STATE OF WASHINGTON

DEPARTMENT OF FISH & WILDLIFE

HABITAT PROGRAM

Salmonid Screening, Habitat Enhancement & Restoration Division (SSHEAR)

OFF-CHANNEL SITE INVENTORY DATA

General Information:

Region: North Coast

Observer(s): Powell

River System: Sol Duc River

Date: 4/14/96

Site Identifier: S-R3-02

WRIA: 20.0319A

River Mile Location: 25.0 mi

RB/LB: RB

Local Name: Small Pond (Tyee Pond)

Trib. to: 20.0096

Legal Description: NW¼ Sec3 T29N R13W

County: Clallam

Habitat Type: Spring creek

Landowner: () Federal () State () County () Other Government () Private
- Unknown but possibly, Washington Department of Natural Resources.

Directions to site: Head north from Forks on HWY 101 about 7.1 miles (just beyond mp199). There is an angular section of stranding timber in a recent cut on the right side of the road (facing north); this is the river's RMZ and it is in close proximity of the road. Go slightly north of the stand and drop over the bank. The pond/channel encountered is S-R3-02.

Site Overview: This is a spring channel with a small, quality pond formed by a beaver dam.

Habitat Information:

Water source:
- Springs and surface runoff

Intermittent/year-around:
- Year-around

Estimated flows (cfs): 1.5+

Water temperatures: 9.5° C

Adjacent stream temperature: 8.5° C (20.0096)

Other water observations:
- Clear, spring water.

Site area measurements: () Indirect (X) Direct () Combination

Width: Channel- 0.75 - 1.0 m Pond- 3 - 30 m
Depth: Channel- 10 - 15 cm Pond- 1+ m
Total length surveyed: 175 m

Total existing habitat area (est.): 3135 m²

Spawning area: 35 m²
Impounded area: 3100 m²
Other rearing area: 0 m²

Spawning habitat conditions: () None () Poor (X) Fair () Good () Excellent

Describe spawning habitat:

- Spawning gravel was placed in the area of the plank controls and at the connection of the old channel with the new pond. Fish have spawned on the edges of the new pond also.

Rearing habitat conditions: () None () Poor () Fair (X) Good () Excellent

Describe pond and other rearing habitat:

-There is a beaver dam which forms the pond. Dam is passable during higher flows.
- The channel has cover of some LOD, and brush and a canopy of alder and vine maple.
- The pond has some cover of water parlsey, sedges and LOD, and a canopy of alder and vine maple.
- Water springs from the adjacent steep hillside.
- There were large globs of brown algae in the mid and upper end of pond.

Unaccessible habitat:

- None

Wetland information: () Bog () Marsh () Scrub-shrub Wetland () Forested Wetland

- None.

Flooding potential: () Low (X) Medium () High

- May backwater during extreme high flows.

Fish Information:

Site entry condition to : () Poor (X) Fair () Good

- This channel has an open egress into the river.
- The beaver dam may be a barrier during lower flows.

Coho access and use: Juvenile- (X) Unknown () None () Poor () Fair () Good
Adult- () Unknown (X) None () Poor () Fair () Good

Other species access and use: () Chum () Pink () Sockeye () Res. trout () Trout

- A school of ~ 20 salmonids (no ID) were observed. They were ~70 - 80 mm long.
- Minnow trap information shows there is good use by coho and trout.

Habitat Improvements:

Enhancement opportunities:

- Recommendation from initial survey was to extend pond along base of hill and this was done in the summer of 1998 by the SSHEAR section of WDFW.

Additional Comments:

Attachments Available:

Contact respective SSHEAR habitat biologist for the following checked items:

(X) Aerials	(X) Sketch	(X) Maps	( ) Culvert Report
( ) Other references	( ) Spawning surveys	( ) Juvenile trapping	( ) Fishway Report

NORTH COAST OFF CHANNEL SURVEY
SUBSEQUENT SITE EVALUATION

River System: Sol Duc

Site No.: S-R3-02
WRIA: 20.0319A
Site Name: Tyee Channel

DATE: 8-13-96 **OBSERVER:** Powell

There was about 1 cfs flow at the egress and the water temperature was 10° C - it has been a warm dry spell. The pond was down by ~ three feet because water was perking under the beaver dam; pond depth was 1-2 feet. Salmonid fry were observed in the pond and it is assumed that they are trout due to their small size.

DATE: 12-17-97 **OBSERVER:** Darrow

TRAP	DATE SET	TEMP	DATE PULLED	TEMP		CATCH COHO UMRK	COHO MRK	RBT	CUTT	COTTID
1	12/16	8°C	12/17	8°C	26	0	2	1	3	
2	12/16	8°C	12/17	8°C	25	0	1	1	8	
3	12/16	8°C	12/17	8°C		16	0	1	0	9
4	12/16	8°C	12/17	8°C	14	0	0	1	3	
5	12/16	8°C	12/17	8°C	8	0	0	0	7	
				TOTALS:		89	0	4	3	30

COMMENTS:
-Trap 1 was place at the upper end of pond where water "boils" into the system.
-Trap 2 was placed ~ 15 m downstream of trap 1.
-Trap 3 was placed ~ 20 m downstream of trap 2, about the middle reach.
-Trap 4 was placed downstream of trap 3.
-Trap 5 was placed ~6 - 7 m upstream of beaver dam near the channel's egress.

TYEE - COHO FORK LENGTHS (mm)									
Trap 1	96	97	95	95	85	104	85	90	
Trap 2	100	97	95	122	97	116	88	104	85
	89	87							
Trap 3	130	80	113	104	90	86			
Trap 4	92	85	122	92	100				
Trap 5	114	107	99	100					
AVG	**98.3**	**STD**	**12.1**	**MIN**	**80**	**MAX**	**130**	**COUNT**	**34**

MINNOW TRAPPING REPORT

River System: Sol Duc

Site No.: S-R3-02
WRIA: 20.0319A
Site Name: Tyee Channel (Small Pd)

DATE: 4-1-98 **OBSERVER:** Darrow

TRAP	DATE SET	TEMP	DATE PULLED	TEMP		CATCH COHO UMRK	COHO MRK	RBT	CUTT	COTTID
1	3/31	8°C	4/1	8°C	5	0	0	0	1	
2	3/31	8°C	4/1	8°C	2	0	0	0	4	
3	3/31	8°C	4/1	8°C		7	0	0	0	1
4	3/31	8°C	4/1	8°C	5	0	0	1	1	
5	3/31	8°C	4/1	8°C	2	0	0	0	5	
				TOTALS:		21	0	0	1	12

COMMENTS:
-Trap 1 was place at the upper end of pond where water "boils" into the system.
-Trap 2 was placed ~ 15 m downstream of trap 1.
-Trap 3 was placed ~ 20 m downstream of trap 2, about the middle reach.
-Trap 4 was placed downstream of trap 3.
-Trap 5 was placed ~6 - 7 m upstream of beaver dam near the channel's egress.

TYEE - COHO FORK LENGTHS (mm)							
Trap 1	97	95	91	101	99		
Trap 2	101	93					
Trap 3	110	107	100	92	92	94	117
Trap 4	88	100	94	99	106		
Trap 5	99	102					
AVG	**98.9**	**STD**	**6.9**	**MIN**	**88**	**MAX**	**117**

DATE: 7/15/98 **OBSERVER:** King

During the summer of 1998, the SSHEAR unit of WDFW excavated a pond in the clearcut adjacent to the existing ponded area. This new pond was connected to the existing pond and was loaded heavily with woody debris. At the outlet of the existing pond, a beaver dam was removed and replaced with 5 cedar plank controls, the uppermost which controls the water surface for the entire project. The banks of the new pond were revegetated with grass seed and young shrubs. The new pond added 2,800 m^2 of rearing habitat.

DATE: Fall/98 **OBSERVER:** Powell/Darrow

Pond and channel did not start to flow until later in the season (dry summer and early fall). Once the aquifer was charged, there was a continuous strong flow from the system. Camp Crew placed cover structures in the pond this fall. Salmon Coalition placed hatchery carcasses in the pond.

NORTH COAST OFF CHANNEL SURVEY
SUBSEQUENT SITE EVALUATION FORM

River System: Sol Duc

Site No.: S-R3-02
Site Name: Tyee Channel
WRIA: 20.0319A

DATE: 12-29-98 **OBSERVER:** Darrow

MINNOW TRAPPING REPORT

TRAP	DATE SET	TEMP	DATE PULLED	TEMP	CATCH COHO	TROUT RBT	TROUT CUTT	TROUT 0+	COTTID
1	12/28	10.0°C	12/29	10.0°C	15	3	0	0	0
2	12/28	10.0°C	12/29	10.0°C	17	1	0	0	0
3	12/28	10.0°C	12/29	10.0°C	14	1	0	0	0
4	12/28	10.0°C	12/29	10.0°C	18	0	1	0	0
5	12/28	10.0°C	12/29	10.0°C	10	0	0	0	0
6	12/28	10.0°C	12/29	10.0°C	12	1	0	0	0
7	12/28	10.0°C	12/29	10.0°C	15	1	0	0	0
8	12/28	10.0°C	12/29	10.0°C	9	0	0	0	0
9	12/28	10.0°C	12/29	10.0°C	19	0	0	0	0
10	12/28	10.0°C	12/29	10.0°C	24	0	0	0	0
				TOTALS:	153	7	1	0	0

COMMENTS:
All traps were placed in the new excavated pond. Traps were placed in a clockwise fashion.
-Trap 1 was placed on the right bank, furthest downstream point of the pond.
-Trap 2 was placed upstream of trap 1.
-Trap 3 was placed upstream of trap 2.
-Trap 4 was placed upstream of trap 3.
-Traps 5 and 6 were placed at the furthest upstream edge of pond.
-Trap 7 was placed on the left bank, furthest upstream point of the pond.
-Trap 8 was placed downstream of trap 7.
-Trap 9 was placed downstream of trap 8.
-Trap 10 was placed downstream of trap 9 at the furthest downstream, left bank point of the pond.

NORTH COAST OFF CHANNEL SURVEY
SUBSEQUENT SITE EVALUATION FORM

River System: Sol Duc

Site No.: S-R3-02
Site Name: Tyee Channel
WRIA: 20.0319A

TYEE CHANNEL - COHO FORK LENGTHS (mm) 12/98									
Trap 1	100	87	85	102	93	87	101	98	87
	102	92	90	94	99	90			
Trap 2	103	96	91	97	108	96	96	100	92
	97	104	102	113	97	92	107	97	
Trap 3	107	100	101	102	107	95	98	86	89
	93	83	93	101	84				
Trap 4	114	90	107	95	94	98	106	85	103
	95	93	94	93	105	83	105	98	103
Trap 5	90	96	89	97	94	101	94	86	90
	83								
Trap 6	88	98	89	98	95	110	106	96	93
	92	101	93						
Trap 7	158	110	108	93	88	102	114	93	96
	93	97	98	105	99	88			
Trap 8	94	100	94	98	100	102	98	111	95
Trap 9	86	91	88	102	92	105	93	101	88
	83	89	81	108	86	97	95	101	94
	93								
Trap 10	78	101	76	100	97	99	105	87	90
	91	103	96	100	92	87	82	88	95
	112	101	87	93	97	92			
AVG	**96.27**	**STD**	**9.002**	**MIN**	**76**	**MAX**	**158**	**COUNT**	**153**

NORTH COAST OFF CHANNEL SURVEY
SUBSEQUENT SITE EVALUATION FORM

River System: Sol Duc

Site No.: S-R3-02
Site Name: Tyee Channel
WRIA: 20.0319A

DATE: 3-23-99 **OBSERVER:** Darrow

No erosion observed along banks - vegetation is coming in good. Plank controls are all clear and functioning well. Good flow, ~ 2.5+ CFS.

DATE: 5-9-99 **OBSERVER:** Darrow

MINNOW TRAPPING REPORT

TRAP	DATE SET	TEMP	DATE PULLED	TEMP	CATCH COHO	TROUT RBT	TROUT CUTT	TROUT 0+	COTTID
1	5/9	10.0°C	5/10	11.0°C	0	0	0	0	0
2	5/9	10.0°C	5/10	11.0°C	0	0	0	0	0
3	5/9	10.0°C	5/10	11.0°C	0	0	0	0	0
4	5/9	10.0°C	5/10	11.0°C	0	0	0	0	0
5	5/9	10.0°C	5/10	11.0°C	0	0	0	0	0
6	5/9	10.0°C	5/10	11.0°C	0	0	0	0	1
7	5/9	10.0°C	5/10	11.0°C	0	0	0	0	0
8	5/9	10.0°C	5/10	11.0°C	0	0	0	0	0
9	5/9	10.0°C	5/10	11.0°C	0	0	0	0	3
10	5/9	10.0°C	5/10	11.0°C	0	0	0	0	0
				TOTALS:	0	0	0	0	4

COMMENTS:
All traps were placed in the new excavated pond. Traps were placed in a clockwise fashion.
-Trap 1 was placed on the right bank, furthest downstream point of the pond.
-Trap 2 was placed upstream of trap 1.
-Trap 3 was placed upstream of trap 2.
-Trap 4 was placed upstream of trap 3.
-Traps 5 and 6 were placed at the furthest upstream edge of pond.
-Trap 7 was placed on the left bank, furthest upstream point of the pond.
-Trap 8 was placed downstream of trap 7.
-Trap 9 was placed downstream of trap 8.
-Trap 10 was placed downstream of trap 9 at the furthest downstream, left bank point of the pond.

Nine of the ten traps had coho fry - they were from 45 to 77 mm.

DATE: 8/4/99 **OBSERVER:** Nettnin

The site was visited and maintenance performed. Spawning gravel was screened on site and added above the upper weir and at the outlet of the pond. A rock weir was added below the lowest control to assist passage on low flows due to roots and debris.

NORTH COAST OFF CHANNEL SURVEY
SUBSEQUENT SITE EVALUATION FORM

River System: Sol Duc

Site No.: S-R3-02
Site Name: Tyee Channel
WRIA: 20.0319A

DATE: 11/16/99 **OBSERVER:** Nettnin

A tote of spawned salmon carcasses from the Sol Duc Hatchery was distributed throughout the project (utilizing the Honor Camp Crew).

DATE: 4/8/00 **OBSERVER:** Darrow

Pond was moderately full. Springs along the right bank exhibited good flow. There was a minor amount of small limbs and sticks at the controls. There is a leak on the left bank side of control area. It appears to be caused by an animal burrow. Observed some smolts in the pond area.

DATE: 10/10/00 **OBSERVER:** Darrow

Active beaver site. Dam was breached but site will need to be monitored. DNR Honor Camp Crew placed a tote (approx. 120-130 fish) of summer coho carcases throughout system. Observed a few rises on the pond.

DATE: 3/12/01 **OBSERVER:** Darrow

Good flow and no recent beaver activity. Just some minor amounts of limbs and sticks concentrated at the controls. Brown/green algae clumps are becoming noticeable in the pond area.

DATE: 10/2/01 **OBSERVER:** Nettnin

Distributed salmon carcasses throughout the project for nutrient enhancement.

DATE: 10/7/01 **OBSERVER:** Darrow

Beavers have been active at this site. Dam was breached on top control and cleared sticks off of others. Water is presently not flowing at the egress.

DATE: 4/7/02 **OBSERVER:** Darrow

Pacific Salmon Coalition added about 45-50 surplus Christmas trees (needles still attached) to the upper pond. They are not anchored but appear to be staying in place. Past weather has toppled a couple of alders in the lower end. Everything else is okay. Observed different sized fry in the upper and lower reaches.

DATE: 10/10/02 **OBSERVER:** Nettnin

Modified beaver dam. Repaired the left bank of weir #4. The beaver had tunneled around causing it to leak.

DATE: 11/17/02 **OBSERVER:** Powell

Water in pond is low. Channel is not flowing yet.

DATE: 11/22/02 **OBSERVER:** Powell

Pond has filled and channel is flowing now - in just 5 days!
GPS: (decimal degrees, Datum WGS84):
upper project - N48.04724, W124.36348
egress - N48.04715, W124.36662

NORTH COAST OFF CHANNEL SURVEY
SUBSEQUENT SITE EVALUATION FORM

River System: Sol Duc

Site No.: S-R3-02
Site Name: Tyee Channel
WRIA: 20.0319A

DATE: 12/18/02 **OBSERVER:** Powell

A total of four redds and four coho adults have been observed at this site in the past week.

DATE: 3/27/03 **OBSERVER:** King

Everything looks good. The whole system needs additional cover structures.

DATE: 9/25/03 **OBSERVER:** Nettnin

Upper pond very low blue heron wading in middle of pond. Planted willow and redosier dogwood around pond.

DATE: 10/23/03 **OBSERVER:** Powell

Recent heavy rainfall pumped up the system. Ponds were full and channel had a strong flow. There is a leak in the left bank near the egress. It is directly upstream of the first plank control. Some water is flowing to the river via this hole which may be due to past beaver activity.

STATE OF WASHINGTON

DEPARTMENT OF FISH & WILDLIFE

HABITAT PROGRAM

Salmonid Screening, Habitat Enhancement & Restoration Division (SSHEAR)

OFF-CHANNEL SITE INVENTORY DATA

General Information:

Region: North Coast

Observer(s): Powell

River System: Sol Duc River

Date: 4/11/96

Site Identifier: S-L3-04

WRIA: 20.0319B

River Mile Location: 26.6 mi

RB/LB: LB

Local Name: Brandeberry Pond

Trib. to: 20.0096

Legal Description: SW¼ Sec2 T29N R13W

County: Clallam

Habitat Type: Terrace tributary

Landowner: () Federal () State () County () Other Government (X) Private
- Mike Brandeberry

Directions to site: Go north from Forks on Hwy 101 about 5.2 miles to Maxfield Road. Take a right on this road and follow to the end of the county road, 0.6 mi. There is gate that is usually open during daylight hours but it does have a DNR AA-8 Lock. Go through the gate and take the second left turn, 0.1mi. Follow this main road for 1.4 miles and there will be a road to your right. Take this right and follow this steep road to the top where there is another gate (0.7 mi) with AA-8 lock,. Just beyond this gate (0.2mi), there is a left turn; follow this washed out but driveable road to the bottom where it parallels the river. The road goes over a culvert, S-L3-04, before it ends in an alder patch.

Site Overview: This is a small channel with an easily missed egress due to the various barriers during average and low flows. The recently logged terrain circles and forms a basin around ~ 2/3 of a small pond, and runoff feeds this intermittent pond.

Habitat Information:

Water source:
- Surface runoff

Intermittent/year-around:
- Intermittent

Estimated flows (gpm): 50 - 70

Water temperatures: Did not take

Adjacent stream temperature: 8.5° C (20.0096)

Other water observations:

Site area measurements: () Indirect (X) Direct () Combination
Width: Channel- 0.3 - 0.6 m Pond- 3 - 10 m
Depth: Channel- 7 - 10 cm Pond- 0.3 - 0.6 m
Total length surveyed: 185 m

Total existing habitat area (est.): 115 m^2
Spawning area: 0 m^2
Impounded area: 1200 m^2
Other rearing area: 25 m^2

Spawning habitat conditions: (X) None () Poor () Fair () Good () Excellent

Describe spawning habitat:
- None.

Rearing habitat conditions: () None () Poor (X) Fair () Good () Excellent

Describe pond and other rearing habitat:
- Lower end of channel braids through a muddy channel with LOD.
- The channel has cover of LOD, and a canopy of alder and conifer.
- The shallow pond has water parlsey and sedges throughout
- The edges of the pond have LOD, sedges and skunk cabbage.
- This channel appears to be affected by low flows.

Unaccessible habitat:
- The egress may render this pond unaccessible.

Wetland information: () Bog (X) Marsh () Scrub-shrub Wetland () Forested Wetland
- This pond may have the appearance of a watered marsh during many months of the year due to its shallow depth.
- It has sedges, water parsley, and skunk cabbage.

Flooding potential: (X) Low (X) Medium () High

Fish Information:

Site entry condition to : (X) Poor () Fair () Good
- This channel egresses over a boulder strewn bank of the river.
- The egress flows subsurface through a clump of stumps and live trees.

Coho access and use: Juvenile- (X) Unknown () None () Poor () Fair () Good
Adult- () Unknown (X) None () Poor () Fair () Good

Other species access and use: () Chum () Pink () Sockeye () Res. trout () Trout
- It is unknown if any other species utilize this channel. Access and low flows may be the limiting factor.

Habitat Improvements:

Enhancement opportunities:
- Improve egress (close access available).
- Remove undersized culvert on deadend road.

Additional Comments:

- There is a ~1.5 ft culvert on a road crossing that is undersized for this system.

Attachments Available:

Contact respective SSHEAR habitat biologist for the following checked items:

(X) Aerials	(X) Sketch	(X) Maps	( ) Culvert Report
( ) Other references	( ) Spawning surveys	( ) Juvenile trapping	( ) Fishway Report

NORTH COAST OFF CHANNEL SURVEY
SUBSEQUENT SITE EVALUATION

River System: Sol Duc

Site No.: S-L3-04
WRIA: 20.0319B
Site Name: Brandeberry Pond

DATE: 8-13-96 **OBSERVER:** Powell

On this date, the pond was dry. Sedges, grasses, and water parsley were prominent in the dry pond bed. It has been a drier than normal summer.

DATE: 2-16-97 **OBSERVER:** Darrow

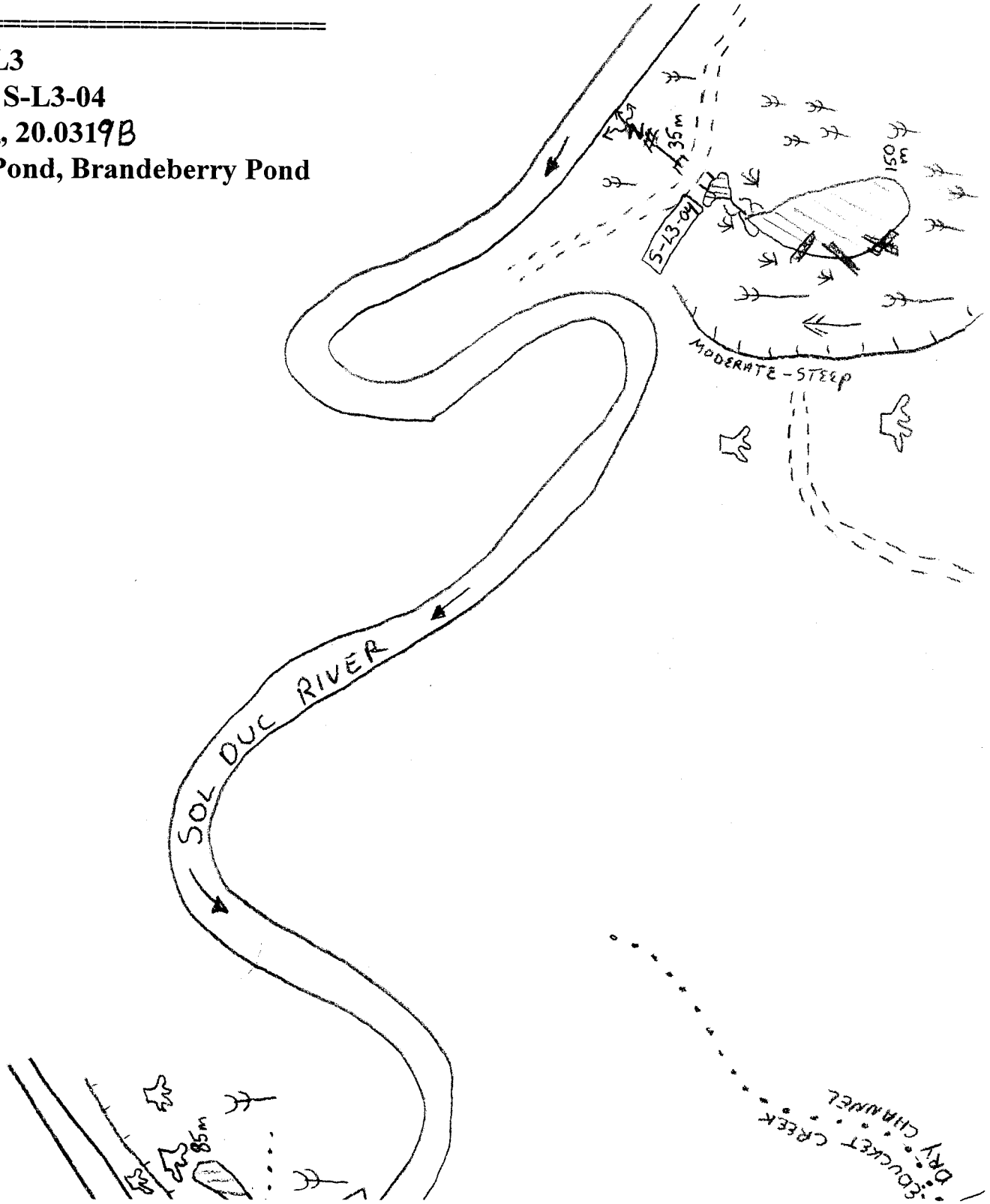
MINNOW TRAPPING REPORT

TRAP	DATE SET	TEMP	DATE PULLED	TEMP	CATCH COHO UMRK	COHO MRK	RBT	CUTT	COTTID
1	2/15	6.0°C	2/16	6.5°C	0	0	0	0	0
2	2/15	6.0°C	2/16	6.5°C	1	0	0	0	0
3	2/15	6.0°C	2/16	6.5°C	0	0	0	0	0
4	2/15	6.0°C	2/16	6.5°C	0	0	0	0	0
				TOTALS:	1	0	0	0	0

COMMENTS:
-Trap 1 was placed about 7 meters upstream from egress, where channel splits.
-Trap 2 was placed about 10 meters upstream of grade crossing.
-Trap 3 was placed in lower section of pond.
-Trap 4 was placed in mid section of pond - where it is the widest.

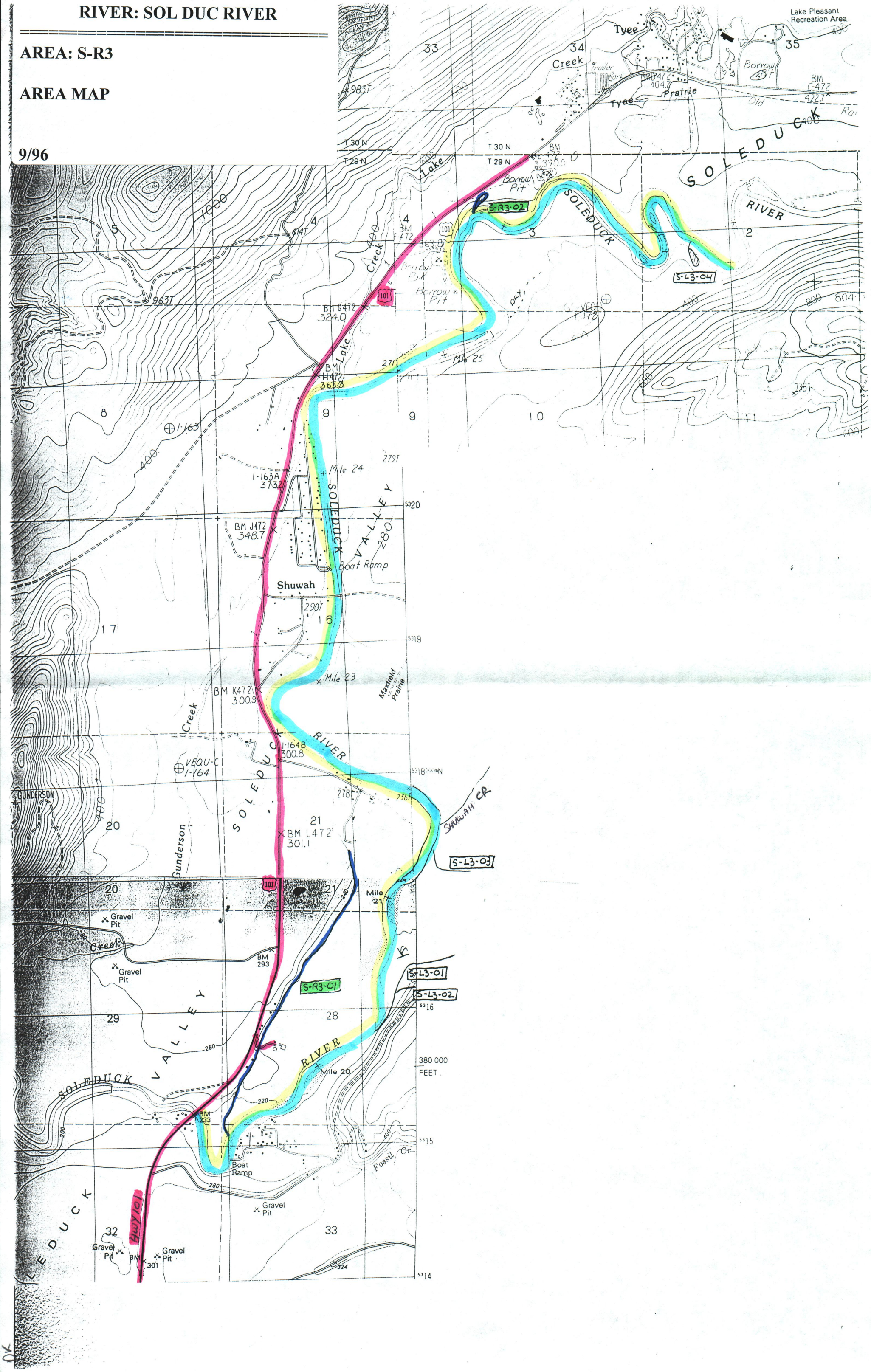
AREA: S-R3, S-L3
SITES: S-R3-02, S-L3-04
WRIA: 20.0319A, 20.0319B
NAMES: Small Pond, Brandeberry Pond

DATE: 4/96



RIVER: SOL DUC RIVER

AREA: S-R3

AREA MAP

9/96