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TO:

Pat Regan - Regional Engineer
Office of Energy Projects - FERC
Division of Dam Safety and Inspection
Portland Regional Office
101 Southwest Main Street - Suite 905
Portland, Oregon 97204

SUBJECT:

September Monthly Report for the Falls Creek Hydro-electric Project
FERC # P-11659

DATE SUBMITTED:

10/16/06

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Dear Mr. Regan,

Please find enclosed the Monthly Construction Report for the Falls Creek Hydroelectric Project, FERC # P-11659.

Gustavus Electric Company, as the licensee for the above project, submits this report.

Sincerely,

*Richard Levitt
GEC President*

Contact Richard Levitt (richardlevitt@cs.com) to add names to distribution list.

Falls Creek Hydroelectric Project (P-11659)
MONTHLY CONSTRUCTION REPORT TO FERC
September 2006

1) Progress of Work

The month of September was devoted entirely to road construction toward the intake area (See figure 1). There was no road construction toward the powerhouse this month.

2) Status of Construction

Road construction toward the intake proceeded at a very slow pace this month. On September 1st extremely heavy rains created a flood event in the area. As a result, all work was halted until September 5th. The road was to Greg's creek at the time, and water flows needed to recede in order to install a culvert at Greg's creek.

On September 7th, much of the construction equipment was removed from the job. The tight confines of the intake and powerhouse canyons dictated a much-reduced workforce. Taken off the job were (2) Volvo A30 rock trucks, (2) excavators, the D8 Cat dozer and the rock drill. Near the end of the month, another rock drill was acquired and drilling continued on the Blueberry Hill road cut.

By the end of the month, the road was approximately 100 feet from the intake area. It was expected that the road route to the intake would contain a lot of rock as under-laying material. However, it turned out to contain mostly clay, muck and sloppy gravels, with little rock. This material was backhauled to the disposal site at the Strip Fen Y, where it continued to ooze down-slope. (See environmental section). Given the



Drilling at the Blueberry Hill road cut began again toward the end of September. Additional drilling and shooting will be necessary in October to bring this section of the intake road/penstock right-of-way down to the necessary elevation/grade.



This is a picture of the initial stretch of intake service road right-of-way just upstream of the Horse Shoe Ridge cut. From this point up to the impoundment site the road is situated just above or along the creek bank and generally follows existing contours to avoid the need for intensive stripping/backhauling of overburden and blasting of bedrock.

slope instability, steepness of the canyon slope and size of the necessary impacted area, it was decided to put the penstock on the stream-side of the road, rather than the uphill side of the road. Revised penstock plans showing this revision, with new as-builts of the road, will be submitted to FERC soon.

Every effort will be made to minimize shooting the rock in the intake canyon, as it is felt that this would likely destabilize the slopes and cause mass wasting into the creek.

A tour of the project area was provided to National Park Service representatives as part of a collaborative consultation about the location and use of recreation trails for accessing park land. An excellent start was made on this process.

3) Construction Difficulties

It was expected that the intake service road in the canyon would be difficult to build, and it was. The difficulties were compounded by the quality of the material in the canyon. Rock was expected, which would make a good road and penstock base. However, clay, muck and sloppy gravel were found in abundance, which had to be excavated to sound material then backhauled to the waste site. It was decided to raise the elevation of the road in places to avoid problem areas, and put the penstock on the downhill side of the road.

Once again, the month of September was wetter than normal, which added to the problems of backhauling the mucky material and controlling erosion and sediment transport.

5) Critical Events and Dates

On September 7th the size of the construction crew and the on-site equipment fleet was downsized considerably. On September 5th a culvert was placed across Greg's creek and on September 20th, a culvert was placed across small creeks 650' from the intake.

8) Sources of Major Construction Material

All road-building material for road to the intake constructed during September was shot rock from the Blueberry Hill road cut area.

11) Photographs

Ten photo vantage points have been established throughout the project area. See Figure 1 for photo site locations and Appendix 1 for this month's photos.



Road construction near the impoundment site.



Dick Levitt consulting with the Park Service on trails proposed in the recreation plan that would access skiing areas in the Park.

12) Sediment/Erosion Control and Other Environmental Issues

Monitoring of turbidity in Falls Creek has been ongoing through the month of September. Daily sampling has occurred at the Powerhouse Site, at the Horse Shoe Ridge area and upstream of construction activities. A peak of 55 NTUs was recorded at the Horse Shoe Ridge site on September 6th. The peak recording was the result of culvert installation at Greg's Creek (see Figure 1 for the location of Greg's Creek) and should be considered a short term event. Two readings of 20-30 NTUs were recorded and five readings of 10-20 NTUs were recorded. All other samples were less than 10 NTUs.



Sediments released to Falls Creek from the installation of a culvert at Greg's Creek.

Higher turbidity readings (above 10) have been the result of road surface sediments carried by runoff from the intake service road to the nearby creek. Most of these sources have been easily controlled by channeling hillside runoff and springs below the surface of the road but these sites will need to be properly ditched and culverted for long-term erosion control.



The finished culvert at Greg's Creek.

The most problematic sediment and erosion control area has been the deep cut at the Horse Shoe Ridge. The slopes have continued to weep and slough fine sediments to the road, sometimes in very large quantities (10-100 yards). Very wet periods result in the need for clearing of the road before truck traffic can resume. The construction superintendent and project manager are aware of the need for a permanent solution to sediment and erosion control at this location but are waiting for the final approval of the penstock plan before finishing this section of the intake service road.

The slide at the Blueberry Hill road cut has remained stable throughout the month of September and has not contributed significant quantities of sediment to Falls Creek. This area is worthy of consideration for proactive measures (matting/revegetation or similar) to stabilize the exposed slope and decrease the likelihood of further "unravelling" of the neighboring forested slopes.



Maintenance of the sloughing slopes at the Horse Shoe Ridge. These slopes will likely remain highly erodible without fairly aggressive mechanical and/or vegetative stabilization efforts.

The slide at the Powerhouse Site has remained stable throughout the month of September and has not contributed significant quantities of sediment to Falls Creek. This area is also worthy of consideration for proactive measures to stabilize the exposed slope and decrease the likelihood of further unravelling of the neighboring forested slopes.

The spoils area at the Strip Fen Y was little used during the first half of the month. Stripping and hauling back of overburden increased again as the intake service road

approached the intake site in the second half of the month. Though approximately 20,000 yards of additional materials were dumped at this site during September the spoils area did not expand in total area. The apparent stability is likely due to drainage of August spoils during the light-use period in the first half of the month and the fact that the materials added in the second half of the month have been much drier than those dumped during August. Additional spoils will likely be added during October as the intake area is further excavated in preparation of impoundment construction but additional volumes of spoils should be relatively small. Spring surveys should be conducted to monitor additional expansion of this area such that a total area of disturbance can be calculated. It is likely that the size of this spoils area will put the total acres of impacted wetlands over the permitted allotment for the project and mitigatory action may be necessary.

The construction site was visited by a FERC representative during the first week of September. During this visit it was brought to our attention that secondary containment of fuel and hazardous substances was necessary for compliance with Article 412. Construction of secondary containment facilities began immediately following the FERC representative visit and were completed a few days later.

Two storage areas were created using plywood and 2x4 construction lined with 12mm of plastic: 1) a lubricant storage area; 2) a fueling station. A tanker truck is used for all other fueling needs.

No fuel spills were observed this month.



Lubricant storage area inside Conex container at the Strip Fen Y.



Fueling station and generator shack at the Strip Fen Y.

13) Wildlife Activity

Wildlife activity decreased during September. Moose traffic was sporadic and generally low. Raptor sightings were almost nil. Bear activity in the vicinity of the powerhouse was lower than August and concentrated at the beginning of the month, probably due to salmon availability. Fresh wolf tracks were seen on the road between the Strip Fen Y and the clearcut on two separate occasions but not sightings have been reported.

14) Biotic Monitoring

Four foot count surveys were conducted for monitoring salmon abundance in the anadromous reach. After the first week's count of 550 pinks numbers declined rapidly in the remaining three weeks: 190, 26 and 6 pinks respectively. Only 1 chum and no cohos were counted this month.

Installation of the weather station at the transducer site has been postponed until the outcome of penstock alignment revision request has been determined. Moving the penstock from the uphill side of the road to the downhill side of the road may necessitate the reestablishment of the transducer and weather station site out of the way of construction activities.

Summer resident fish monitoring was completed during the second week of *September*. Though flows were still a bit higher than would have been ideal, we felt compelled to take advantage of the first favorable weather window presented since August 1st. Trapping at the Logjam and snorkeling of the Bypass Reach both resulted in total captures/sightings of resident fish (dolly varden) that were less than the average from previous year's surveys. It is very unlikely that this has anything to do with construction activity and is more likely due to the unusually cool and wet summer conditions. See appendix 2 for a draft summary report (electronic version only).

A few of the straw bales used for erosion and sediment control sprouted non-native grass. The species is likely the straw that is used to make the bales. The sprouted plants will be removed and monitoring of these areas will continue.

The following sections are not yet applicable to the date of this report:

- 4) Contract Status
- 6) Reservoir Filling
- 7) Foundations
- 9) Materials Testing and Results
- 10) Instrumentation

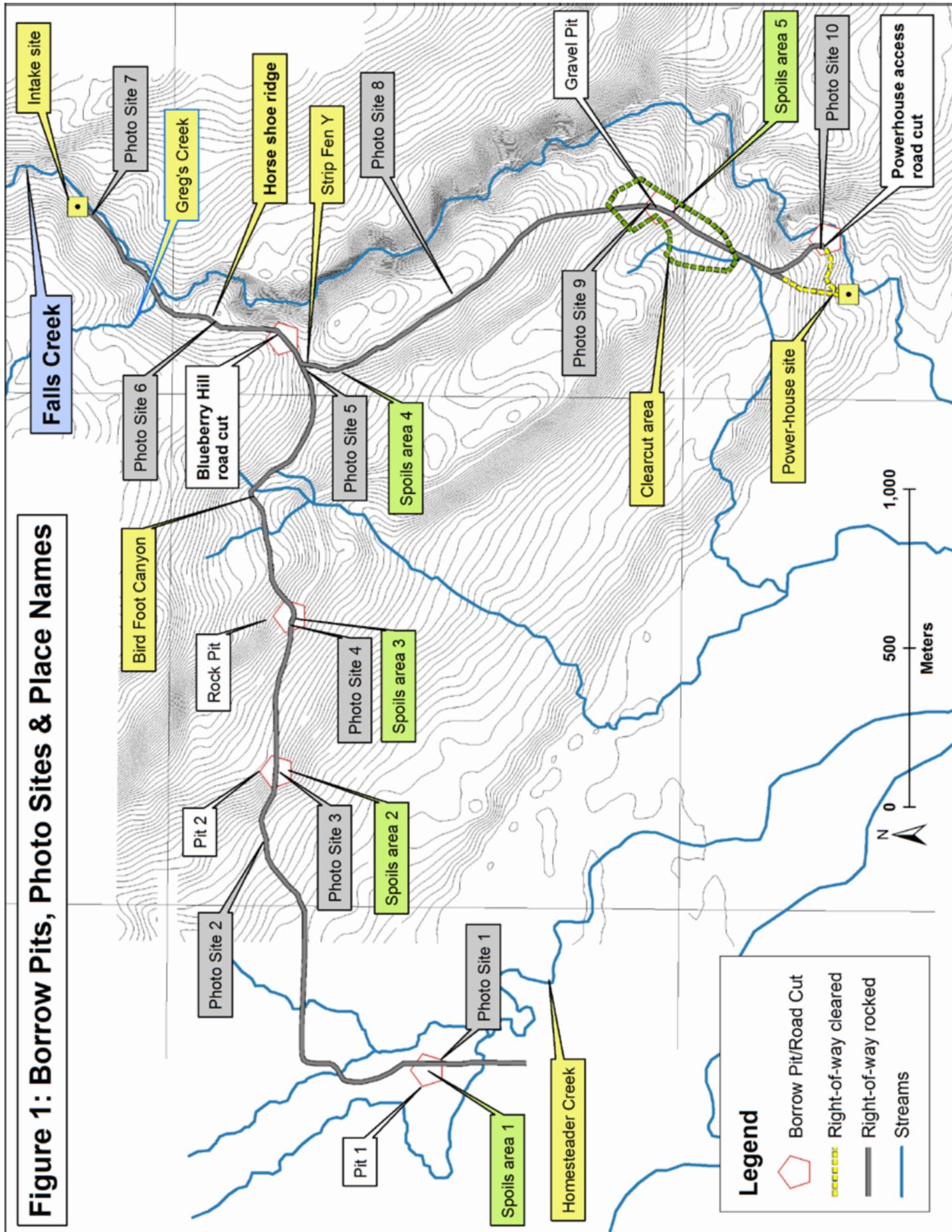


Dr. Elizabeth Flory conducting snorkeling surveys for resident fish in the bypass reach.



Non-native grass growing out of the "weed-free" bales used for erosion and sediment control. Seeds were produced in a few plants and were removed. All of these grasses will be removed before winter and monitoring of these areas will continue.

Figure 1: Borrow Pits, Photo Sites & Place Names



APPENDIX 1: AUGUST PHOTOS FROM VANTAGE POINTS



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02_photo_site.jpg



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Appendix 2 Falls Creek Fisheries Monitoring 2006

Minnow Trap Survey

Minnow trapping was conducted at the Log Jam of Reach 2 and Islands area above the intake site on September 15, 2006. Minnow trap sites are shown in Figs 1 and 3. High flow prevented sampling from being conducted earlier. 12 traps baited with salmon eggs were set in deep pools under logs and left to soak for 2 hours. Fish were then retrieved from traps, anesthetized in a solution of MS222 and measured for fork length and weighed to the nearest gram. Fish were allowed to recover in a container of fresh stream water before release back to the trap site.

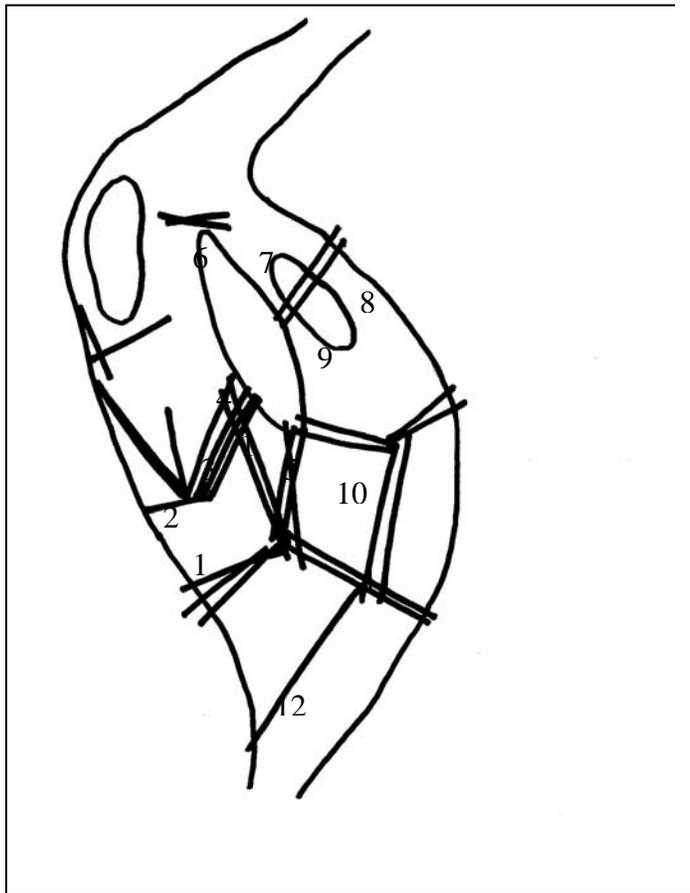


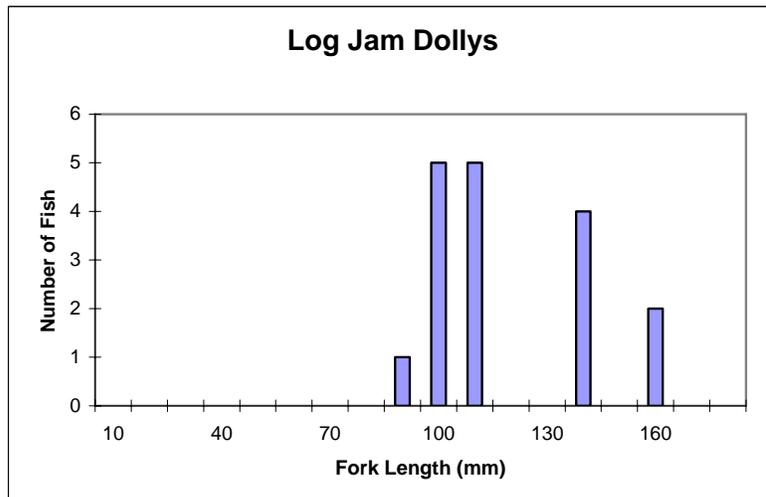
Figure 1: Map of minnow trap sites around Log Jam.

17 fish were captured at the log jam after 2 hours giving an average fishing effort of 0.71 fish per trap per hour. Six of the traps were empty (1, 2, 6, 10, 11, 12). Fork length and weight are given in Table 1. Fish ranged from 89 to 159mm fork length and from 9 to 42g total weight.

Table 1: Fork Length and Weight of Dolly Varden captured at the Log Jam. Trap number corresponds to numbers on map.

Trap	Length	Weight
3	96	10.3
3	132	23.9
3	101	11.5
3	101	11.6
3	89	9
3	136	27.4
3	106	13.7
3	105	12.6
3	152	39.6
4	100	10.2
4	100	11.1
4	159	42.1
5	98	10.5
7	140	29.6
8	103	13.3
9	92	8.2
9	138	27.4

Figure 2: Histogram of Fork Lengths of Dolly Varden from Log Jam.



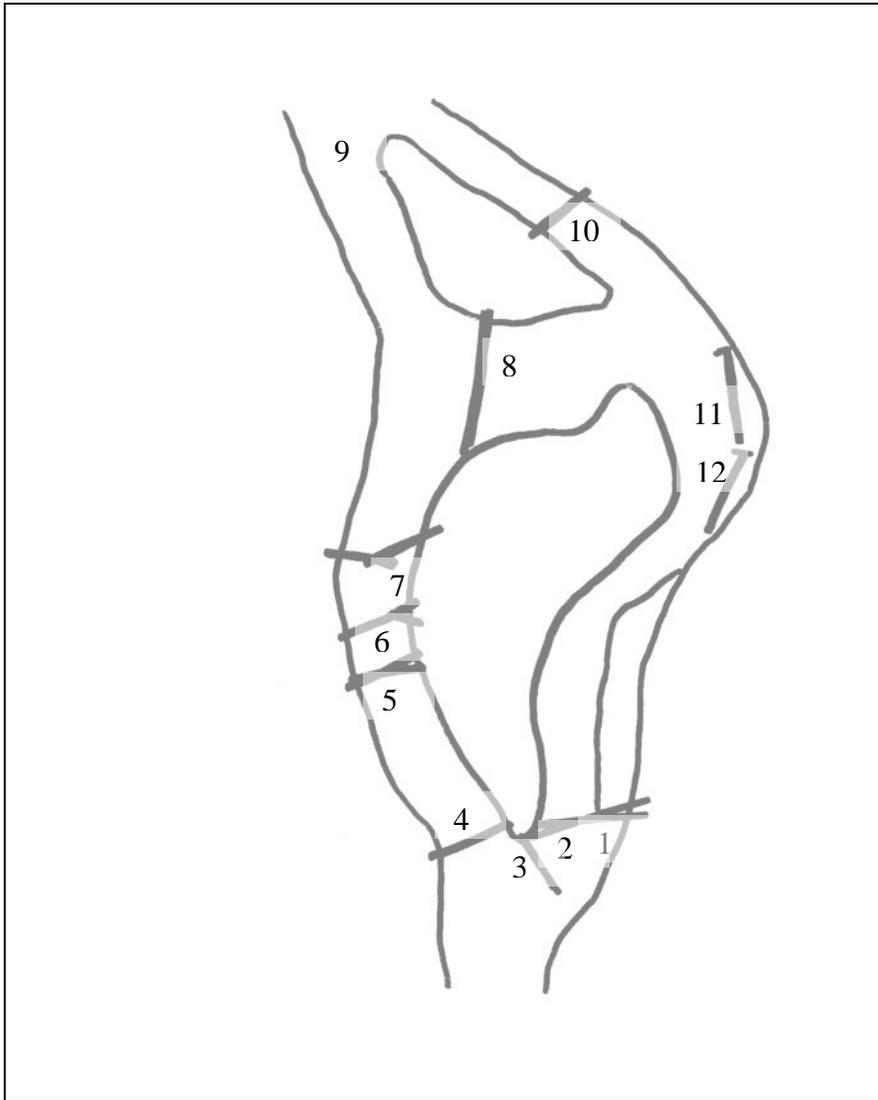


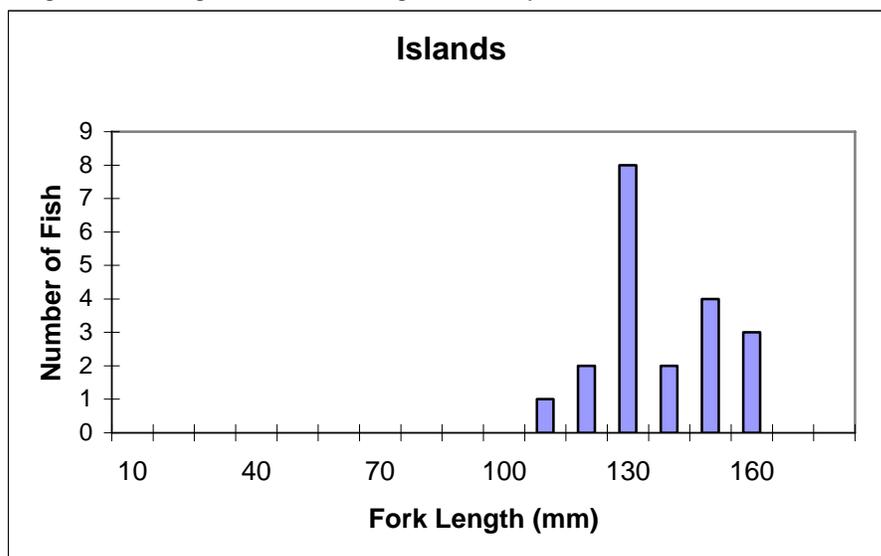
Figure 3: Islands above intake: minnow trap sites.

20 fish were captured around the islands after 2 hours giving an average fishing effort of 0.83 fish per trap per hour. Table 2 gives fork lengths and weights of fish at the Islands. They ranged from 103 to 156 fork length and 10.7 to 51.4g. Traps 4, 6 and 10 were empty. The staff gage in Reach 4 was at 28.00 at 1700 hrs on the day of the minnow trapping survey.

Table 2: Fork Length and Weight of Dolly Varden captured at the Islands. One fish escaped from Trap 1 before it could be measured.

Trap	Length	Weight
1		
2	155	51.4
2	156	39.3
2	150	44.2
2	103	10.7
3	130	30.2
3	117	17.5
3	129	25.1
5	113	11.9
7	147	37.2
7	125	19.2
7	131	26.1
8	127	24.7
9	146	35.6
11	130	27
11	151	37.2
11	126	21.8
12	125	22.2
12	125	21.5
12	135	25.5
12	149	38.9

Figure 4: Histogram of Fork Lengths of Dolly Varden from Islands



Snorkel Survey

A snorkel survey was conducted on September 16 in the canyon reach beginning at 600m upstream from the Log Jam to the 3m Falls. A diver equipped with dry suit and snorkel quietly entered the water at the downstream end of pools and searched for fish. Habitat type, stream width and number of fish were recorded at the observed distance upstream from the start of the reach (Table 3). The total distance of this reach was found to be 800m. Only 15 dollys were observed in this entire reach. Visibility was excellent except near cascades where air bubbles obscured the substrate beneath.