

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)
Tributary Stations					
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)
Powerhouse Stations					
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
Watershed Runoff			
Water Year classification	Dry	Above Normal	Below Normal
State Runoff Index	6.5	8.0	7.7
Watershed Precipitation ¹	72%	110%	82%
Total Annual Inflow to Lake Oroville ²	3,072,482 acft	4,674,077 acft	3,803,803 acft
Water Year Type – Feather River ³	Dry	Normal	Normal
Air Temperature Exceedance			
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)

