

TUOLUMNE RIVER TECHNICAL ADVISORY COMMITTEE
DON PEDRO PROJECT - FERC LICENSE 2299

MODESTO IRRIGATION DISTRICT
TURLOCK IRRIGATION DISTRICT
CITY & COUNTY OF SAN FRANCISCO
CALIFORNIA DEPARTMENT OF FISH & GAME
U. S. FISH & WILDLIFE SERVICE



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Turlock, CA 95381-0949
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TECHNICAL ADVISORY COMMITTEE MEETING

March 12, 2015 at 9:30 AM
Turlock Irrigation District, Room 152

DRAFT AGENDA

1. INTRODUCTION AND ANNOUNCEMENTS
2. ADMINISTRATIVE ITEMS:
 - Review/revise agenda
 - Approve notes from Dec 2014 meeting
 - Items since last meeting
3. MONITORING/REPORTS:
 - Fall run information – weir; river surveys
 - Ongoing monitoring – seine, screw trap, weir and red survey
 - 2014 Annual Report to FERC
4. FLOW OPERATIONS:
 - Current watershed conditions, runoff and flow volume forecasts
 - Spring flow schedule(s)
5. AGENCY/NGO UPDATES
 - Water hyacinth update – CDBW treatment plans
6. ADDITIONAL ITEMS
7. NEXT MEETING DATES – JUNE 11, SEPTEMBER 10, DECEMBER 10

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TECHNICAL ADVISORY COMMITTEE MEETING

10 December 2014 at 9:30 AM
Turlock Irrigation District, Room 152

Summary

1. INTRODUCTION AND ANNOUNCEMENTS

- Participants made self-introductions.

2. ADMINISTRATIVE ITEMS:

- Review/Revise agenda – No changes.
- Approve notes from September 2014 meeting – No changes were identified. Notes for the last meeting are posted to the TRTAC website: <http://tuolumnerivertac.com/>
- Items since last meeting – The handout list posted at <http://tuolumnerivertac.com/> was not reviewed. Due to foul weather, participants attended by phone only and had no access to the list.
- A discussion was held regarding the water hyacinth problem. TID, Fishbio and HDR will continue to monitor the problem and will meet separately from the TRTAC in order to compile their observations. The compilation of observations will be provided to California Department of Boating and Waterways so that they are better equipped to manage the problem on the Tuolumne River. Spraying is scheduled to resume in May 2015.
- Acoustic tagging data from salmon tagged in the delta is being compiled by CDFW. This data may help to inform our present understanding of adult migration. Gretchen Murphy of CDFW La Grange may be able to provide this data in the future.

3. MONITORING/REPORTS: (*Handouts were reviewed*)

- Preliminary run estimates from the Tuolumne River weir were reviewed. As of December 7th, 573 Chinook salmon had migrated upstream past the Tuolumne River weir. The Stanislaus river weir count was 5146 for the same date.
- Preliminary carcass survey data from the Merced, Tuolumne and Stanislaus Rivers were reviewed. Preliminary data also indicate that the Merced and Tuolumne Rivers are having poorer runs than the Stanislaus River (see December 2014 meeting handouts for details - posted to the TRTAC website: <http://tuolumnerivertac.com/>).
- Fall Monitoring 2014 – The counting weir remains operational.
- Redd surveys will continue this spawning season through April in order to capture O. mykiss spawning data.
- Planned Annual FERC Report progress – compilation of studies in progress.

4. **FLOW OPERATIONS:**
 - Current watershed conditions as of December 10, 2014: This water year is considered a critical water year type.
 - Base flows will remain at 150cfs through April 14, 2015.
5. **AGENCY/NGO UPDATES**
 - None
6. **ADDITIONAL ITEMS**
 - None
7. **NEXT MEETING DATE – MARCH 12, 2015.**

TRTAC Meeting Attendees

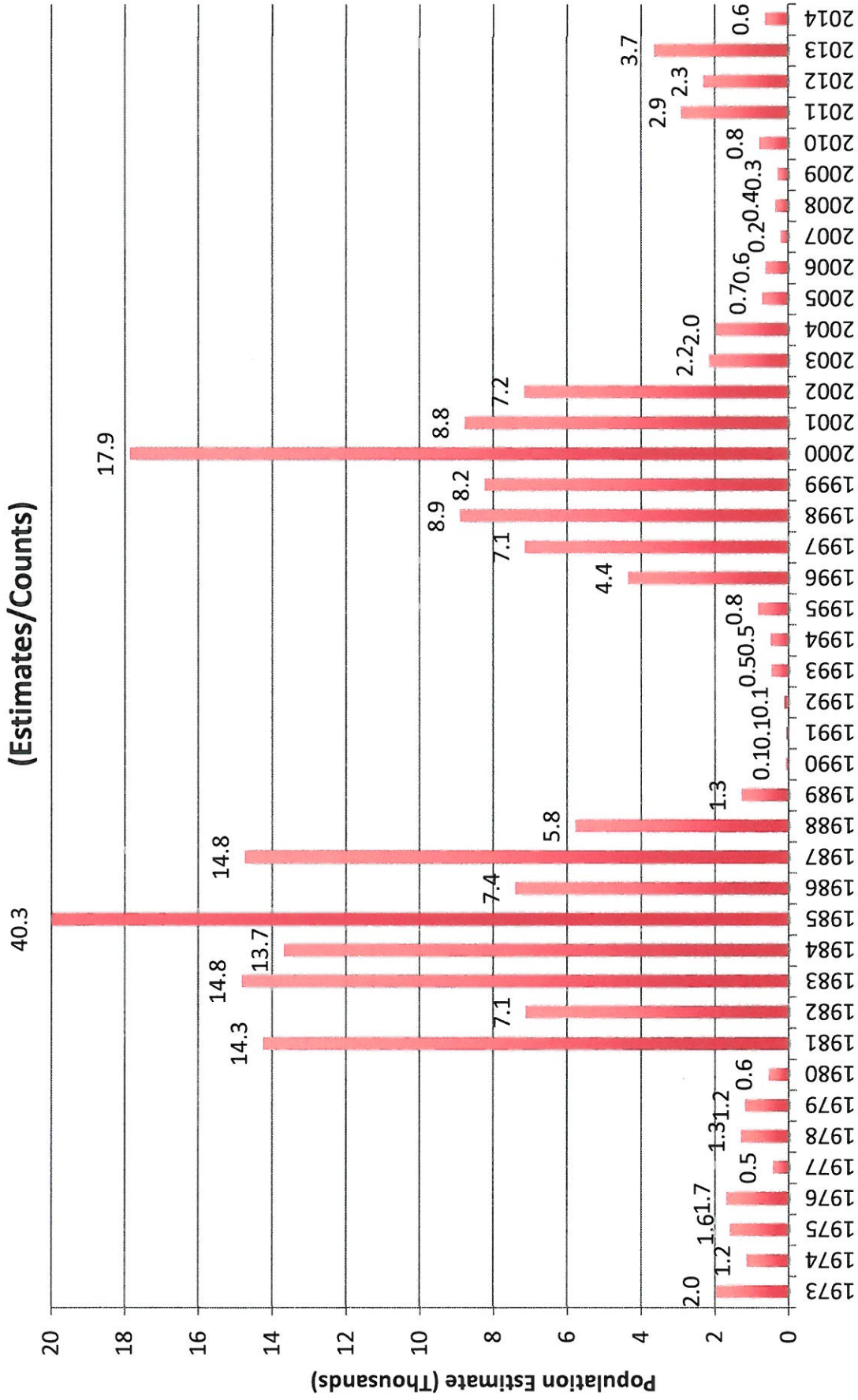
	<u>Name</u>	<u>Organization</u>
1.	Patrick Maloney	TID
2.	Jason Guignard (by phone)	FISHBIO
3.	Wayne Swaney (by phone)	Stillwater

2015 TRTAC Materials/Postings to Website

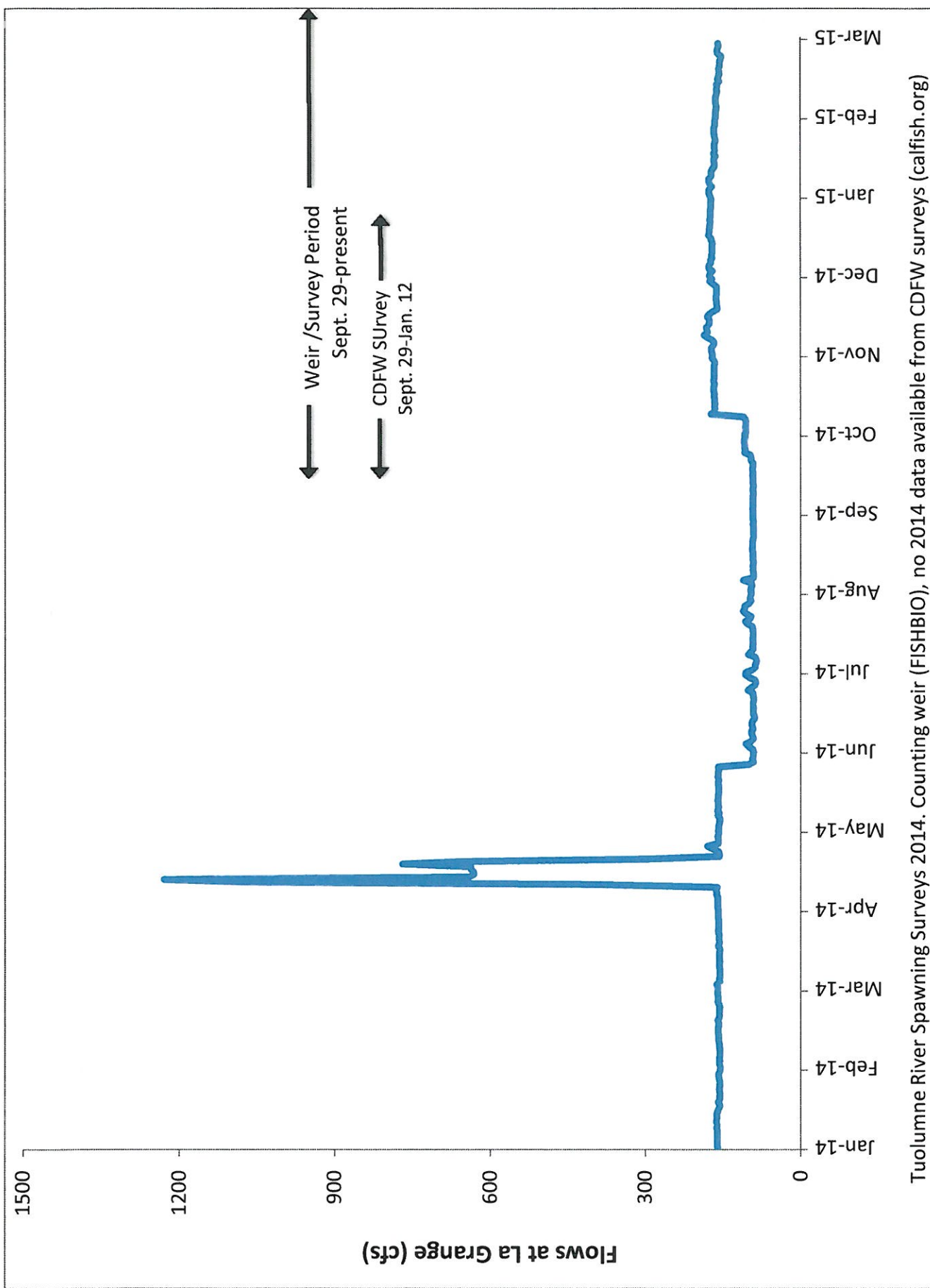
2014Dec11-2015Mar12 Postings to TRTAC website <http://tuolumnerivertac.com/>

- Meetings
 - December 2014 TRTAC meeting summary and handouts
 - March 2015 TRTAC meeting agenda
- Correspondence
 - January 20, 2015. Comments of NOAA's National Marine Fisheries Service on the Revised Study Plan for the La Grange Hydroelectric Project, P-14581.
http://elibrary.ferc.gov/idmws/file_list.asp?document_id=14292678
 - January 23, 2015. ILP Notice of Study Dispute of NOAA Fisheries Service, West Coast Region under P-14581., et. Al. http://elibrary.ferc.gov/idmws/file_list.asp?document_id=14304759
- Documents
 - No Documents
 - No postings
- Data/Monitoring
 - No postings

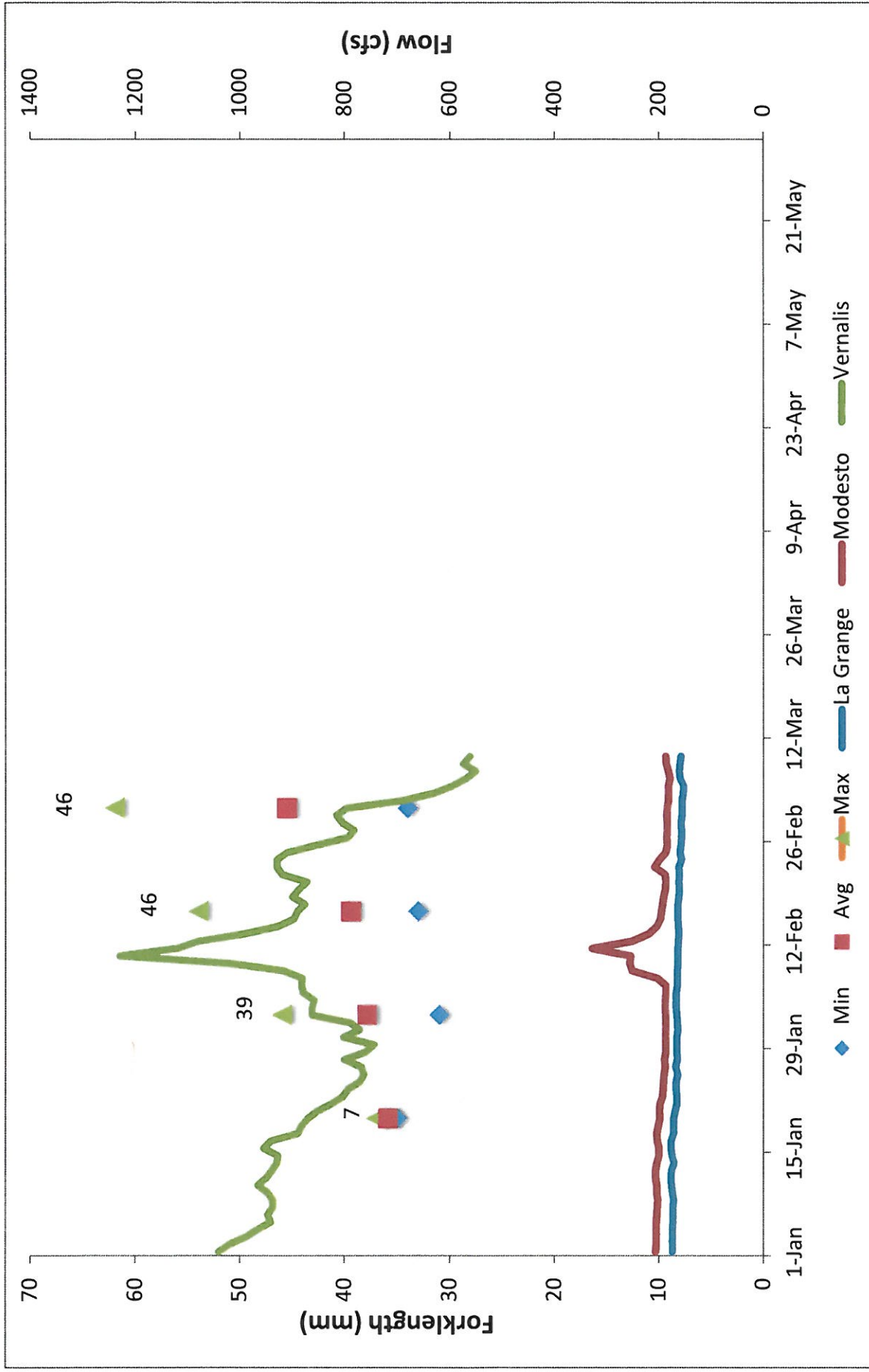
Tuolumne River Salmon Run (Estimates/Counts)



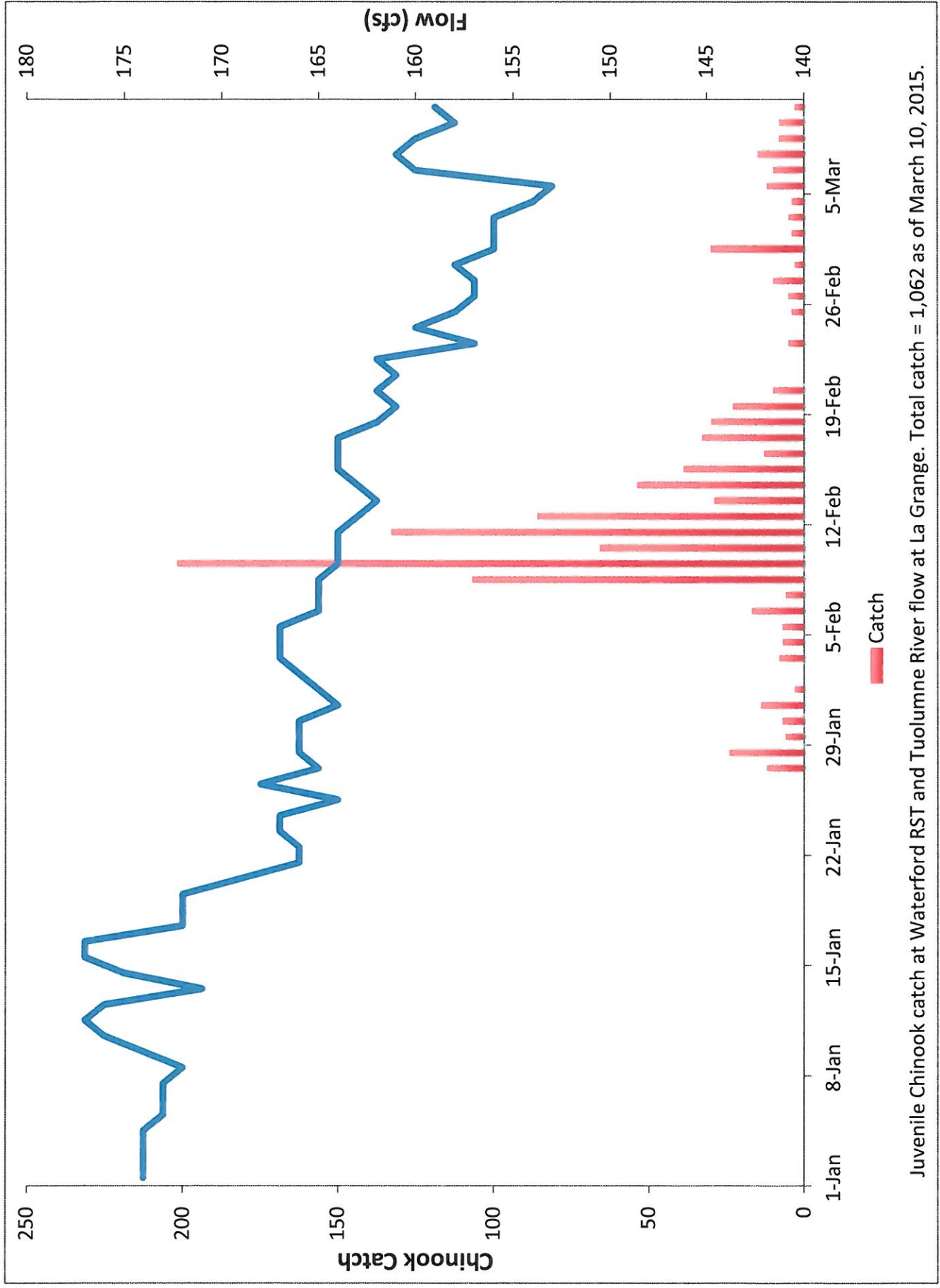
Years 2009-2014 are based on counting weir results. All previous years from CDFW surveys. Survey periods may vary for both periods.



Tuolumne River Spawning Surveys 2014. Counting weir (FISHBIO), no 2014 data available from CDFW surveys (calfish.org)



Fork length of Chinook salmon captured during seine studies vs. river flows on the Tuolumne and San Joaquine at Vernalis.



Juvenile Chinook catch at Waterford RST and Tuolumne River flow at La Grange. Total catch = 1,062 as of March 10, 2015.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Turlock Irrigation District	)	
	)	
and	)	Project No. 2299
	)	
Modesto Irrigation District	)	

DRAFT COVER

2014 LOWER TUOLUMNE RIVER
ANNUAL REPORT

2014 Annual Summary Report

Exhibits: Spawning runs, harvest data, rearing/outmigration data, Delta salvage and exports

Attachment A: Water Conditions, Flows, Temperature, and Flow Schedule
Correspondence

Attachment B: 2014 Tuolumne River Technical Advisory Committee Materials
Report 2014-1: 2014 Spawning Survey Report
Report 2014-2: Spawning Survey Summary Update
Report 2014-3: 2012 Seine Report and Summary Update
Report 2014-4: 2012 Rotary Screw Trap Report
Report 2014-5: 2012 Snorkel Report and Summary Update
Report 2014-6: 2012 Counting Weir Report

Mar 2015 SNOW COURSE READINGS

TUOLUMNE BASIN SNOW COURSE SURVEY DATA

Snow Course	Number	Elevation	Ave. W. C.	Date	Depth	W. C.	Density	% of 01APR	% of 01Mar
DANA MEADOWS	157	9,800	31.1	26-Feb	21.0	7.0	33%	23%	28%
RAFFERTY MEADOWS	158	9,400	32.8						
BOND PASS	159	9,300	44.9	25-Feb	41.0	16.5	40%	37%	49%
NEW GRACE MEADOW	368	8,900	48.0	27-Feb	39.5	16.5	42%	34%	43%
TUOLUMNE MEADOWS	161	8,600	22.7	26-Feb	1.5	1.0	67%	4%	5%
HORSE MEADOW	162	8,400	46.7	23-Feb	29.5	11.5	39%	25%	32%
WILMER LAKE	163	8,000	43.2	26-Feb	24.5	11.0	45%	25%	32%
SACHSE SPRINGS	165	7,900	38.1	23-Feb	3.0	1.0	33%	3%	3%
HUCKLEBERRY LAKE	166	7,800	41.9	24-Feb	21.0	7.5	36%	18%	23%
SPOTTED FAWN	164	7,800	45.6	25-Feb	20.5	8.0	39%	18%	22%
PARADISE MEADOW	167	7,650	39.9	26-Feb	12.5	5.5	44%	14%	18%
KERRICK CORRAL	348	7,000	23.5	2-Mar	8.0	2.0	25%	9%	9%
UPPER KIBBIE RIDGE	168	6,700	18.6	26-Feb	0.0	0.0	—	0%	0%
VERNON LAKE	169	6,700	22.4	25-Feb	1.0	0.5	50%	2%	3%
LOWER KIBBIE RIDGE	173	6,700	26.0	26-Feb	0.0	0.0	—	0%	0%
BELL MEADOW	172	6,500	15.5	2-Mar	5.5	1.0	18%	6%	7%
BEEHIVE MEADOW	171	6,500	23.5	25-Feb	0.0	0.0	—	0%	0%
Average	17 TOT.	7,862			14.3	5.6	31.9%	14%	17.1%

MERCED BASIN SNOW COURSE SURVEY DATA

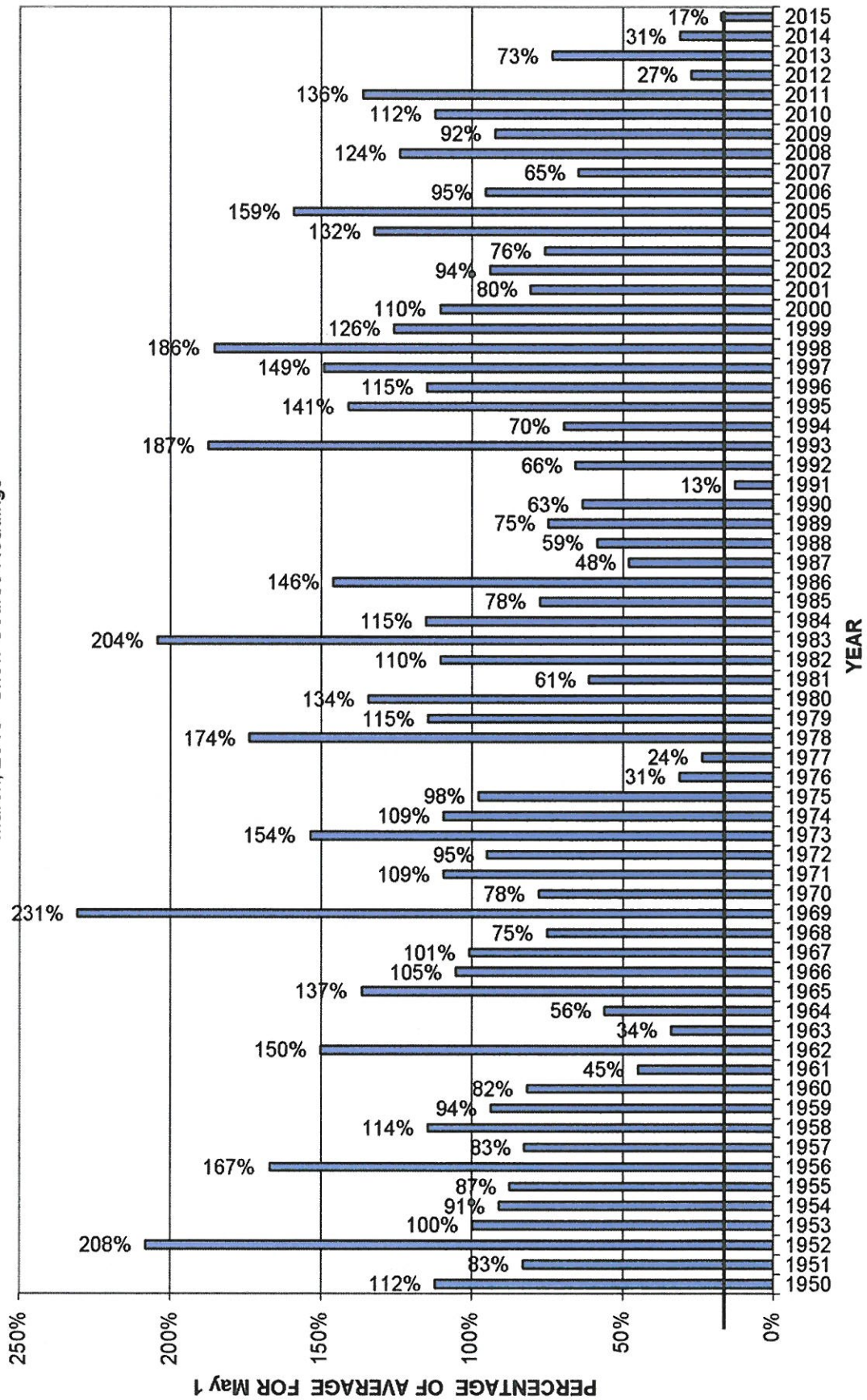
Snow Course	Number	Elevation	Ave. W. C.	Date	Depth	W. C.	Density	% of 01/APR Ave.
SNOW FLAT	176	8,700	44.5	24-Feb	21.0	8.5	40%	19%
OSTRANDER LAKE	177	8,200	32.6	25-Feb	11.0	4.5	41%	14%
LAKE TENAYA	178	8,150	33.6	24-Feb	10.0	3.5	35%	10%
GIN FLAT	179	7,000	32.0	1-Mar	10.0	2.5	25%	8%
PEREGOY MEADOWS	180	7,000	29.3	25-Feb	0.0	0.0	—	0%
Average	5 TOT.	7,810			10.4	3.8	28.2%	10%

STANISLAUS BASIN SNOW COURSE SURVEY DATA

Snow Course	Number	Elevation	Ave. W. C.	Date	Depth	W. C.	Density	% of 01APR Ave.
DEADMAN CREEK	345	9,250	35.1	26-Feb	26.5	12.0	45%	34%
CLARK FORK MEADOW	344	8,900	39.8	26-Feb	27.5	12.0	44%	30%
GIANELLI MEADOW	427	8,400	52.9					
LOWER RELIEF VALLEY	138	8,100	39.6	26-Feb	20.0	9.5	48%	24%
SODA CREEK FLAT	139	7,800	22.0	26-Feb	0.5	0.5	100%	2%
STANISLAUS MEADOW	384	7,750	51.0	24-Feb	22.0	10.5	48%	21%
EAGLE MEADOW	140	7,500	24.2	24-Feb	1.0	0.5	50%	2%
HERRING CREEK	142	7,300	28.0	24-Feb	2.0	0.5	25%	2%
RELIEF DAM	143	7,250	19.9	26-Feb	1.5	0.5	33%	3%
BLOODS CREEK	416	7,200	34.6	26-Feb	4.0	1.5	38%	4%
CORRAL MEADOW	430	6,650	19.7					
HELLS KITCHEN	373	6,550	21.8	26-Feb	0.0	0.0	—	0%
NIAGARA FLAT	145	6,500	19.6	24-Feb	0.0	0.0	—	0%
BLACK SPRINGS	386	6,500	22.0	26-Feb	0.0	0.0	—	0%
Average	13 TOT.	7,546			8.8	4.0	35.9%	10%

Tuolumne Snow Courses

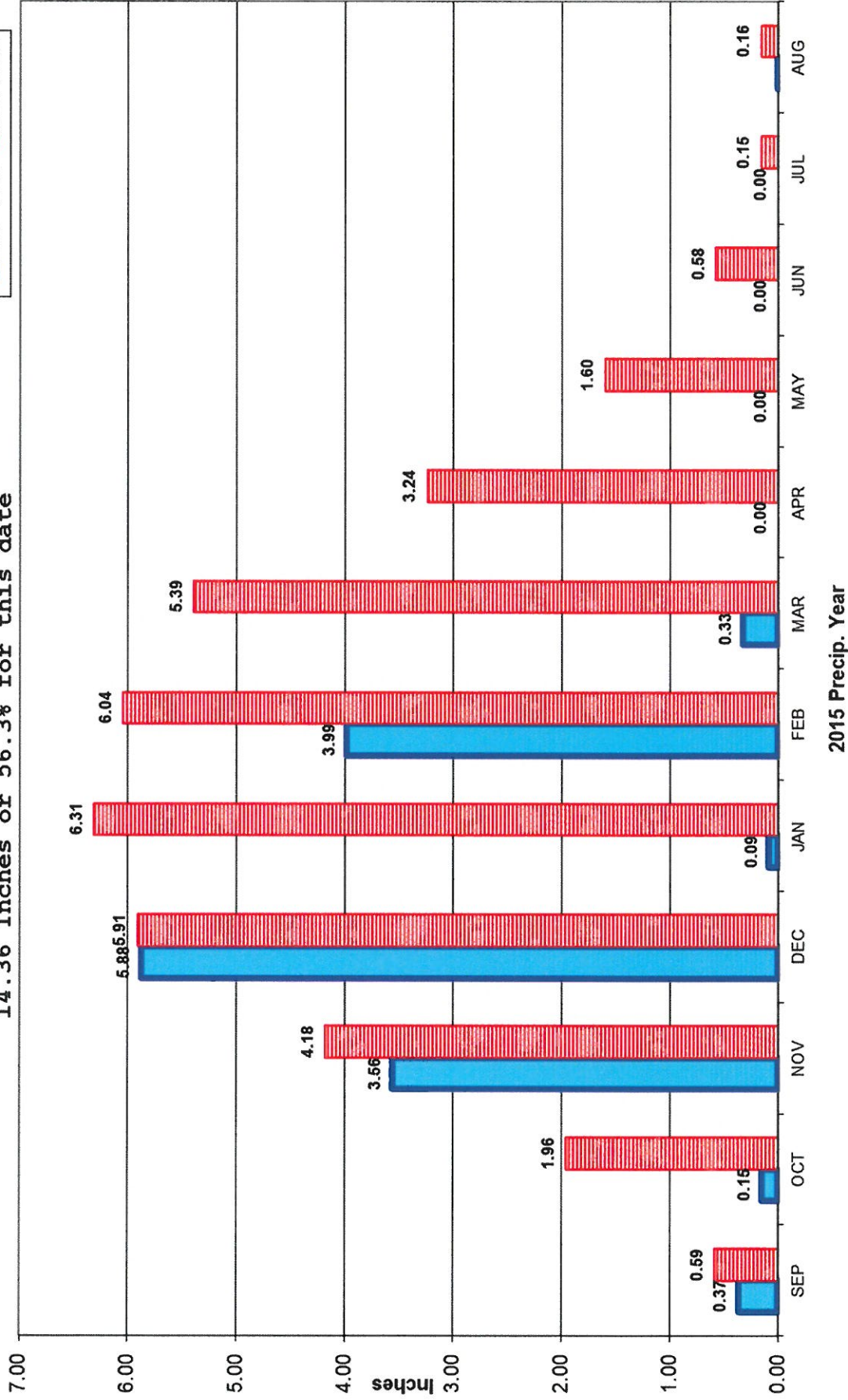
March, 2015 Snow Course Readings



Watershed Monthly Accumulation of Precipitation

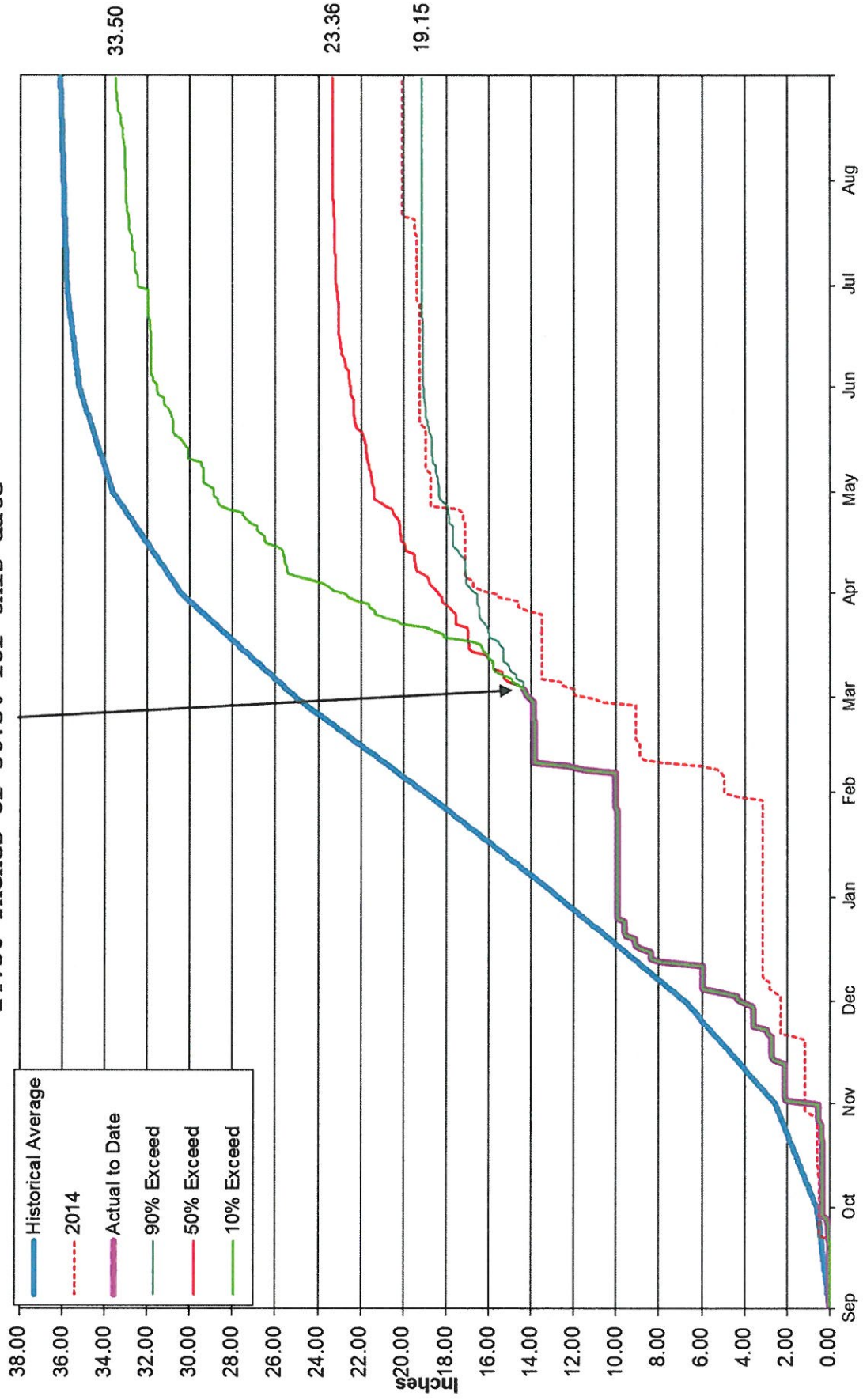
14.36 Inches or 56.3% for this date

2014 - 2015 AVERAGE



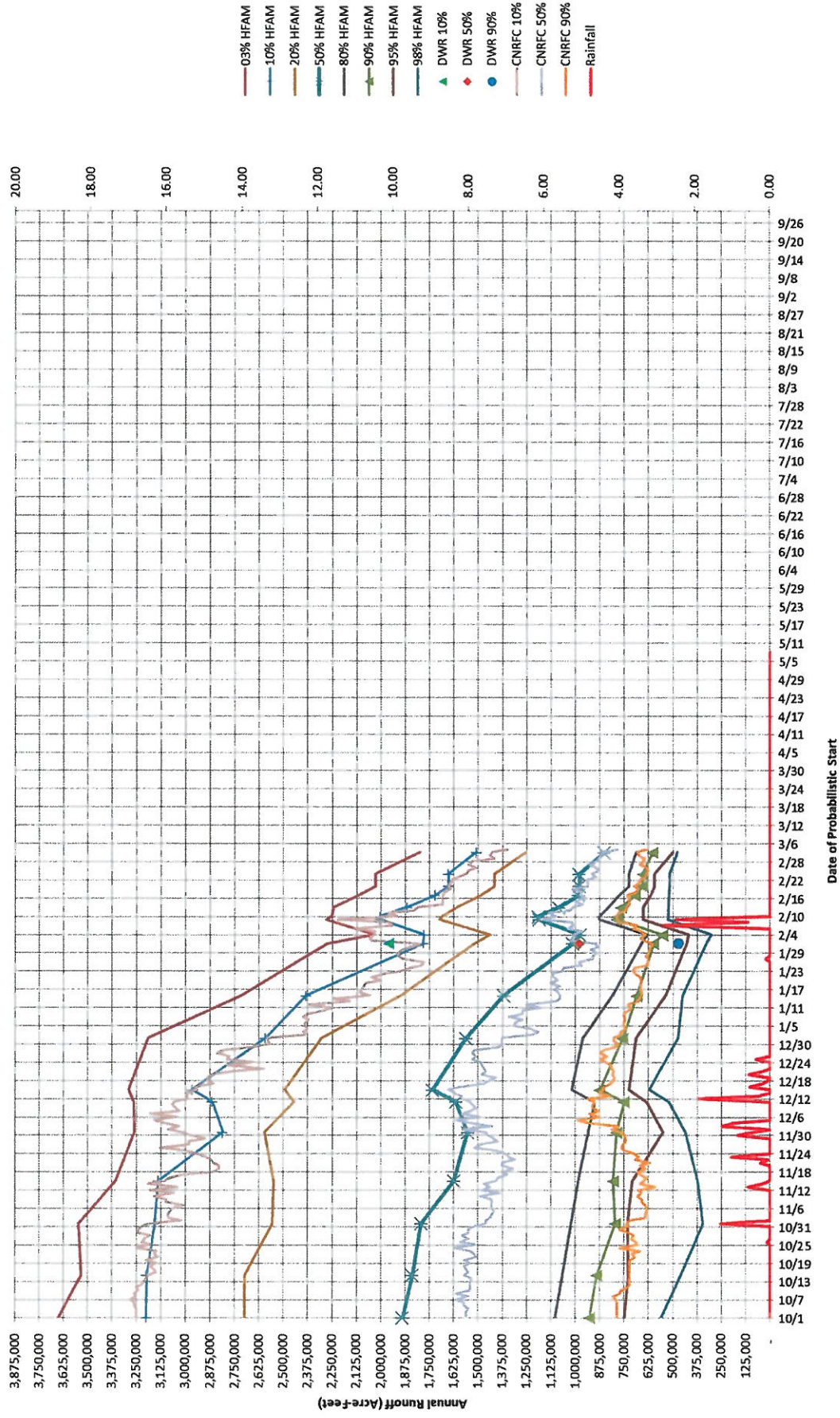
Watershed Accumulated Precipitation

14.36 Inches or 56.3% for this date



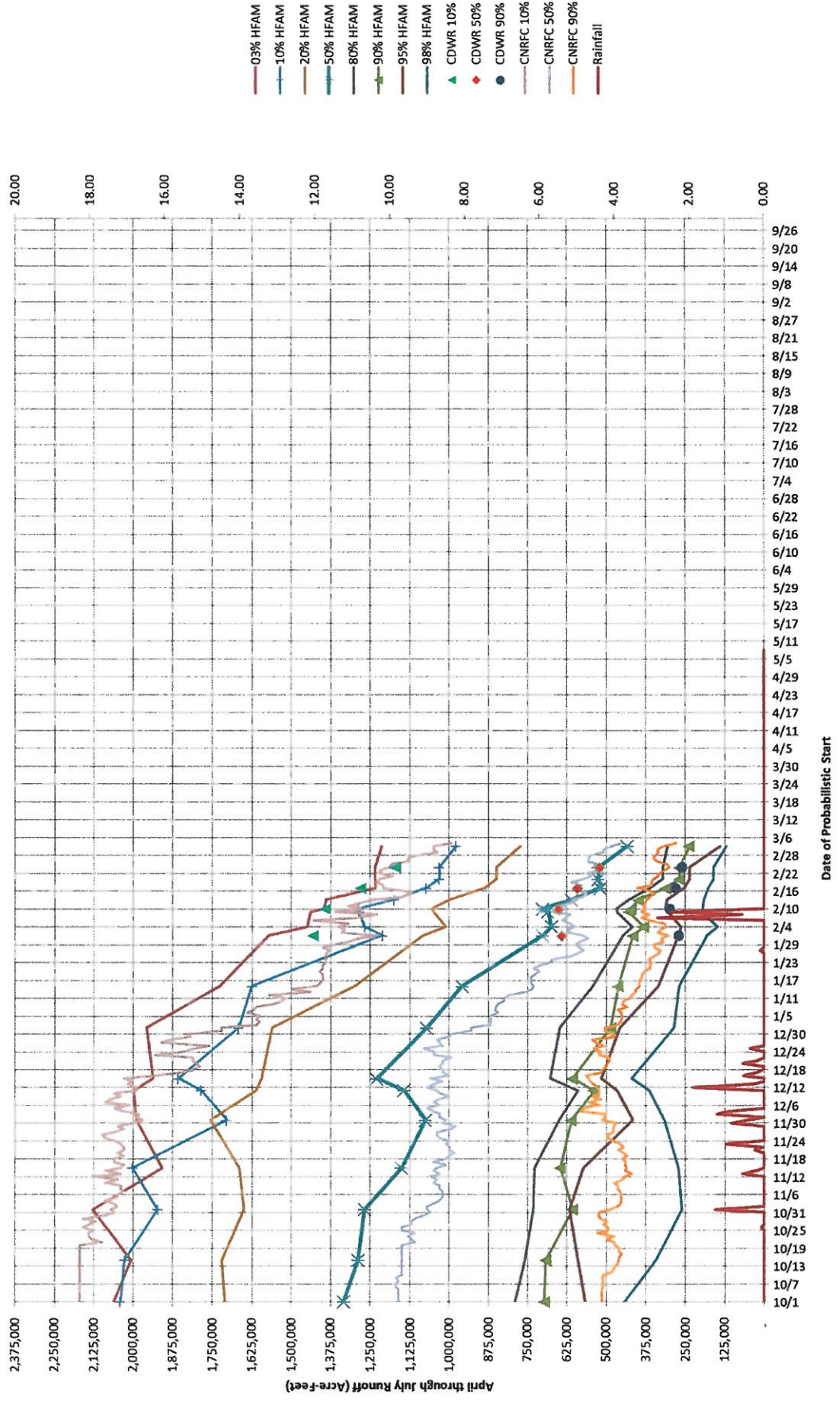
DWR, NOAA and HFAM Forecasts

HFAM Forecast of Annual Runoff (A.F.)



DWR, NOAA and HFAM Forecasts

HFAM Forecast of April through July Runoff (A.F.)



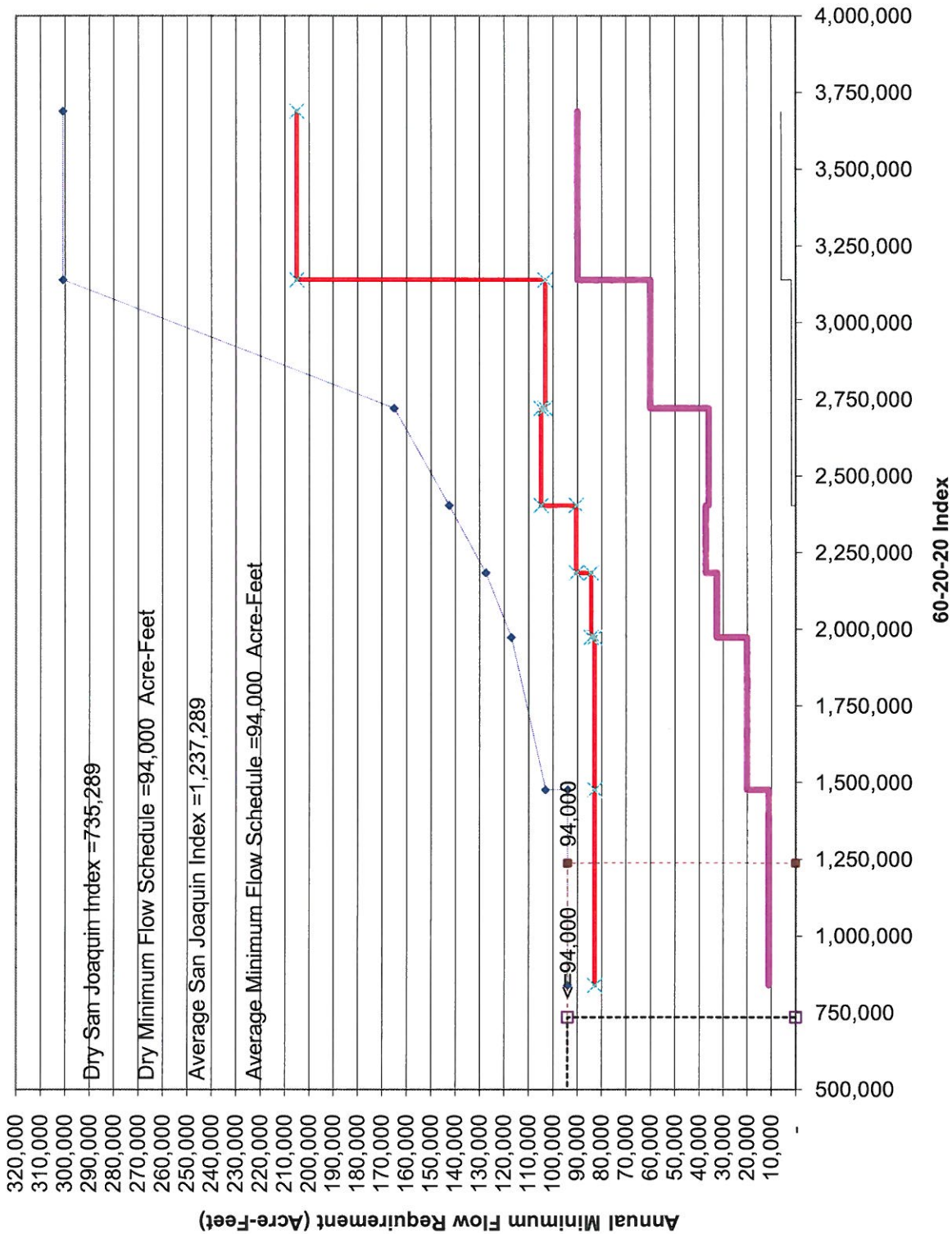
Fish

SAN JOAQUIN VALLEY WATER YEAR HYDROLOGIC CLASSIFICATION

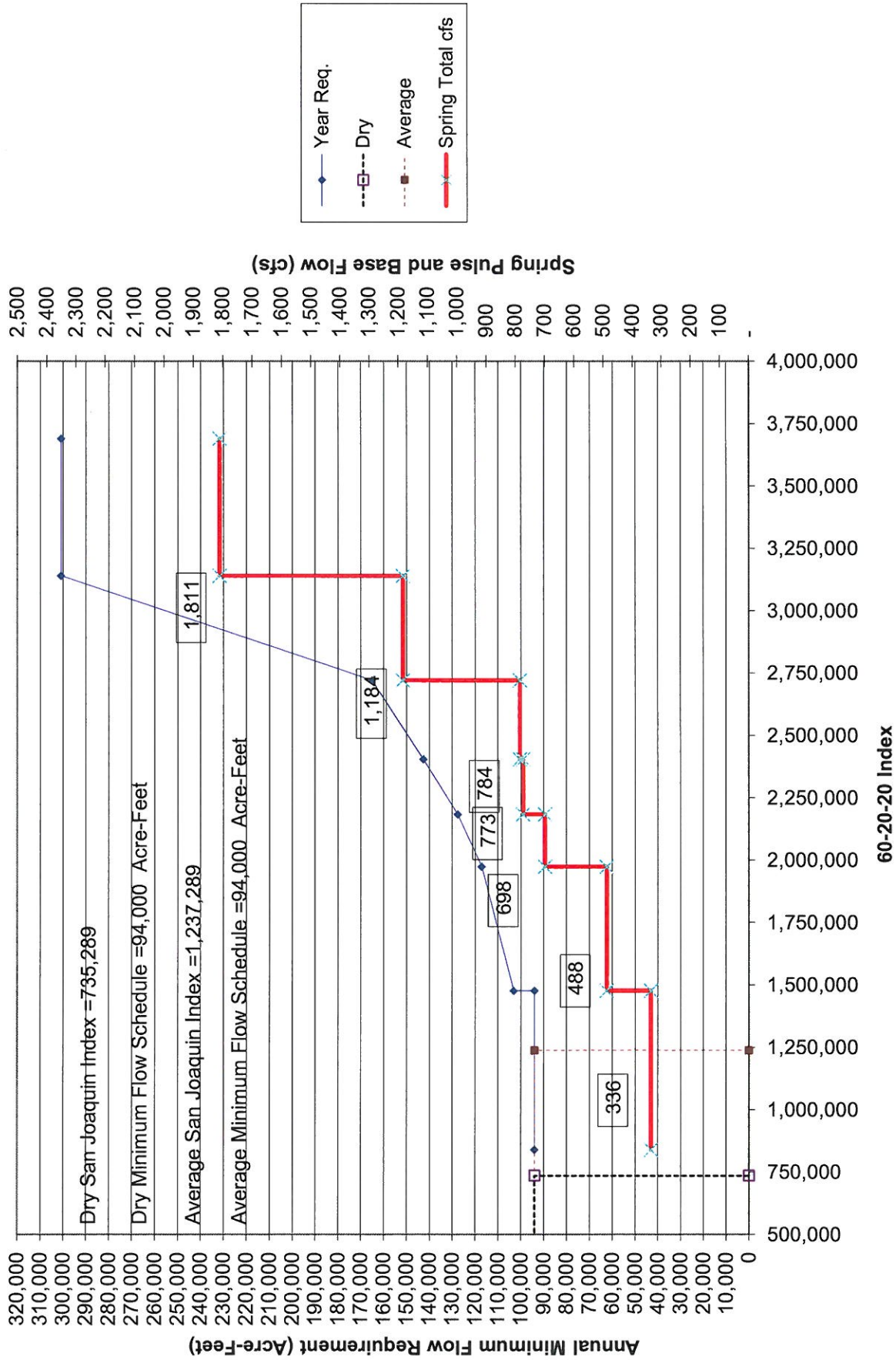
602020 INDEX

YEAR	APRIL-JULY RUNOFF (AF)				OCTOBER-MARCH RUNOFF (AF)				602020 INDEX		TUOLUMNE RIVER MINIMUM FLOW REQUIREMENT		San Joaquin Index (not the FERC Index)
	STANISLAUS	TUOLUMNE	MERCED	FRIANT	TOTAL	STANISLAUS	TUOLUMNE	MERCED	FRIANT	TOTAL	602020 INDEX	602020 INDEX	
14	235,022	423,354	178,220	375,485	1,212,081	123,492	166,401	56,318	113,744	459,955	1,160,444	94,000	Critical
15	330,000	590,000	240,000	440,000	1,600,000	207,000	329,000	122,000	198,000	856,000	1,363,289	94,000	Critical
Feb 1 Forecast													
Dry	100,000	270,000	105,000	270,000	745,000	97,000	189,000	52,000	108,000	446,000	768,289	94,000	Critical
Average	350,000	640,000	270,000	550,000	1,810,000	207,000	329,000	122,000	198,000	856,000	1,489,289	103,370	Critical
Wet	810,000	1,430,000	780,000	1,370,000	4,390,000	327,000	519,000	267,000	358,000	1,471,000	3,160,289	300,923	Above Normal
Feb 10 Update													
Dry	120,000	300,000	110,000	280,000	810,000	97,000	189,000	52,000	108,000	446,000	807,289	94,000	Critical
Average	360,000	650,000	270,000	530,000	1,810,000	207,000	329,000	122,000	198,000	856,000	1,489,289	103,370	Critical
Wet	800,000	1,390,000	730,000	1,280,000	4,200,000	327,000	519,000	267,000	358,000	1,471,000	3,046,289	270,816	Below Normal
Feb 17 Update													
Dry	105,000	280,000	110,000	240,000	735,000	97,000	189,000	52,000	108,000	446,000	762,289	94,000	Critical
Average	330,000	590,000	240,000	440,000	1,600,000	207,000	329,000	122,000	198,000	856,000	1,363,289	94,000	Critical
Wet	750,000	1,280,000	660,000	1,130,000	3,820,000	327,000	519,000	267,000	358,000	1,471,000	2,818,289	196,834	Below Normal
Feb 24 Update													
Dry	100,000	260,000	100,000	230,000	690,000	97,000	189,000	52,000	108,000	446,000	735,289	94,000	Critical
Average	300,000	520,000	200,000	370,000	1,390,000	207,000	329,000	122,000	198,000	856,000	1,237,289	94,000	Critical
Wet	700,000	1,170,000	580,000	1,000,000	3,450,000	327,000	519,000	267,000	358,000	1,471,000	2,596,289	156,207	Below Normal

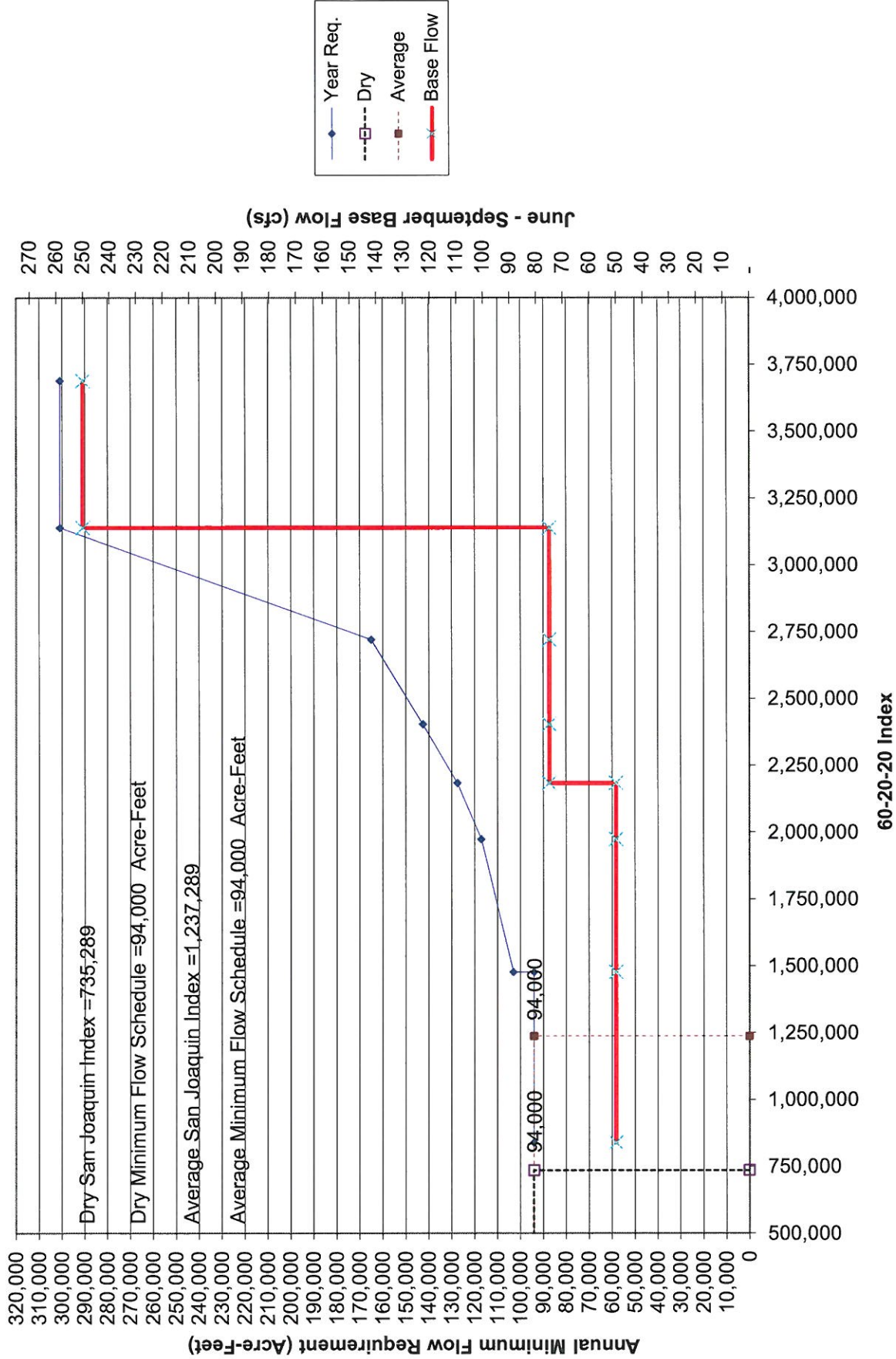
TUOLUMNE RIVER MINIMUM FLOW REQUIREMENT (Figure 1) Annual Flow Requirement



TUOLUMNE RIVER MINIMUM FLOW REQUIREMENT (Figure 2)
(Spring Pulse Flow Plus Base Flow)



TUOLUMNE RIVER MINIMUM FLOW REQUIREMENT (Figure 3)
(Summer Base Flow)



TUOLUMNE RIVER MINIMUM FLOW REQUIREMENT (Figure 4)
Interpolation Volume

