

Appendix A. Criteria evaluation details for Brown Creek, Falls Creek and Graham Creek, January 2009.

**Temperature Criteria Summary for Brown Creek and its Tributaries
Brown Creek Assessment Unit ID17010301PN026_02**

The water temperature criterion for aquatic life was assessed on Brown Creek and its tributary, Rookie Creek. Brown Creek data was divided into two sections: lower and upper. The beneficial uses tested were cold water aquatic life, salmonid spawning, Idaho bull trout, and EPA bull trout criteria. Brown Creek exceeded temperature criteria for salmonid spawning, as well as Idaho bull trout and EPA bull trout, but did not exceed cold water aquatic life criteria. Within these date ranges there were 1-3 degree temperature exceedances. Within these date ranges, there were exceedances of the EPA Bull Trout Criteria of 10°C maximum weekly maximum temperature 81% of the time. Overall assessment of Brown Creek is that it **EXCEEDS** water quality temperature standards.

Missing Brown Creek Upper for 2001?

Site 1: Brown Creek Upper for 2000

Dates available for evaluation: July 18-Sept 4

Criteria Evaluated	Temperature Criteria	Dates
Cold Water Aquatic Life	22°C MDMT	All year
	19°C MDAT	

Days Exceeding Criteria: none

Conclusions: **NOT EXCEEDING**

Criteria Evaluated	Temperature Criteria	Dates	
Salmonid Spawning	13°C MDMT (inst	Spring Spawning > 4000ft Jun1- July31	Fall Spawning Aug 15- Nov 15
	9°C MDAT	3000-4000ft May15-July15	
		<3000ft May1- July1	

Conclusions: **EXCEEDS**

Brown Creek is <3000ft (May 1-July 1)

Days Exceeding 13°C Criteria: none

Days Exceeding 9°C Criteria:

-Aug 15-Aug 27

-Aug 30-Sept 4

Total Days: 17

Maximum Temperature: 10.00°C

Difference: 1.00 degrees

Criteria Evaluated	Temperature Criteria	Dates
Idaho Bull Trout	13°C MWMT	June 1- Aug 31
	9°C MDAT	Sept 1- Oct 31

Conclusions: **EXCEEDS**

Days Exceeding 13°C Criteria:

- Aug 4- Aug 11

Maximum Temperature: 13.13°C

Difference: 0.13 degrees

Total Days: 8

Days Exceeding 9°C Criteria:

-Sept 1-Sept 2

Maximum Temperature: 9.50°C

Difference: 0.50 degrees

Total Days: 2

Criteria Evaluated	Temperature Criteria	Dates
EPA Bull Trout	10°C MWMT	June 1- Sept 30

Conclusions: **EXCEEDS**

Days Exceeding 10°C Criteria:

-July 24-Sept 3

Maximum Temperature: 12.04°C

Difference: 2.04 degrees

Total Days: 42

Site 2: Brown Creek for 2007

Dates available for evaluation: June 7-Oct 2

Criteria Evaluated	Temperature Criteria	Dates
Cold Water Aquatic Life	22°C MDMT	All year
	19°C MDAT	

Days Exceeding Criteria: none

Conclusions: **NOT EXCEEDING**

Criteria Evaluated	Temperature Criteria	Dates	
Salmonid Spawning	13°C MDMT (inst	Spring Spawning > 4000ft Jun1- July31	Fall Spawning Aug 15- Nov 15
	9°C MDAT		
		3000-4000ft May15-July15	
		<3000ft May1- July1	

Conclusions: **EXCEEDS**

Brown Creek is <3000ft (May 1-July 1)

Days Exceeding 13°C Criteria:

-July 3-July 14
 -Aug 15
 -Aug 17-Aug 18
 -Sept 1-Sept 2
 -Sept 4
 Total Days: 19

Maximum Temperature: 15.47°C
 Difference: 2.47 degrees

Days Exceeding 9°C Criteria:

-June 9-June 10
 -June 19- July 1
 -Aug 15- Sept 19

Maximum Temperature: 13.70°C
 Difference: 4.7 degrees

Total Days: 36

Criteria Evaluated	Temperature Criteria	Dates
Idaho Bull Trout	13°C MDMT	June 1- Aug 31
	9°C MDAT	Sept 1- Oct 31

Conclusions: **EXCEEDS**

Days Exceeding 13°C Criteria:

- July 1- Aug 19

Maximum Temperature: 15.71°C
 Difference: 2.71 degrees

Total Days: 46

Days Exceeding 9°C Criteria:

-Sept 1-Sept 19

Maximum Temperature: 11.97°C
 Difference: 2.97 degrees

Total Days: 20

Criteria Evaluated	Temperature Criteria	Dates
EPA Bull Trout	10°C MWMT	June 1- Sept 30

Conclusions: **EXCEEDS**

Days Exceeding 10°C Criteria:

-June 14- June 15
 -June 20-Sept 20

Maximum Temperature: 15.71°C
 Difference: 5.71 degrees

Total Days: 95

Site 3: Rookie Creek data available for 2005

Dates available for evaluation: May 24-Sept 20

Criteria Evaluated	Temperature Criteria	Dates
Cold Water Aquatic Life	22°C MDMT	All year
	19°C MDAT	

Days Exceeding Criteria: none

Conclusions: **NOT EXCEEDING**

Criteria Evaluated	Temperature Criteria	Dates	
Salmonid Spawning	13°C MDMT	Spring Spawning > 4000ft Jun1- July31	Fall Spawning Aug 15- Nov 15
	9°C MDAT	3000-4000ft May15-July15	
		<3000ft May1- July1	

Conclusions: **EXCEEDS**

Rookie Creek is <3000ft (May 1-July 1)

Days Exceeding 13°C Criteria: none

Days Exceeding 9°C Criteria:

-May 29

-June 20-July 1

-Aug 15-Aug 26

-Aug 27-Sept 15

Total Days: 46

Maximum Temperature: 11.51°C

Difference: 2.51 degrees

Criteria Evaluated	Temperature Criteria	Dates
Idaho Bull Trout	13°C MDMT	June 1- Aug 31
	9°C MDAT	Sept 1- Oct 31

Conclusions: **EXCEEDS**

Days Exceeding 13°C Criteria: none

Days Exceeding 9°C Criteria:

-Sept 1-Sept 15

-Sept 17

Total Days: 16

Maximum Temperature: 10.70°C

Difference: 1.70 degrees

Criteria Evaluated	Temperature Criteria	Dates
EPA Bull Trout	10°C MWMT	June 1- Sept 30

Conclusions: **EXCEEDS**

Days Exceeding 10°C Criteria:

-June 24-Sept 10

Total Days 79

Maximum Temperature: 12.61°C

Difference: 2.61 degrees

**Temperature Criteria Summary for Falls Creek
Falls Creek Assessment Unit ID17010301PN011_02**

The water temperature criteria for aquatic life were assessed on Falls Creek. Dates available in 2001 were Aug 1-Oct 3. Dates available for 2002 were Jun 8-Oct 16. The beneficial uses tested were cold water aquatic life, salmonid spawning, Idaho bull trout, and EPA bull trout criteria. Falls Creek exceeded temperature criteria for salmonid spawning, as well as Idaho bull trout and EPA bull trout, but did not exceed cold water aquatic life criteria. Within these date ranges there were up to 0.5-4 degree temperature exceedances. Within these date ranges, there were exceedances of the EPA Bull Trout Criteria of 10°C maximum weekly maximum temperature 83% of the time. Overall assessment of Falls Creek is that it **EXCEEDS** water quality temperature standards.

Site 1: Falls Creek data available for 2001

Dates available for evaluation: Aug 1-Oct 3

Criteria Evaluated	Temperature Criteria	Dates
Cold Water Aquatic Life	22°C MDMT	All year
	19°C MDAT	

Days Exceeding Criteria: none

Conclusions: **NOT EXCEEDING**

Criteria Evaluated	Temperature Criteria	Dates	
Salmonid Spawning	13°C MDMT (instantaneous)	Spring Spawning > 4000ft Jun1- July31	Fall Spawning Aug 15- Nov 15
	9°C MDAT	3000-4000ft May15-July15	
		<3000ft May1- July1	

Conclusions: **EXCEEDS**

Falls Creek is <3000ft (May 1-July 1)

Days Exceeding 13°C Criteria:

-Aug 15-Aug 18

Total Days: 4

Maximum Temperature: 13.87°C

Difference: 0.87 degrees

Days Exceeding 9°C Criteria:

-Aug 15-Sept 5

-Sept 13-Sept 17

-Sept 26-Sept 28

Total Days: 30

Maximum Temperature: 10.35°C

Difference: 1.35 degrees

Criteria Evaluated	Temperature Criteria	Dates
Idaho Bull Trout	13°C MDMT	June 1- Aug 31

	9°C MDAT	Sept 1- Oct 31
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Conclusions: **EXCEEDS**

Days Exceeding 13°C Criteria:

-Aug 7-Aug 21

Maximum Temperature: 14.11°C

Total Days: 15

Difference: 1.11 degrees

Days Exceeding 9°C Criteria:

-Sept 1-Sept 5

Maximum Temperature: 9.40°C

-Sept 13-Sept 17

Difference: 0.40 degrees

-Sept 26-Sept 28

Total Days: 13

Criteria Evaluated	Temperature Criteria	Dates
EPA Bull Trout	10°C MWMT	June 1- Sept 30

Conclusions: **EXCEEDS**

Days Exceeding 10°C Criteria:

-Aug 7-Sept 24

Maximum Temperature: 14.11°C

-Sept 25-Sept 29

Difference: 4.11 degrees

Total Days: 53

Site 2: Falls Creek data available for 2002

Dates available for evaluation: Jun 8-Oct 16

Criteria Evaluated	Temperature Criteria	Dates
Cold Water Aquatic Life	22°C MDMT	All year
	19°C MDAT	

Days Exceeding Criteria: none

Conclusions: **NOT EXCEEDING**

Criteria Evaluated	Temperature Criteria	Dates
Salmonid Spawning	13°C MDMT (instantaneous)	Spring Spawning > 4000ft Jun1- July31
	9°C MDAT	Fall Spawning Aug 15- Nov 15
		3000-4000ft May15-July15
<3000ft May1- July1		

Conclusions: **EXCEEDS**

Falls Creek is <3000ft (May 1-July 1)

Days Exceeding 13°C Criteria: none

Days Exceeding 9°C Criteria:

-June 26-Jun 27

Maximum Temperature: 11.04°C

-Aug 15-Aug 16

Difference: 2.04 degrees

**Temperature Criteria Summary for Graham Creek
Graham Creek Assessment Unit ID17010301PN002_03**

The water temperature criterion for aquatic life was assessed on Graham Creek using DEQ data. Dates available in 1999 were July 21-Oct 21. This criterion was used in evaluating if the temperature of the stream exceeds criteria for beneficial uses. The beneficial uses tested were cold water aquatic life, salmonid spawning, Idaho bull trout, and EPA bull trout criteria. Graham Creek exceeded temperature criteria for salmonid spawning, as well as Idaho bull trout and EPA bull trout but did not exceed cold water aquatic life criteria. Within these date ranges there was up to 0.5-4 degree temperature exceedances. Within these date ranges, there were exceedances of the EPA Bull Trout Criteria of 10°C maximum weekly maximum temperature with an average of 84% of the time. Overall assessment of Falls Creek is that it EXCEEDS water quality temperature standards.

Site 1: Graham Creek data available for 1999

Dates available for evaluation: July 2- Oct 21

Criteria Evaluated	Temperature Criteria	Dates
Cold Water Aquatic Life	22°C MDMT	All year
	19°C MDAT	

Days Exceeding Criteria: none

Conclusions: **NOT EXCEEDING**

Criteria Evaluated	Temperature Criteria	Dates	
Salmonid Spawning	13°C MDMT (inst 9°C MDAT	Spring Spawning > 4000ft Jun1- July31	Fall Spawning Aug 15- Nov 15
		3000-4000ft May15-July15	
		<3000ft May1- July1	

Conclusions: **EXCEEDS**

Graham Creek is <3000ft (May 1-July 1)

Days Exceeding 13°C Criteria:

- Aug 17-Aug 27

- Aug 29

Maximum Temperature: 14.1°C

Total Days: 12

Difference: 1.1 degrees

Days Exceeding 9°C Criteria:

-Aug 15-Sept 26

Maximum Temperature: 12.63°C

Difference: 3.63 degrees

Total Days: 43

Criteria Evaluated	Temperature Criteria	Dates
Idaho Bull Trout	13°C MDMT	June 1- Aug 31
	9°C MDAT	Sept 1- Oct 31

Conclusions: **EXCEEDS**

Days Exceeding 13°C Criteria:

- Aug 1- Aug 10
- Aug 12
- Aug 17-Aug 27
- Aug 29

Maximum Temperature: 14.1°C
Difference: 1.1 degrees

Total Days: 23

Days Exceeding 9°C Criteria:

- Sept 1- Sept 26

Maximum Temperature: 12.63°C
Difference: 3.63 degrees

Total Days: 27

Criteria Evaluated	Temperature Criteria	Dates
EPA Bull Trout	10°C MWMT	June 1- Sept 30

Conclusions: **EXCEEDS**

Days Exceeding 10°C Criteria:

- July 12-Sept 24

Maximum Temperature: 13.87°C
Difference: 3.87 degrees

Total Days: 75

