

STATE OF WASHINGTON  
**DEPARTMENT OF FISH & WILDLIFE**  
**LANDS AND RESTORATION SERVICES PROGRAM**  
Salmonid Screening, Habitat Enhancement &  
Restoration Division (SSHEAR)

**OFF-CHANNEL SITE INVENTORY DATA**

**General Information:**

<b>Region:</b> North Coast	<b>Observer(s):</b> Nettnin
<b>River System:</b> Sol Duc	<b>Date:</b> 3/23 - 4/25/00
<b>Site Identifier:</b> S-0326	<b>WRIA:</b> 20.0326
<b>River Mile Location:</b> 3.1	<b>RB/LB:</b> LB
<b>Local Name:</b> Johnson Creek	<b>Trib. to:</b> Beaver Creek (20.0324)
<b>Legal Description:</b> NE¼ Sec 20 T30N R12W	<b>County:</b> Clallam

**Habitat Type:** Begins as a valley wall tributary. It then flows across the valley floor receiving water from numerous terrace and/or spring creek tributaries.

**Landowner:** (X) Federal (X) State () County () Other Government (X) Private  
- Mr. And Mrs. Roger Lien and other unknown private ownerships  
- Department of Natural Resources  
- US Forest Service

**Directions to site:**

North from Forks on highway 101 to M.P. 203.9. Turn left onto SR 113 and follow for 2.1 miles. Pull into the wide parking area by Beaver Falls. Walk back down to the bridge and follow the left bank of Beaver Creek (20.0324) upstream to the first left bank tributary. This is Johnson Creek (20.0326).

There are two access points in the upper watershed:

North from Forks on highway 101 to M.P. 205.1. Turn left onto the gravel road and proceed for 0.8 miles to a stream crossing. This is the mid-reach of Johnson Creek (20.0326). Or, continue up the gravel road for another 1.6 miles to another culvert crossing. This is the upper reach of Johnson Creek (20.0326).

**Site Overview:**

Johnson Creek (20.0326) has a watershed of about 1,200 acres of forest land. The majority of the ground is commercial forest with some land conversion into agricultural and residential. The watershed was logged, probably in the 1930's and 40's. Most of the watershed has regenerated to deciduous/conifer mix, deciduous being the dominant species. The watershed is generally well shaded except in areas of open marshes and some developed parcels. The shade is provided mainly by deciduous trees and brush.

The southwest flank of Deadmans Hill is the source for Johnson Creek (20.0326) and several of its tributaries. The stream flows down the hill in a steep V-notch valley. It crosses a saddle between Deadmans Hill and a lesser independent peak before it drops over a series of bedrock cascades. Below the cascades, the gradient becomes less severe, and the valley becomes more U-shaped. As the stream reaches the lower end of the U-shaped valley, it encounters the upper edge of the Sol Duc Valley where it flows across a terrace toward the main valley floor. The system flows through an area that has experienced some land conversion (agricultural and residential) when it reaches the valley floor. At that point the channel makes a 90° turn and becomes low gradient and has an associated high berm. These features indicate artificial manipulation of the channel. This area of the valley floor has porous soil conditions and appears to be old alluvial deposits from the stream and the river. These conditions cause the stream to lose water to the saturation zone. The channel becomes intermittent from this point downstream

to the wetland. The water does reemerge as numerous springs and supplies water to tributaries downstream. As the stream reappears, it enters a large wetland complex. It is made up of a mixture of forested wetland, scrub-shrub wetland and, both emergent and wetted marsh. As it flows through the wetland, it receives water from numerous channels and several small tributaries. One of these channels is a braid associated with Rainey Creek (20.0325).

**Habitat Information:**

**Water source:** Springs, valley wall tributaries, terrace tributaries and surface runoff.

**Intermittent/year-around:** Year-around reaches and an intermittent reach

**Estimated flows (cfs):** Lower end: 15 - 30 Upper end: 0.5 - 1.5

**Water temperatures:** Lower end: 5.5 Upper end: 8.5°C

**Adjacent stream temperature:** 5.5°C

**Other water observations:** tannic in the marsh, clear water above.

**Site area measurements:**  Indirect  Direct  Combination

Widths: Channel- 3.0 - 8.0 m Ponds- NA Wetlands- See wetland description

Depths: Channel- 5 - 60 cm Ponds- NA Wetlands- " " "

Total length surveyed (includes ponds and wetlands): 5,850 m

**Total existing habitat area (est.):** 40,850 m<sup>2</sup>

Spawning area: 9,000 m<sup>2</sup> Tributaries: 970 m<sup>2</sup> Total: 9,970 m<sup>2</sup>

Impounded area: 2,000 m<sup>2</sup> Tributaries: 10,000 m<sup>2</sup> Total: 12,000 m<sup>2</sup>

Other rearing area: 13,600 m<sup>2</sup> Tributaries: 5,280 m<sup>2</sup> Total: 18,880 m<sup>2</sup>

**Spawning Habitat conditions:**  None  Poor  Fair  Good  Excellent

**Describe spawning habitat:**

- The spawning conditions vary widely from no gravel to very good gravel.
- The first 400 m has some quality gravel with a low percentage of fines.
- The reach, from above the wetland to Winter Creek Ranch has good gravel but the bedload is unstable and the stream is intermittent on lower flows.
- The reach from Winter Creek Ranch to the base of the valley wall has the best spawning conditions. Gravel appears clean, no excessive amounts of fine material.
- There are good spawning conditions above the rock cascades that trout utilize. It is presently unknown if coho can access this area.

**Rearing habitat conditions:**  None  Poor  Fair  Good  Excellent

**Describe pond and other rearing habitat:**

- There are excellent rearing areas from the reach starting at the mouth, upstream to the old grade which crosses the wetland. The gradient is low and the channel is wide providing slack water. There are light to moderate amounts of LOD that create good cover. A deciduous forest provides shade for the channel. Deciduous brush provides some amount of shade and cover for the wetland. This reach also has many small tributaries that provide good rearing conditions.
- The reach from the old grade to Winter Creek Ranch is braided with intermittent flows. The upper 60 m appears to have been excavated in the past. This reach provides some low quality winter rearing, but it can also trap fish. During the initial survey, thirty-two coho smolts and three cutthroat trout were observed in a pool stranded. The pool was drying up. They were moved to a deeper pool upstream. A short period later, that pool was also drying up. This condition developed because of a substantial dry period causing this reach to flow subsurface.

- The channel reach from Winter Creek Ranch upstream ~1,700 meters has a gradient of 5 - 8%. The areas with woody debris had quality pools. It is unknown at this time how much of this reach stays watered during the year.
- The gradient increases to 12% in the next 400-meter reach. Large woody debris is more abundant and there are more boulders and rubble. The associated pools provide good rearing area.
- The next 200 meters are mostly transport water. The gradient increases to 20% or more. There are numerous bedrock falls and cascades.
- As this next reach crosses the upper saddle, the gradient drops to 4 - 7%. There are two spring channels and two valley wall tributaries converge in this reach. The gravel is good for spawning and several trout redds were observed.
- The last surveyed reach is about 600 meters long and has a gradient that varies, 7% up to 22% where the survey was terminated. Woody debris is abundant, and the brush is dense. The walls of the V-notch valley are steep. Portions of this reach may be intermittent in the summer and have flashy flows in the winter.
- The overall canopy is primarily deciduous species. The lower reach is open with a coverage of 20 - 30% due to the wetlands and beaver activity. The upper reaches are well shaded with the exception of the left bank valley wall tributary in the upper saddle. What RMZ was left after logging has since blown down. There are conifer stands outside some of the deciduous RMZ strips along with scattered conifers that may contribute LOD to the stream in the future.

**Describe unaccessible habitat: NA**

**Describe wetland:**  Bog  Marsh  Scrub-shrub Wetland  Forested Wetland

- Johnson Creek (20.0326) is associated with several wetlands.
- The lower 400 m of Johnson Creek (20.0326) drains a portion of a large wetland that is also associated with Rainey Creek (20.0325). This is a forested wetland and is approximately 700 m long and ranges from 200 - 400 meters wide. The predominant shade providers are deciduous trees with some conifer trees mixed in. The canopy closure has a variety of ranges: dense closures of 90 - 100% over the area drained by the smaller tributaries, moderately dense closures of 60 - 80% along the mainstem reach, and a total lack of a canopy in the open upland - the source area for four spring tributaries. The under story is dense to moderate and is composed of primarily salmonberry, interspersed with stinkberry.
- The next wetland complex is located in the middle reach of Johnson Creek. It is separated from the lower Johnson Creek/Rainey Creek wetland by a low, flat upland. The saturation zone of the two creeks may be interconnected. The overall dimensions of the wetland are approximately 700 m long and 300 m wide. The forested wetland is the most dominant type of wetland in this complex, with a portion as open to moderately-open marsh combined with scrub-shrub wetland. The predominant overhead shade producer is 60 -80 year old deciduous trees, and various brush species. There are some scattered conifers throughout the forested wetland. The canopy closure ranges 90 - 100% over the area drained by the smaller tributaries, to 60 - 80% along the main stem below the wetland, to total lack of a canopy in the open marsh and beaver pond areas. The under story (dense to moderate) is mainly salmonberry, interspersed with stink berry and vine maple.
- The other wetlands associated with this stream are on a tributary. See S-326L-08 for details of those wetlands.

**Flooding potential:**  Low  Medium  High

- Flashy flows during rain events from within the stream system.

**Fish Information:**

**Site entry condition to (20.0324):**  Poor  Fair  Good

- Enters in an eddy on a out-turn of Beaver Creek.

**Coho access and use:**

Juvenile-  Unknown  None  Poor  Fair  Good

Adult-  Unknown  None  Poor  Fair  Good

- Juveniles were abundant in most of the tributaries and the mainstem.
- The Quileute Nation maintains two spawner indexes: One from the mouth upstream to the mid-reach wetland and one above the Winter Creek Ranch.

**Other species access and use:**  Chum  Pink  Sockeye  Chinook  Trout

- Trout were observed using this stream in and around the wetland and above the bedrock cascades. It is assumed they utilize most of the system.

**Habitat Improvements:**

**Enhancement opportunities:**

Possible project types:

- LOD placement
- Install a downstream migrant trap to catch and transport smolts around the intermittent reach to decrease loss of smolts due to stranding.
- Remove unnecessary culverts from an old abandoned grade.
- Maintain integrity of the watershed

Equipment access

- Limited access along old grade.
- Good access for smolt trap.

**Additional Comments:**

- Johnson Creek is not depicted correctly in the WRIA catalog. The associated numbering in relation to this channel is in error. The stream catalog does not show the lower reach of Johnson Creek. A supplemental number 20.0324C, was assigned to represent this creek. However, the catalog shows a left bank tributary (20.0326) to Rainey Creek at RM 1.2. This tributary is in fact, the upper reach of Johnson Creek. It is suggested that all of Johnson Creek be given the WRIA number 20.0326. This document reflects this change.

**Attachments Available:**

**Contact respective SSHEAR habitat biologist for the following checked items:**

- |   |  |  |   |
|---|--|--|---|
| <input type="checkbox"/> Aerials          | <input checked="" type="checkbox"/> Sketch | <input type="checkbox"/> Maps              | <input type="checkbox"/> Culvert Report |
| <input type="checkbox"/> Other references | <input type="checkbox"/> Spawning surveys  | <input type="checkbox"/> Juvenile trapping | <input type="checkbox"/> Fishway Report |

**NORTH COAST OFF CHANNEL SURVEY**  
**SUBSEQUENT SITE EVALUATION FORM**

River System: Sol Duc

Site No.: S-0326

Site Name: Johnson Creek

WRIA: 20.0326

DATE: 2/6-2/7/01

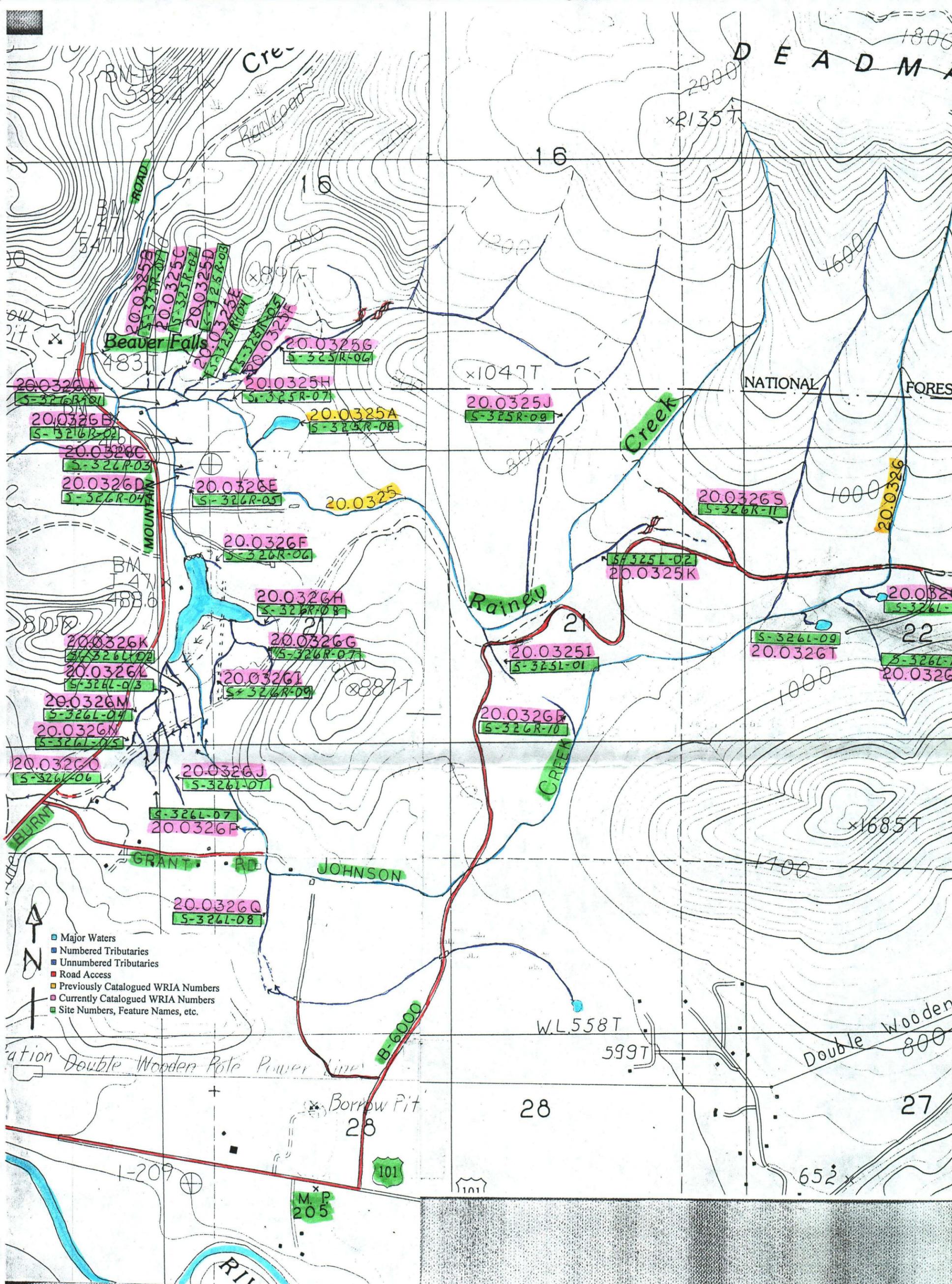
OBSERVER: Darrow/Nettrin

**MINNOW TRAPPING REPORT**

TRAP	DATE SET	TEMP	DATE PULLED	TEMP	COHO	CATCH			COTTID
						RBT	CUTT	0+	
1	2/6	6.0°C	2/7	5.0°C	0	0	1	0	0
2	2/6	6.0°C	2/7	5.0°C	0	0	3	0	0
3	2/6	6.0°C	2/7	5.0°C	0	0	0	0	0
4	2/6	6.0°C	2/7	5.0°C	0	0	2	0	0
5	2/6	6.0°C	2/7	5.0°C	0	0	4	0	0
6	2/1	9.0°C	2/2	9.0°C	0	0	0	0	0
7	2/13	5.0°C	2/14	4.5°C	0	0	3	0	0
8	2/13	5.0°C	2/14	4.5°C	0	0	0	0	0
9	2/13	5.0°C	2/14	4.5°C	0	0	1	0	0
<b>TOTALS:</b>					0	0	14	0	0

**COMMENTS:**

- Trap 1 was placed about 100m below the upper culvert on the FS-B-6000 road in about 45cm of water under LOD. Fish was 12-15cm in good shape.
  - Trap 2 was placed, about 10m above the confluence of S-326L-11, in a plunge pool below woody debris. The fish ranged between 15 and 20 cm and in good shape.
  - Trap 3 was placed about 20m below the confluence of under LOD. The current had caused the trap the suspend above the bed of the stream. A crayfish was the only fish captured .
  - Trap 4 was placed in the plunge pool below the old beaver dam at the washed out grade crossing. One fish was about 13 cm and the other was about 20cm. Both were a little skinny but looked good
  - Trap 5 was placed about 80m below the confluence of S-326I-09 in a small pool below woody debris. Fish ranged from 8 - 16 cm. The 8cm trout was dead in the trap.
  - Trap 6 was placed about 50m above the confluence of S-326R-11 in a scour pool at the base of a cut bank.
  - Trap 7 was placed about 1m above the culvert on the FS-B-6000.
  - Trap 8 was placed about 25m above trap #1. A dead water shrew(*Sorex palustris*) was found in the trap.
- Trap 9 was placed about 40m above trap #8 fish was about 115 mm, bright and in good shape. Also one NW salamander was captured.
- All traps were baited with salmon roe.



RIVER: SOL DUC

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TRIB: JOHNSON CREEK & RAINEY CREEK  
 WRIA: 20.0326, 20.0325  
 AREA: S-R5

OVERVIEW MAP

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