

Appendix A.

Stream sampling synopsis of sample sections of South Fork Owyhee River, Owyhee River, West Fork Bruneau River, Jarbidge River, Sheep and Marys Creeks in Owyhee County, Idaho.

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: SFOWY003.0

DATE:9/13/95

LOCATION: T14S R5W S2 NW NE

LAT/LONG: N 42 14.77' W 116 54.25'

SITE DESCRIPTION: Cross SF Owyhee at 45 Ranch drive to Juniper Basin. Walk about 2 miles skirting ridge to canyon. Tough scramble down, section was south side split channel.

TROUT POPULATION ESTIMATE: 0

DENSITY/100M²: DENSITY TROUT >100mm/100M²:

WATER QUALITY MEASUREMENTS:

TEMP:19.4

pH:8.9

CONDUCTIVITY uS/cm:220

HARDNESS mg/l:120

ALKALINITY mg/l:140

HABITAT VARIABLES:

SAMPLE LENGTH (m):100

AVERAGE WIDTH (m):8.2

AVERAGE DEPTH (m):0.33

PERCENT GRADIENT: 0.82

SUBSTRATE COMPOSITION:

% SAND:14.2

% GRAVEL:36.0

% RUBBLE:43.5

% BOULDER:6.3

PERCENT STREAM SHADE: 11.8

PERCENT STREAM FISH HABITAT: 78.5

GREENLINE--PERCENT VEGETATIVE COMMUNITY TYPES:

2.0% *Scirpus americanus*/*Salix exigua*

73.5% *Scirpus americanus*

12.5% *Scirpus americanus*/Forb

5.0% *Scirpus americanus*/*Eleocharis*

2.0% Grass

5.0% Forb

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: SFOWY019.0

DATE:9/12/95

LOCATION: T15S R4W S9 SW SW

LAT/LONG: N 42 07.89' W 116 49.25'

SITE DESCRIPTION: Site lies at the mouth of drainage from the Upper and Lower John G. Reservoirs. Quad map shows a packtrail down the canyon, all we found was a cairn, last 200 feet are extremely steep. Sample section starts at the riffle above the pool at large rock face at mouth of side drainage.

TROUT POPULATION ESTIMATE: 0

DENSITY/100M²: DENSITY TROUT >100mm/100M²:

WATER QUALITY MEASUREMENTS:

TEMP:21.1

pH:8.7

CONDUCTIVITY uS/cm:210

HARDNESS mg/l:120

ALKALINITY mg/l:160

HABITAT VARIABLES:

SAMPLE LENGTH (m):100

AVERAGE WIDTH (m):15.7

AVERAGE DEPTH (m):0.25

PERCENT GRADIENT: 0.66

SUBSTRATE COMPOSITION:

% SAND:10.3

% GRAVEL:13.7

% RUBBLE:46.7

% BOULDER:29.3

PERCENT STREAM SHADE: 11.2

PERCENT STREAM FISH HABITAT: 88.0

GREENLINE--PERCENT VEGETATIVE COMMUNITY TYPES:

0.5% *Salix exigua*

84.5% *Scirpus americanus*

6.0% *Scirpus americanus*/Forb

2.0% *Scirpus americanus*/Grass

0.5% *Salix exigua*/*Scirpus americanus*

6.5% *Eleocharis*

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: SFOWY029.0

DATE:9/12/95

LOCATION: T16S R4W S12 SW NE

LAT/LONG: N 42 02.68' W 116 45.49'

SITE DESCRIPTION: Site lies off of 4x4 road not shown on Halogeton Flats. In section 11 several old travel trailers mark the site where you walk down a big bowl to the river. Top end of sample section lies below large pool with bend.

TROUT POPULATION ESTIMATE: 0

DENSITY/100M²: DENSITY TROUT >100mm/100M²:

WATER QUALITY MEASUREMENTS:

TEMP:16.1

pH:8.4

CONDUCTIVITY uS/cm:230

HARDNESS mg/l:100

ALKALINITY mg/l:115

HABITAT VARIABLES:

SAMPLE LENGTH (m):93

AVERAGE WIDTH (m):13.0

AVERAGE DEPTH (m):0.39

PERCENT GRADIENT: 0.54

SUBSTRATE COMPOSITION:

% SAND:29.7

% GRAVEL:3.0

% RUBBLE:30.3

% BOULDER:37.0

PERCENT STREAM SHADE: 8.7

PERCENT STREAM FISH HABITAT: 76.5

GREENLINE--PERCENT VEGETATIVE COMMUNITY TYPES:

0.5% *Salix exigua*

78.0% *Scirpus americanus*

8.5% *Scirpus americanus*/Forb

5.0% *Glycyrrhiza lepidota*/*Scirpus americanus*

2.0% *Scirpus acutus*

2.0% *Bromus tectorum*/*Artemisia ludoviciana*

4.0% *Salix exigua*/*Scirpus americanus*

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: OWYHE184.0

DATE:9/14/95

LOCATION: T13S R5W S25 SE NE

LAT/LONG: N 42 15.72' W 116 51.90'

SITE DESCRIPTION: Site lies just above the road down to Crutchers Crossing. The top of the sample section is the first riffle that lies within where the canyon walls again neck down on the stream. The top riffle has good bank cover and undercut on the south side.

TROUT POPULATION ESTIMATE: 4 (+3.1)

DENSITY/100M²: 0.32 DENSITY TROUT >100mm/100M²: 0.24

WATER QUALITY MEASUREMENTS:

TEMP:17.2

pH:8.2

CONDUCTIVITY uS/cm:190

HARDNESS mg/l:60

ALKALINITY mg/l:110

HABITAT VARIABLES:

SAMPLE LENGTH (m):100

AVERAGE WIDTH (m):12.4

AVERAGE DEPTH (m):0.27

PERCENT GRADIENT: 0.32

SUBSTRATE COMPOSITION:

% SAND:24.0

% GRAVEL:10.7

% RUBBLE:58.3

% BOULDER:7.0

PERCENT STREAM SHADE: 15.6

PERCENT STREAM FISH HABITAT: 50.5

GREENLINE PERCENT VEGETATIVE COMMUNITY TYPES:

39.0% *Salix exigua*

4.0% *Salix exigua/Scirpus americanus*

4.5% *Eleocharis*

7.5% *Equisetum* 4.0% Forb

10.0% *Scirpus acutus/Leersia oryzoides* /Forb

31.0% *Scirpus pallidus/Equisetum/ Eleocharis/Leersia oryzoides*

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: WFBRU059.2

DATE:10/4/95

LOCATION: T12S R7E S33 NW SW

LAT/LONG: N 42 20.50' W 115 38.72'

SITE DESCRIPTION: Site lies downstream of Indian Hot Springs bridge crossing approx. 400 m. Take mining road that runs on west side of river across flats by river and park where 4x4 road starts to climb the side hill. Sample site starts downstream at top of long riffle and ends at gravel bar beside where you parked.

TROUT POPULATION ESTIMATE: 1

DENSITY/100M²: 0.08 DENSITY TROUT >100mm/100M²: 0.08

WATER QUALITY MEASUREMENTS:

TEMP:11.7

pH:9.5

CONDUCTIVITY uS/cm:200

HARDNESS mg/l:60

ALKALINITY mg/l:80

HABITAT VARIABLES:

SAMPLE LENGTH (m):84

AVERAGE WIDTH (m):14.4

AVERAGE DEPTH (m):0.41

PERCENT GRADIENT: 0.36

SUBSTRATE COMPOSITION:

% SAND:12.2

% GRAVEL:19.5

% RUBBLE:57.0

% BOULDER:11.3

PERCENT STREAM SHADE: 4.3

PERCENT STREAM FISH HABITAT: 68.0

GREENLINE PERCENT VEGETATIVE COMMUNITY TYPES:

15.6% *Salix exigua*

58.1% *Salix exigua/Equisetum/Leersia oryzoides*

13.1% *Eleocharis/Leersia oryzoides*

4.4% *Equisetum*

8.8% *Leersia oryzoides /Equisetum*

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: WFBRU060.8

DATE:10/3/95

LOCATION: T13S R7E S5 NE NE

LAT/LONG: N 42 19.61' W 115 39.20'

SITE DESCRIPTION: Site lies upstream of Jarbidge River mouth and below where 4x4 road goes down to river above the Indian Hot Springs area. Top of section is at large gravel bar about 200 m below old pack bridge.

TROUT POPULATION ESTIMATE: 9 (\pm 2.9)

DENSITY/100M²: 0.83 DENSITY TROUT >100mm/100M²: 0.83

WATER QUALITY MEASUREMENTS:

TEMP:11.1

pH:8.6

CONDUCTIVITY uS/cm:220

HARDNESS mg/l:80

ALKALINITY mg/l:120

HABITAT VARIABLES:

SAMPLE LENGTH (m):100

AVERAGE WIDTH (m):7.7

AVERAGE DEPTH (m):0.33

PERCENT GRADIENT: 0.43

SUBSTRATE COMPOSITION:

% SAND:42.9

% GRAVEL:46.8

% RUBBLE:10.3

% BOULDER:0.0

PERCENT STREAM SHADE: 19.1

PERCENT STREAM FISH HABITAT: 46.0

GREENLINE--PERCENT VEGETATIVE COMMUNITY TYPES:

22.5% *Salix exigua*

8.0% *Cornus sericea/Clematis ligusticifolia/Rosa woodsii*

4.5% *Eleocharis/Leersia oryzoides*

14.5% *Equisetum*

7.0% *Cornus sericea*

4.0% *Apocynum cannabinum/Equisetum/Conium maculatum*

11.5% *Leersia oryzoides* 25.0% Rock Cliff 3.0% *Eleocharis*

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: WFBRU078.4

DATE:10/6/95

LOCATION: T15S R7E S6 SE SE

LAT/LONG: N 42 08.68' W 115 40.30'

SITE DESCRIPTION: Site lies upstream at bottom where the road drops down canyon near what s called Triguero Lake. A side road takes off just past the two stone foundations and deadends near the river. The lower end of site lies about 40 m from big hole in the bend.

TROUT POPULATION ESTIMATE: 4 (\pm 1.9)

DENSITY/100M² : 0.50 DENSITY TROUT >100mm/100M² : 0.50

WATER QUALITY MEASUREMENTS:

TEMP:13.3

pH:9.4

CONDUCTIVITY uS/cm:240

HARDNESS mg/l:100

ALKALINITY mg/l:120

HABITAT VARIABLES:

SAMPLE LENGTH (m):100

AVERAGE WIDTH (m):7.9

AVERAGE DEPTH (m):0.28

PERCENT GRADIENT: 1.62

SUBSTRATE COMPOSITION:

% SAND:21.7

% GRAVEL:18.3

% RUBBLE:51.3

% BOULDER:8.7

PERCENT STREAM SHADE: 50.8

PERCENT STREAM FISH HABITAT: 35.0

GREENLINE PERCENT VEGETATIVE COMMUNITY TYPES:

3.5% *Salix exigua*

6.0% *Salix exigua/Equisetum*

12.0% *Juniperus occidentalis/Poa/Equisetum*

2.0% *Rhus radicans/Apocynum cannabinum*

10.5% *Apocynum cannabinum/Eleocharis/Leersia oryzoides /Equisetum*

11.0% *Eleocharis*

34.0% *Equisetum/Leersia oryzoides/Eleocharis/Conium maculatum*

3.0% *Solidago/Poa/Equisetum*

10.5% *Conium maculatum*

1.5% *Leersia* 6.0% Rock Cliff/*Agropyron spicatum/Bromus tectorum*

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: WFBRU085.0

DATE:10/5/95

LOCATION: T15S R7E S30 SE SE

LAT/LONG: N 42 04.36' W 115 39.06'

SITE DESCRIPTION: The site is located in canyon below private ground at black rock crossing. Cross river and drive past old buildings all the way to end of old hay field, walk about half mile downstream.

TROUT POPULATION ESTIMATE: 6

DENSITY/100M²: 0.80 DENSITY TROUT >100mm/100M²: 0.80

WATER QUALITY MEASUREMENTS:

TEMP:7.7

pH:9.3

CONDUCTIVITY uS/cm:190

HARDNESS mg/l:120

ALKALINITY mg/l:180

HABITAT VARIABLES:

SAMPLE LENGTH (m):86

AVERAGE WIDTH (m):8.7

AVERAGE DEPTH (m):0.33

PERCENT GRADIENT: 0.44

SUBSTRATE COMPOSITION:

% SAND:21.3

% GRAVEL:37.3

% RUBBLE:35.0

% BOULDER:6.4

PERCENT STREAM SHADE: 16.1

PERCENT STREAM FISH HABITAT: 74.0

GREENLINE--PERCENT VEGETATIVE COMMUNITY TYPES:

4.4% *Salix exigua*

7.5% *Salix exigua*/Forb/Grass

16.3% *Salix exigua*/*Equisetum*/*Eleocharis*

6.2% *Salix exigua*/*Rosa woodsii*

6.2% *Salix exigua*/*Rosa woodsii*/*Cornus sericea*

2.5% *Salix lutea* 10.0% *Cornus sericea*

1.9% Forb/Grass 36.3% *Equisetum*/*Eleocharis*

3.7% *Eleocharis* 5.7% *Phalaris arundinacea*

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: WFBRU087.0

DATE:10/5/95

LOCATION: T16S R7E S8 NE SE

LAT/LONG: N 42 03.36' W 115 39.06'

SITE DESCRIPTION: The site is located in canyon above private ground at black rock crossing. Cross river and hike upstream not quite half mile above crossing. Site lies against where the east bank first becomes very steep and ends at gravel bar just above very large boulder with large wood debris jam on top.

TROUT POPULATION ESTIMATE: 8 (+2.01)

DENSITY/100M²: 0.84 DENSITY TROUT >100mm/100M²: 0.84

WATER QUALITY MEASUREMENTS:

TEMP:7.7

pH:9.6

CONDUCTIVITY uS/cm:230

HARDNESS mg/l:100

ALKALINITY mg/l:140

HABITAT VARIABLES:

SAMPLE LENGTH (m):100

AVERAGE WIDTH (m):9.6

AVERAGE DEPTH (m):0.31

PERCENT GRADIENT: 0.29

SUBSTRATE COMPOSITION:

% SAND:32.3

% GRAVEL:22.3

% RUBBLE:28.0

% BOULDER:17.3

PERCENT STREAM SHADE: 21.6

PERCENT STREAM FISH HABITAT: 53.0

GREENLINE PERCENT VEGETATIVE COMMUNITY TYPES:

4.0% *Salix exigua* 4.0% *Salix exigua/Apocynum cannabinum*

8.0% *Salix exigua/Eleocharis/Equisetum*

12.0% *Cornus sericea*

4.5% *Juniperus occidentalis* 0.5% *Artemisia tridentata*

5.0% *Rosa woodsii* 30.0% *Equisetum* 19.0% *Eleocharis*

8.0% *Conium maculatum/Solidago occidentalis/Eleocharis*

5.0% *Phalaris arundinacea*

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: JARBI000.2

DATE:10/3/95

LOCATION: T13S R7E S4 NW NW

LAT/LONG: N 42 19.71' W 115 39.07'

SITE DESCRIPTION: The sample site is approximately 300m upstream from mouth, starts at second riffle up.

TROUT POPULATION ESTIMATE: 16 (± 2.6)

DENSITY/100M² : 01.82 DENSITY TROUT >100mm/100M² : 1.70

WATER QUALITY MEASUREMENTS:

TEMP:10.0

pH:n/a

CONDUCTIVITY uS/cm:80

HARDNESS mg/l:40

ALKALINITY mg/l:80

HABITAT VARIABLES:

SAMPLE LENGTH (m):100

AVERAGE WIDTH (m):8.8

AVERAGE DEPTH (m):0.27

PERCENT GRADIENT: 0.52

SUBSTRATE COMPOSITION:

% SAND:18.7

% GRAVEL:32.0

% RUBBLE:47.7

% BOULDER:1.6

PERCENT STREAM SHADE: 19.8

PERCENT STREAM FISH HABITAT: 36.5

GREENLINE PERCENT VEGETATIVE COMMUNITY TYPES:

61.5% *Salix exigua*

5.5% *Salix exigua/Equisetum/Eleocharis*

2.5% *Salix exigua/Clematis ligusticifolia/Rosa Woodsii*

2.5% *Salix exigua/Salix lutea*

20.5% *Salix lutea*

0.5% *Rosa woodsii*

3.0% *Rosa woodsii/Ribes aureum*

4.0% *Equisetum/Carex*

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: SHEEP35.2

DATE:10/2/95

LOCATION: T14S R6E S21 NE SE

LAT/LONG: N 42 11.91' W 115 45.08'

SITE DESCRIPTION: From Sheep Creek crossing of Grasmere Road go upstream past private ground to fenceline. Lower end of sample section starts at fenceline.

TROUT POPULATION ESTIMATE: 0

DENSITY/100M²: 0 DENSITY TROUT >100mm/100M²:

WATER QUALITY MEASUREMENTS:

TEMP:11.7

pH:9.5

CONDUCTIVITY uS/cm:120

HARDNESS mg/l:80

ALKALINITY mg/l:140

HABITAT VARIABLES:

SAMPLE LENGTH (m):100

AVERAGE WIDTH (m):5.7

AVERAGE DEPTH (m):0.28

PERCENT GRADIENT: 0.75

SUBSTRATE COMPOSITION:

% SAND:23.3

% GRAVEL:32.0

% RUBBLE:34.7

% BOULDER:10.0

PERCENT STREAM SHADE: 12.1

PERCENT STREAM FISH HABITAT: 60.5

GREENLINE--PERCENT VEGETATIVE COMMUNITY TYPES:

31.5% *Salix exigua*

9.0% *Salix exigua/Eleocharis*

7.0% *Salix exigua/Clematis ligusticifolia/Rosa Woodsii*

1.0% *Salix lutea* 1.0% *Ribes aureum* 1.5% *Cornus stolonifera*

7.0% *Rosa woodsii/Ribes aureum/Clematis ligusticifolia*

27.5% *Eleocharis*

3.5% *Leersia oryzoides* 11.0% *Bromus tectorum*

REDBAND TROUT STREAM SAMPLING SYNOPSIS

STREAM SEGMENT NAME: MARYS04.2

DATE:10/2/95

LOCATION: T13S R5E S12 NW SW

LAT/LONG: N 42 18.74' W 115 49.55'

SITE DESCRIPTION: From crossing of Grasmere Road of Marys Creek go downstream to the rock outcropping at the first bend. About 200 m below where you can park your vehicle.

TROUT POPULATION ESTIMATE: 0

DENSITY/100M² : 0 DENSITY TROUT >100mm/100M² :

WATER QUALITY MEASUREMENTS:

TEMP:9.4

pH:8.3

CONDUCTIVITY uS/cm:120

HARDNESS mg/l:80

ALKALINITY mg/l:200

HABITAT VARIABLES:

SAMPLE LENGTH (m):61.5

AVERAGE WIDTH (m):4.4

AVERAGE DEPTH (m):0.13

PERCENT GRADIENT: 0.76

SUBSTRATE COMPOSITION:

% SAND:15.8

% GRAVEL:14.3

% RUBBLE:57.8

% BOULDER:12.0

PERCENT STREAM SHADE: 8.1

PERCENT STREAM FISH HABITAT: 46.5

GREENLINE--PERCENT VEGETATIVE COMMUNITY TYPES:

74.0% *Salix exigua*

5.3% *Salix exigua/Eleocharis*

1.0% *Salix exigua/Poa*

19.7% *Eleocharis*

APPENDIX B.

Water temperatures recorded by electronic water temperature recorders in three sites in upper Jordan Creek, Owyhee County, Idaho.

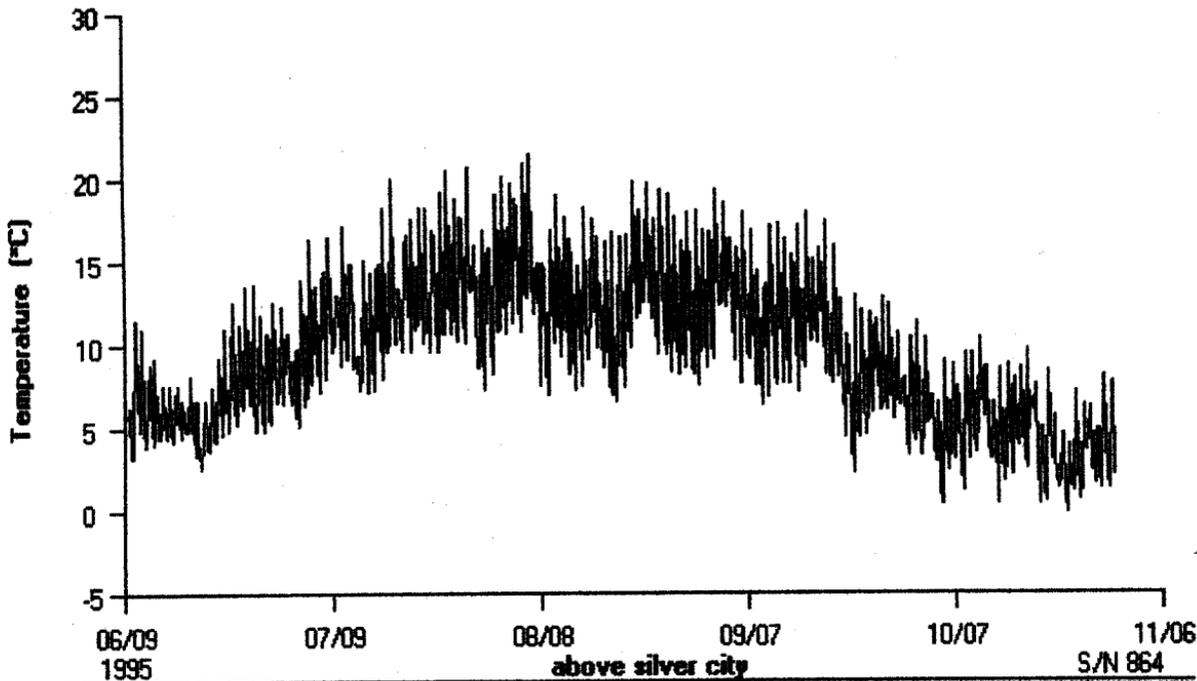


Figure B1. Recording thermograph data from upstream Silver City on Jordan Creek, Owyhee County, Idaho.

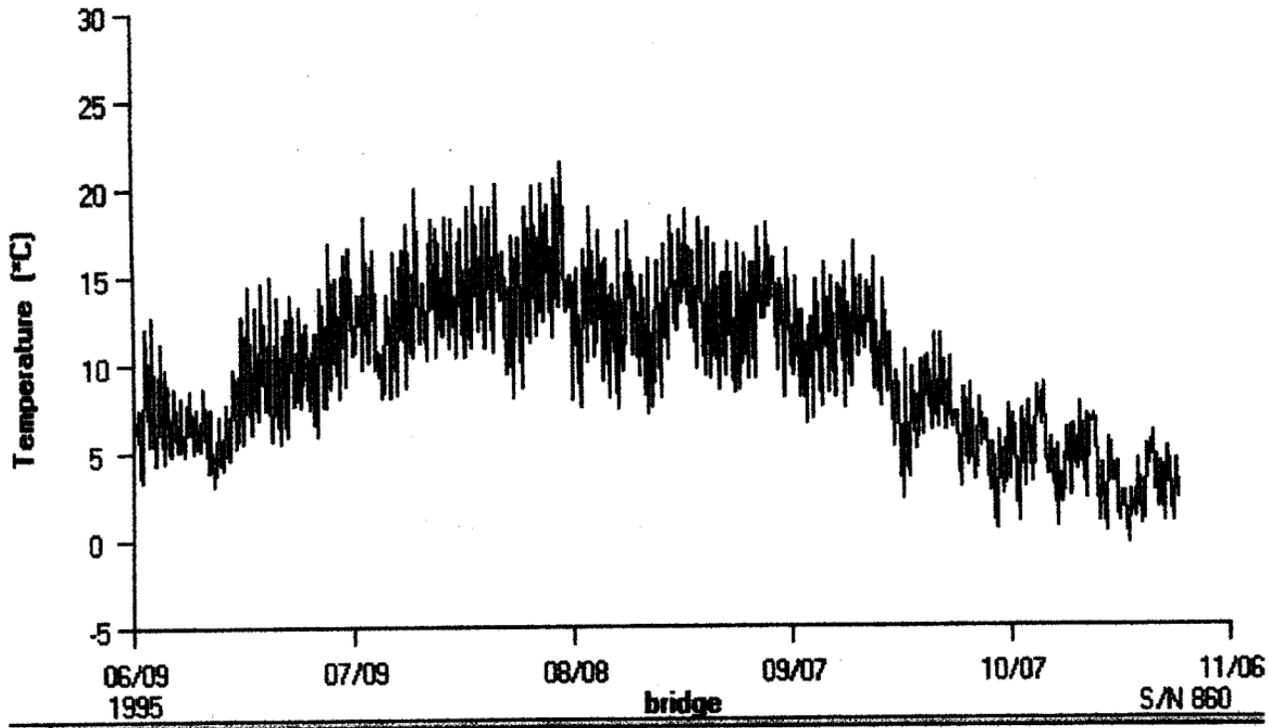


Figure B2. Recording thermograph data from below Silver City on Jordan Creek in Owyhee County, Idaho.

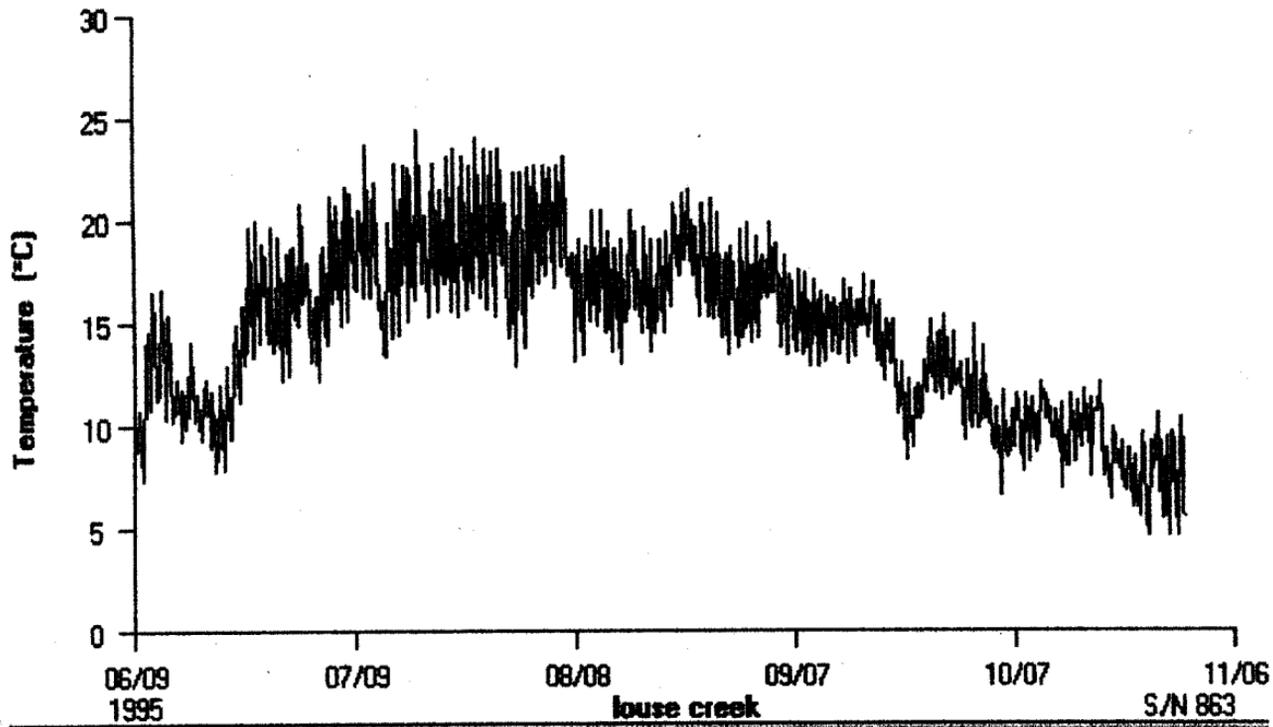


Figure B3. Recording thermograph data from near the confluence with Flint Creek and Jordan Creek, Owyhee County, Idaho.

Table B1. Site location of recording thermographs in Jordan Creek, Owyhee County, Idaho.

SITE DESCRIPTION	LEGAL DESCRIPTION	STREAM MILEAGE	ELEVATION (m)
No. 1 Upsteam of Silver City	T4S R3W S7	JORDA97.6	1902
No. 2 Bridge crossing below Silver City	T4S R3W S31	JORDA95.4	1814
No. 3 Bridge crossing on Triangle road	T6S R4W S19	JORDA70.8	1414