

## Field Summary Report

<b>Project:</b>	SF2014 238d
<b>Company:</b>	R2 Resource Consultants
<b>Field Dates:</b>	July 22, 2014 – July 24, 2014 & November 3, 2014 – November 7, 2014
<b>Field Staff</b>	Gerald George, Kai Steimle & Adam Weybright
<b>Prepared By:</b>	Gerald George

### Summary of Data Collection Effort:

#### July Chinook Salmon Spawner Surveys:

We were able to conduct ground surveys in the following areas for Chinook Salmon Spawners (Figure 1):

- Glacier Creek Mouth
- Glacier Creek (lower 4 km)
- unnamed LB Tributary to Glacier Creek that joins just downstream of old Bridge (ADF&G documented juvenile Coho Salmon in this stream), surveyed approximately 500 meters
- Sara Creek- From confluence with Glacier Creek/Klehini upstream past a long cascade (likely anadromous fish barrier) approximately 5 km.
- Sara Creek LB tributary 1, lower 500 meters
- Sara Creek LB tributary 2, lower 300 meters

We did not observe any Chinook salmon spawners in any of the streams in the Palmer Project Area. Although not a focus of our recent efforts, we did observe and sample using a seine the following: juvenile, sub-adult, and adult Dolly Varden, juvenile Coho salmon, and cutthroat trout fry in Project Area streams (Figure 2). Nearly all observations were made in Sara Creek and unnamed tribs to Sara Creek. Streams in the project area were generally not great habitat for Chinook salmon spawning, Glacier Creek is very dynamic and bed material is too unstable in most places for spawning and areas with stable bed material of the appropriate size are very embedded with glacial silt. Sara Creek proper had a few areas with suitable depth, velocity, and substrate but was generally a little shallow than what Chinook salmon prefer. We were able to make a quick trip across the Klehini to Big Boulder Creek and observed Chinook in that system (Figure 6). Likewise, the unnamed tributaries to Glacier and Sara are also smaller and shallower than what Chinook salmon typically select for spawning.

The unnamed tributary to Glacier Creek, Sara Creek and its' unnamed tributaries are promising Coho salmon spawning streams and have documented Coho rearing. The Chinook spawner surveys will help greatly with what to expect and where to focus efforts during Coho spawner surveys in October/November.

#### November Coho Survey

On November 3<sup>rd</sup>, 2014 staff from R2 Resource Consultants traveled from Portland and Seattle to Haines and did a reconnaissance of the gage installation site at the Porcupine Crossing Bridge before visiting the local hardware store for supplies. Dan Wackerman of Constantine Metals provided logistical and bearguard support during the field efforts. Lodging was provided by the Alaska Guardhouse.

Coho salmon spawner surveys took place along approximately 20 kilometers of Glacier and Sara Creeks on November 4 & 5<sup>th</sup>, 2014 (Figure 1). Several smaller tributaries of interest in these drainages were also surveyed (Figure 1). Spawning coho salmon and coho salmon-sized redds were observed in Sara Creek and the second left bank tributary of Sara Creek (Figure 3). Smaller redds without actively spawning fish were observed in a percolation channel downstream of the mouth of Glacier Creek and at a single location just upstream of the confluence of ADF&G named "Stream T" and Glacier Creek (59.41186/-136.31389; Figure 3). No recent spawning activity was observed in the left bank tributary to Glacier Creek known as the AWC stream 115-32-10250-2077-3151-4010. One older redd, from the spring of 2014 or a previous year, relatively small in size, was observed approximately 20 meters upstream of where tributary 115-32-10250-2077-3151-4010 leaves the Glacier Creek floodplain and enters the forest. A mature Dolly Varden was observed in water being conveyed from this tributary within the Glacier Creek floodplain upstream of the confluence. Seining and dip netting techniques were used at some locations to collect individuals for species identification and gather additional information on size and genetics. Juvenile and adult Dolly Varden and adult Coho salmon were collected. A potential/seasonal salmon barrier is present on Sara Creek at 59.42774/-136.33775 consisting of series of high gradient cascades without resting or holding pools. Spawning activity in Sara Creek was present from just upstream of the confluence of with Glacier Creek to the second righter left tributary (Figure 3). Spawning was concentrated in the 1 km reach downstream of the second river left tributary (Figure 3).

**Type of Data Collected:**

GPS positions, photos and field notes were taken at the beginning and end of each survey reach, each redd, each observation of live adult coho salmon, and areas where seining/dip netting took place. Fork lengths and photos were taken on all fish collected before they were returned to the water at the collection location. Non-lethal genetics samples were also collected from larger Dolly Varden for the ADF&G Gene Conservation Lab.

**Issues Encountered:** Work conditions were challenging and consisted of long hours of walking on slippery and uneven boulders. Highs temperatures were generally in the mid-30s (F) depending on elevation. Snow level was around 1,000 feet in elevation and dropping daily. Precipitation was minimal allowing for good visibility for fish surveys and gage installations. Fish surveys occurred on the tail-end of the coho salmon spawning season, we recommend that future efforts occur the first week of November or the last two weeks of October.

**Health & Safety Incidents to Report:** There were no reportable health or safety incidents.

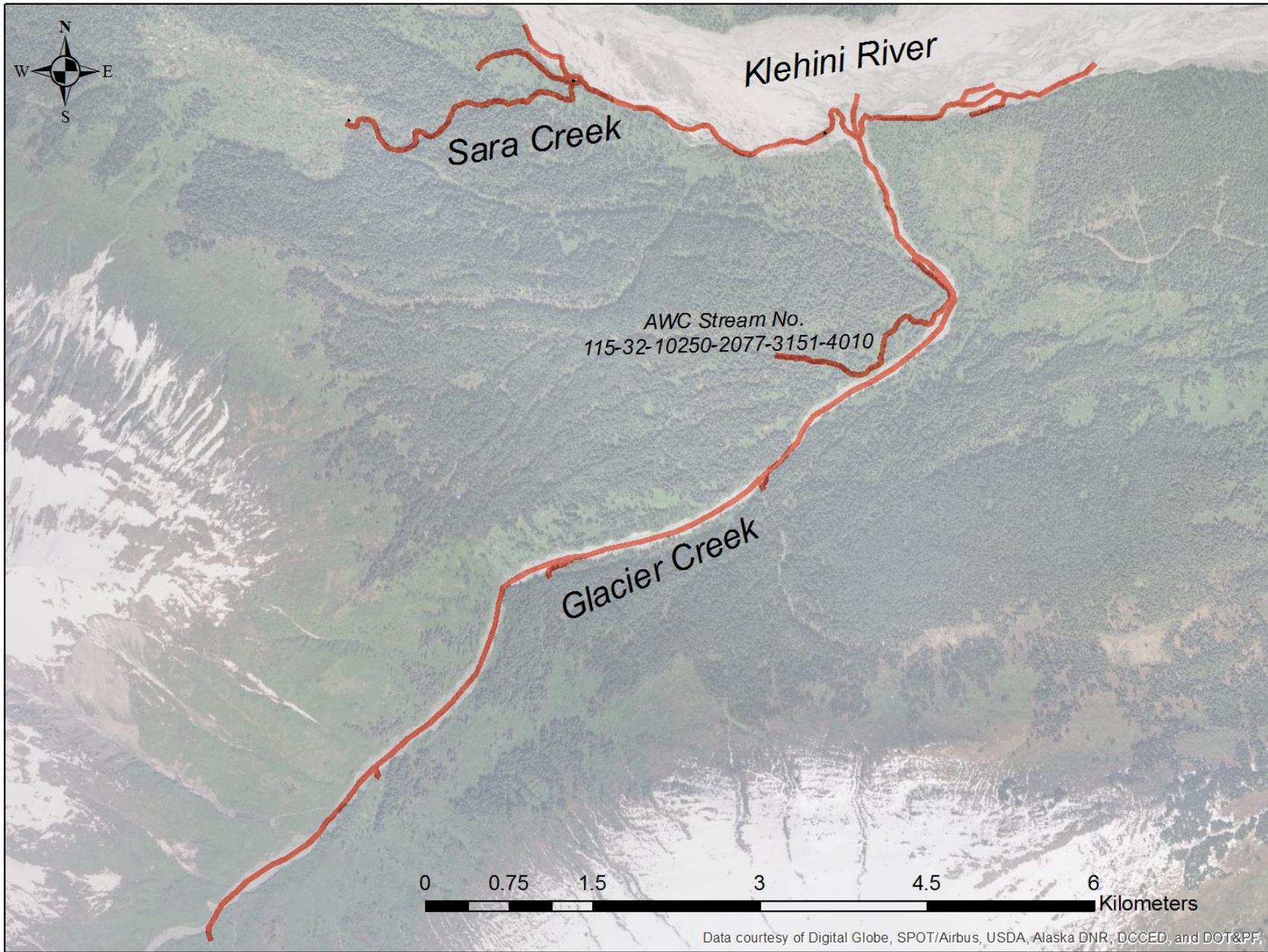


Figure 1. Stream reaches surveys for spawning coho salmon November 4 & 5<sup>th</sup>, 2014 indicated with red highlights.

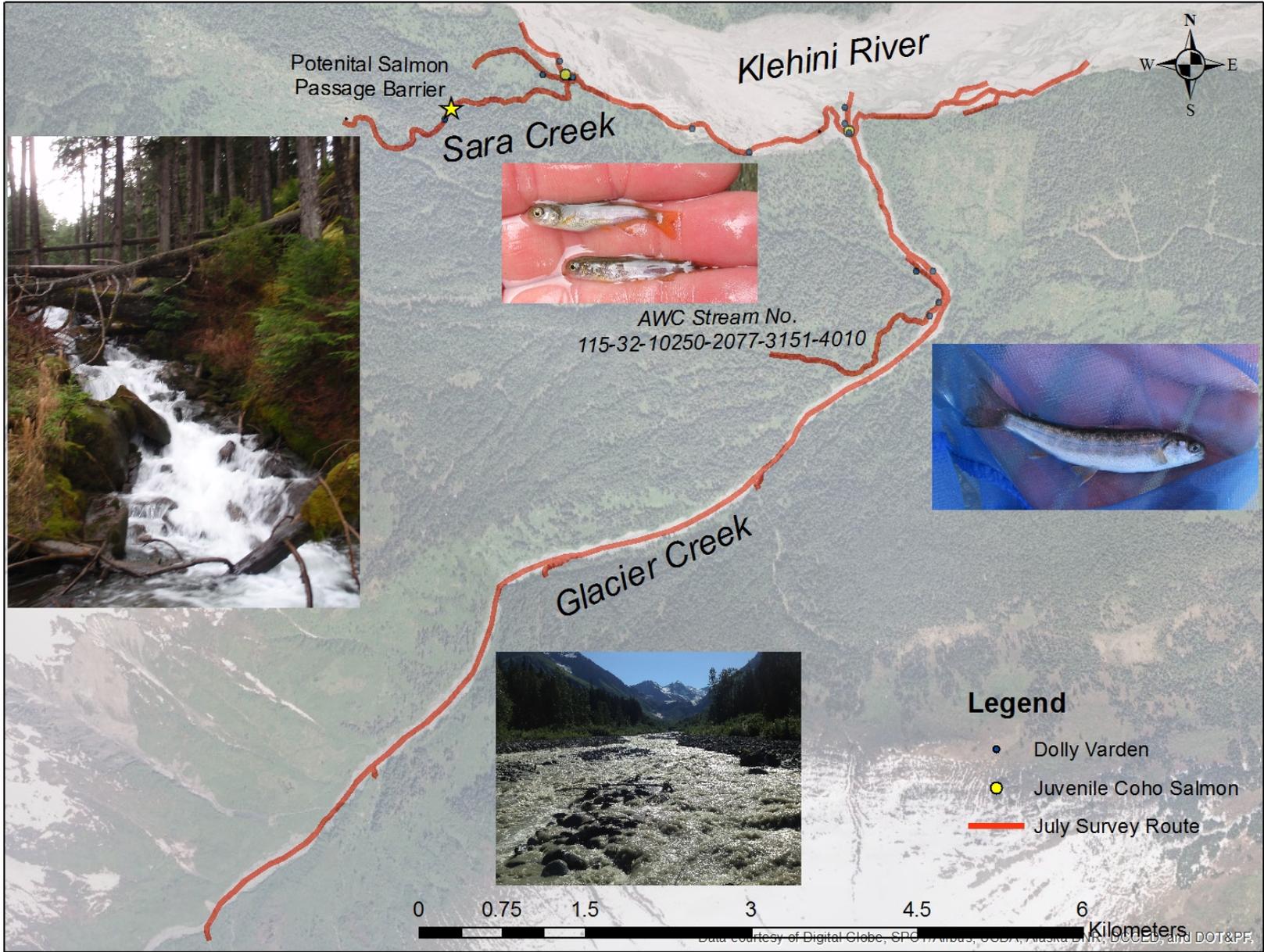


Figure 2. July survey effort summary, pictured center are coho salmon fry captured at the confluence of Sara Creek and Unnamed left bank tributary 1.

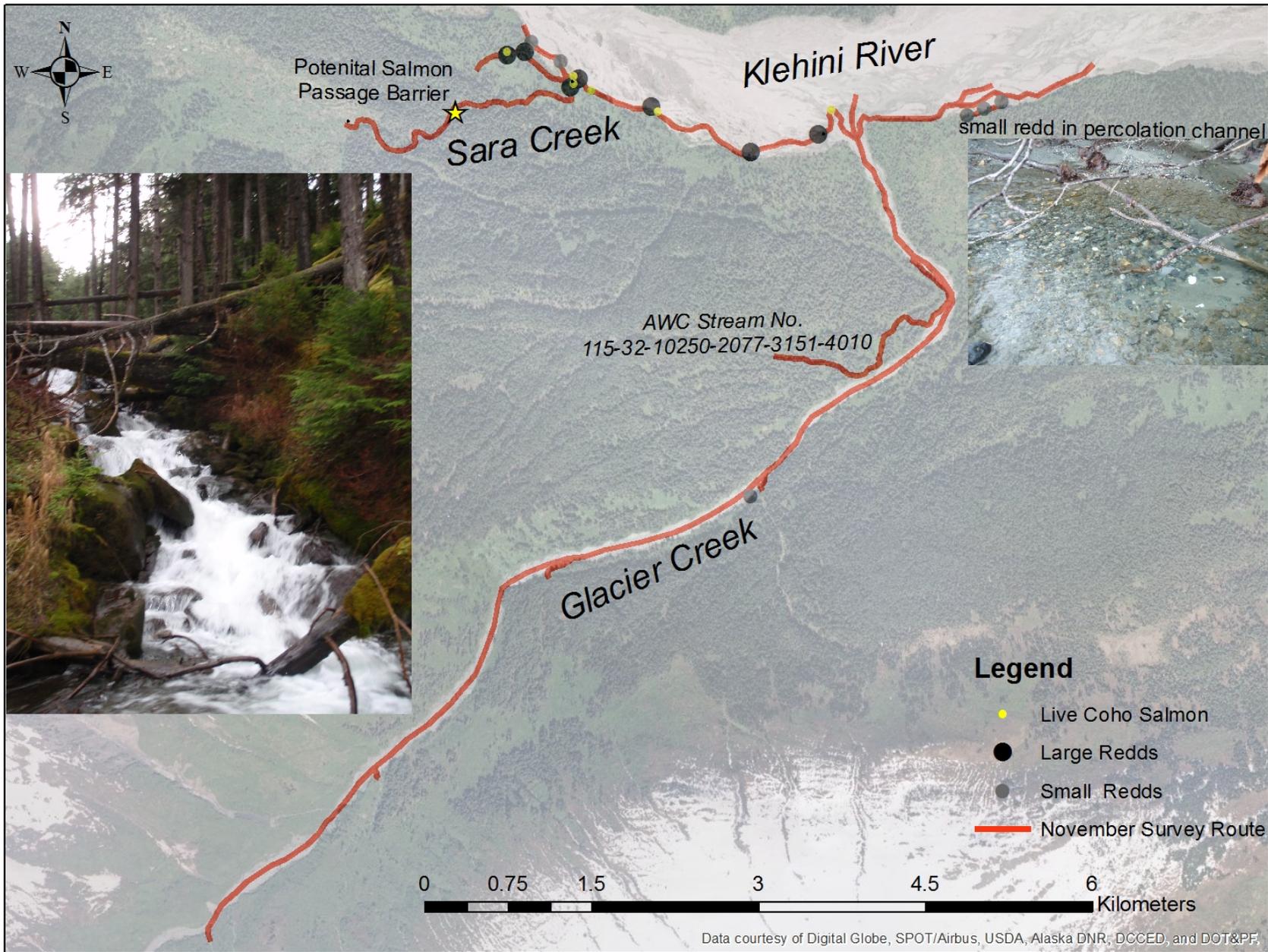


Figure 3. Coho salmon spawner and redd survey findings November 4 & 5<sup>th</sup>, 2014. Note: small redds likely indicate Dolly Varden and large redds coho salmon.



**Figure 4. Pressure Transducer and Staff Gage Location on the Klehini River at Porcupine Crossing.**



**Figure 5. Preparation for discharge measurement on the Klehini River.**



**Figure 6. Chinook Salmon spawning in Big Boulder Creek July 24, 2014.**