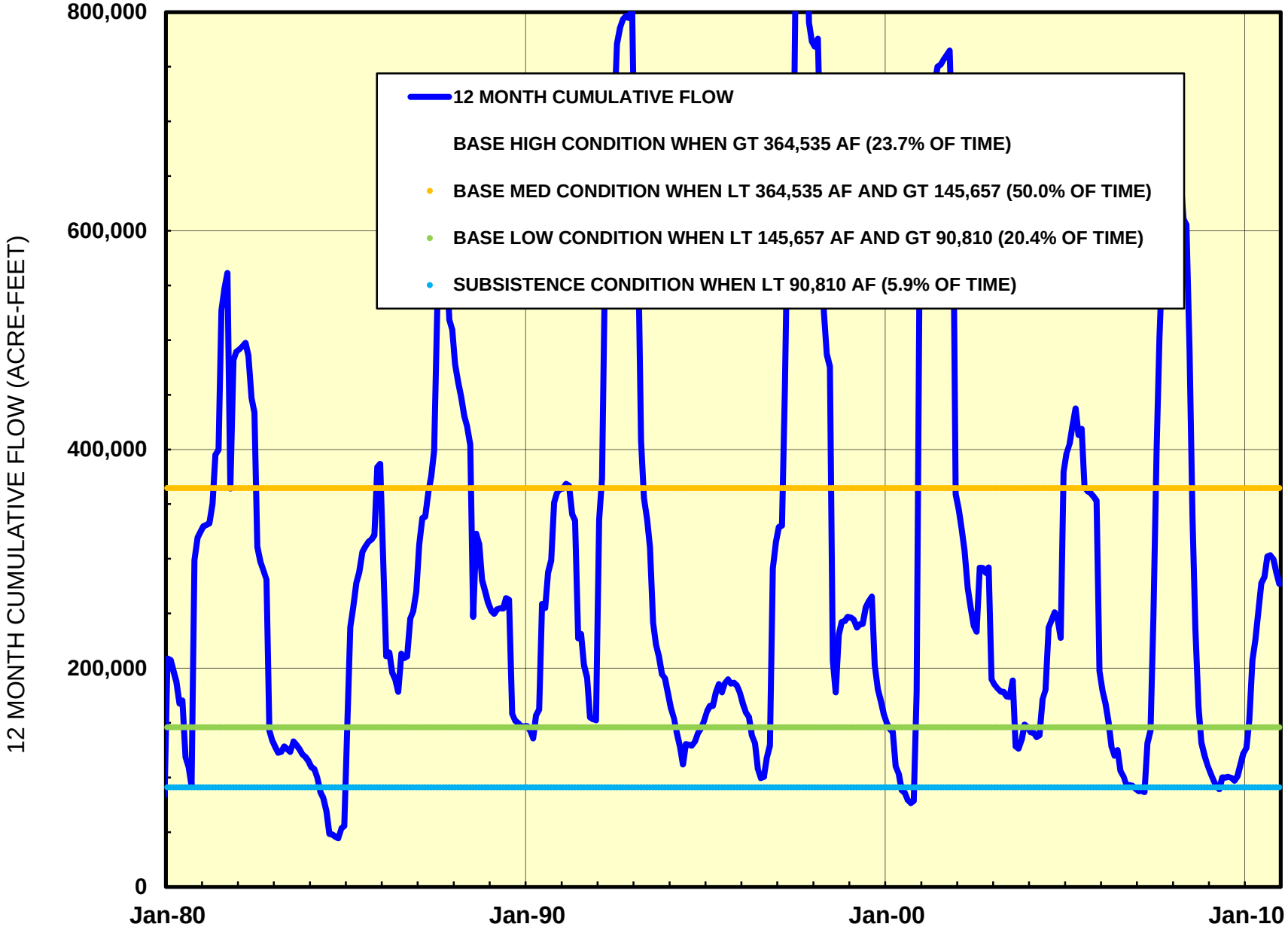
LLANO AT LLANO HISTORICAL FLOW FOR 1940-1998 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



LLANO AT LLANO HISTORICAL FLOW FOR 1980-2010 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



SUMMARY OF HYDROLOGIC CONDITION ENGAGEMENT ANALYSIS

USING BBEST IMPLEMENTATION APPROACH FOR PEDERNALES NEAR JOHNSON CITY SITE

CL BBEST / BBASC August 10, 2011

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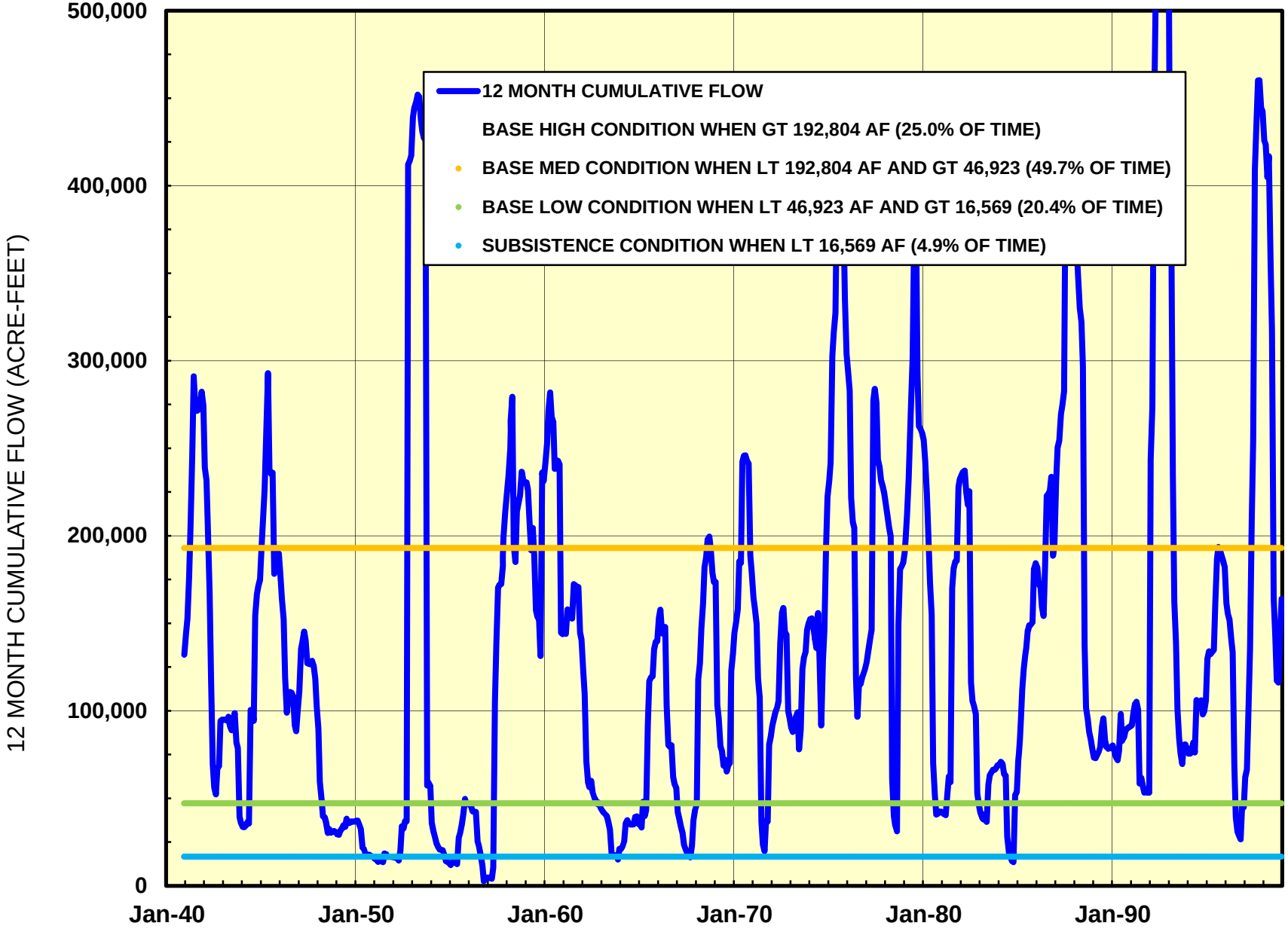
PAGE #	(1) SOURCE DATA	(2) HYDRO CONCEPT	(3) MAXIMUM CUMULATIVE 12 MONTH FLOW (acre-feet)	(4)	(5) TYPE	(6) PERIOD OF RECORD	(7) BASE HIGH TRIGGER GOAL; 25% OF TIME ENGAGED WHEN GREATER THAN:	(8) % OF TIME ENGAGED	(9) BASE MEDIUM TRIGGER GOAL; 50% OF TIME ENGAGED WHEN BETWEEN:	(10) % OF TIME ENGAGED	(11) BASE LOW TRIGGER GOAL; 20% OF TIME ENGAGED WHEN BETWEEN:	(12) % OF TIME ENGAGED	(13) SUBSISTENCE TRIGGER GOAL; 5% OF TIME ENGAGED WHEN LESS THAN:	(14) % OF TIME ENGAGED
	DATA USED TO DEVELOP FLOW TRIGGERS						RESULTING TRIGGERS (BASED ON FLOW FOR PREVIOUS 12 MONTH PERIOD IN ACRE-FEET)							
	PEDERNALES NEAR JOHNSON CITY													
(1)	TCEQ RUN3	FLOW	609,317		SIM	1940-1998	192,804	25.0%	192,804 AND 46,923	49.7%	46,923 AND 16,569	20.4%	16,569	4.9%
(2)	TCEQ RUN8	FLOW	611,178		SIM	1940-1998	193,834	25.3%	193,834 AND 48,685	49.4%	48,685 AND 17,534	20.1%	17,534	5.2%
(3)	USGS	FLOW	613,315		HIST	1940-1998	194,514	25.0%	194,514 AND 48,241	49.7%	48,241 AND 16,770	19.5%	16,770	5.7%
(4)	USGS	FLOW	613,315		HIST	1980-2010	222,698	25.3%	222,698 AND 70,206	49.5%	70,206 AND 27,707	17.7%	27,707	7.5%

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

SIMULATED RESULTS FROM WAM USED TO DEVELOP TRIGGERS.
HISTORICAL INFORMATION USED TO DEVELOP TRIGGERS.

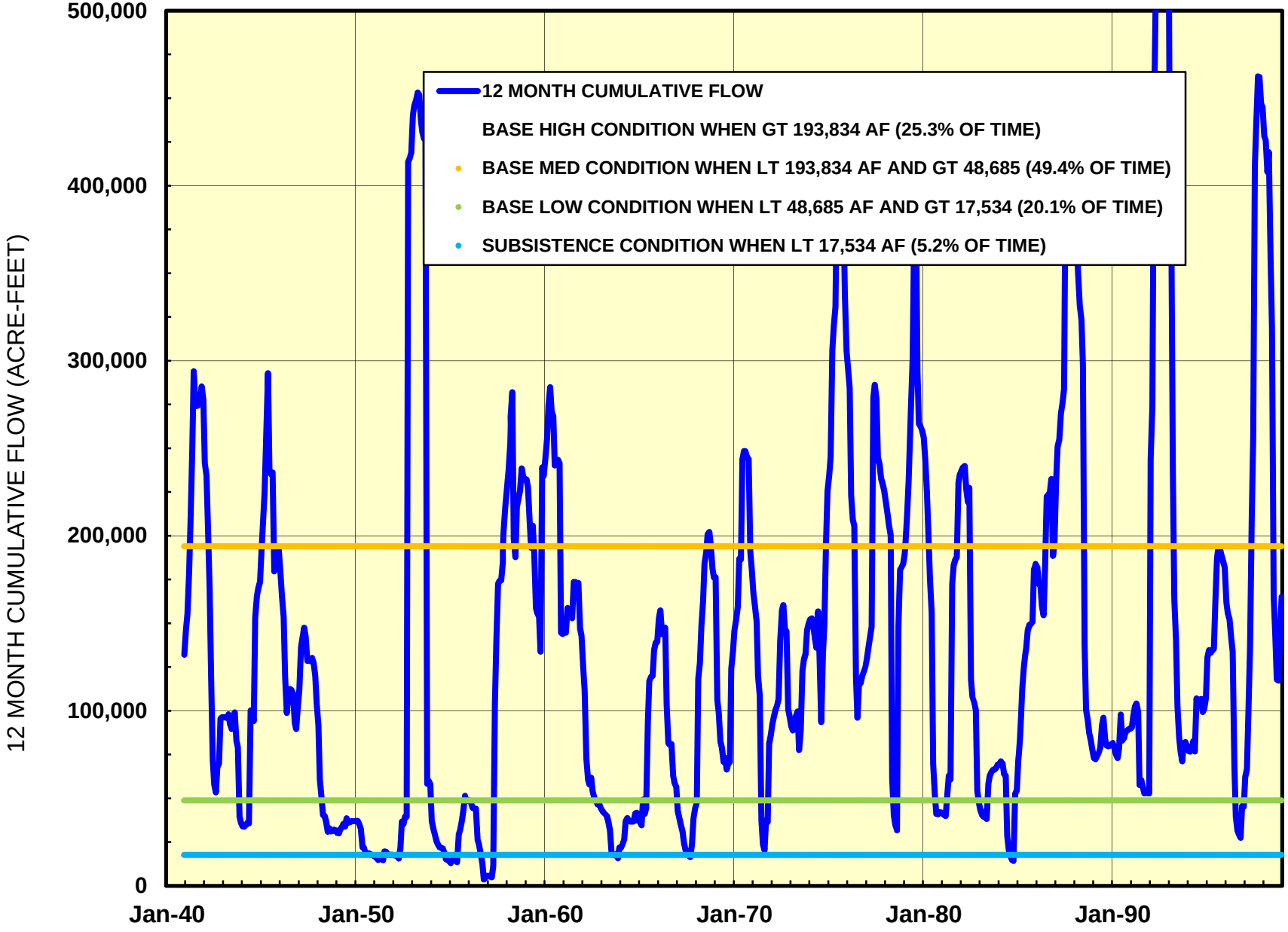
PED NR JOHNSON CITY SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN3)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



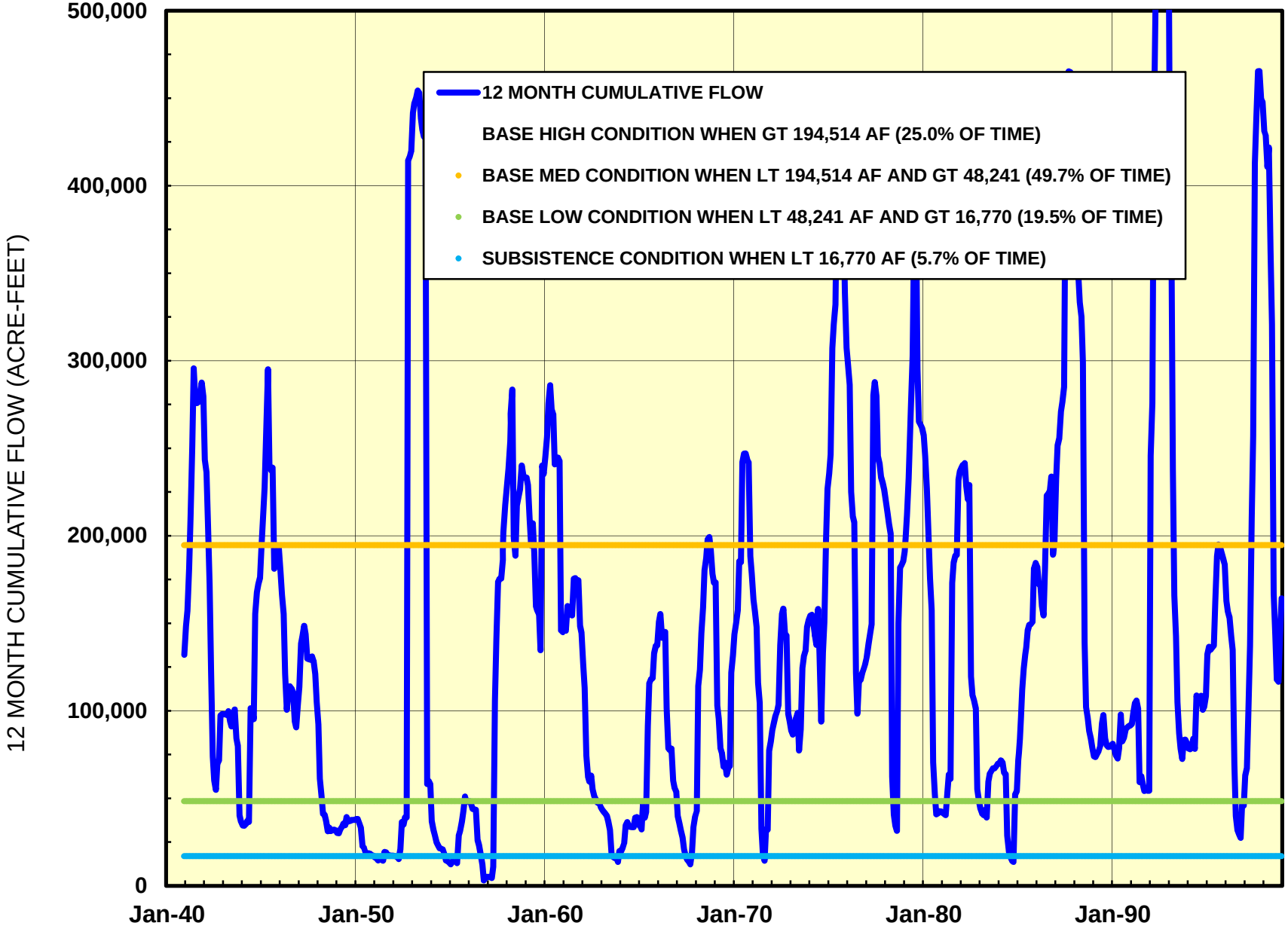
PED NR JOHNSON CITY SIMULATED FLOW FOR 1940-1998 (TCEQ WAM RUN8)

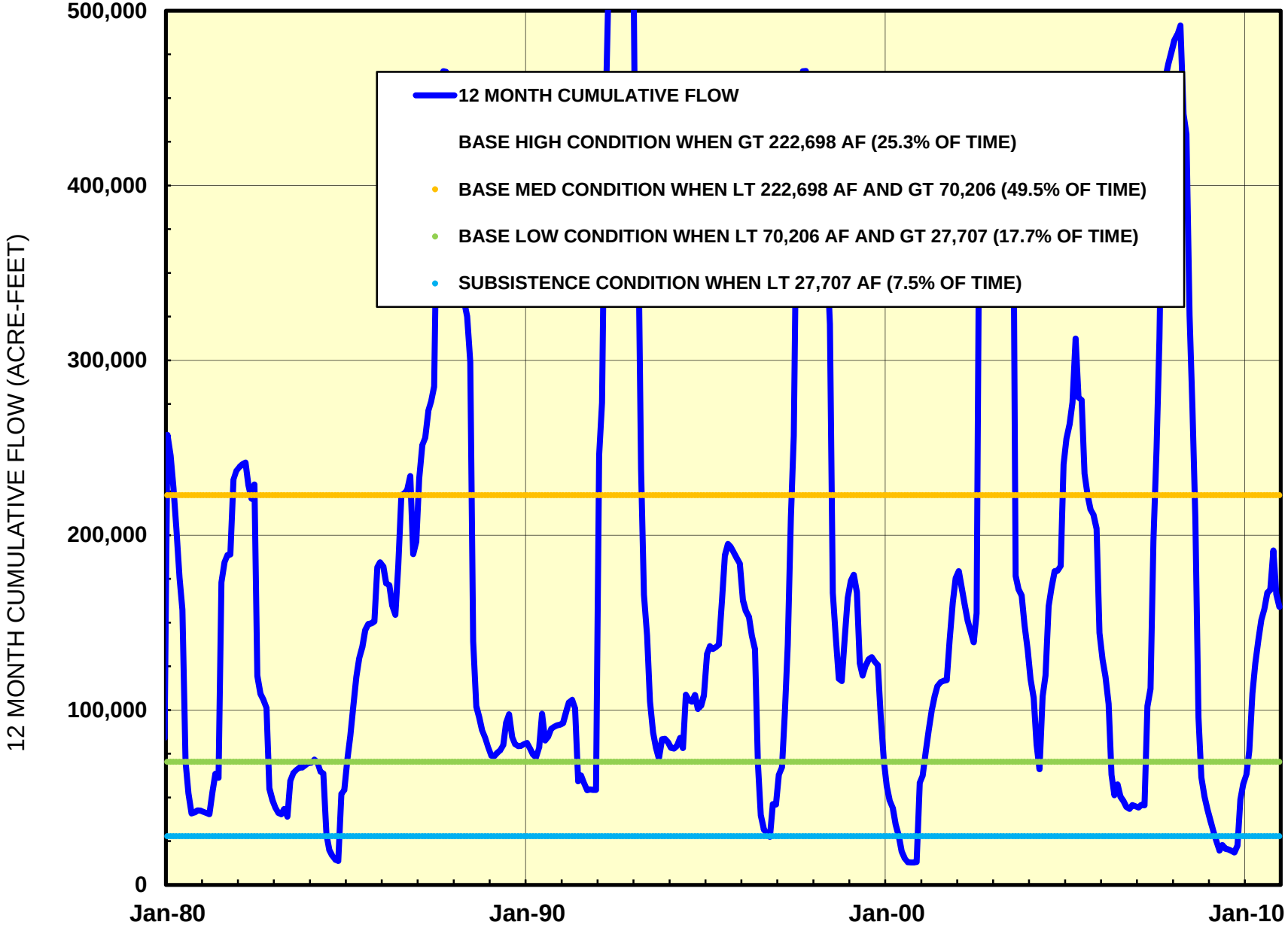
BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



PED NR JOHNSON CITY HISTORICAL FLOW FOR 1940-1998 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW



PED NR JOHNSON CITY HISTORICAL FLOW FOR 1980-2010 (OBSERVED)

BBEST HYDROLOGIC CONDITION ENGAGEMENTS - 12 MONTH CUMULATIVE FLOW