

107-40-10530-2003

STREAM 107-40-52

56° 14' 00" N 131° 27' 00" W
06" 16"

map: Bradfield Canal A-5

Northeast Head of Bradfield Canal, North Bradfield River and its Tributaries.

The North Bradfield forms the largest drainage in Bradfield Canal. It has many tributaries, most of which have falls at or near the mouths. The river is glacial fed and flows through a large, wide valley that has been logged in the lower reaches. Effects of the logging operation is present in the form of log debris, stumps, borrow pits associated with overflow channels, and parts of washed out bridges. Of the many tributaries, those found between four and ten miles upstream have the most significant spawning areas, (Map 8a and 8b).

The main river is heavily braided and has many gravel bars providing some spawning habitat. Substrates range from sand and silt in the extreme lower reaches to large rubble and boulders in the headwaters. Bank erosion is evident due to high fluctuations in water flow.

The intertidal area is very long and broad substrate dominated by silt and fine sand. Several rearing channels are present in the flats in the lower 1.0 - 1.5 miles of the river.

From Alaska Department of Fish & Game records, pink salmon appear to be the dominant species, with chum, chinook, and coho salmon, and trout species also present, (Table 5).

Table 5. A Summary of A.D.F. & G. Escapement Data.

Fish Species	Years of Data	From/To	High	Mean	Low	1974
Pink	1 year only	1950	2,300	--	-	--
Chum	1 year only	1950	230	--	-	--

*Pink, chum, and coho salmon were observed in 1975.

SUMMARY OF MANAGEMENT CONSIDERATIONS:

1. Unstable streambanks and braiding are quite prevalent.
2. Gravel borrow sites should be carefully selected to protect present stream stability.
3. Stream enhancement possibilities are extremely limited due to the extensive braiding and inherent unstable nature of the stream.

Rating Sheet

<u>Stream Feature</u>	<u>Imp. Factor</u>		<u>Rating</u>		<u>Score</u>
1. Width	2	X	<u>1.0</u>	=	<u>2.0</u>
2. Flow	10	X	<u>1.0</u>	=	<u>10.0</u>
3. Pool-riffle ratio	5	X	<u>.6</u>	=	<u>3.0</u>
4. Shade: Temp. Reg.	1.5	X	<u>.2</u>	=	<u>.3</u>
Habitat	1.5	X	<u>.2</u>	=	<u>.3</u>
5. Pool quality	5	X	<u>.8</u>	=	<u>4.0</u>
6. Riffle quality	5	X	<u>.9</u>	=	<u>4.5</u>
	<u>30.0</u>				
				TOTAL	<u>24.1</u>
	30	Total			.80

Score X miles = mile value

Rating System

Width: 0.1/ft. (max. 1.0)

Flow: 0.1/inch of riffle depth (max. 1.0)

Pool/riffle ratio: 0.8 - 1.0 if pool 35% : riffle 35%
 0.4 - 0.7 if either pool or riffle > 35%
 0.1 - 0.3 if both < 35%

Shade: 0.2 for each 20% of shaded stream surface

Pool quality: greater than average channel width.

0.9 = 2 ft. or deeper with abundant shelter

0.8 = 3 ft. or deeper exposed

0.7 = 2 ft. or deeper exposed

0.6 = < 2 ft. and abundant shelter

0.5 = < 2 ft. and intermediate shelter

Riffle quality

1. Bed material - 1.0 - 0.8 = gravel

0.7 - 0.5 = rubble

0.4 - 0.1 = bedrock

2. Water depth - 6" - 1.0

4"-6" = 0.8

2"-4" = 0.4

2" = 0.1

3. Water velocity - 1.5 - 3 ft./sec. = 1.0 - 0.6

0.5 - 1.4 ft./sec. = 0.5 - 0.2

0.5 ft./sec. = 0.1

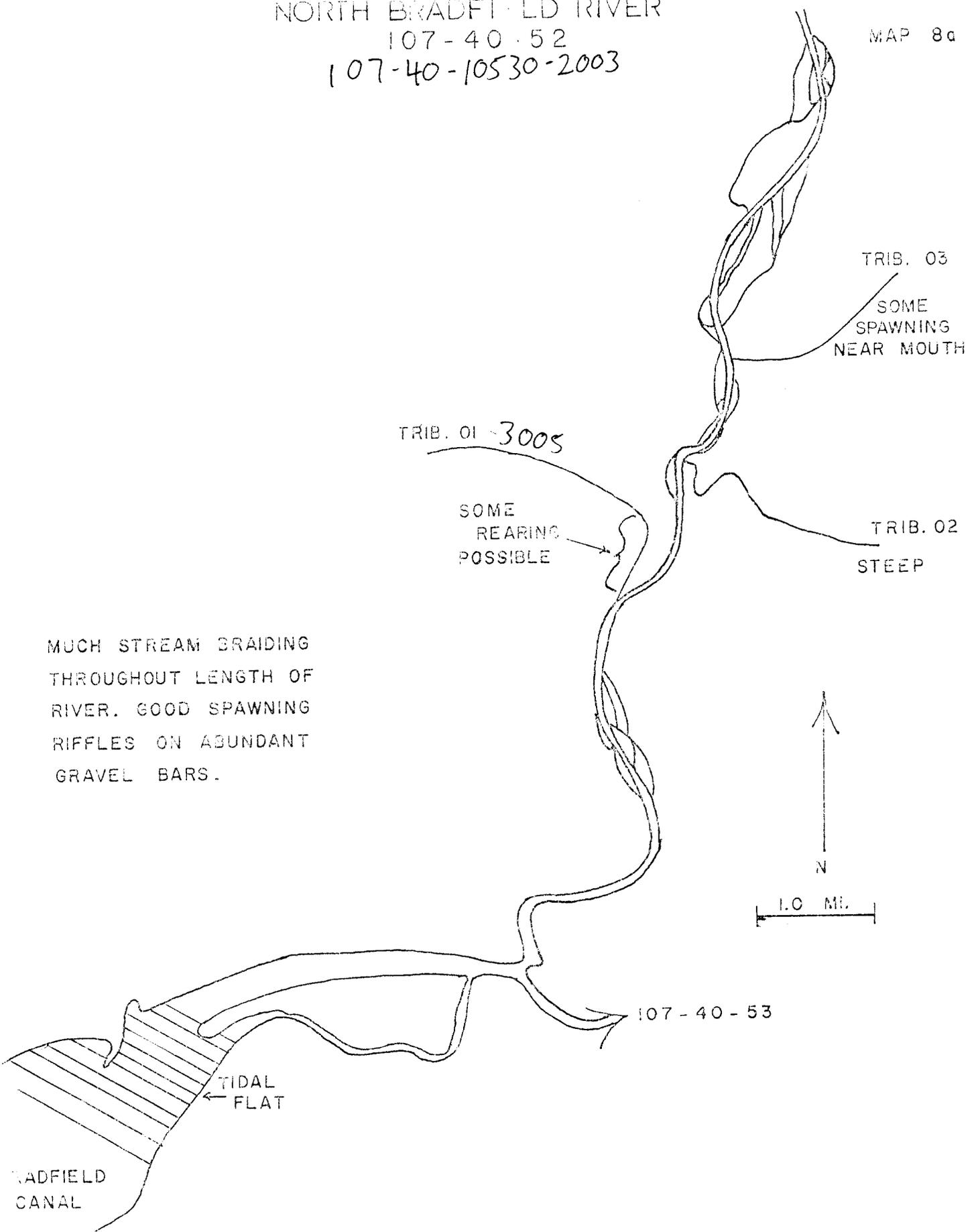
4. Total and divide by 3.

NORTH BRADEFIELD RIVER

107-40-52

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MAP 8a



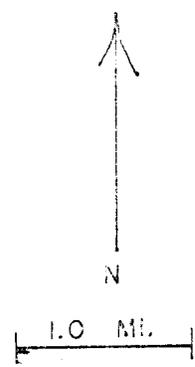
MUCH STREAM BRAIDING
THROUGHOUT LENGTH OF
RIVER. GOOD SPAWNING
RIFFLES ON ABUNDANT
GRAVEL BARS.

SOME
REARING
POSSIBLE

TRIB. 03
SOME
SPAWNING
NEAR MOUTH

TRIB. 02
STEEP

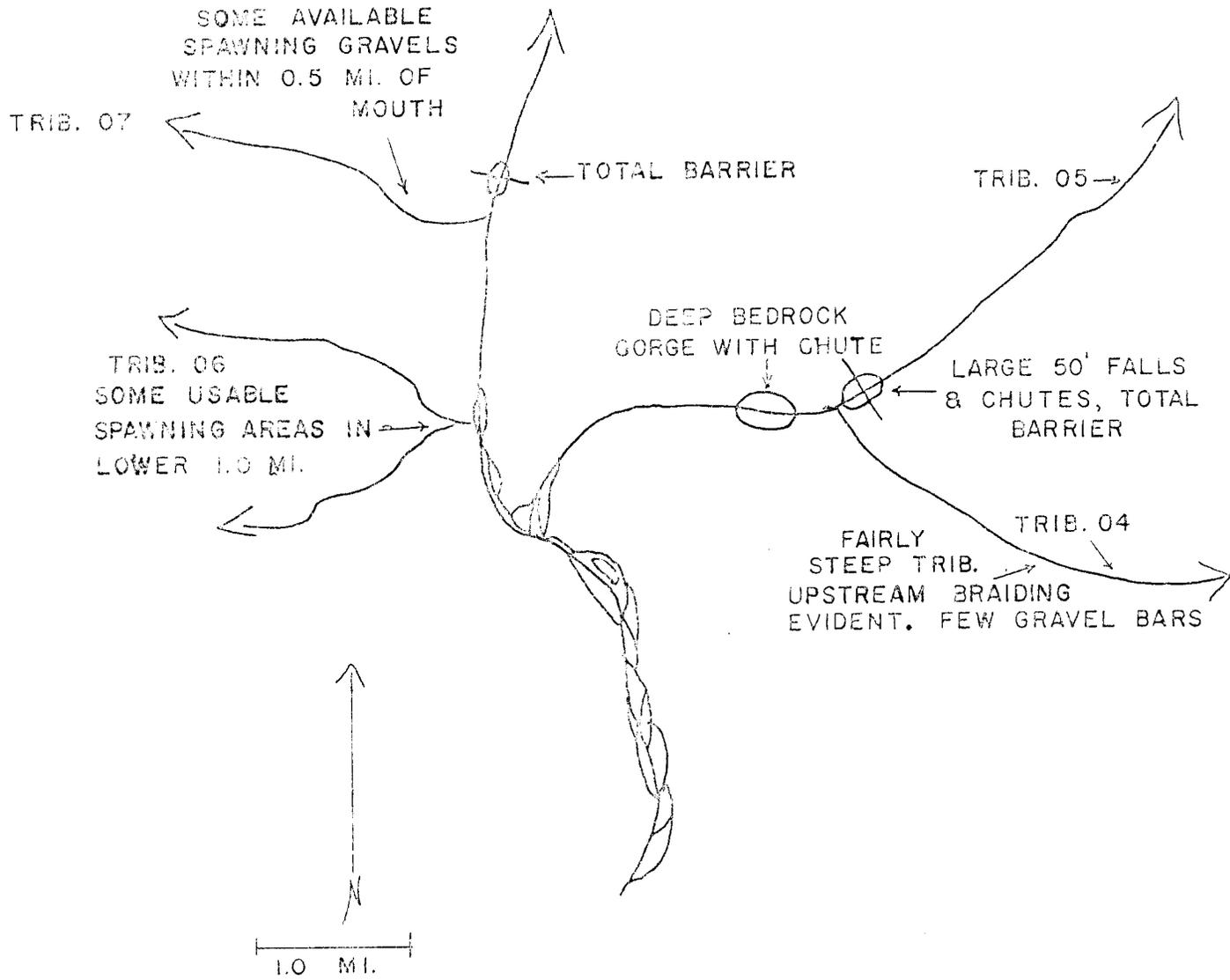
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107-40-53

TIDAL
FLAT

BRADEFIELD
CANAL



BRADFIELD STREAM HABITAT INVENTORY

AREA AND STREAM	TYPE AND DISTANCE OF STREAM	FISH SPECIES AND MATURITY	STREAM QUALITY			STREAM CHARACTERISTICS			VELOCITY		WATER		MAJOR SEDIMENT		HABITAT RECOVERY	REMARKS
			Spawning Intertidal	Upstream	Downstream	Stream width (ft.)	Stream depth (ft.)	Intertidal	Upstream	Color	Temp. °C	Intertidal	Upstream			
Trlb. 04	Helicopter	----	--	Fair	Fair	Moderate Steep	10-15'	1'	----	2 - 3 c/f	clr	--	----	Rubble	Heavy cover makes air recon difficult, stream usable for about 0.5 mile, considerable debris	
Trlb. 05	Helicopter Foot	None	--	Poor	Fair	Moderate Steep	20'	1'	----	2 - 3 f/s	clr	7	----	rubble gravel	Fairly steep and swift, some spawning possible in lower 0.5 mile, braiding near mouth	
107-40-59	Helicopter	----	Poor	Fair	Fair	Moderate	20-25'	1 - 2'	.5-1.0 f/s	1.5-3.0 f/s	clr	--	----	boulder rubble gravel	Several 10-20' falls, less than .5 mile from mouth, some good spawning areas	
107-40-63	Foot .5 mile	None	None	None	Poor	Steep	10-15'	1.5'	3-4 f/s	5-6 f/s	clr	6	boulder	.25-.5 mile from mouth is a 40-50' falls, not improvable, see text		
107-40-64	Foot .8 mile	few coho fry Dolly Varden fry	Poor	Poor	Poor	Steep	12'	6"	2 f/s	3 f/s	clr	10	rubble	rubble	Evidence of disruption upstream, mouth not mapped by USGS, see text & map	