SITE NUMBER: B-L5-01
LOCAL NAME: Smith Rd Channel
WRIA: 20.0240A

NORTH COAST OFF CHANNEL SITE INVENTORY DATA

RIVER SYSTEM: Bogachiel **DATE:** 4/18/89 **OBSERVER:** Young

CHANNEL TYPE: Terrace tributary (wall-based) with a good-sized valley wall trib entering along the lower reaches.

TRIBUTARY TO: Bogachiel River - 20.0162

SITE LOCATION: L.B. @ River mile - 14.6 (WDF)

LEGAL DESCRIPTION: SW1/4 S34 T28N R13W

	UPPER END	LOWER END	RIVER TEMP
WATER TEMP:	44 - 47 F	49 F	48 F
FLOW (CFS):	Dry	1.0	

SUBSTRATE : Mostly silt and sand. Some gravel and cobble near the mouth. Considerable gravel in the alluvial fan area and further upstream in the valley wall trib.

SITE SIZE:
Length- about 1200 m (upper 600 m was dry)
Width- Surface = 4 to 8 ft (excluding marshy pond)
Channel = 6 to 10 ft (excluding marshy pond)
Depth- 3 to 6 inches. Pools 2-3 ft (excluding marshy pond)

WATER SOURCE: Numerous small springs throughout the lower 600 m. A good-sized valley wall trib also feeds the lower 300 m. Upper channel may be largely fed by run-off.

DIRECTIONS TO SITE: Heading north on Hwy 101, turn left approx. 0.5 miles north of mile post 185 onto Smith Rd. (i.e. just south of the Bogachiel Bridge). Continue west on Smith Rd until it ends at a large gravel bar along the river. The mouth of B-L5-01 is located at the extreme lower end of this bar. The upper end of B-L5-01 runs parallel to and south of the Smith Rd.

FISH ACCESS AND CURRENT USE: Channel appears to have unrestricted access for juvenile coho. Numerous coho and/or trout fry were seen in the lower 300 m of the channel. Some spawning may occur in the lower reach of the valley wall trib (i.e. upstream of the alluvial fan).

FLOODING POTENTIAL: Low to mod. Some backwater flooding seems likely.

LANDOWNER: Unknown at this time. Probably ITT Rayonier and/or DNR in the mid and lower reaches of the channel.

COMMENTS & RECOMMENDATIONS: B-L5-01 enters the Bogachiel at a deep, fairly fast moving pool on the outside of a large bend. The channel is somewhat incised at the mouth and enters the river with a moderately flat gradient.The lower 400 m of B-L5-01 has a flat to gentle gradient as it runs along the base of a steep hillside. A number of small springs enter from off the hillside. A steep valley wall trib enters along the upper end of this reach. At present 75% of the water in the lower channel flows in from this trib. A large alluvial fan has formed at the confluence of the trib and B-L5-01.

Upstream of the alluvial fan is a small (0.5 to 1.0 acre), very shallow, marshy pond (see pond data supplement). Mature cottonwood trees and lots of brush were seen in this marsh area. At the time of this survey much of this area was dry.

B-L5-01 continues for about another 100 m upstream of the shallow marshy pond before going dry. A small upwelling spring was seen in a pool near the upper end of wetted channel. The water temperature of

this spring was measured at 6.5 C (or 44 F).

The upper 600 m of B-L5-01 is mostly dry and well vegetated. A few isolated pockets of water were seen. This portion of the channel shows evidence that it may hold a significant amount of low velocity water during and immediately after periods of heavy runoff. A fairly large gravel pit pond has been excavated just north and west of B-L5-01 and adjacent to the shallow marsh area (see B-L5-02). This pond is currently isolated but it may be feasible to connect it to B-L5-01 via the marsh.

Would recommend deepening and widening of B-L5-01 throughout. This could be especially beneficial in the shallow marshy area where a good deal of stranding may now occur. Connection of the gravel pit pond to B-L5-01 may also be a very viable option.

GPS: (decimal degrees, Datum WGS84): 12/10/02
upper project - N47.88812, W124.36712
lower project - N47.88613, W124.36598
channel egress - N47.88629, W124.37237

POND NAME: Smith Marsh **POND DATA SUPPLEMENT**

DATE: 4/18/89 **OBSERVER:** Young

	INLET	OUTLET
WATER TEMPERATURE:	47 F	49 F

POND SIZE:

LENGTH - 100 - 150 m
WIDTH - 20 - 25 m (present water surface)
EST. MAXIMUM DEPTH - 2-3 ft (Avg < 1ft)
(If dry est. depth from high water mark on bank)

WATER SOURCE: Springs from the hillside. Some overflow from the steep valley wall trib at the alluvial fan. Runoff from the upper reaches of B-L5-01.

FISH ACCESS & CURRENT USE: No fish were seen in this pond but should be little to keep them from entering.

TYPE & AMOUNT OF IN POND COVER: Brush and marsh grass. A small amount of L.O.D.

COMMENTS & RECOMMENDATIONS: This very shallow, marshy pond appears to have been formed, in part, by the alluvial fan just downstream. At the time of this survey much of the marsh area was dry. Only the portion nearest the valley wall remained watered. During periods of heavy runoff the surface area of the pond may be two to three times greater than it is at present. The area that is currently dry appears to hold water to a maximum depth of 1 ft or less during the winter.

DATE: 8/22/89 **OBSERVER:**
Up to 2 inches of rain fell in the last week but hasn't changed conditions much. Fish were seen in the shallow pond and a thin film of probably algae covers it. The lower reach of the channel is watered.
Pond water temp. = 62°.
Major LB trib. temp. = 54°

DATE: 8/28/89 **OBSERVER:**

Channel was dry except for isolated pools in the lower channel which contained some fry. Pond in upper channel was still watered.

DATE: 9/20/89 **OBSERVER:** Young

There has been no rain in at least the last 2 weeks. The channel and the large LB trib are now dry. Small, isolated pockets of water were seen near some of the small seep springs. A few coho fry were trapped in these pockets.

DATE: 9/26/89 **OBSERVER:**

Pond in upper channel is now a small pool, but contains quite a few coho that probably were stranded while trying to leave as smolts.

Major LB trib. = 52°.
Various springs throughout the channel ranged from 49° to 56°.
River temp. = 61°.

DATE: 10/23/89 **OBSERVER:**

Ponded area is filling but not flowing out yet. Small marsh is feeding spring water into upper end of ponded area.

DATE: 11/7/89 **OBSERVER:**

Water is flowing from ponded area into channel.
TBM measurement taken (see summary below)

DATE: 11/15/90 **OBSERVER:**

TBM measurement taken (see summary below)

DATE: 11/21/89 **OBSERVER:**

Very little flow out of channel behind pit above confluence with major tributary. Good spring action in upper end of ponded area.

DATE: 12/19/89 **OBSERVER:**

Two weeks since the last rain.
TBM measurement taken (see summary below).
No flow from channel pond to tributary.
Water temps: River = 40 Channel below trib. = 44
Trib. = 43 Springs = 48 Channel pond = 46

DATE: 2/21/90 **OBSERVER:** Young, Nettnin

TBM measurement taken (see summary below). Set minnow trap along LB of pond in about 1 ft of water near a root wad. Baited with a commercially prepared roe.

DATE: 2/23/90 **OBSERVER:** Nettnin

TBM measurement taken (see summary below). Fished minnow trap. Results: 1 coho; 3 sculpin; 2 Pacific Salamanders.

DATE: 3/21/90 **OBSERVER:** Nettnin

TBM measurement taken (see summary below).

DATE: 4/12/90 **OBSERVER:** Nettnin

Water level is 60" below top of the pipe. 32" of water in the pipe (see TBM summary below). That part of the pond where the pipe is located is dry, but there is still some water in the upper portion of the pond.

DATE: 4/26/90 **OBSERVER:** Nettnin

1.2 m from the top of the pipe to the water surface. This part of the pond is still dry (see TBM summary below).

DATE: Fall 1989 to Spring 1990

Summary of TBM measurements at B-L5-01 (Smith Rd channel)

11- 7-89 2.25 ft from TBM to w.s.
11-15-89 2.38 ft from TBM to w.s.
11-30-89 2.60 ft from TBM to w.s.
12- 6-89 2.20 ft from TBM to w.s.
12-19-89 2.70 ft from TBM to w.s.
1- 2-90 3.00 ft from TBM to w.s.
1-16-90 2.60 ft from TBM to w.s.
2-21-90 2.50 ft from TBM to w.s.
2-23-90 2.51 ft from TBM to w.s.
3-21-90 2.60 ft from TBM to w.s.
4-12-90 W.S. is 5.0 ft below top of pipe.
4-26-90 W.S. is 1.2 m below top of pipe.
5-15-90 W.S. is 1.6 m below top of pipe.
6-14-90 2.70 ft from TBM to w.s.

DATE: 1/19/90 **OBSERVER:** Darrow

Four minnow traps were baited with salmon roe and set in the pond. There were 15 Coho, 1 trout and 14 cottid captured.

DATE: 12/21/92 - 12/22/92 **OBSERVER:** Darrow

The minnow traps were baited with salmon roe that was acquired at the Solduck Hatchery. Gravel pit was well flooded.

MINNOW TRAPPING REPORT

TRAP	DATE SET	TEMP	DATE PULLED	TEMP	CATCH COHO	TROUT RBT	TROUT CUTT	TROUT 0+	COTTID
1	12/21	NT	12/22	NT	6	0	0	0	0
2	12/21	NT	12/22	NT	3	0	0	0	15
3	12/21	NT	12/22	NT	0	0	0	0	13
4	12/21	NT	12/22	NT	6	0	1	0	4
				TOTALS:	15	0	1	0	32
				Avg. L (mm):	95	0	160	0	N/A

DATE: Summer 1990 **OBSERVER:** King, Young, Nettnin

During the summer of 1990 a pond was excavated in the channel to provide over winter rearing for coho salmon. The egress was also excavated to the valley wall trib. Two plank controls were installed below this confluence to help water the pond and maintain its level.

DATE: 8/1/94 - 8/15/94 **OBSERVER:** Nettnin

During this time a deflector wall was erected above the project to deflect the valley wall trib toward the lower end of the channel. In the past this valley wall trib has meandered about and caused substantial erosion and filling of the pond.

The wall was constructed of alder logs acquired from on site. They were then stacked four to five high, pinned together with rebar and cabled to stumps.

Also during this time spruce tops were placed in the pond to add cover.

At the beginning of the project it was observed that some fry were trapped in pools in the channel. About fifty fry were minnow trapped and moved to the pond. By the end of summer, the main pond was almost dry. It is assumed that the fish did not survive.

DATE: 10/27/94 **OBSERVER:** King

Deflector wall looks good. Flow in trib is up and staying along wall base. Pond is full and flowing. Inflow spring has not charged up fully yet. Plank controls at lower end look fine. Juveniles seen in pond and in outlet channel.

DATE: 11/2/95 **OBSERVER:** Powell/Darrow

Road leading in (along the river) washed away; you have to enter along the back of the residences. Deflector wall is doing what it is suppose to - channel now goes left bank. Pond has some water and is flowing but inlet springs are not charged up. No fish were observed.

DATE: 4/15/96 **OBSERVER:** Darrow

Aquatic plants are becoming well established in pond and provide cover. There is some woody debris that has accumulated at outlet. It is not a fish barrier but does cause the water to backup during higher flows; it can easily be hand cleared by a small crew. Alder wall is working well and creek is making a deeper channel. There still is some braids~80-90 feet downstream of wall. A small trout was observed in a pool around alluvial area. Coho fry were observed in channel outlet.

DATE: 11/7/96 **OBSERVER:** Powell/Nettnin

We entered project from backside due to problems with an individual living along open access. DN said he would have a camp crew in someday to clear a better trail.

The alder wall is generally holding up well. The lowest section is blown-out underneath with half the channel water flowing into alluvial flat and the other half staying within the channel. The water that flows through the alluvial meanders in the flat. Most of the water does reenter the channel with a small amount entering the pond.

Some of the trees placed in the pond for cover have moved. We observed some rises in the pond

DATE: 5/3/97 **OBSERVER:** Darrow

Alder wall is holding up and continues to deflect the channel. The lower end, the system moves out of channel and braids through alluvial area to the pond channel. One of the plank controls is buried in gravel and the other is okay. Mouth of creek looks good and has some debris which has caused an attractive "pocket eddy". Numerous fry and some smolts were observed in the system from creek to confluence to the river. There is good aquatic vegetative growth in the pond.

DATE: 10/15/97 **OBSERVER:** Nettnin

Overall project looks good.
The lower end of the log wall has water going under it but the water flows back to the channel.
One top log is broken, but poses no problem.
The cover structures have moved around some due to high flows through the pond.

DATE: 3/31/98 **OBSERVER:** Darrow

Pond and outlet channel were fine. Controls were okay with upper one somewhat scooped out by flows and lower one almost completely covered with migrating gravel. Confluence mouth very stable. Alder armoring along slope still holding. A few salmonids were observed.

DATE: 10/29/98 **OBSERVER:** Darrow

Pond was not flowing and was at the lowest level observed in past 6 years. Flow off the slope is meager and is reaching the lower channel via three small channels in alluvial area. Older alder revetment place along the creek to help contain high flows is still in place but the long section, furthest downstream, has undermined and allows a significant amount of water to flow towards the pond during heavy run off periods. It appears that half the water goes sub-surface at the lower plank control. Numerous juvenile coho were observed in the pool and bank glide areas.

DATE: 4/21/99 **OBSERVER:** Darrow

There has been some changes to the system which may require a more thorough maintenance check. There is more silt in the lower pond and along the channel. Water was murky due to elk and ducks so was not able to observe any fish.

DATE: 10/27/99 **OBSERVER:** Darrow

Pond is still low and is not flowing down the channel. The lower half of the channel was flowing to the Bogachiel River. A small amount of debris was cleared at upper plank control. All other controls are okay. No significant erosion or undermining of alder revetment. Observed some juvenile salmonids in pools located in the lower third of the channel.

DATE: 4/19/00 **OBSERVER:** Darrow/Nettnin

This site was affected by the high water event on 12/15/99. The landowner stated that the pond area was flooded at that time. The pond substrate has an accumulation of silt in the lowest pocket. Alluvial area has a substantial amount of additional material. The alder log revetment is still intact. Poor water visibility due to a large herd of elk. A few smolts were observed in the upper-mid channel area.

DATE: 11/1/00 **OBSERVER:** Darrow

Everything looked good - revetment is still doing its job. No beaver activity observed. Bottom control is pretty much filled in with gravel and only the lip is showing. Landowner is converting a 2.5 acre gravel pit on the property into a pond (situated between project and river).

DATE: 4/21/01 **OBSERVER:** Darrow

All looked good. Outflow was better than expected due to drier than normal winter and early spring. Observed smolt sized salmonids downstream of mid-channel area. Also observed fry by plank controls. Nothing has changed from the tributary influence.

DATE: 10/17/01 **OBSERVER:** Darrow

Everything looks good. System is has a naturalized look now that aquatic and terrestrial plants have become established. Alder revetment wall is okay. Channel is moving away from the wall and closer to the toe of the slope.

DATE: 5/11/02 **OBSERVER:** Darrow

Alluvial area continues to build in material. Also, gravel has accumulated along the revetment wall. The main flow to the channel has shifted further upstream. Observed at least three redds.. Fry and smolts were seen throughout the project. Everything else looked fine.

DATE: 12/10/02 **OBSERVER:** Nettnin

The pond portion of the project is in good shape. The portion of the channel where the wall was build has filled in with bedload and is plunging over the lower end of the wall. The wall is showing signs of rot.

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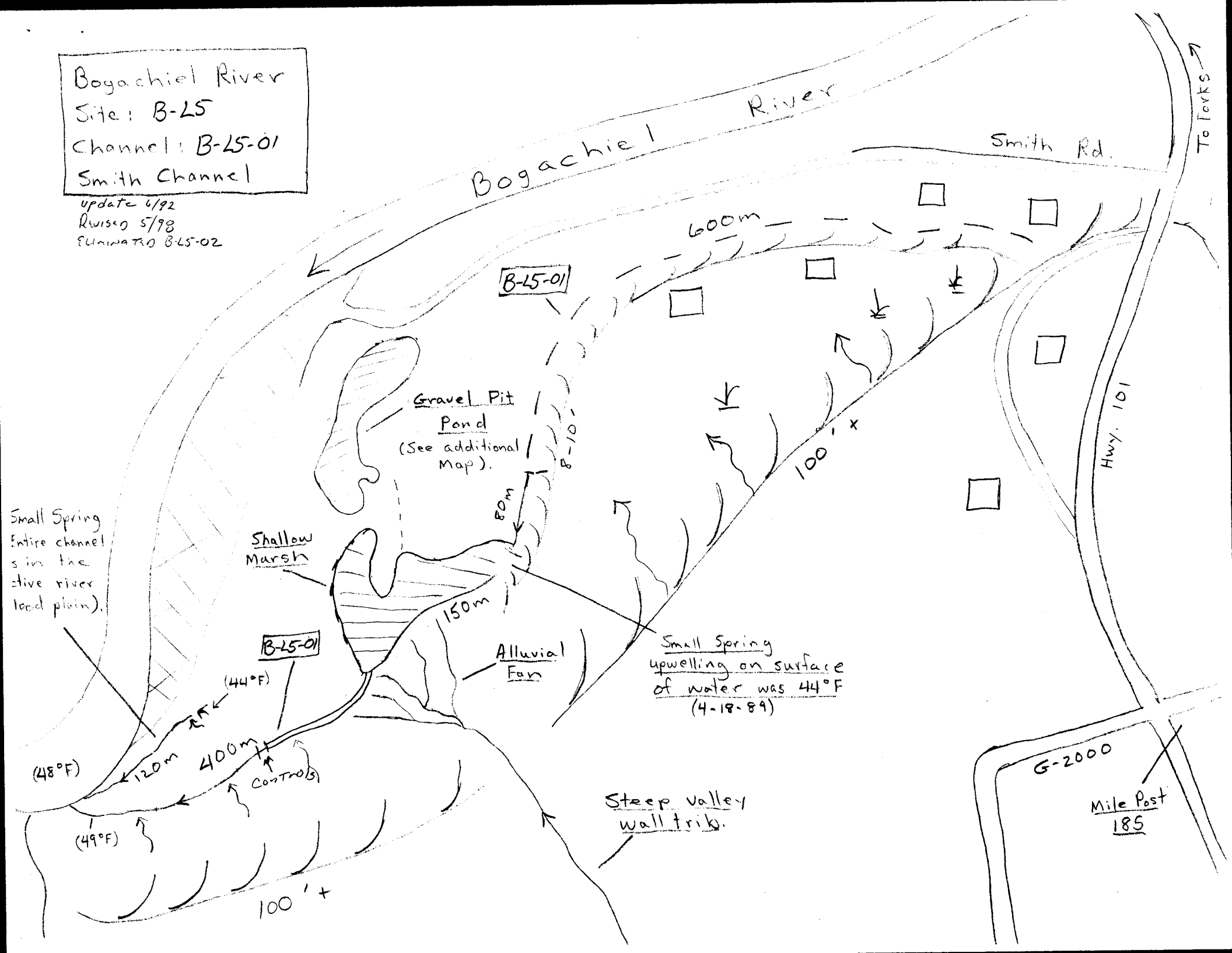
lower project - N47.88613, W124.36598
channel egress - N47.88629, W124.37237

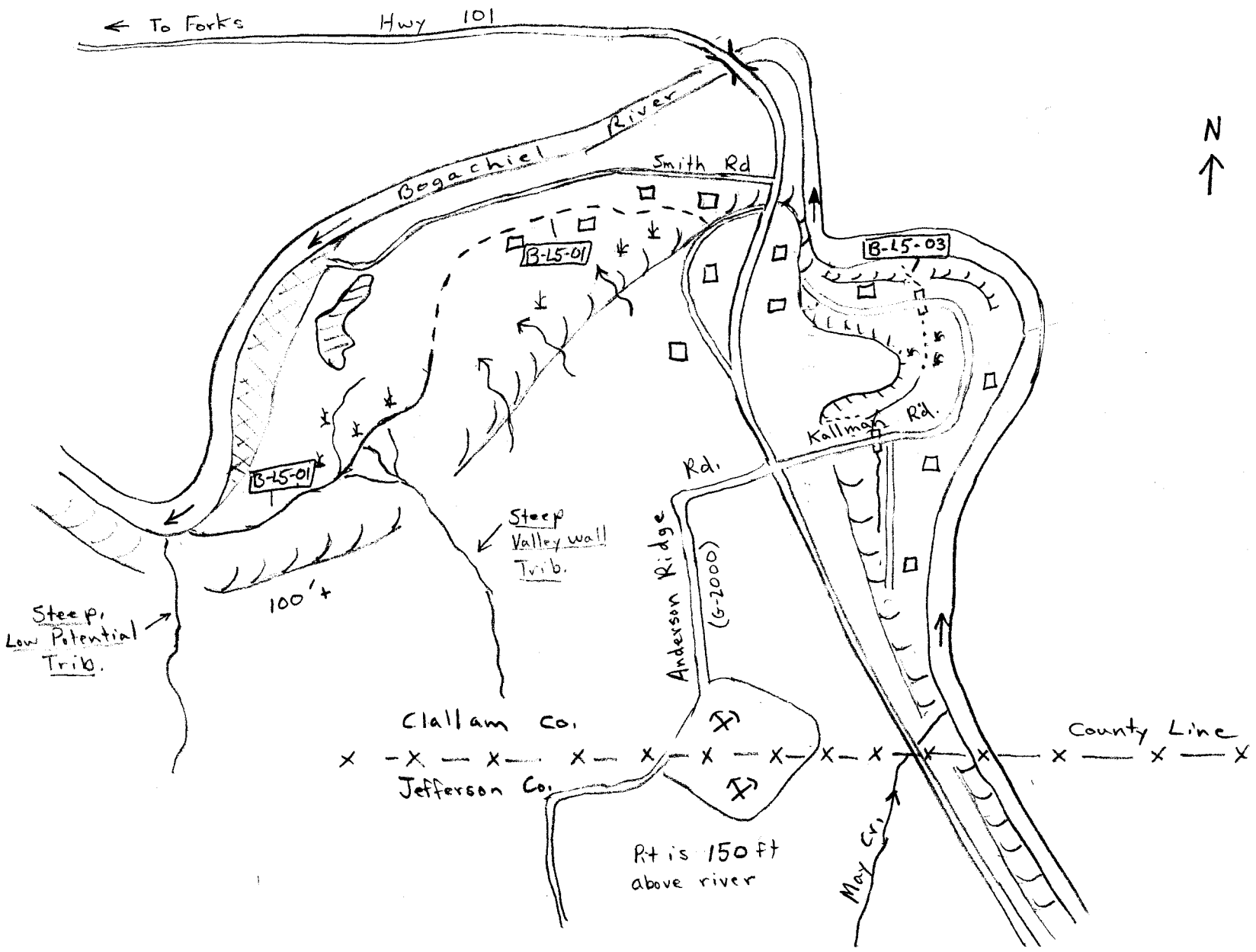
DATE: 10/30/03 **OBSERVER:** Nettnin

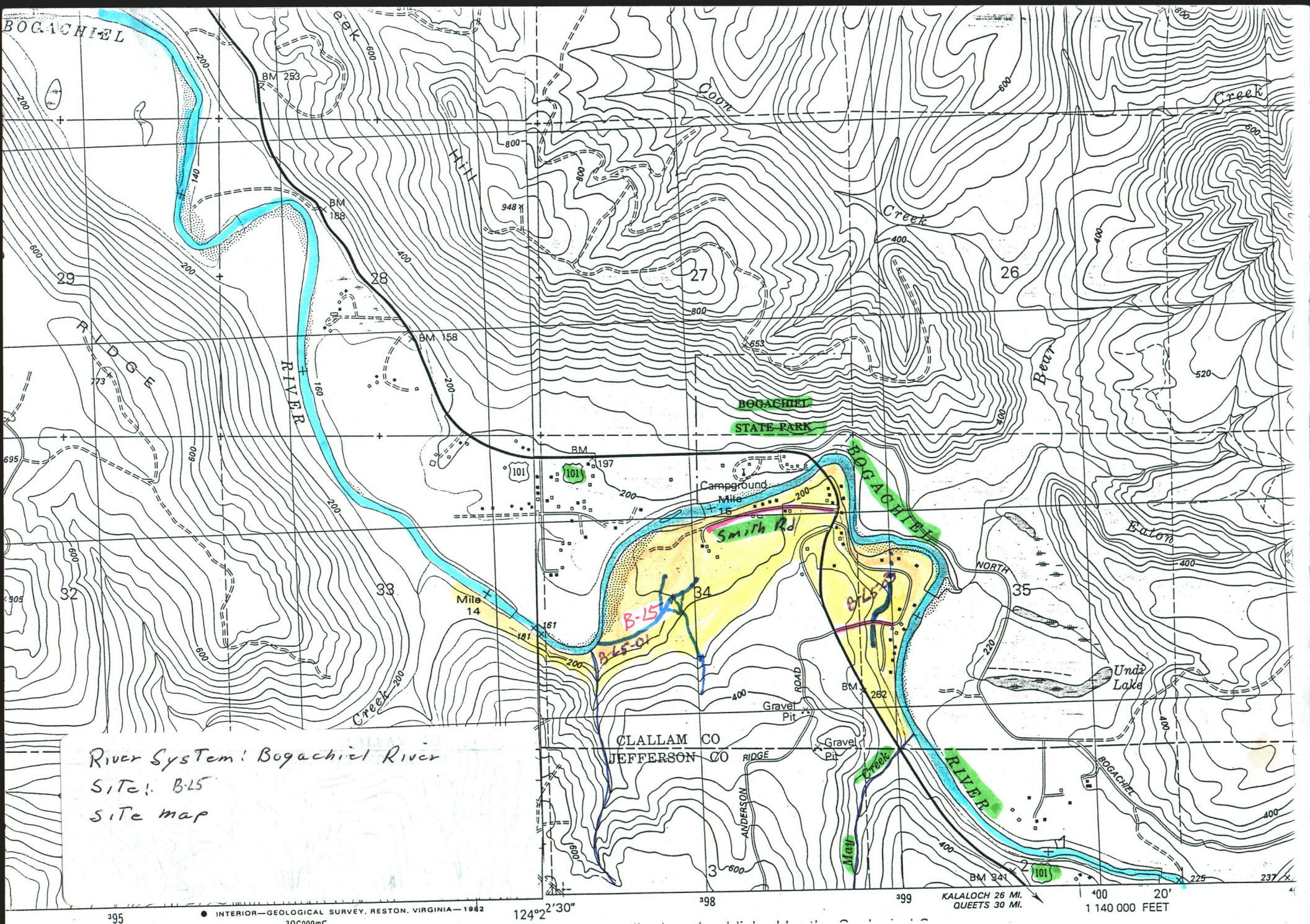
The shear wall is filled in behind it and has overtopped it. The valley wall trib now enters the channel just below the pond. Several trees have been blown down along the channel. The lowest control is backwatered due to a gravel build up below it.

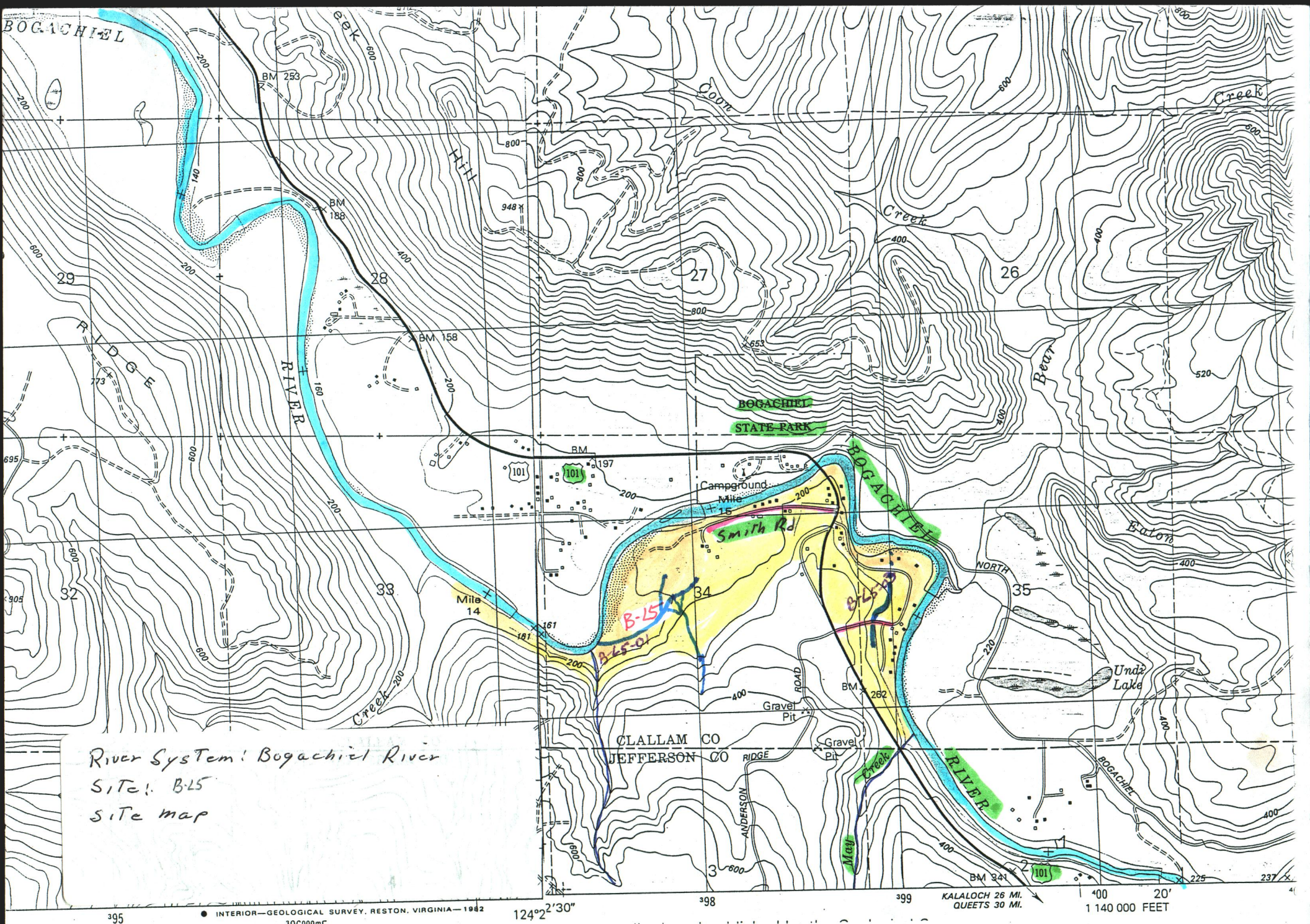

Bogachiel River
Site: B-25
Channel: B-25-01
Smith Channel
update 6/92
Revised 5/98
ELIMINATED B-25-02
Bogachiel River
Smith Rd.
To Forks
600m
B-25-01
Gravel Pit Pond
(See additional Map).
B-10
80m
100'+
Hwy. 101
Small Spring
Entire channel is in the active river (flood plain).
Shallow Marsh
150m
B-25-01
Alluvial Fan
Small Spring
upwelling on surface of water was 44°F
(4-18-89)
(44°F)
(48°F)
120m
400m
CONTROL
(49°F)
100'+
Steep valley wall trib.
G-2000
Mile Post
185

Bogachiel River
Site: B-25
Overview

Revised 5/93
Eliminated site B-25-02




River System: Bogachiel River
Site: B-25
Site map
BOGACHIEL
STATE PARK
Smith Rd
B-25
B-25-01
B-25-02
RIDGE
RIVER
Creek
Campground
Mile 15
Mile 14
Gravel Pit
Gravel Pit
CLALLAM CO
JEFFERSON CO
ROAD CLASSIFICATION
Primary highway,
Light-duty road, hard or
INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1982
KALALOCH 26 MI.
QUEETS 30 MI.
1 140 000 FEET


River System: Bogachiel River
Site: B-25
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