

**Appendix A**

**Comparison of 2004 Water Temperature Monitoring Data  
with 2002 and 2003 Water Temperature Monitoring Data  
during July and August for the NFFR**

**and**

**NFFR Water Temperature Sampling Locations**

**Comparison of 2004 water temperature monitoring data with 2002 and 2003 water temperature monitoring data**

Station	Year	July 1 through August 31			
		Average Water Temperature (°C)	Daily Average Exceedance of 20°C (% of days)	Maximum Hourly Water Temperature (°C)	Average Flow (cfs)
<i>River Stations</i>					
NF1	2002	14.9	0%	20.1	148
	2003	13.9	0%	19.9	225
	2004	14.3	0%	19.1	160
HB1	2002	11.9	0%	17.1	75
	2003	11.5	0%	14.9	89
	2004	11.9	0%	15.5	29
BC1	2002	13.9	0%	18.9	44
	2003	13.7	0%	19.0	65
	2004	13.4	0%	18.1	50
NF2	2002	12.9	0%	14.0	36
	2003	11.9	0%	12.8	36
	2004	21.1	98%	23.0	36
NF3	2002	14.7	0%	17.4	----
	2003	13.9	0%	17.2	----
	2004	18.4	0%	21.4	----
NF4	2002	15.4	0%	18.4	75
	2003	14.8	0%	18.8	70
	2004	16.8	0%	20.1	64
BD1	2002	21.7	95%	23.0	----
	2003	20.0	65%	22.0	----
	2004	21.2	90%	22.4	----
NF5	2002	20.1	61%	21.5	143
	2003	19.1	23%	21.0	143
	2004	20.8	79%	22.1	145
NF6	2002	19.9	48%	22.9	----
	2003	18.9	8%	22.4	----
	2004	20.4	77%	23.2	----

**Comparison of 2004 water temperature monitoring data with 2002 and 2003 water temperature monitoring data (Continued)**

Station	Year	July 1 through August 31			
		Average Water Temperature (°C)	Daily Average Exceedance of 20°C (% of days)	Maximum Hourly Water Temperature (°C)	Average Flow (cfs)
<i>River Stations</i>					
NF7	2002	19.9	50%	24.0	----
	2003	19.1	10%	23.6	----
	2004	20.3	76%	23.9	----
NF8	2002	21.1	87%	25.2	----
	2003	20.7	73%	25.4	----
	2004	21.3	100%	25.5	----
EB1	2002	22.8	97%	26.5	66
	2003	22.3	100%	27.4	128
	2004	22.3	100%	26.6	76
NF9	2002	----	----	----	----
	2003	20.0	58%	22.2	----
	2004	21.1	92%	22.2	----
NF10	2002	21.3	97%	23.4	213
	2003	20.1	65%	22.8	214
	2004	21.1	92%	22.5	272
NF11	2002	21.3	93%	24.0	----
	2003	20.3	68%	24.3	----
	2004	21.1	95%	23.9	----
NF12	2002	21.3	95%	24.0	----
	2003	20.3	66%	23.9	----
	2004	21.2	97%	23.6	----
NF13	2002	20.0	58%	24.1	----
	2003	18.5	18%	24.2	----
	2004	18.8	10%	22.8	----
NF14	2002	20.9	94%	22.8	----
	2003	19.8	34%	22.9	----
	2004	20.7	87%	22.2	----

**Comparison of 2004 water temperature monitoring data with 2002 and 2003 water temperature monitoring data (Continued)**

Station	Year	July 1 through August 31			
		Average Water Temperature (°C)	Daily Average Exceedance of 20°C (% of days)	Maximum Hourly Water Temperature (°C)	Average Flow (cfs)
<i>River Stations</i>					
NF15	2002	20.9	92%	23.5	263
	2003	19.9	42%	23.9	291
	2004	20.7	85%	23.3	273
NF16	2002	21.3	95%	23.9	----
	2003	20.1	50%	23.9	----
	2004	21.0	95%	23.4	----
<i>Tributary Stations</i>					
BC2	2002	10.7	0%	11.2	----
	2003	10.8	0%	11.9	----
	2004	10.7	0%	11.2	----
BC3	2002	12.4	0%	14.0	14.0
	2003	12.3	0%	14.3	15.1
	2004	12.6	0%	14.5	15.1
MC1	2002	14.3	0%	16.7	4.3
	2003	13.5	0%	NA	6.4
	2004	14.0	0%	16.2	5.6
YC1	2002	16.4	0%	20.1	55
	2003	15.7	0%	20.1	81
	2004	15.7	0%	18.1	64
CHIP	2002	16.3	0%	21.0	20.6
	2003	15.4	0%	20.7	30.1
	2004	15.6	0%	19.5	21.1
MR1	2002	15.7	0%	20.4	4.3
	2003	15.4	0%	21.1	11.7
	2004	15.5	0%	20.2	6.1

**Comparison of 2004 water temperature monitoring data with 2002 and 2003 water temperature monitoring data (Continued)**

Station	Year	July 1 through August 31			
		Average Water Temperature (°C)	Daily Average Exceedance of 20°C (% of days)	Maximum Hourly Water Temperature (°C)	Average Flow (cfs)
<b>Tributary Stations</b>					
CHAM	2002	16.3	0%	21.4	5.3
	2003	15.7	0%	22.2	10.1
	2004	16.0	0%	20.9	4.4
JC1	2002	16.5	0%	21.2	----
	2003	16.4	2%	22.8	----
	2004	16.5	0%	21.4	----
BUCK1	2002	17.7	3%	23.5	14.1
	2003	17.0	8%	23.5	25.1
	2004	17.3	0%	23.2	15.0
RC2	2002	17.6	0%	20.7	4.0
	2003	17.9	19%	22.7	5.5
	2004	17.4	0%	20.5	3.9
GR1	2002	18.7	19%	22.7	20.8
	2003	17.8	13%	22.7	27.4
	2004	18.4	3%	22.3	19.5
MB1	2002	21.1	76%	25.3	----
	2003	20.5	42%	24.6	----
	2004	20.7	76%	24.1	----

**Comparison of 2004 water temperature monitoring data with 2002 and 2003 water temperature monitoring data (Continued)**

Station	Year	July 1 through August 31			
		Average Water Temperature (°C)	Daily Average Exceedance of 20°C (% of days)	Maximum Hourly Water Temperature (°C)	Average Flow (cfs)
<b>Powerhouse Stations</b>					
HB2	2002	15.4	0%	21.6	51
	2003	15.6	0%	21.2	89
	2004	14.7	0%	19.4	23
BV1	2002	20.7	85%	22.6	865
	2003	18.6	15%	20.8	1,281
	2004	20.4	69%	22.1	1,445
CARB1	2002	20.4	68%	22.2	401
	2003	18.8	0%	20.3	406
	2004	20.6	74%	22.1	542
CARB2	2002	22.9	100%	24.7	408
	2003	20.9	80%	24.1	873
	2004	22.0	100%	23.4	841
BD2	2002	21.5	93%	22.8	759
	2003	20.0	65%	21.8	1,195
	2004	21.3	92%	22.3	1,283
BUCK2	2002	15.5	0%	20.0	98
	2003	13.4	0%	20.1	125
	2004	13.6	0%	15.9	164
RC1	2002	21.5	97%	22.8	925
	2003	20.5	77%	22.7	1,478
	2004	21.6	97%	22.7	1,455
CR1	2002	21.2	100%	22.8	977
	2003	19.9	47%	22.7	1,581
	2004	20.7	89%	21.9	1,627

**Comparison of 2004 water temperature monitoring data with 2002 and 2003 water temperature monitoring data (Continued)**

Classification	2002	2003	2004
<b>Watershed Runoff</b>			
Water Year classification	Dry	Above Normal	Below Normal
State Runoff Index	6.5	8.0	7.7
Watershed Precipitation <sup>1</sup>	72%	110%	82%
Total Annual Inflow to Lake Oroville <sup>2</sup>	3,072,482 acft	4,674,077 acft	3,803,803 acft
Water Year Type – Feather River <sup>3</sup>	Dry	Normal	Normal
<b>Air Temperature Exceedance</b>			
Canyon Dam Annual Ranking	18%	0%	2%
Canyon Dam June Ranking	15%	4%	17%
Canyon Dam July Ranking	2%	4%	25%
Canyon Dam August Ranking	23%	38%	25%
Canyon Dam Sept. Ranking	23%	5%	55%

1. Average based on four stations within the watershed.
2. CDEC – 2004.
3. Based on definition outlined in Rock Creek-Cresta Settlement Agreement.

Note: Table 3-8 from PG&E 2005c. *Rock Creek-Cresta Project FERC Project No. 1962, Water Temperature Monitoring of 2004, Data Report, FERC License Condition No. 4C.* Report No. 026.11.05.6. May.

## NFFR Water Temperature Sampling Locations

Station ID	Alternate Station Identification	Station Location
<i>River Stations</i>		
NF1	----	NFFR above Chester, CA.
HB1	----	Hamilton Branch of NFFR at HWY bridge
BC1	----	Butt Creek upstream of Butt Valley Reservoir
NF2	----	NFFR below Canyon Dam
NF3	----	NFFR at Seneca
NF4	NF-47 (PG&E)	NFFR above Caribou No.1 Powerhouse
BD1	----	Belden Reservoir at powerhouse intake
NF5	---	NFFR below Belden Dam
NF6	----	NFFR near Queen Lily Campground
NF7	----	NFFR near Gansner Bar
NF8	----	NFFR at Belden Town Bridge
EB1	----	East Branch of NFFR above confluence
NF9	----	NFFR below Rock Creek Dam
NF10	----	NFFR below Rock Creek Dam at NF-57
NF11	----	NFFR below Granite Creek
NF12	----	NFFR above confluence with Bucks Creek
NF13	----	NFFR above Rock Creek Powerhouse
NF14	----	NFFR below Cresta Dam
NF15	----	NFFR downstream of Grizzly Creek
NF16	----	NFFR upstream of Cresta Powerhouse
<i>Tributary Stations</i>		
BC2	----	Butt Creek downstream of Butt Valley Reservoir
BC3	----	Butt Creek near confluence with NFFR
MC1	----	Mosquito Creek near mouth
YC1	----	Yellow Creek near mouth
CHIP	----	Chips Creek near mouth
MR1	----	Milk Ranch Creek near mouth
CHAM	----	Chambers Creek near mouth
JC1	----	Jackass Creek near mouth
BUCK1	11-403700	Bucks Creek near mouth
RC2	----	Rock Creek near mouth
GR1	----	Grizzly Creek near mouth
MB1	----	Middle Fork Feather River at Milsap Bar



## NFFR Water Temperature Sampling Locations

Station ID	Alternate Station Identification	Station Location
<i>Powerhouse Stations</i>		
HB2	----	Hamilton Branch Powerhouse – canal head-works
BV1	----	Butt Valley Powerhouse Tailrace
CARB1	----	Caribou No. 1 Powerhouse (internal)
CARB2	----	Caribou No. 2 Powerhouse tailrace (internal)
BD2	----	Belden Powerhouse (internal)
BUCK2	----	Bucks Creek Powerhouse tailrace
RC1	11-403800	Rock Creek Powerhouse (internal)
CR1	----	Cresta Powerhouse (internal)

