SITE NUMBER: CW-R3-01
LOCAL NAME: Airport Ponds
WRIA:

NORTH COAST OFF CHANNEL SITEINVENTORY DATA

RIVER SYSTEM: Clearwater **DATE:** 4/21/88 **OBSERVER**: Young

CHANNEL TYPE: Terrace trib. with a two large riverine ponds.

TRIBUTARY TO: Clearwater River (21.0024)

SITE LOCATION: River mile - 4.2 R.B.

LEGAL DESCRIPTION:

	UPPER END	LOWER END
DISSOLVED OXYGEN: (D.O. data was not taken on this date)		
WATER TEMP.:	52 F	51 F
AIR TEMP.:	N/A	N/A
FLOW (CFS):	< 0.5	1.0 - 2.0

SUBSTRATE TYPE: Ponds: Silt & mud. Egress channels: Silty gravel.

SITE SIZE: **Length**- 800 - 850 m including ponds (from aerial photo)
Width- 8 - 15 ft excluding ponds
Depth- 4 - 6 inches. Pools of 1 to 2 ft (excluding pond)

WATER SOURCE: Springs at the north-east end of the upper pond. Small valley wall tribs entering along the north-west shore of both ponds.

DIRECTIONS TO SITE: Head north on Highway 101. Take first right north of mile post 156. Then see attached map.

FISH ACCESS AND CURRENT USE: Fish currently have good access into both the main egress channel and the lower end of a small valley wall trib which lies adjacent to the pond. A 2-3 ft falls at the outlet of the pond restricts access. After trapping upstream coho migrants and placing them in the pond for winter rearing, WDF is currently trap- ping downstream migrants (See WDF trapping data).

FLOODING POTENTIAL: Low. Some backwater flooding will occur in the egress channel and on extreme high waters will back up into the pond.

LANDOWNER: Probably all ITT Rayonier.

COMMENTS & RECOMMENDATIONS: A WDF project which will increase the accessibility of the ponds to over-wintering juvenile coho has been schedule at this site for the fall of 1988. Coho use will be monitor closely during the next few years. A large beaver dam between the two ponds currently results in the water surface of the upper pond being 3 to 4 ft higher than that of the lower pond. Fish usage of the upper pond should be monitored as this dam appears to greatly restrict fish access. Other observation concerning CW-R3-01 can be found in the WDF trapping data.

SITE NUMBER: CW-R3-01
RIVER SYSTEM: Clearwater
(Lower Airport Pond)

POND DATA SUPPLEMENT

DATE: 4/21/88

	INLET	OUTLET
DISSOLVED OXYGEN:	(No D.O. data was taken on this date)	
WATER TEMPERATURE:	52 F	55 F
AIR TEMPERATURE:	54 F	51 F

POND SIZE:

LENGTH - 200 m
WIDTH - 70 m
DEPTH - Estimated at 2 - 4 ft. More extensive depth measurements may be desired.

WATER SOURCE: Springs and small valley wall tribs.

FISH ACCESS & CURRENT USE: Approximately 1000 upstream migrant juvenile coho were trapped in the egress channels and placed in this pond by WDF during the fall of 1987. Access is currently restricted by a 2 to 3 ft falls at the upper end of the main egress channel. Based on previous trapping data, few fish have had access to the pond in the past.

TYPE & AMOUNT OF IN POND COVER: A large portion of this pond is open water with some lily pads. The shallower areas near the bank are heavy in saw grass. The pond seems to lack significant amounts of L.O.D.

COMMENTS: This pond offers excellent overwintering habitat but has apparently been under utilized in the past because of access problems. A project to increase the accessibility of the pond to over-wintering juvenile coho has been schedule by WDF for the fall of 1988.

SITE NUMBER: CW-R3-01
RIVER SYSTEM: Clearwater
(Upper Airport Pond)

POND DATA SUPPLEMENT

DATE: 4/21/88

INLET **OUTLET**

DISSOLVED OXYGEN: (No D.O. data was taken on this date)

WATER TEMPERATURE: (No temperature data was taken on this date)

AIR TEMPERATURE:

POND SIZE:

LENGTH - 175 m
WIDTH - 110 - 120 m
DEPTH - Estimated at 2 - 4 ft. Could easily be deeper. More extensive depth measurements may be desired.

WATER SOURCE: Springs and small valley wall tribs.

FISH ACCESS & CURRENT USE: Unsure of current access and use. A large beaver dam located between lower and upper pond currently results in the water surface of the upper pond being 3 to 4 ft higher than that of the lower pond. This dam appears to greatly restrict fish access.

TYPE & AMOUNT OF IN POND COVER: A large portion of this pond is open water. The shallow areas near the banks and upstream of the pond are heavy in saw grass. With more L.O.D. than the lower pond, the upper pond still seems to lack significant amounts of large debris.

COMMENTS: This pond like the lower pond appears to offers excellent overwintering habitat. The beaver dam between the two ponds might greatly restrict access to the upper pond. With a project to increase the accessibility of the lower pond to over-wintering juvenile coho schedule for the fall of 1988, the upper pond should be watched for signs of coho use.

GPS Points:
Upper Proj: N47.59627, W124.29984
Lower Proj: N47.59708, W124.30173
Wall: N47.59753, W124.30424

DATE: 7/30/87
Pond almost dry.

DATE: 12/3/87
#1 channel (upper) - Most of the flow is going down this channel. Mouth looks like it would attract fish.
#2 channel (lower) - Entrance looks much more attractive to fish. Water backs in much farther than in #1. The river is narrower here than at Morrisons.

DATE: 1/12/88
Road access to upper end of pond is available by taking the second right turn past the trailhead parking area. This road leads to the Clearwater river and equipment access downstream from this point would be via the right bank gravel bar. This would bring access close to 1/4 mile from the channel at which point the trail would have to be made through the trees. Fish access to the upper pond is questionable due to a 4' beaver dam.

DATE: 5/12/88 **OBSERVER:** Nettnin

A dissolved oxygen measurement was take at the outlet of lower Airport Pond with the following results:

D.O. ---------- 10.0 mg/l

Water Temp ------ 56 F

Air Temp -------- 68 F

DATE: Summer 1988 **OBSERVER:** King
A new outlet channel was excavated between the existing upper(main) outlet and the valley wall tributary that enters the pond on the lower end. This channel was dug through the old alluvium deposited by the tributary. It joins the existing lower channel part way down. The new channel was designed to carry a good portion of the flow but not all. The existing main channel, which has a small falls on it, was bermed off and covered with riprap. This channel will only flow at extreme high water. This work was done by WDF's habitat enhancement section.

DATE: September "88" **OBSERVER:** King, Young, Nettnin
This site consists of two natural off-channel ponds separated by a large beaver dam. The ponds cover a total of 7.3 acres. Prior to this project the ponds were inaccessible due to a 3-4' falls in the outlet channel. The lower end of a valley wall trib paralleled this channel. To make the ponds accessible to coho fry on all flows the existing egress was blocked off, the valley wall trib was modified to flow into the pond and a new egress channel was excavated to the paralleling channel. In additional phases a set of shear logs were installed in the valley wall trib to reduce erosion of the banks, a cutthroat flume was installed to prevent young of the year from migrating into the pond since it drys up during the summer. This was later removed.

DATE: 11/29/88
Electroshocked at various spots along the perimeter of the lower pond and at sites near the lower end of the upper pond (see map). Results are listed below:

Area	Effort (Sec.)	Results
1.) Plunge pool at upper end of old main channel.	14	Caught 7 coho and numerous small dace.
2.) Left arm of lower pond.	68	No fish.
3.) Lower pond just downstream of main beaver dam.	122	No fish (Good habitat!).
4.) Two sites near lower end of upper pond (just above beaver dam.	115	No fish.

5.) Along RB of lower pond from dam down two upper trib.	166	No fish.
6.) Mouth of upper trib.	42	No fish.
7.) Lower end of lower (rechannelized) trib.	201	Caught 4 cutthroat and rolled 1 other salmonid.

Note: Electroshocking with a backpack shocker does not seem to work very well in this type of pond habitat. May need to come up with another method to determine extent of fish usage in the upper pond.

DATE: 12/19/88
A rubber raft was used to take a bottom profile and measure the surface area of both ponds. Ice covered a large portion of both ponds. No water was running over the beaver dam between the ponds. Some water was trickling through the dam. Minnow traps were set both above and below the dam.

DATE: 12/21/88
Fished minnow traps that were set on 12/19 (see above). Both traps were baited with egg clusters which were left lying loose inside the trap. Both traps fished approximately 48 hours. Trap #1 was set along the right bank of the upper pond and just above the beaver dam. No fish were caught in trap #1. Trap #2 was set along the right bank of the lower pond near some LOD and just downstream of the beaver dam. 7 coho were caught in trap # 2. The traps were reset. Trap #2 was left at the same location. Trap #1 was moved to the left bank of the upper pond just above the beaver dam.

D.O. sample was taken in the upper pond. The result showed a dissolved oxygen concentration of 9 mg/l of water.

DATE: 12/27/88
Checked minnow traps that were set on 12/21 (see above). Both traps had fished for 6 days. No fish were caught in either trap. Traps were pulled. No water was going over the dam.

DATE: Summer 1989

A wooden flume was installed in the new outlet channel which functions to create a velocity barrier to spring fry but not to fall upstream migrants.

The spring fry are excluded from the pond since it dries up every summer. The flume was installed by a crew from the Clearwater corrections center. Sheer logs were placed in the tributary that flows into the lower end of the pond to prevent excessive bank erosion. The lower end of this trib. was deepened through the alluvial buildup by using hand tools. The old pond outlet which was diked in 1988 was reinforced with riprap and now serves as a high flow spillway.

DATE: 8/2/89 **OBSERVER:** Young
It has been rather cool and damp so far this summer. These observations were made at mid-morning, on an overcast day, with a light drizzle falling. Air temperature was 19 C.

The water surface of the lower pond has been reduced to the open water and lilly pad area. The marsh grass area around the perimeter of the pond is dry. There is no water flowing out of the lower pond. Both inlet tribs are still running with flows between 0.1 and 0.2 cfs. The water in the larger (west) trib was at 14 C. The smaller (east) trib was at 13 C. Water in the pond, about 50 m below the largest trib, was at 15 C. The water temperature just out from TBMP 1 (in the lily pads) was 16 C. Very little sign of fish activity. Saw one fish hit the surface in the open water portion of the lower pond.

The water level of the upper pond was down proportionately to the lower pond. There was no water running over or through the beaver dam at the outlet of the upper pond. Water temperature just upstream of the beaver dam was 16 C.

DATE: 8/28/89 **OBSERVER:** Nettnin
There has been a substantial rainfall (> 1 inch) during the last week. Pond appears to be about 3/4 full. The two tribs into the lower pond are still flowing. A few fish were seen jumping in the lower pond. Air temp was 65 F. Water temp at the pond was 60 F.

DATE: 9/19/89 **OBSERVER:** Young
No rain so far in September. Lower pond is essentially (90 to 95 %) dry. Water from the larger trib runs out onto the pond bottom forming a few shallow pools and then drys up. Very little chance that any of the smolts trapped in the pond last spring will survive the summer.

DATE: 10/10/89 **OBSERVER:** Young
First substantial rain of the Fall (0.25 to 0.5 inches) occurred between the evening of 10/4 and the morning of 10/5. Some showers since then with heavy showers early this morning. Pond has begun to fill but no water running out. Egress is dry.

DATE: 10/23/89 **OBSERVER:** Young
More than an inch of rain fell between 10/11 and 10/12. Then fairly dry until 10/20. About 4 to 5 inches of rain from 10/20 to 10/23. There is a good healthy flow (estimated at 2 to 4 cfs) down the egress channel. The water temp at the outlet of the pond was 11.5 C. Water temp in the large (west) tributary was also 11.5 C. Cutthroat flume at the outlet of the pond appears to be working well. The gauge on the upper end of the flume showed a water depth of 0.76 ft while the downstream gauge read 0.60 ft. Juvenile salmonids were seen in the egress channel between the trap site and the outlet of the pond.

DATE: 11/8/89 **OBSERVER:** Nettnin
Water is lapping at the top of the upstream weir on the cutthroat flume. Overflow into the old channel is causing the bank to erode down stream of rip-rap.

DATE: 11/14/89 **OBSERVER:** Young, Nettnin
Recent high water has caused some scouring above and below the cutthroat flume, but has not cut under it. Some eroding has taken place around the weirs, but the sand bags have arrested that so far. Rip-rap will be much better when it is placed. Recent freshet was high enough to float the footbridge off of its foundation.

DATE: 2/21/90 **OBSERVER:** Young, Nettnin
Present flow is approx. 4-5 cfs.
The high winter flows caused a partial culvert and road failure which greatly added to the bedload in the first RB trib. to the pond. The heavy bedload movements continue to change the alluvial fan area. About 50% of the water from the trib is now flowing into the pond and while the other 50% is flowing in to channel below the pond (i.e. at the cutthroat flume). High flows have also caused extensive damage to the shear logs, burying some and dislodging others. High flows have caused some movement of rip rap on the levee and bank erosion in the overflow area. This problem may have serious consequences if not corrected.

DATE: Fall 1992 **OBSERVER:** Young, Nettnin
An upstream migrant trap has been installed just below the cutthroat flume. It is assumed it is a graduate student from the University.

DATE: 3/17/92 **OBSERVER:** Nettnin
The trap is removed but the bags and pipe are still in the flume.
There is still a lot of debris at the culvert washout and along the stream above the pond. The shear logs are totally covered and the stream is splitting at the this point and beginning to reestablish the bypass around the pond.
Where the pond overflows into the old channel, there is a new incised channel being formed. It has been decided to remove the cutthroat flume to allow more flow down the egress channel during high flows.
Lots of young of the year coho fry were observed at both old trap sites.

DATE: 9/23/92 **OBSERVER:** Nettnin
We removed what was left of the cutthroat flume. Apparently whoever is fry trapping at this site had partly removed the structure. As it happens, we were planing to remove it anyway because it was not function as it was supposed to. All the parts were carried out and transported back to the bone yard at the office.

DATE: 11/14/94 **OBSERVER:** King
Good flow! All channels were passable. The inlet stream is all flowing into the pond, but higher flows will probably spread out on the alluvial fan and enter the outlet channel at various locations. The road crossing upstream, where the culvert was removed, still looks unstable.

DATE: 3/27/96 **OBSERVER:** Nettnin
There is some erosion on the wier, and scouring in the channel and where the pond overflows to the old channel. The tribe is fish trapping this site.

DATE: 12/11/96 **OBSERVER:** Nettnin, Powell, Darrow
Charged up and everything looked good. Inlet stream is still flowing into pond. Adult carcasses and 1 live adult were observed in the channel. The fill along the old road crossing appears fairly stable.

DATE: 4/29/97 **OBSERVER:** Nettnin
Bedload has built up in the inlet trib causing it to shift out of the channel.. Repairs are scheduled for this summer.

DATE: 8/28/97 - 8/29/97 **OBSERVER:** Nettnin
- Built sandbag and earthen levees across all of the low areas to prevent overflow water from scouring a bypass channel around the project. This also will put the excess water out the designed overflow.
- Replaced exposed sandbags at weir with rock.

DATE: 10/1/97 **OBSERVER:** Nettnin
Following heavy rains with the pond full, the levees and the rest of the project looked good.

DATE: 4/9/98 **OBSERVER:** Nettnin
Original project looks good. Berms that were installed in 1997 have shown some erosion. Recent repairs were done but I do not know who did them (assume the Quinault Tribe). Downstream of the pond, in the project, needs woody debris.

DATE: 9/98 **OBSERVER:** Nettnin
-Added more material to earthen berms where pond outflows
-Added cover to outlet channel
-checked after sufficient rain to fill pond (early November): one berm was leaking
-cleaned up more sandbags exposed at weir and overflow

DATE: 5/4/99 **OBSERVER:** Nettnin
- Project was inspected: several levees have breached again and the spill way is showing signs of eroding because the rock has washed off.

- G.P.S. positions were taken are as follows:		
- Egress of system with Clearwater River	East 1,062,051 ft.	North 847,477 ft.
- Outlet of the pond	East 1,062,740 ft.	North 848,156 ft.
- Upper end of the lower pond	East 1,063,712 ft.	North 847,994 ft.
- Upper end of system above the upper pond	East 1,064,188 ft.	North 849,088 ft.

DATE: 11/15/99 **OBSERVER:** Nettnin
Flows were about 1 - 3 cfs. Water was flowing out the side of the pond through the berm that had been built. Water continues to erode the engineered overflow.

DATE: 7/12/00 **OBSERVER:** Nettnin
Some of the earthen berms washed out during the winter. They will be replaced with planks and covered with soil and rocks this summer. The valley wall tributary that feeds into the pond system has shifted to due bedload accumulation. It now enters the egress channel below the pond. There are plans to modify the channel and move it back to reduce the chances of fish stranding.

DATE: 11/7/00 **OBSERVER:** Nettnin
The earthen levees that prevent continuous outflow from the back of the pond were replaced with plank cores and covered with soil. The overflow spillway was lowered slightly and the rock that had washed off was replaced. A deflection fence was installed along the right bank of the upper end. This was done to direct the valley wall tributary that leaves the V-notched valley into the pond. The bed-load had filled the existing channel and cut a braid to the outlet channel, bypassing the pond. On this date, the project is functioning as desired.

DATE: 5/22/01 **OBSERVER:** Nettnin
Overall, the project looks good. Water did overtop the hardened berms that were installed to form a type of levee along the edge of the pond. Some back fill that was on the planks had washed away. The diversion fence along the inlet tributary is functioning well.

DATE: 10/15/01 **OBSERVER:** Nettnin
The project looked good overall. There is a beaver dam that was breached at the outlet. It back waters over the overflow in the rock berm in the old channel. At times, it also back waters over the plank berms along the edge of the wetland.

DATE: 4/10/02 **OBSERVER:** Nettnin
The Tribe has moved the trap location upstream to the trail crossing. The project looks okay. There is some undercutting on the shear wall.

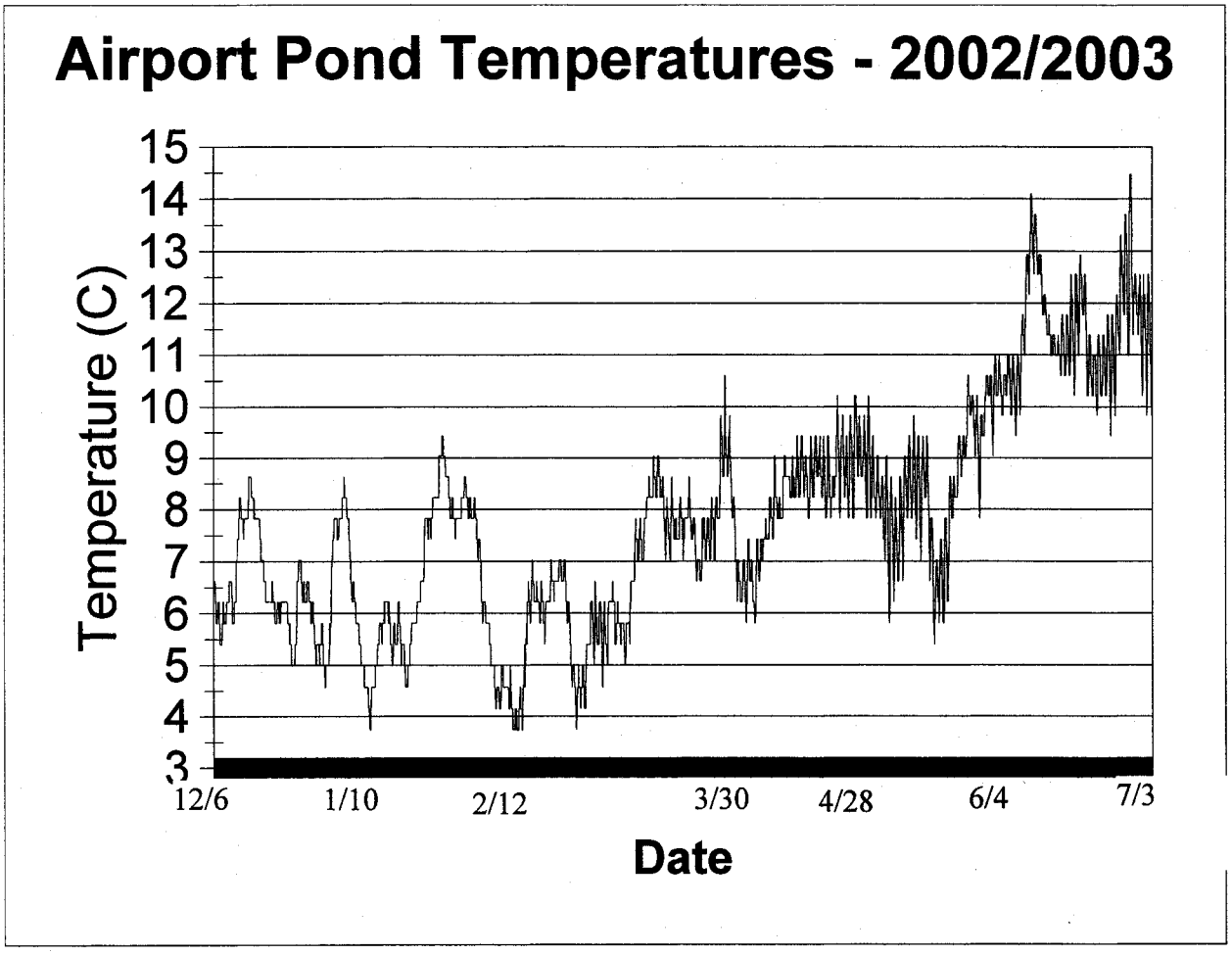
DATE: 12/6/02 **OBSERVER:** Nettnin
The project is doing well overall. There is erosion under the wall where the creek bends and impinges on it. Cobble was added in attempt to reduce the effects. Four coho carcasses were on site: two males and two females. Two redds were also observed. Two thermographs were placed in the ponds.

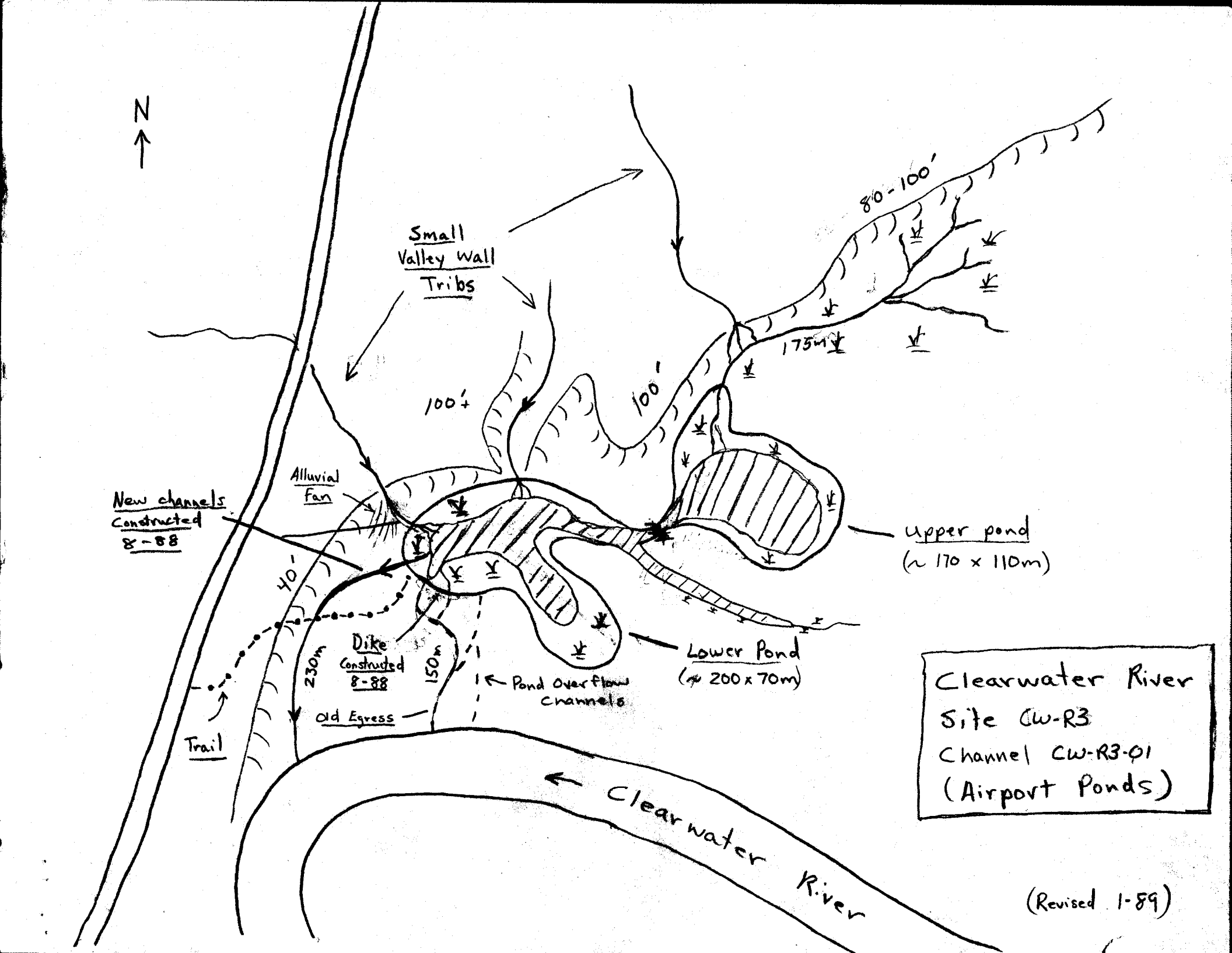
DATE: 5/1/03 **OBSERVER:** Nettnin
Project looks good. River is still cutting on the right bank at the upper end of the marsh. Suggest standing trees be cabled. If they fall, they won't be swept away. The valley wall tributary egress is moving to the channel just above the old flume. Salmonid fry were observed at the outlet of the pond. The tribe is

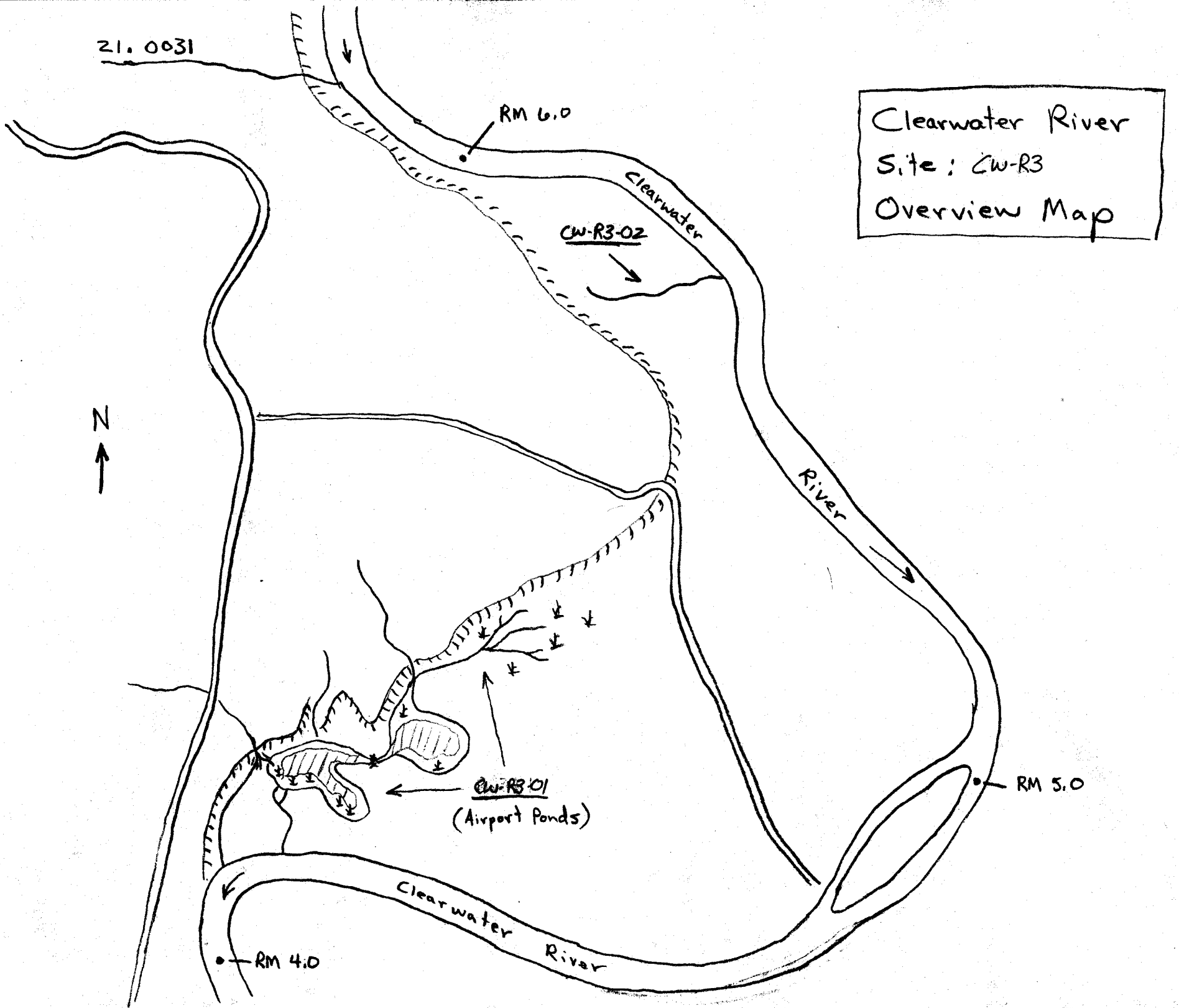
DATE: 10/28/03 **OBSERVER:** Nettnin

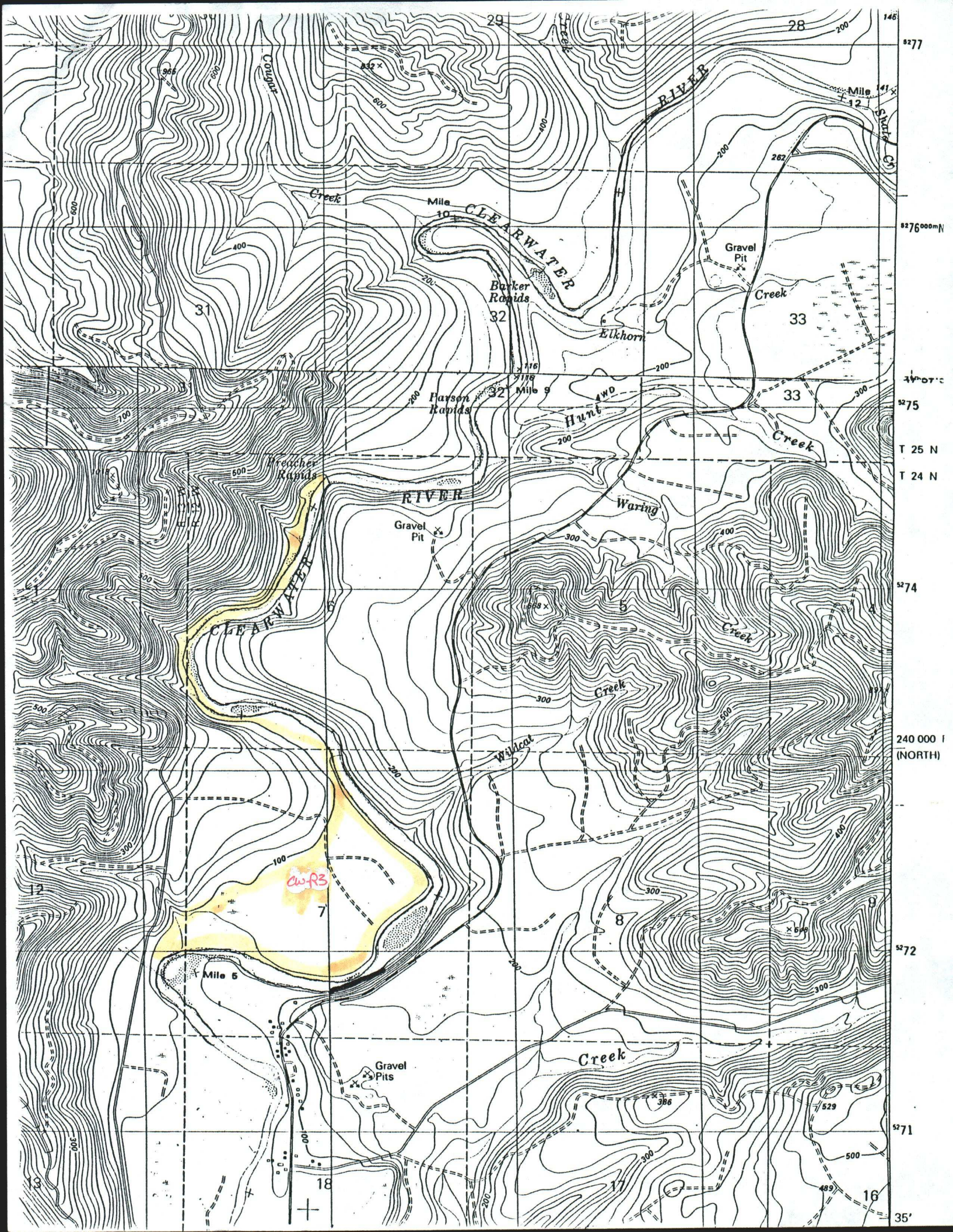
Overall the project is still functioning as built. The one change is the valley wall trib flows into the channel where tho old cutthroat flume was located instead of into the pond proper. This change occurred a year or two ago and hasn't moved downstream any more . The river is still impinging hard on the right bank at the upper end of the project.

Upper Proj: N47.59627, W124.29984
Lower Proj: N47.59708, W124.30173
Wall: N47.59753, W124.30424


Airport Pond Temperatures - 2002/2003
Temperature (C)
15
14
13
12
11
10
9
8
7
6
5
4
3
12/6
1/10
2/12
3/30
4/28
6/4
7/3
Date


N
Small Valley Wall Tribs
80-100'
175m
100'+
100'
Alluvial Fan
New channels Constructed 8-88
40'
upper pond
(~ 170 x 110m)
Dike Constructed 8-88
230m
150'
Lower Pond
(~ 200 x 70m)
Pond Overflow channels
Old Egress
Trail
Clearwater River
Clearwater River
Site CW-R3
Channel CW-R3-01
(Airport Ponds)
(Revised 1-89)


21.0031
RM 6.0
Clearwater River
Site: CW-R3
Overview Map
CW-R3-02
Clearwater
River
N
CW-R3-01
(Airport Ponds)
RM 5.0
Clearwater River
RM 4.0


Cougar Creek
CLEARWATER RIVER
Mile 10
Barker Rapids
Elkhorn
Gravel Pit
Creek
Swale Cr
Mile 12
Parson Rapids
Mile 9
Hunt Creek
4WD
Preacher Rapids
Waring Creek
Wildcat Creek
Mile 5
Gravel Pits
CW-R3
T 25 N
T 24 N
240 000 I
(NORTH)
35'