cc Al Sorenson
Jim Wilson
Fish & Game
Jim Lincoln

Date: 23 SEPT 1978

Fish Stream Survey Report

Camp CRAIG / SOUTH HARRIS SALE

Stream Name(ID) 103-60-075 TROCADERO T7AS C55E [illegible]

Road# [illegible] 4000 Station# _____

Unit# 1 RP# _____

Quad Map CRAIG B-3 Section 32

Chick Map _____ Section _____

Fish Present	Yes	No
Above Road Crossing	✓	
Below Road Crossing	✓	
Within Unit Boundary	✓	
Below Unit Boundary	✓	

Species Present/Stage of Development COHO (FRY & SMOLT); DOLLY VARDEN (FRY & ADULT); & CUTTHROAT (FRY & ADULT)

Type of Fish Habitat

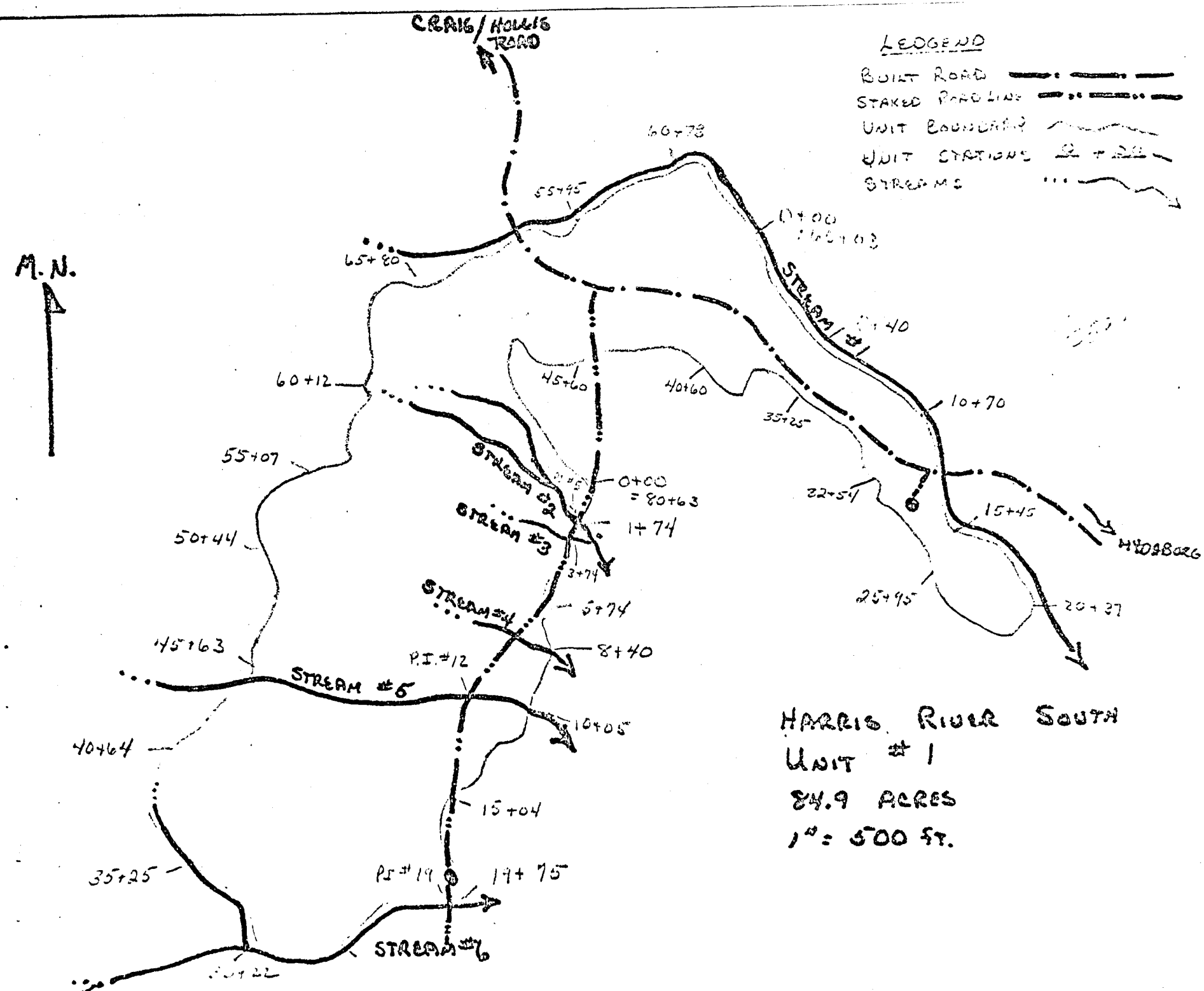
Salmon Spawning Area [illegible] sq yds Describe Excellent
Salmon Rearing Area [illegible] sq yds Describe [illegible]
Other ✓ Area [illegible] sq yds Describe [illegible]

Stream Sketch or Map: Attach supplement if necessary:
SEE SUPPLEMENT

Method(s) used to determine presence of fish:

Date	#Fish	Approx Length	Gear	Length of Time Fished	STREAM No.
[illegible] '78	4 - COHO 3 - CUTTHROAT	2" x 3½"	SHOCKER	—	#1

DATE	# FISH		APPROX LENGTH	GEAR	TIME FISHED	STREAM No.
3 SEPT	2	COHO	2"	SHOCKER	—	#2
	1	COHO	2½"			[illegible]
	7	COHO	3-3½"			#2B
	2	COHO	3"			#2B
	3	DOLLY VARDEN	2"			#2B
	1	DOLLY VARDEN	2½"			#2A
	3	DOLLY VARDEN	1½"			#2A
	1	DOLLY VARDEN	5"			#2A
	1	DOLLY VARDEN	3" (BELOW UNIT BOUNDARY)			#3
	1	DOLLY VARDEN	2½"			#4
	1	DOLLY VARDEN	4"			#4
	2	DOLLY VARDEN	3"			#5


CRAIG/HOLLIS ROAD
LEGEND
BUILT ROAD
STAKED ROAD LINE
UNIT BOUNDARY
UNIT STATIONS
STREAMS
M.N.
60+78
55+95
0+00
65+80
STREAM #1
10+70
60+12
45+60
40+60
35+25
55+07
STREAM #2
0+00
= 80+63
1+74
STREAM #3
22+54
15+45
HYDSBORG
50+44
3+74
STREAM #4
5+74
8+40
25+95
20+37
45+63
P.I. #12
STREAM #5
10+05
40+64
15+04
35+25
PI #19
19+75
STREAM #6
HARRIS RIVER SOUTH
UNIT #1
84.9 ACRES
1" = 500 FT.

Is future fish habitat enhancement possible? Yes _____ No ✓
If yes Describe:

Road and Unit boundary/fish stream intersection(s)
Marked with aluminum metal tags Yes ✓ No _____
Fish stream(s) flagged with blue stripe tape Yes ✓ No _____
Stream(s) traversed-If so attach traverse notes Yes _____ No ✓
Additional parameter information necessary, Yes _____ No ✓
If so attached completed fish stream parameter
Data form

Pertinent Wildlife Information: No DEER, BEAR OR OTHER WILDLIFE SIGN OBSERVED

Stream in Flood Stage Due to Heavy Rains

Comments:
Trocadero is temperature sensative. ADF&G recommends deleting eastern portion of Unit to protect fisheries or selective logging. Had Bartos Review temp sensative problems - He agrees and would like to get additional data c ADF&G next summer to confirm. Recommend selective harvesting in eastern portion of unit to meet guideline and realize harvest - Letter from ADF&G attached for intor. Lets plan to spend a day in the field on this and see if we can come to solution agreeable to all resources - [illegible]

Survey Crew Members: Signature Date

Laura A Moff 23 SEPT 1978

[illegible] 25 Sept 1978

Report Reviewed By Michael E Navy Forester 10-25-78
Signature Title Date

Recommendations: See attached sheets for detailed recommendations. Note proposed road change on 4020 ① P.I. #5 - stream #2 Fall & yard away or fully suspend over all salmon habitat - 100% debris removal and 48 hr clean up required - Time operations on Trocadero to avoid activity with spawning fish in creek Chunk clear D.V. Habitat - Yard away or suspend over as recommended [illegible]

CRAIG/SOUTH HARRIS RIVER SALE
UNIT #1
23 SEPTEMBER 1978

STREAM #1

THIS STREAM IS THE TRACHEID AND FLOWS THROUGH THE WEST SIDE OF UNIT #1. THE #4000 ROAD CROSSES THIS STREAM TWICE ON BRIDGES. THIS IS EXCELLENT COHO SPAWNING AND REARING AREA. HABITAT ENDS AT UNIT BOUNDARY TRAVERSE STATION 68+79.

STREAM #1 IS 12 TO 18 FT WIDE, AND 18 TO 36 INCHES DEEP WITH A ROCK/GRAVEL SUBSTRATE. STREAM GRADIENT IS LESS THAN 5% UP TO STATION 68+79 WHERE GRADIENT STEADILY INCREASES IN A SERIES OF 6 TO 10 FT FALLS IN A GORGE WITH 40 TO 50 FT ROCK WALLS. TWO TRIBUTARIES TO STREAM #1 ARE WITHIN UNIT #1 AT STATIONS 18+42 AND 20+42 (SEE STREAM MAP). STREAM WAS NOT FLOOD STAGE DURING THIS SURVEY.

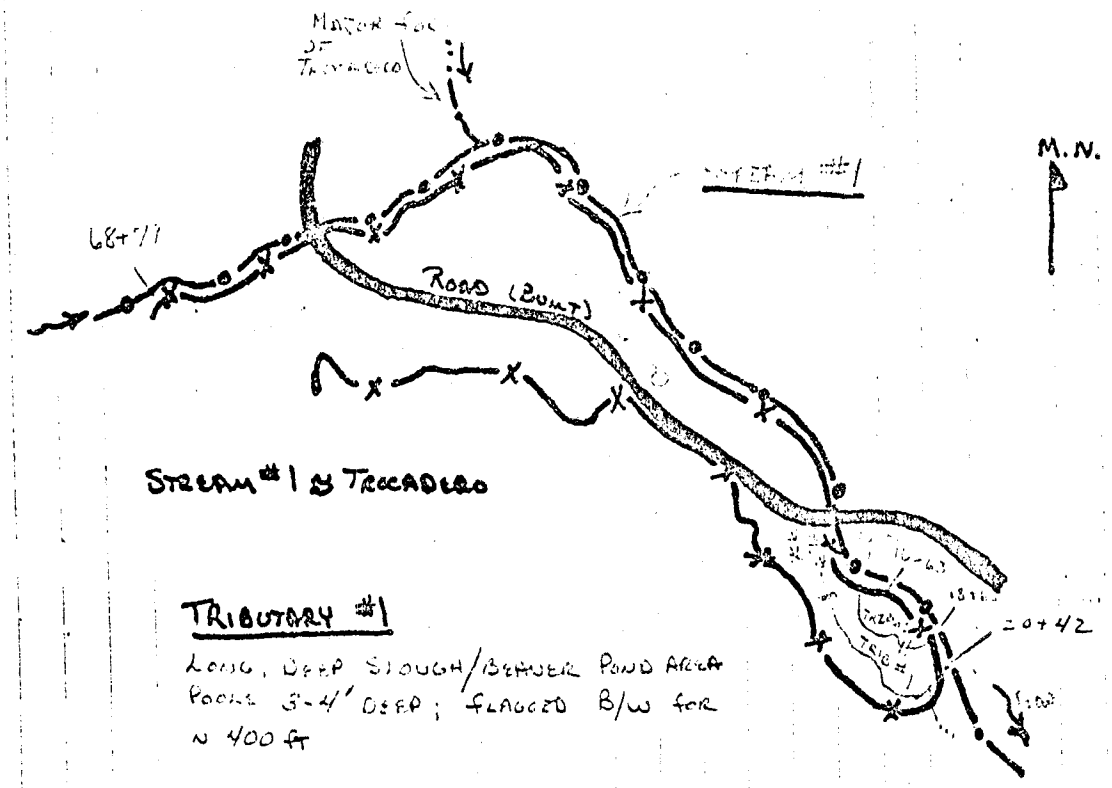
FLAGGED BLUE/WHITE STRIPE: 1) STREAM #1 FROM UNIT BOUNDARY TRAVERSE STATION 68+79 DOWNSTREAM TO STATION 20+42; AND 2) TRIBUTARIES TO STREAM #1 WITHIN UNIT BOUNDARY. FLAGGED STREAM #1 AT BOTH BRIDGE CROSSINGS OF THE #4000 ROAD.

RECOMMEND Falling & yarding away or full suspension over (yes include directional falling if necessary) FROM STREAM #1 AND ITS TRIBUTARIES, 100% debris removal & 48 hour CLEAN UP. HABITAT REQUIRES MAXIMUM FISHERIES PROTECTION. Time operations to avoid activity in creek with spawning fish on bed

CRAIG / SOUTH HARRIS RIVER SALE
UNIT #1
23 SEPTEMBER 1978

STREAM #1 (CON'T).

EAST SIDE OF UNIT #1



TRIBUTARY #1

LONG, DEEP SLOUGH/BEAVER POND AREA
POOLS 3-4' DEEP; FLAGGED B/W FOR
~ 400 ft

TRIBUTARY #2

OXBOW OF STREAM #1,
MAJORITY OF AREA IS DRY STREAM
CHANNEL; 6' WIDE; MANY COHO
FRY OBSERVED, FLAGGED 50' B/W STRIPED.

CRAIG / SOUTH HARRIS RIVER SALE
UNIT #1
23 SEPTEMBER 1973

STREAM #2 (ROAD PT #5 TO #4 ROAD AND UNIT TRAVERSE STATION 1+74)

THIS STREAM IS 4 FT WIDE, AND 4 TO 6 INCHES DEEP WITH LARGE POOLS 8 TO 18 INCHES DEEP. SUBSTRATE IS SAND/GRAVEL WITH ~ 5% STREAM GRADIENT. THIS IS EXCELLENT COHO REARING HABITAT. SHOCKED 3 COHO ABOVE THE UNIT BOUNDARY.

APPROXIMATELY 400 FT UPSTREAM FROM THE UNIT BOUNDARY STREAM #2 BRANCHES FORMING STREAMS #2A AND #2B. AT THE BASE OF STREAM #2A IS A 3 FT VERTICAL FALLS WHICH IS AN APPARENT COHO FISH BARRIER SINCE DOLLY VARDEN WERE THE ONLY FISH FOUND ABOVE THE FALLS. EXCELLENT HABITAT IS AVAILABLE FOR ~ 200 FT IN STREAM #2A FROM WHICH THERE IS A RISE IN GRADIENT AND THE STREAM DIVIDES INTO SEVERAL HILLSIDE DRAINAGES. EXCELLENT COHO REARING HABITAT CONTINUES IN STREAM #2B FOR ~ 600 FT WHEN IT ALSO DIVIDES INTO SMALL DRAINAGES. 1 COHO AND 3 DOLLY VARDEN WERE SHOCKED IN STREAM #2B.

FLAGGED STREAMS #2 AND #2B BLUE/WHITE STRIPE FROM THE UNIT BOUNDARY STATION 1+74 TO END OF HABITAT IN #2B. FLAGGED STREAM #2A ORANGE/WHITE STRIPE FROM FALLS TO END OF HABITAT. TAGGED STREAMS #2, #2A, & #2B ON THE UNIT BOUNDARY. [ROAD LINE PARALLELS THE UNIT BOUNDARY APPROXIMATELY 30 FT INSIDE THE UNIT.]

RECOMMEND FALLING AND YARDING AWAY or full suspension over Blue/white flagged portions of STREAMS #2, & #2B, AND 48 hour Yardaway or suspend over 2A FOR A SHORT AND DEEPER CLEAN UP.

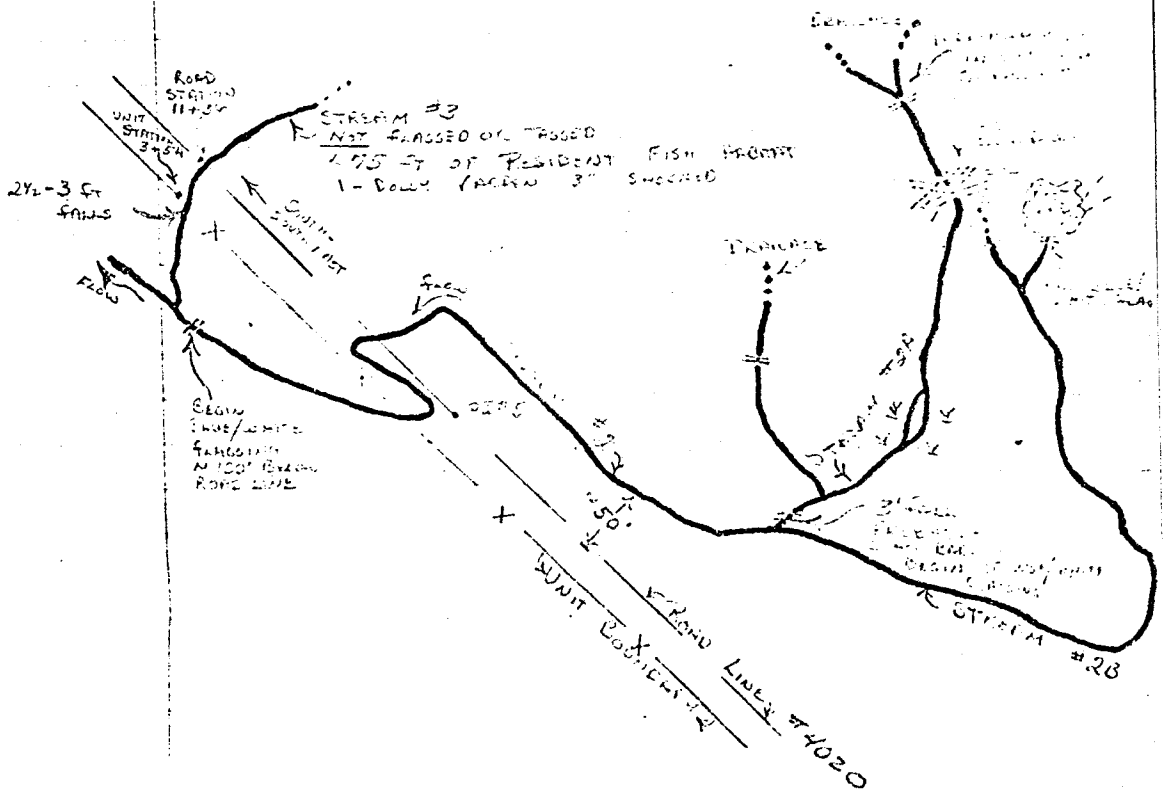
If possible, CHUNK CLEANING IS RECOMMENDED IN STREAM #2A, &

CRAIG / SOUTH HARRIS RIVER SALE
UNIT #1
23 SEPTEMBER 1978

STREAM #2 (CON'T)

FISH PASSING CULVERT REQUIRED WHERE ROAD CROSSES STREAM #2 AND DEBRI REMOVAL CONCURRENT WITH ROAD BUILDING. APPROXIMATELY 200 ft OF COHO REARING HABITAT (STREAM #2) PARALLELS THE #4020 ROAD LINE 50 ft AWAY — RECOMMEND MOVING ROAD OR TAKING GREAT CARE TO INSURE THAT THIS PORTION OF STREAM #2 IS NOT RE-ROUTED &/OR DESTROYED BY ROAD BUILDING.

Note!



CRAIG / SOUTH HARRIS RIVER SALE
UNIT #1
23 SEPTEMBER 1978

STREAM #3 (ROAD STATION 1+36 UNIT TRAVERSE STATION 3+54)

THIS STREAM IS 1 TO 2 FT WIDE, AND 4 INCHES DEEP WITH A SAND SUBSTRATE. DIRECTLY BELOW UNIT BOUNDARY IS A 2 FT FALL. APPROX. 75 FT ABOVE UNIT BOUNDARY STREAM #3 BECOMES CONSTANT SMALL DRAINAGES. SHOCKED ONE DOLLY VARDEN. THIS STREAM IS FAIR RESIDENT FISH HABITAT. NOT FLAGGED OR TAGGED.

STREAM #1 (UNIT TRAVERSE STATION 2+40)

THIS STREAM IS 2 TO 3 FT WIDE, AND 3 TO 6 INCHES DEEP WITH A 4 FT FALL INTO A 1/2 TO 2 FT DEEP POOL AT UNIT BOUNDARY. SHOCKED TWO DOLLY VARDEN. GOOD RESIDENT FISH HABITAT.

FLAGGED 150 FT ABOVE UNIT BOUNDARY WITH ORANGE/WHITE FLAGGING. TAGGED AT UNIT BOUNDARY for those orange/white portions

RECOMMEND CHUNK CLEARING AND WATER QUALITY PROTECTION. #4020 ROAD LINE IS WELL ABOVE FISH HABITAT — NO FISH PROTECTION REQUIRED.

Coal / South Harbor River Sale
Unit #1
23 September 1976

STREAM #5 (Road [illegible] #12 [illegible] 19+01 Unit Boundary [illegible] Station 10+05)

THIS STREAM IS 4 ft WIDE, AND [illegible] TO [illegible] INCHES DEEP WITH POOLS 12 TO 18 INCHES [illegible] SUB STRATE IS SAND/GRAVEL AND A SERIES OF [illegible] TO 24 INCH FALLS IS PRESENT. SHOCKED TWO DOLLY YARDEN.
✓ EXCELLENT RESIDENT FISH HABITAT.

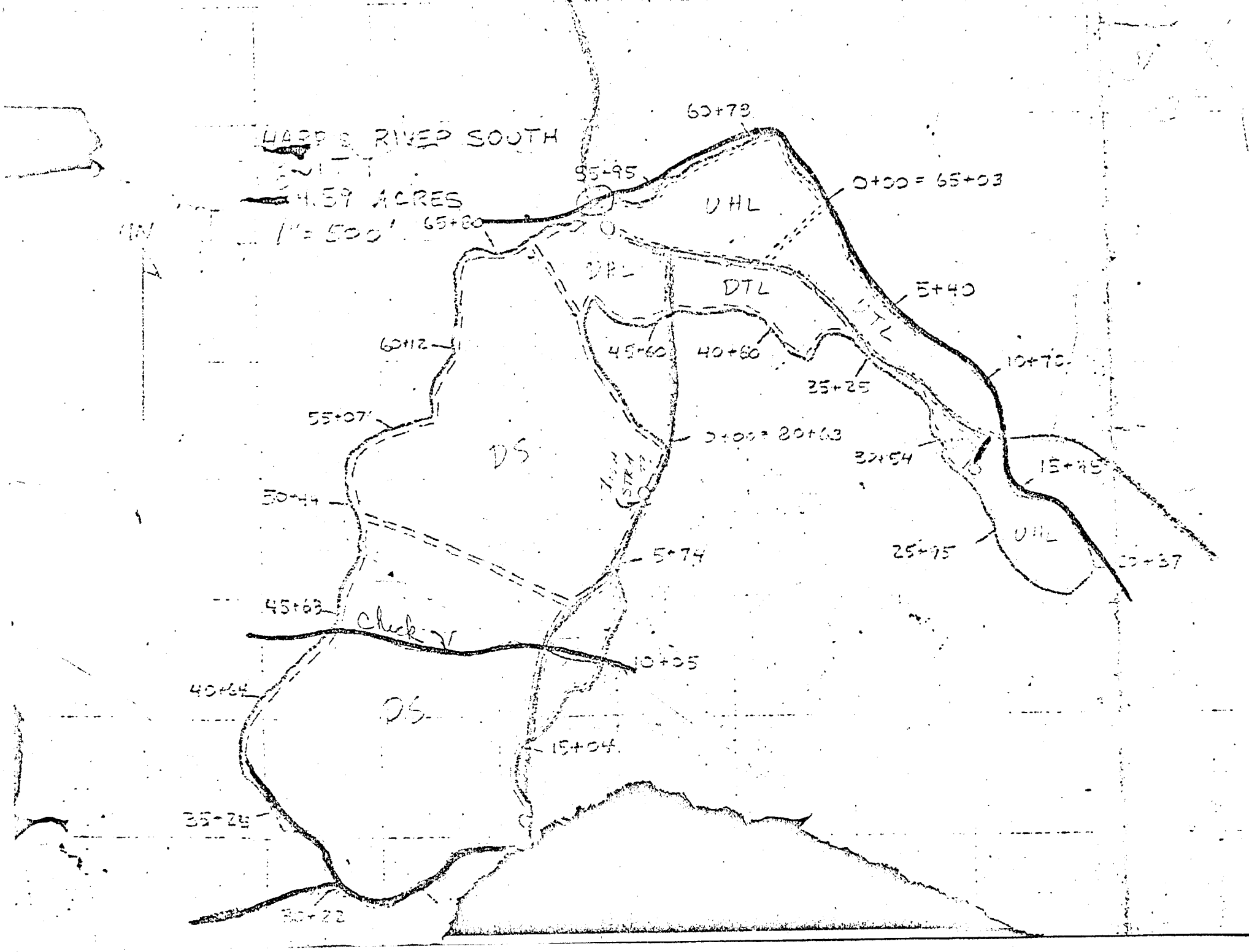
FLAGGED ORANGE/WHITE STRIPED ~ 500' ABOVE UNIT BOUNDARY (~25' BELOW ROAD [illegible] WHERE THERE IS A [illegible]) TAGGED ON UNIT BOUNDARY

RECOMMEND FALLING AND YARDING AWAY, if possible AND CHUNK CLEAN UP OF FLAGGED AREA OF STREAM #5. FISH PASSAGE IS NOT REQUIRED AT ROAD CROSSING.

STREAM #6 (Road [illegible] #19 Parallels Southern Unit Boundary Beginning at Corner Station 19+75)

THIS STREAM FLOWS PARALLEL TO THE SOUTHERN BOUNDARY OF THE WESTERN SIDE OF UNIT #1 BEGINNING AT UNIT TRAVERSE STATION 19+75. THE STREAM GRADIENT IS ~ 35% WITH A 20 ft FALL 500 ft ABOVE THE CORNER OF THE UNIT BOUNDARY. NO FISH SHOCKED IN STREAM PARALLELING THE UNIT BOUNDARY.

STREAM #6 WAS NOT FLAGGED OR TAGGED. RECOMMEND WATER QUALITY PROTECTION, AND FALLING AND YARDING AWAY IF POSSIBLE. NO FISH PASSAGE REQUIRED AT ROAD CROSSING.


HARPER RIVER SOUTH
4.59 ACRES
1" = 500'
60+73
55+95
0+00 = 65+03
UHL
65+80
DHL
DTL
5+40
60+12
45+60
40+60
10+70
35+25
55+07
0+00 = 80+63
DS
30+54
15+45
50+44
UHL
25+95
5+74
20+37
45+63
Creek
10+05
40+64
DS
15+04
35+25
30+22

KALH

STATE OF ALASKA

DEPARTMENT OF FISH & GAME

JAY S. HAMMOND, Governor

HABITAT
415 Main St. #208
Ketchikan, Alaska
99901

October 9, 1978

32° SQUARE
58.

RECEIVED
USFS
OCT 10 1978

FS		PERS	
FIO		R&F	
AO			
ENG		SAFI	
PLNG		COMP	
REL			
FRW			
TIMS			

Mike Novy
IDT Biologist
U. S. Forest Service
313 Federal Bldg.
Ketchikan, Alaska 99901

Dear Mr. Novy:

Re: Trocadero 103-60-75

The Department has reviewed the proposed logging Unit #1 on Trocadero Creek. We have discussed the Unit in relationship to temperature sensitivity and have calculated a temperature increase based on Sheridan's formula and the stream data we have on file. Sheridan's formula is $T = \frac{A \times H}{D} \times 0.000267$ where:

T = Predicted change in temperature (°F)
A = Surface area of stream exposed in square feet (length x width)
D = Discharge in cubic feet per second
H = Amount of heat absorbed in British Thermal Units per square foot per minute
.000267 constant converting discharge to pounds of water per minute

Based on Bob Larson's survey work and the unit layout, we have calculated a temperature change as follows:

$$T = \frac{A \times H}{D} \times .000267$$

$$T = \frac{(3500' \times 15') \times 4.58}{5} \times .000267$$

SHOULD BE 3.5

$T = \cancel{12.84}°F = 9.8$ Where H = 4.58 is calculated

From a travel time of .75 feet per second based on Larson's velocity measurement of 1.2 ft./sec. on a riffle near the mouth, the discharge was estimated at 5 CFS based on Larson's measurement of 11 CFS at the mouth (8/18/77).

51.6 + 9.8 = 61.4 BASE = 60°

The USFWS Stream Catolog Special Scientific Report 465 has temperature data for 1950, 1951, 1952 and 1953. August temperatures for this period averaged 51.6°F; for September, 49.6°F; and for October 44°F. Applying the predicted temperature increase to the average temperature for August would result in a temperature of 64.4°F. Water quality criteria under 18 AAC 70.020 issued by the Department of Environmental Conservation state that temperatures may not exceed natural temperature by 4°F and no change permitted for temperatures over 60°F.

? FOR [illegible] TIME
? [illegible]/WOT TIME

This temperature increase, plus the fact that there are five other smaller streams in the Unit that would be affected by a loss of shade cover, would in our opinion have an adverse effect on the fish production of Trocadero Creek. Also, there are five other units with cutting boundaries along Trocadero Creek. The 1978 Pink Salmon Escapement into Trocadero Creek was 62,000. Commercial Fish Division considers this stream a major contributor to the District 3 and 4 catch.

Our recommendation for Unit 1 would be to drop the eastern portion of the Unit that borders the stream. This would delete approximately 3,500 feet of stream side cutting. The uphill portion of the Unit from the road could be logged along this 3,500 foot section. Selective harvest methods would be an acceptable alternative for the eastern portion of the Unit. This would allow some logging in the area, but would protect the shade producing canopy near the stream bank.

Sincerely,

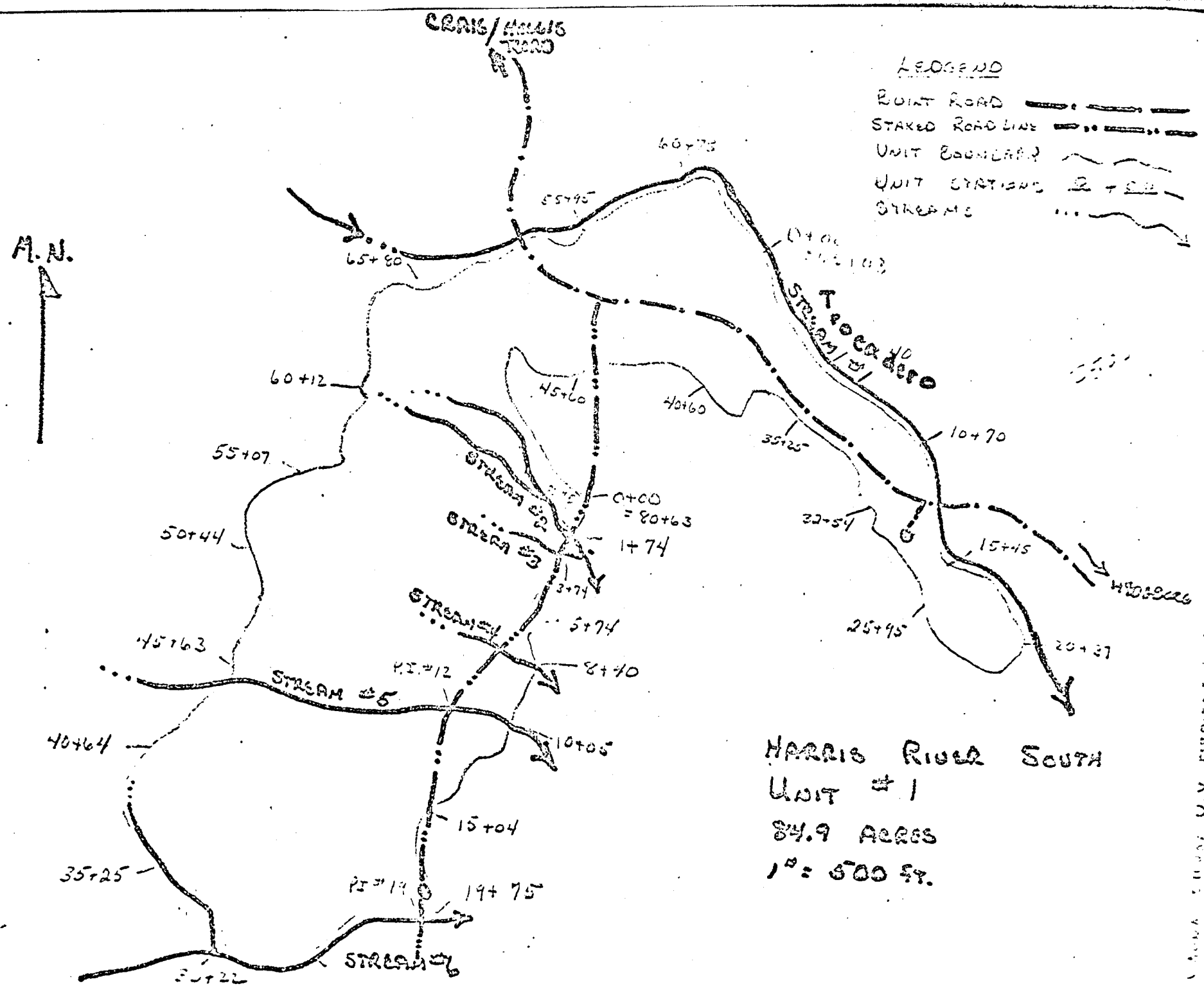
Steve Haavig

Steve Haavig
Habitat Biologist

cc: John Valentine, Comm. Fish
Don Siedelman, Sport Fish
Robert Larson, Land Use

SH/dsb

double temp change over a period eg 9.8
and exceeds 60°F by 1.40



CRAIG/HOLLIS ROAD
LEDGEND
BUILT ROAD
STAKED ROAD LINE
UNIT BOUNDARY
UNIT STATIONS
STREAMS
M.N.
60+75
55+95
65+80
60+12
55+07
50+44
45+63
40+64
35+25
45+60
40+60
35+25
32+54
25+95
20+37
15+45
10+70
0+00
= 80+63
1+74
3+74
5+74
8+40
10+05
15+04
19+75
P.I. #12
P.I. #19
STREAM #1
STREAM #2
STREAM #3
STREAM #4
STREAM #5
STREAM #6
HARRIS RIVER SOUTH
UNIT #1
84.9 ACRES
1" = 500 FT.