



TRINITY RIVER RESTORATION PROGRAM

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MEMORANDUM

TO: DOUG SCHLEUSNER, EXECUTIVE DIRECTOR
FROM: ROD WITTLER
SUBJECT: 2008 FLOW SCHEDULING WORK GROUP RECOMMENDATION
DATE: 10 APRIL 2008

The Flow Scheduling Work Group met in Weitchpec 9 April 2008 to formulate a recommendation for a 365-day hydrograph for the ROD-designated volume of water associated with the declared water year. We are pleased to provide that recommendation to you, the Trinity Adaptive Management Working Group (TAMWG), and the Trinity Management Council (TMC).

The water year on the Trinity in 2008 is NORMAL, according to DWR Bulletin 120, as related by CVO. Table 1 shows the April 1 projection. At the 50% exceedance level the projected annual inflow into Trinity Lake is 1,066 KAF. According to Table 2 the corresponding water year designation is NORMAL.

Table 1. April 1, 2008, DWR Bulletin 120 water year projection forwarded by CVO. (KAF)

EXCEEDANCE	OCT-MAR	APR	MAY	JUN	JUL	AUG	SEP	APR-JUL	WATER YR
90%	380	145	200	115	30	19	11	490	900
50%	380	195	255	160	40	22	14	650	1066
10%	380	260	365	235	60	27	19	920	1346

Table 2. Water Year types based on predicted annual inflow into Trinity Lake (TRFE, 1999; ROD, 2000).

WATER YEAR	LOWER ESTIMATE		UPPER ESTIMATE
Extremely Wet	2,000 KAF <	Predicted Annual Inflow to Trinity Lake	
Wet	1,350 KAF <	Predicted Annual Inflow to Trinity Lake	<2,000 KAF
Normal	1,025 KAF <	Predicted Annual Inflow to Trinity Lake	<1,350 KAF
Dry	650 KAF <	Predicted Annual Inflow to Trinity Lake	<1,025 KAF
Extremely Dry		Predicted Annual Inflow to Trinity Lake	<650 KAF

FALL PULSE FLOW RECOMMENDATION

The status of the two primary criteria for recommending a Trinity fall pulse flow is:

1. Estimated fish returns – Average to below average (depending on management of Pacific fisheries)
2. Estimated flows at Terwer – Average

Based on these two primary criteria, the Flow Scheduling Work Group does not recommend reserving ROD volume for a Trinity fall pulse flow. We do recommend continuing to monitor conditions, and secondary as well as tertiary criteria.

HISTORICAL FLOWS

Figure 1 shows the historical flows in the Trinity River since the signing of the Record of Decision (ROD) in 2000. The annual variation of flows is a substantial goal of the Flow Study.

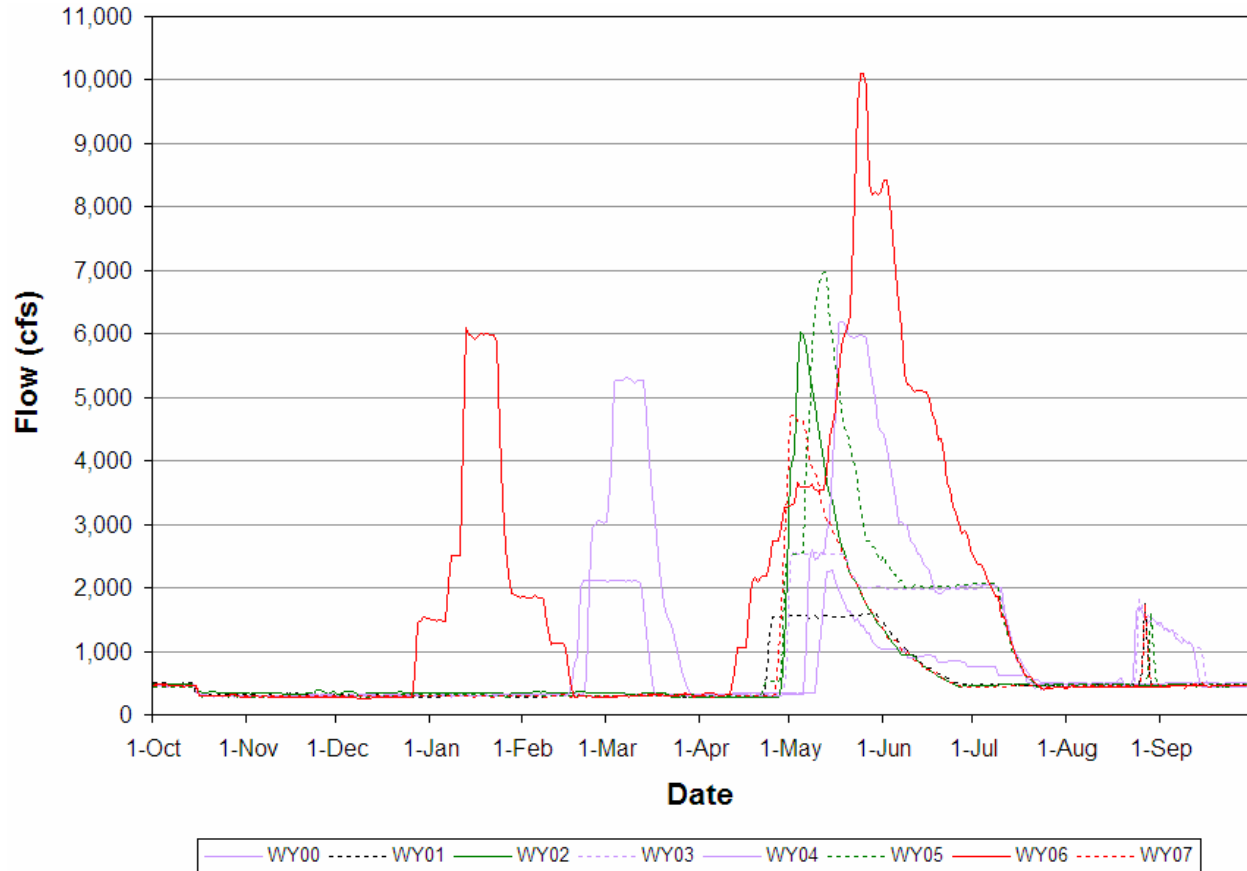


Figure 1. Historical Trinity River flows since signing of ROD.

CONSIDERATIONS

Beginning February 25, 2008, the Flow Scheduling Work group took into consideration many factors in the development of this year's recommendation. Amongst those are:

1. Data – Benches (~700 ft³/s, ~1,200 ft³/s) for Habitat Assessment field work
2. Data – Descending limb bench for RST calibration per recent Programmatic Review
3. Mgmt. – Peak adjustment (earlier – later) for floodplain vegetation initiation & frogs
4. Implementation – High-flow gravel augmentation by RIG.
5. Implementation – Indian Creek fine sediment mgmt.
6. Temperature – 2000 ft³/s spring bench; Steelhead smolt temperature on ascending limb.
7. Mgmt. – Below 450 ft³/s late summer – fringe vegetation initiation.
8. Data – < 700 ft³/s on or about July 14 - Spring run migration.
9. Mgmt. – Longer ascending limb for fine sediment flushing.
10. Fish Condition – late spawning/emergence; duration of optimal or marginal conditions for rearing
11. Outmigrant signal – ramping rate and issue of 2,000 ft³/s bench
12. Others

HYDROGRAPH AND FLOW SCHEDULE RECOMMENDATION

Figure 2 shows the hydrograph the Flow Scheduling Work Group is recommending to the program for this water year.

Key features of the hydrograph are:

1. Begin ramping up on 23 April.
2. A 9 day bench (24 Apr – 2 May) at 1,200 ft³/s on the ascending limb for habitat assessment field work.
3. Ascending to a peak of 6,175 ft³/s on 6 May.
4. Remaining at a peak of 6,175 ft³/s for 8 days (6-13 May).
5. Descending 14 May to a 4,000 ft³/s bench that starts 17 May
6. A 5 day (17-21 May) bench at 4,000 ft³/s for calibration of Rotary Screw Trap efficiency, primarily at the Pear Tree site.
7. Descending to a 2,000 ft³/s bench beginning 22 May, arriving at 2,000 ft³/s 9 Jun.
8. A 31 day bench (9 Jun – 9 Jul) at 2,000 ft³/s.
9. Descending from 2,000 ft³/s on 10 Jul arriving at 700 ft³/s 14 Jul.
10. A 12 day bench (14-25 Jul) at 700 ft³/s for two purposes; facilitation of weir installation at Junction City and habitat assessment field work.
11. Descending from 700 ft³/s on 26 Jul arriving at the summer base flow of 450 ft³/s 30 Jul.

Table 3 is a condensed version of the schedule. Note, all changes occur at 12:01 a.m. on the listed day.

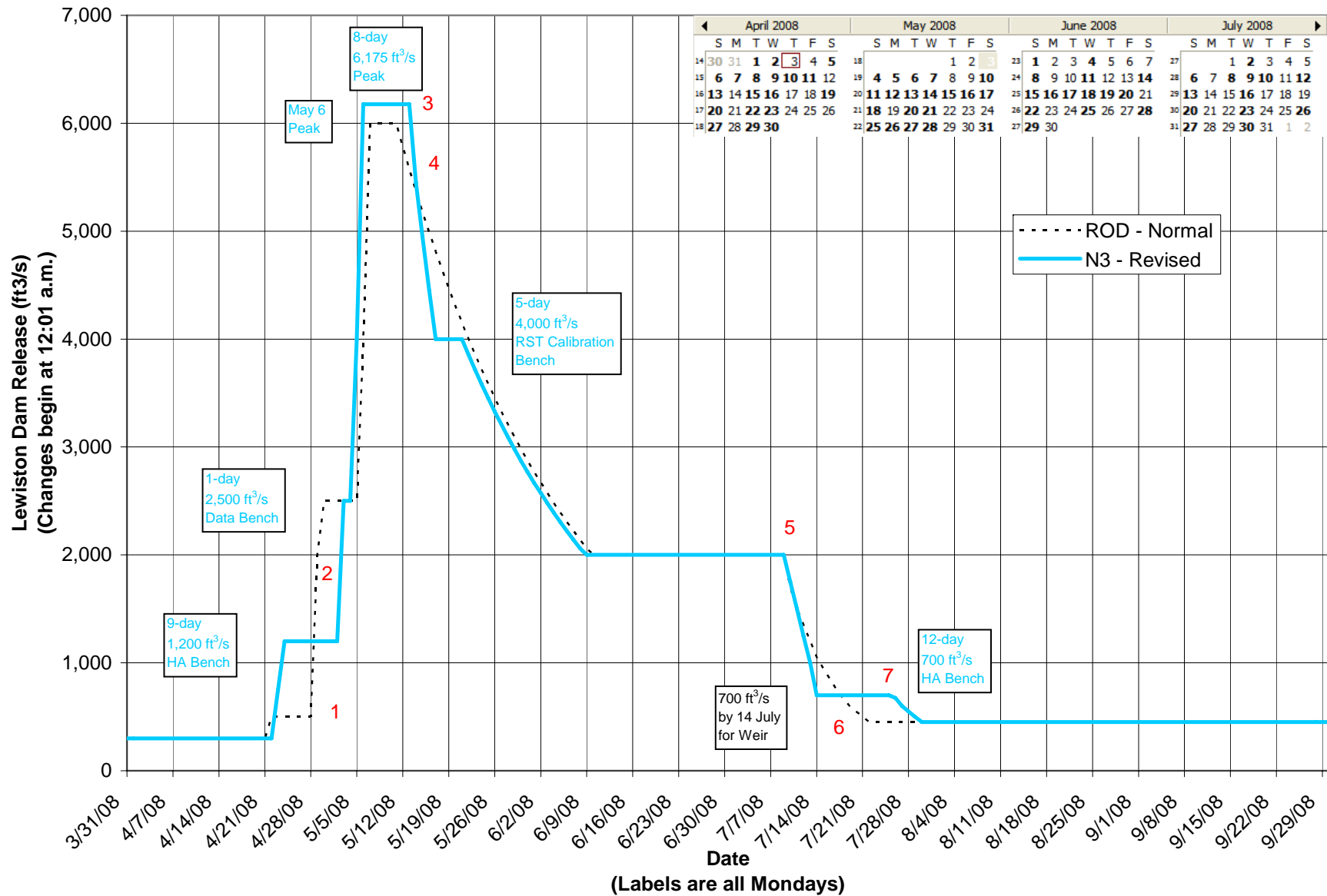


Figure 2. Recommended hydrograph for WY2008.

Table 3¹. Condensed table of daily flows recommended by the Flow Scheduling Work Group for WY 2008.

Date from	Date to	N3-Rev ft ³ /s
10/1/2007	10/15/2007	450
10/16/2007	4/22/2008	300
4/23/2008		750
4/24/2008	5/2/2008	1,200
5/3/2008		2,500
5/4/2008		2,500
5/5/2008		4,000
5/6/2008	5/13/2008	6,175
5/14/2008		5,450
5/15/2008		4,950
5/16/2008		4,450
5/17/2008	5/21/2008	4,000
5/22/2008		3,857
5/23/2008		3,717
5/24/2008		3,583
5/25/2008		3,453
5/26/2008		3,328
5/27/2008		3,208
5/28/2008		3,092
5/29/2008		2,980
5/30/2008		2,872
5/31/2008		2,768
6/1/2008		2,668
6/2/2008		2,572
6/3/2008		2,479
6/4/2008		2,389
6/5/2008		2,303
6/6/2008		2,219
6/7/2008		2,139
6/8/2008		2,062
6/9/2008	7/9/2008	2,000
7/10/2008		1,750
7/11/2008		1,500
7/12/2008		1,250
7/13/2008		1,000
7/14/2008	7/25/2008	700
7/26/2008		675
7/27/2008		600
7/28/2008		550
7/29/2008		500
7/30/2008	9/30/2008	450

¹ All changes occur at 12:01 a.m. on the listed day.

ANALYSIS

Temperature model analysis of the N3-Revised hydrograph, the Work Group recommendation, shows minor temperature differentials from the ROD flows. Figure 3 shows the model results.

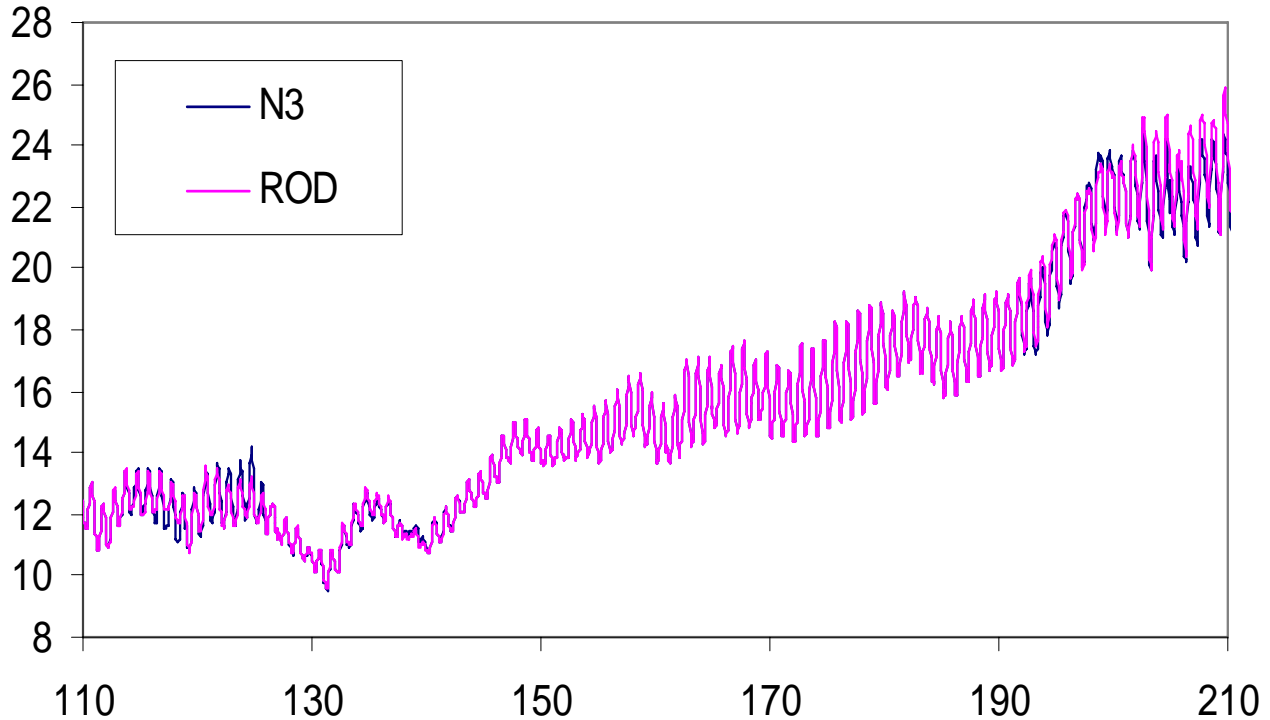


Figure 3. Temperature model (RMA-1/11) results based on N3-Revised hydrograph. Temperatures (C) at Weitchpec versus Julian day for hydrograph N3-Revised compared with normal ROD. (Day 110 is April 20, 2008)

The biggest difference is that extending the 700 ft³/s bench out to July 25 when the ROD is at 450 ft³/s keeps the daytime peak temperatures at Weitchpec a couple of degrees cooler.

The apparent small increase in temperature around Julian day 122 (May 2) is not real. The model currently can't account for the fact that starting the release sooner causes the temperature at Lewiston gate to drop sooner.

The conclusion is that temperature differentials between the ROD and N3-Revised hydrographs are not a compelling reason to reject the Work Group recommendation.