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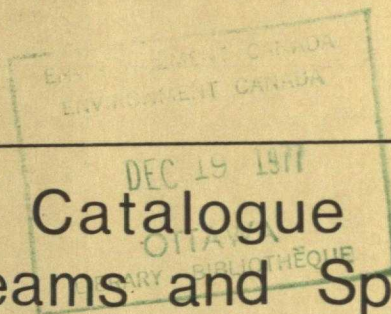
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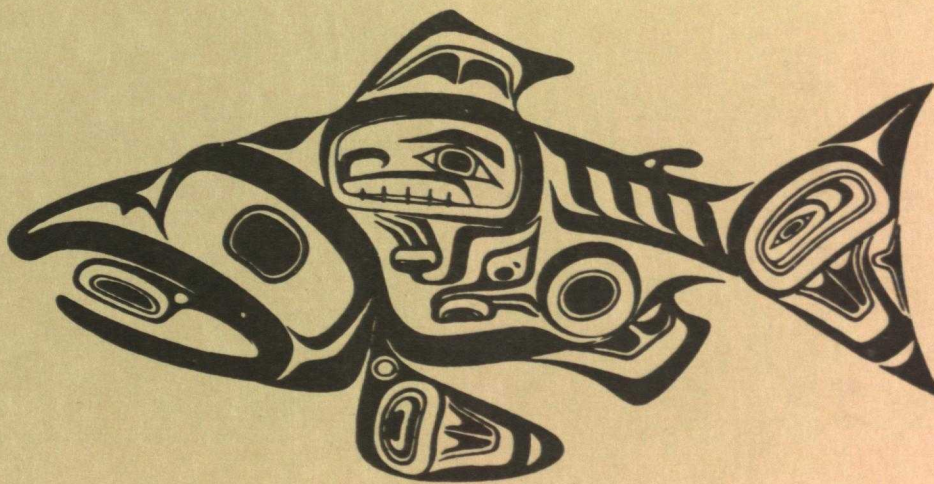


Preliminary Catalogue of Salmon Streams and Spawning Escapements of Statistical Area 14 (Comox - Parksville)



R.F. Brown
V.D. Chahley
D.G. Demontier

4 *L Data Record Series*
5 *L Pac/D-77-12*
3 *L Pacific Region*



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Escapements of Statistical
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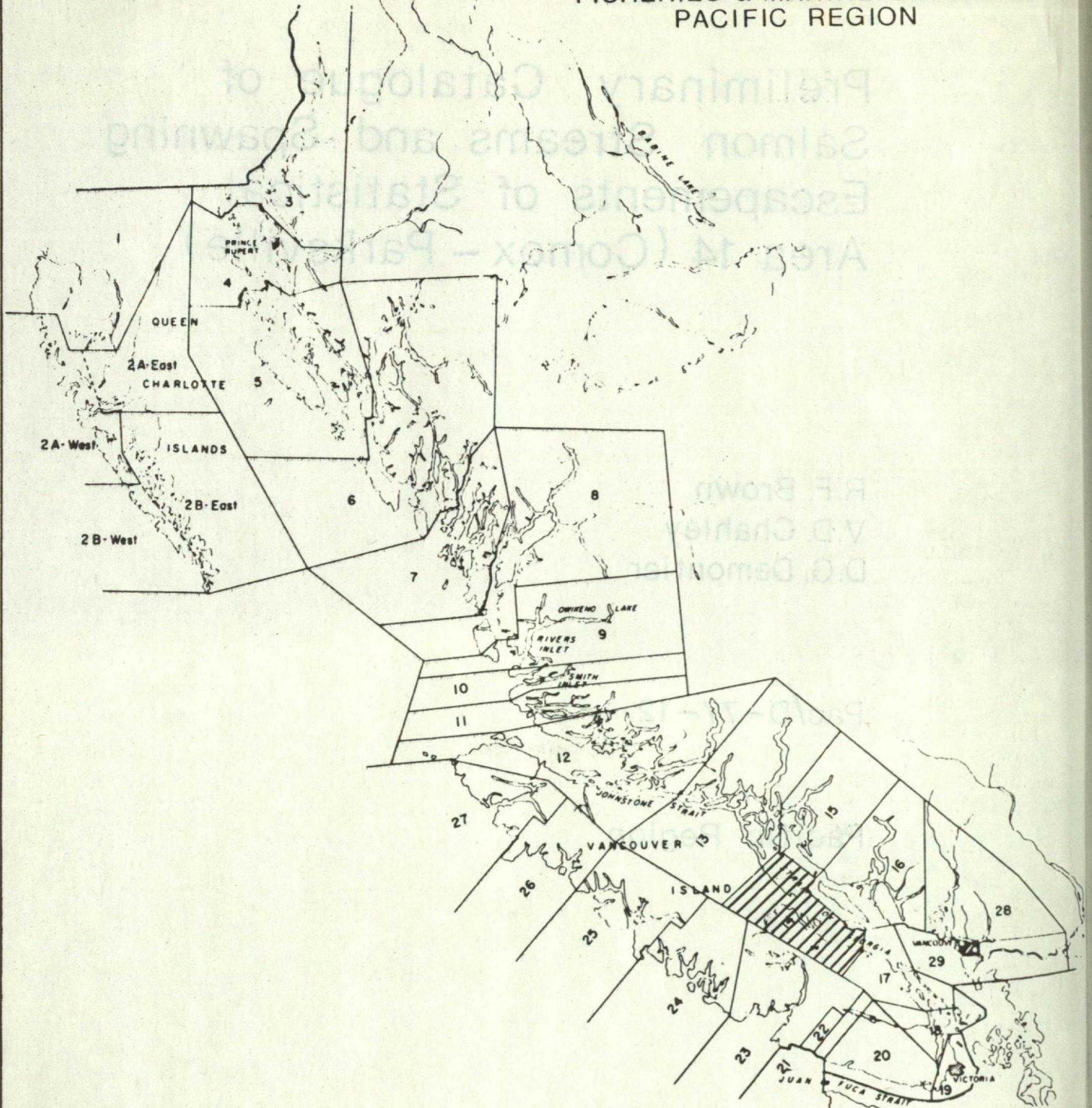
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Pacific Region

VANCOUVER, B.C.
AUGUST, 1977

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STATISTICAL AREAS
FISHERIES & MARINE SERVICE
PACIFIC REGION

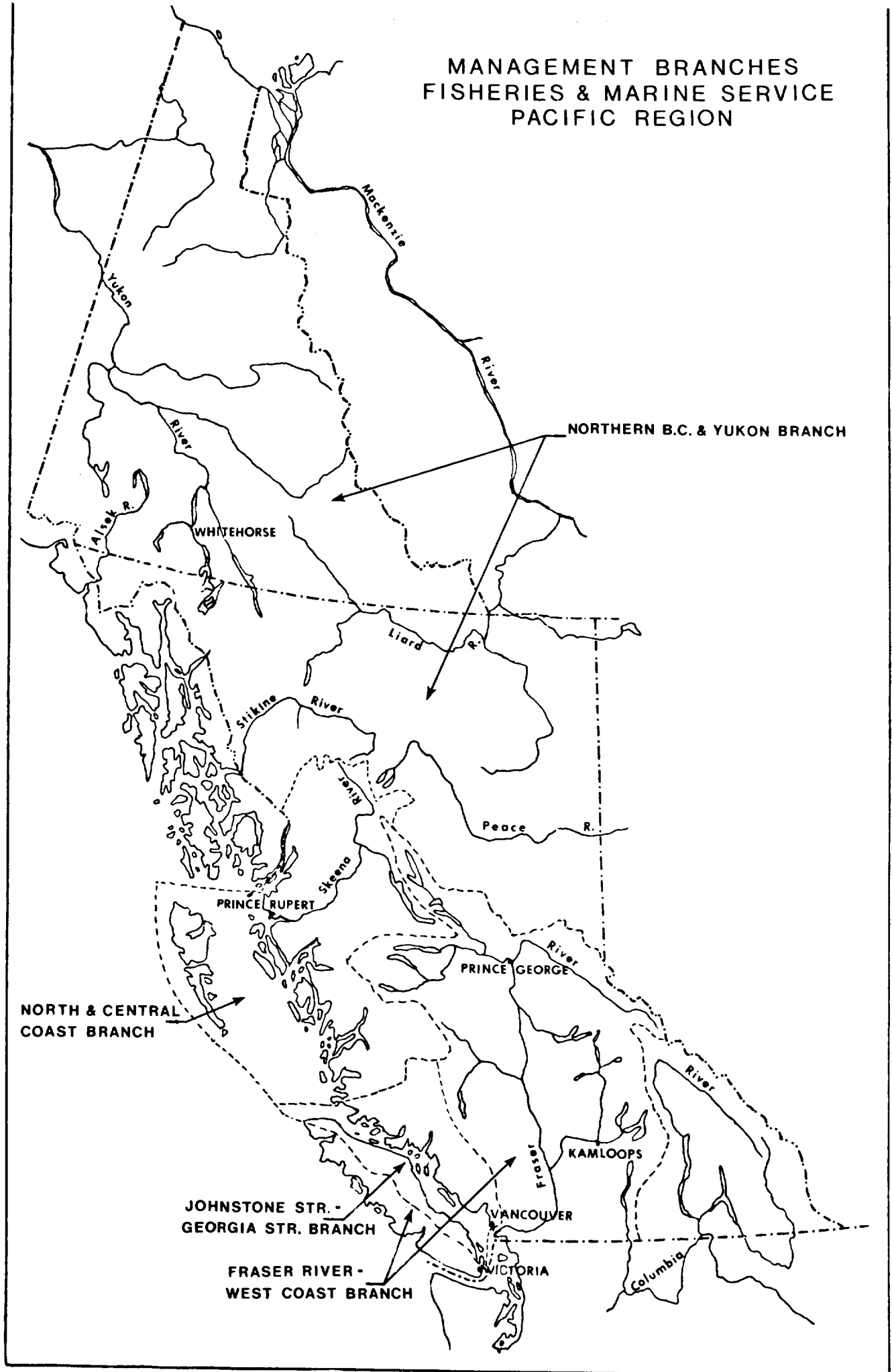


VANCOUVER B.C.
AUGUST 1977

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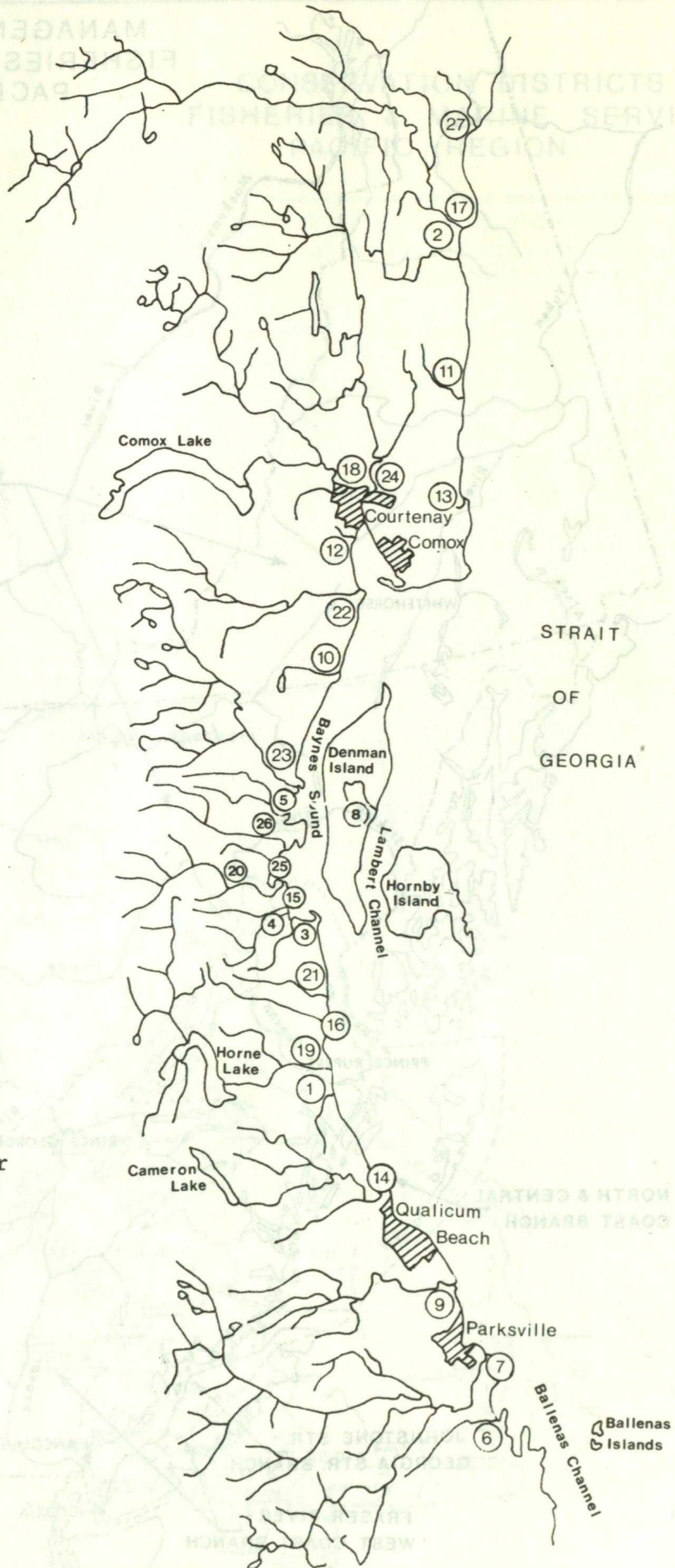
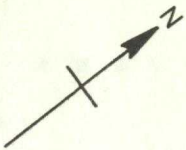
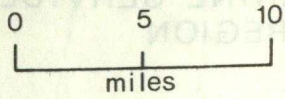
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MANAGEMENT BRANCHES
FISHERIES & MARINE SERVICE
PACIFIC REGION

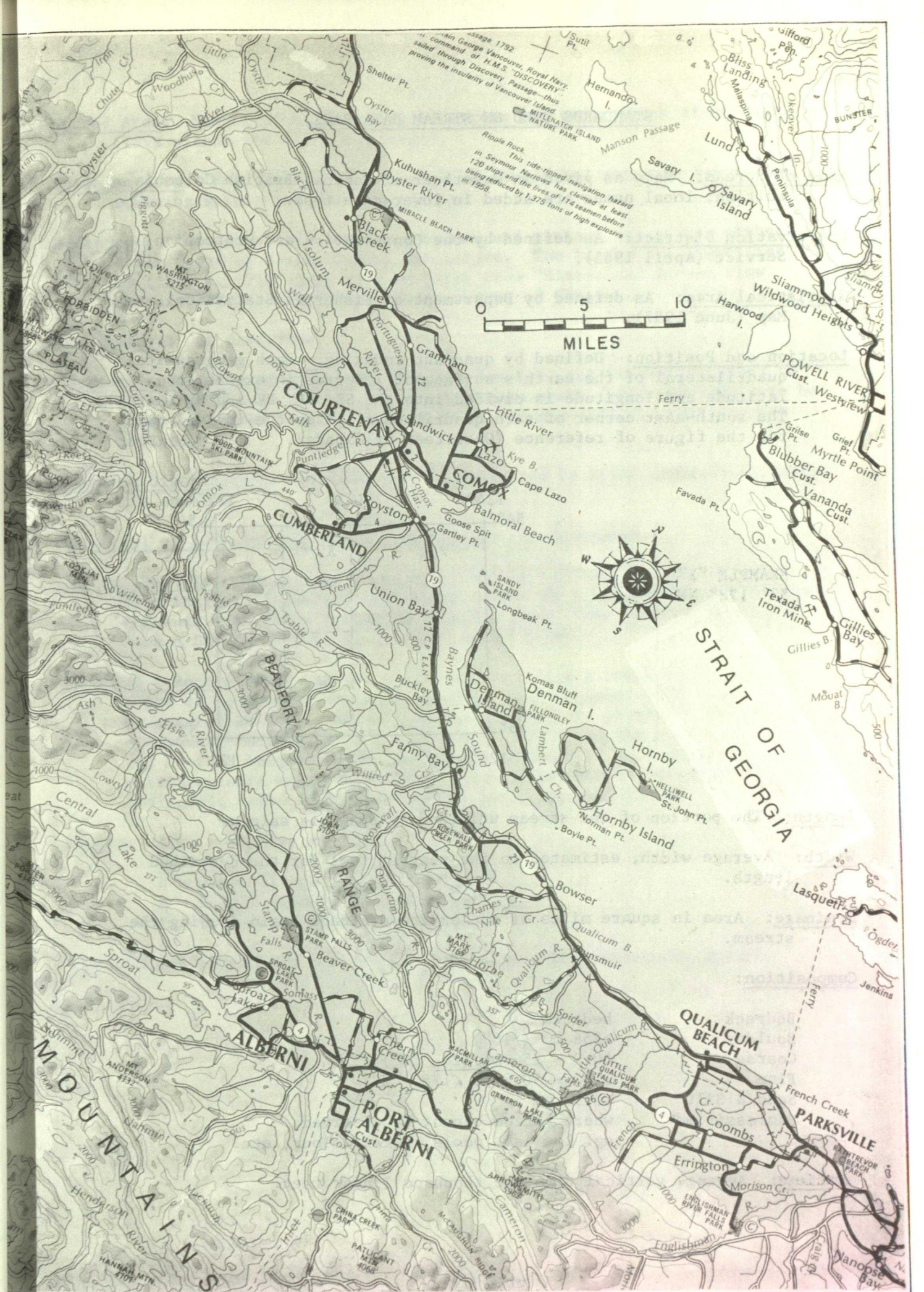


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SALMON SPAWNING STREAMS
STATISTICAL AREA 14



1. Annie Creek
2. Black Creek
3. Chef Creek
4. Cook Creek
5. Cowie Creek
6. Craig Creek
7. Englishman River
8. Fillongley Creek
9. French Creek
10. Hart Creek
11. Kitty Coleman Creek
12. Lard Creek
13. Little River
14. Little Qualicum River
15. McNaughton Creek
16. Nile Creek
17. Oyster River
18. Puntledge River
19. Qualicum River (Big)
20. Rosewall Creek
21. Thames Creek
22. Trent River
23. Tsable River
24. Tsolum River
25. Waterloo Creek
26. Wilfred Creek
27. Woods Creek



STANDARDS USED ON STREAM DATA PAGE

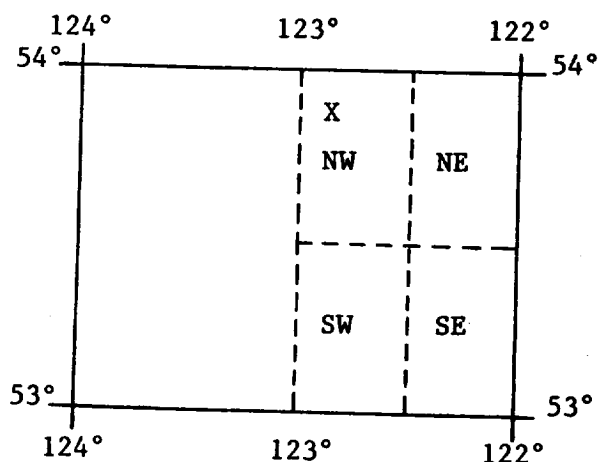
Name of Stream: Name as given in Gazetteer of Canada, British Columbia edition; local names are added in lower case type.

Conservation District: As defined by the Conservation and Protection Service (April 1965).

Statistical Area: As defined by Department of Fisheries Statistical Map (June 1957).

Location and Position: Defined by quadrant indexing. Each geographical quadrilateral of the earth's surface of 1 degree in extent in latitude and longitude is divided into the SE, SW, NE and NW quarters. The south-east corner of each quadrilateral gives the initial point for the figure of reference (Gazetteer of Canada).

EXAMPLE "X"
53° 122° NW



Length: The portion of the stream utilized by spawning salmon.

Width: Average width, estimated to the nearest foot for the described length.

Drainage: Area in square miles of the entire drainage basin feeding the stream.

Composition:

Bedrock	bedrock
Boulder	>256 mm (>10")
Coarse	50.9 - 256 mm (2 - 10")
Fine	3.37 - 50.8 mm (1/8 - 2")
Sand & Silt	<3.37 mm
Unclassified	where bottom cannot be observed, eg. log jam, pools, water colour, etc.

Gradient: Average vertical drop per thousand linear feet.

Wetted Area: Number of square yards of stream bed under water at average flows within the described length.

Spawning Area: Estimated square yardage of stream bed suitable for salmon spawning within the described length.

Discharge: Mean annual discharge. Maximum and minimum values are either daily means or instantaneous discharges. The latter are identified by (Inst.). Discharge data is taken from "Historical Stream Flow Summary", British Columbia, Water Survey of Canada.

Temperature: As described.

Barriers and Points of Difficult Ascent: Complete and partial barriers to salmon and their distance from the stream mouth. Species likely to be affected may be listed. Both natural and man-made obstructions are defined.

Spawning Distribution: Distribution is indicated by brief comments opposite the species.

Potential of Inaccessible Portion of Stream: As described.

General Remarks: Emphasizes features of stream and spawning populations. Also includes industrial activity, routes of accessibility, etc. The comments with dates following them are taken from "Annual Reports of Salmon Stream & Spawning Grounds" (B.C. 16's).

Escapement Record: The escapement represents the mid point of the coded range of escapement for each species. For example: 5000-10000 would be entered as 7500. Where absolute numbers are provided by Fisheries Personnel, these numbers are entered. N/O means the stream was inspected and no fish were observed; UNK means evidence of fish present but no estimates were made; NO RECORDS means no escapement records for the applicable years could be found in the escapement files.

Timing: Arr. - arrival in stream

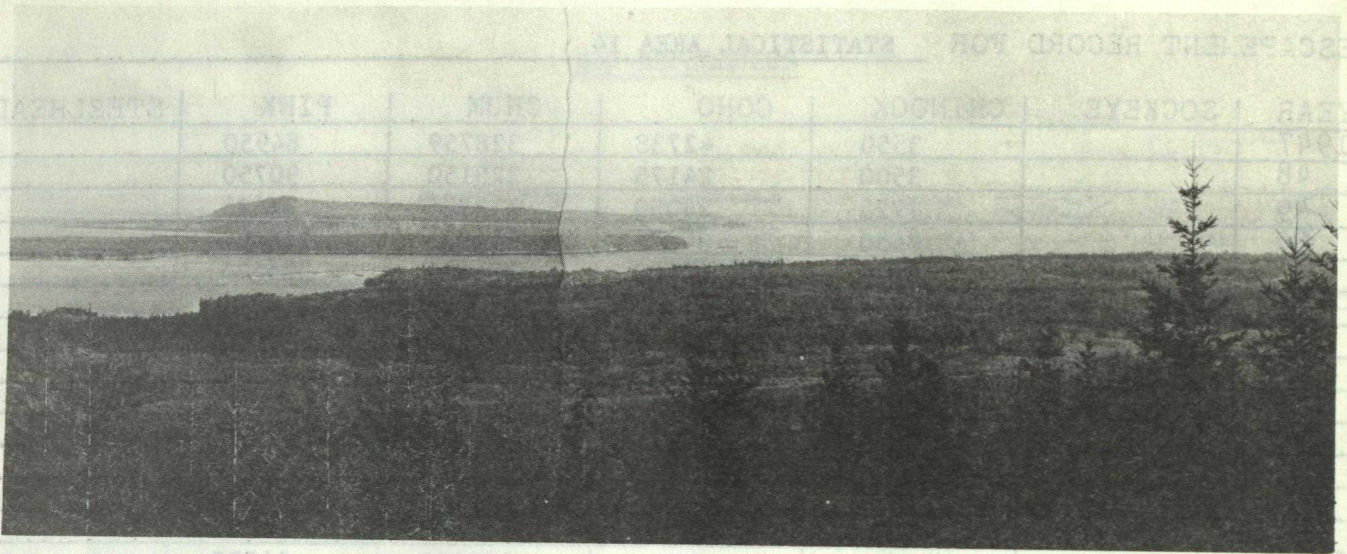
Spawning:

E - early (first 10 days of month)

M - middle (middle 10 days of month)

L - late (last 10 days of month)

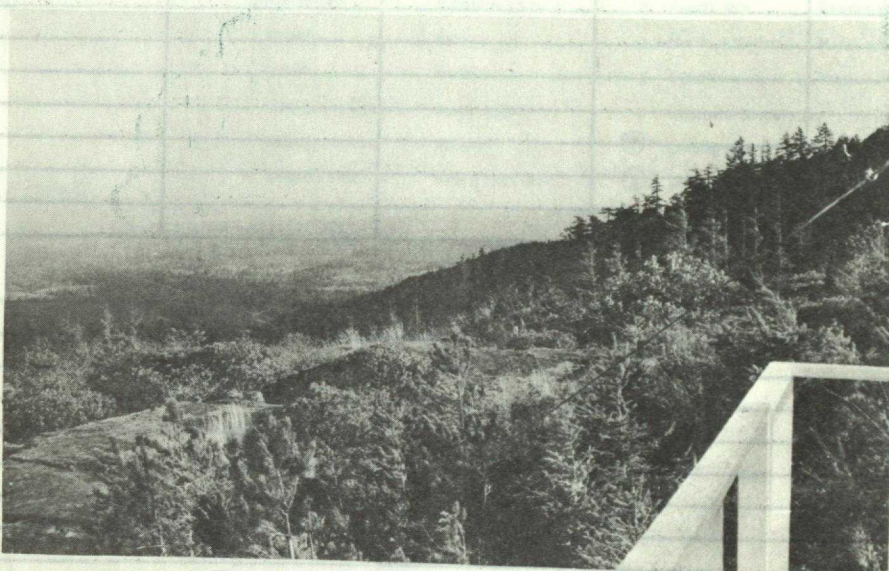
Distance references are from mouth of stream, unless otherwise stated.



Coastal plain south of Cook Creek

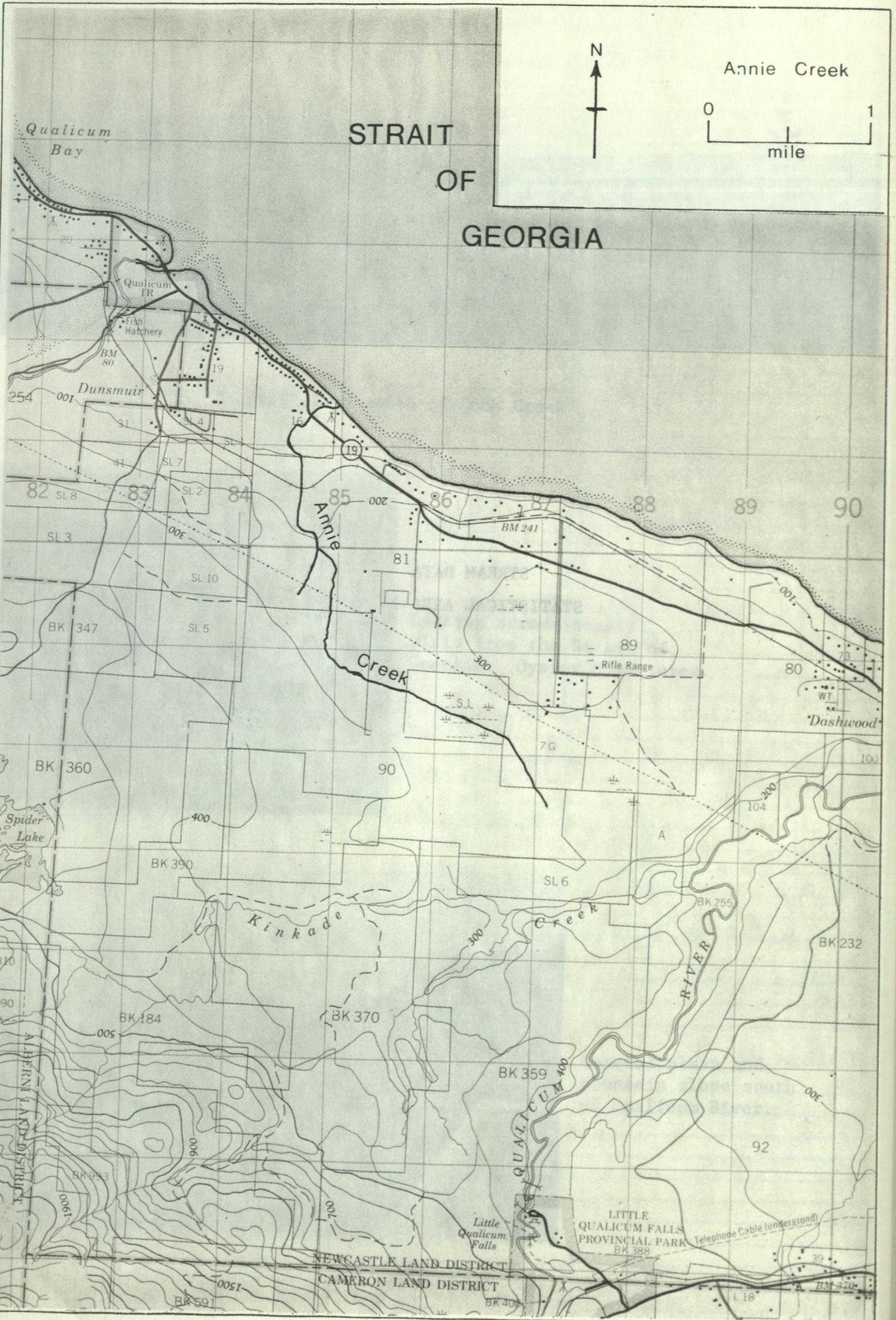


Looking across coastal plain from the Strait of Georgia. Oyster River area.



Coastal plain and mountain slope south of Qualicum River.

STREAM DATA
STATISTICAL AREA 14



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NAME OF STREAM _____ (Annie Creek, Shaw's Creek)

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NW. into Str. of Georgia, S. of Qualicum Bay, Newcastle

Dist. _____ POSITION 49 124 SW.

LENGTH _____ MI. WIDTH _____ FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____
SILT & SAND _____ UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA _____ SQ. YD. SPAWNING AREA _____ SQ. YD.

DISCHARGE _____ CFS MAX _____ MIN _____

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

- Twin 4' culverts under Highway 19 are passable during fall flows which coincide with the adult coho migration period.
- A small domestic water storage log dam located approx. 300' above tidewater was partially removed by C.P. staff in 1958.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	thinly scattered in lower stream, few above highway
CHUM	
PINK (ODD YR)	
PINK (EVEN YR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- This small stream has good cover in the lower reaches and is a good producer for its size. (1971-73)
- Intermittent flows are common in this stream during the summer.

ESCA

YEAR

1947

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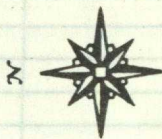
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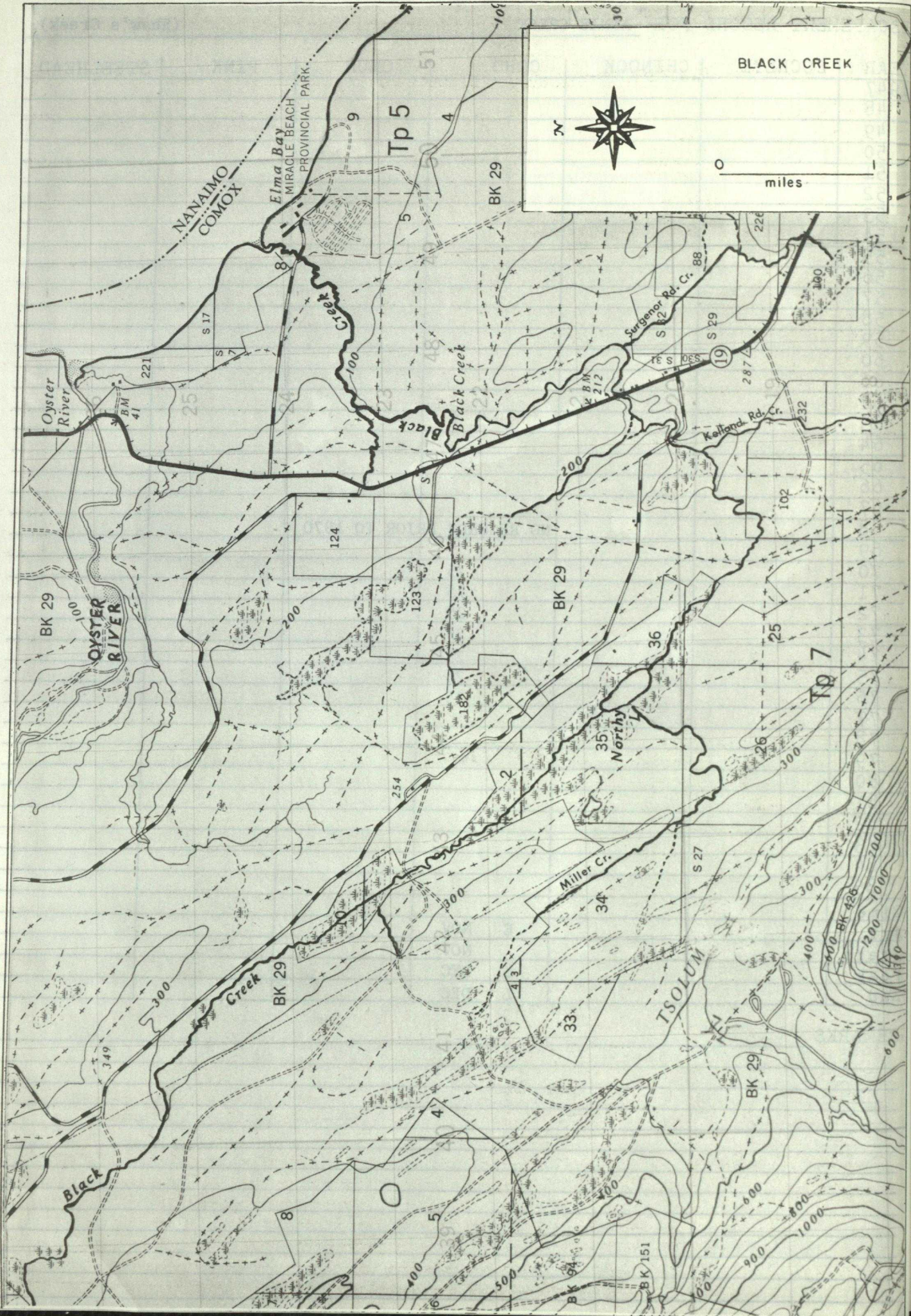
End

REM

BLACK CREEK



0 miles



NAME OF STREAM BLACK CREEK
 CONSERVATION DISTRICT 3 STATISTICAL AREA 14
 LOCATION OF MOUTH Flows NE. into Elma Bay, Str. of Georgia, near Black Cr. P.O.,
 Comox Dist. _____ POSITION 49 125 NE.
 LENGTH 16.4 MI. WIDTH 18 FT. DRAINAGE 25.0 SQ. MI.
 COMPOSITION: BEDROCK _____ BOULDER 12 COARSE 17 FINE 17
 SILT & SAND 42 UNCLASSIFIED pools 12

GRADIENT:
 FALL IN FT/000

0.0 - 2.5	5.2 - 11.2 mi.
2.5 - 5.0	1.6 - 5.2 mi.
5.0 - 7.5	11.2 - 13.6 mi.
7.5 - 10.0	0.0 - 1.6 mi., 13.6 - 16.4 mi.
> 10.0	

WETTED AREA 173184 SQ. YD. SPAWNING AREA 58000 SQ. YD.
 DISCHARGE _____ CFS MAX _____ MIN _____
 TEMPERATURE average Nov. 15-30, 1968 - 41°F.

BARRIERS OR POINTS OF DIFFICULT ASCENT _____
 - Beaver dams (broached as required).

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	majority above Northy Lake (7.5 mi.), mainstem & Miller Cr.
CHUM	
PINK (ODD YR)	
PINK (EVEN YR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:
 - Major coho salmon producer. Water diversions and land clearing create special flow problems which manifest themselves in dry stream beds during summers. Swamp waters impounded by beaver dams are very important to the runoff pattern in this stream.
 - Accessible tributaries: Miller Cr., Kelland Road Cr., Surgenor Cr. Miller Cr. is the most important tributary from spawning standpoint.
 - Principal industry: farming.
 - Mid reaches are very swampy.
 - Water colour: tea (peat).

GENERAL REMARKS: (Cont'd)

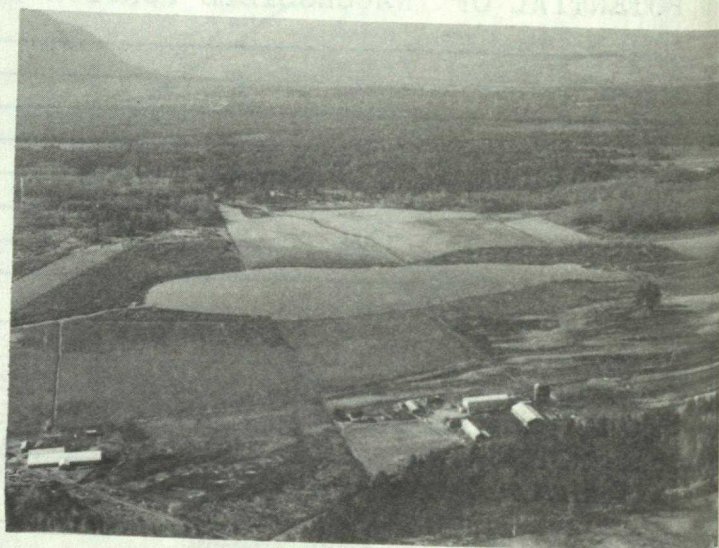
- Each year 5.5 mi. of the stream bed below Northy Lake dries up. This area constitutes about 40% of the available rearing area in the system. Unrestricted irrigation appears to be the main cause of the water loss. (1971)

References:

- Bird, T.D. and B.G. Dane. 1971. Site Investigation - Unnamed Tributary of Black Creek - August 4, 1971. D.O.E., F.M.S., Pac. Reg. Memo. 31-3-B4, 5p & Appendix.
- Patterson, J.H. and T. Brown. 1975. Black Creek Coho Investigations. D.O.E. F.M.S., Pac. Reg. Memo. 5900-85-B161, 4p & Appendix.
- Tofsrud, W. 1973. Enumeration of Migrating Coho Smolts and an Evaluation of Trapping Methods at Black Creek. D.O.E., F.M.S., Pac. Reg. Memo. 33-3-134, 5p.



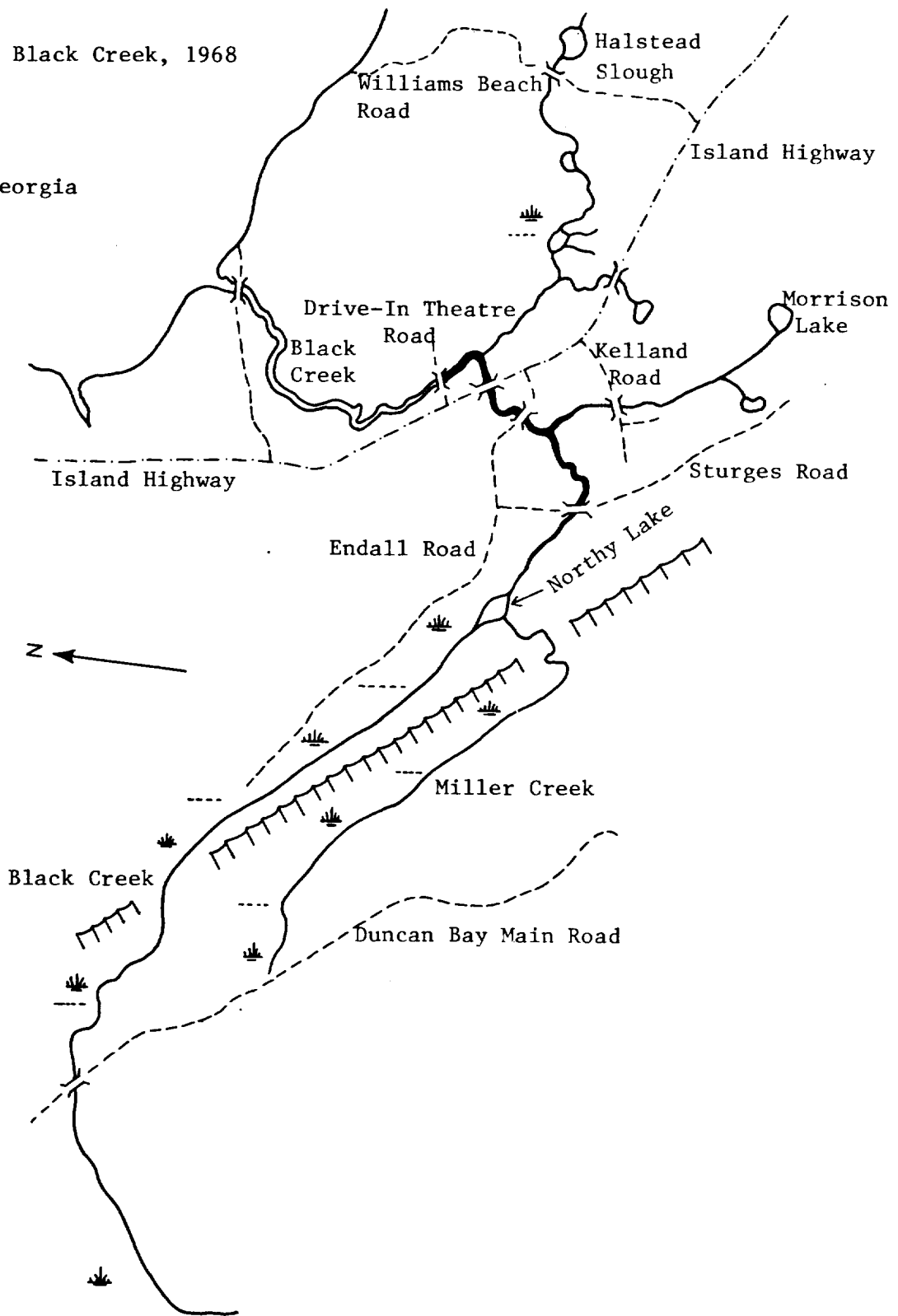
Northy Lake with outlet in foreground



Northy Lake

Sketch of Black Creek, 1968

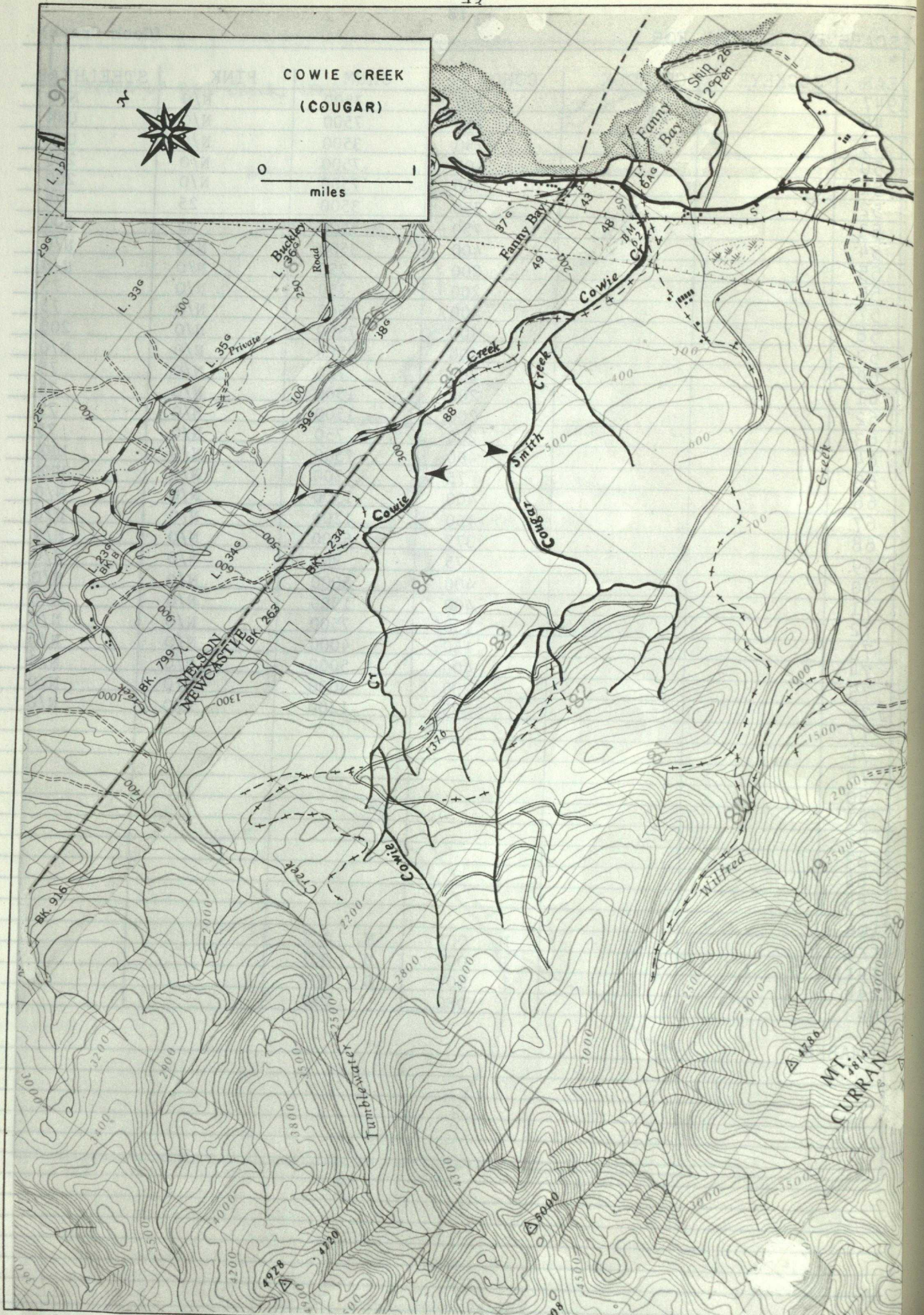
Gulf of Georgia



COWIE CREEK (COUGAR)



0 1
miles



NAME OF STREAM CHEF CREEK

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NW., NE. into Deep Bay, NW. of Bowser, Newcastle Dist.

POSITION 49 124 SW.

LENGTH 3.4 MI. WIDTH 15 FT. DRAINAGE 2.7 SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 8 COARSE 34 FINE 39

SILT & SAND 11 UNCLASSIFIED pools 8

GRADIENT:

FALL IN FT/000

0.0 - 2.5

2.5 - 5.0

5.0 - 7.5

7.5 - 10.0

> 10.0 throughout

WETTED AREA 29920 SQ. YD. SPAWNING AREA 21000 SQ. YD.

DISCHARGE 31.6 CFS MAX 310 cfs Jan. 1961 MIN 0.5 cfs May, June, Nov./61

TEMPERATURE see table - page 110

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

SPAWNING DISTRIBUTION:

SPECIES SECTION OF STREAM USED

SOCKEYE

CHINOOK

COHO throughout

CHUM estuarial zone

PINK (ODD YR)

PINK (EVEN YR)

STEELHEAD

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- A study at Chef Cr. concerned with freshwater production of coho salmon was carried out from 1961-1964.

- This stream has very stable water flows, it never goes dry, even during drought conditions. (1974)

References:

Cooper, Edwin L. 1970. Growth of Cutthroat Trout (*Salmo Clarkii*) in Chef Creek, Vancouver Island, British Columbia. J.F.R.B. 27: 2063-2070.

Wickett, W.P. Studies on Salmon Propagation. Fisheries Research Board of Canada Annual Report of the Biological Station, Nanaimo, B.C. for 1960-61, p. D7, 1961-62, p D7-8, 1962-63, p D11-16.

GENERAL REMARKS: (Cont'd)

References (Cont'd):

Wickett, W.P. Stream Ecology of Coho Salmon. Fisheries Research Board of Canada Annual Report of the Biological Station, Nanaimo, B.C. for 1963-64, p I 1-2.

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ESCAPEMENT RECORD FOR CHEF CREEK

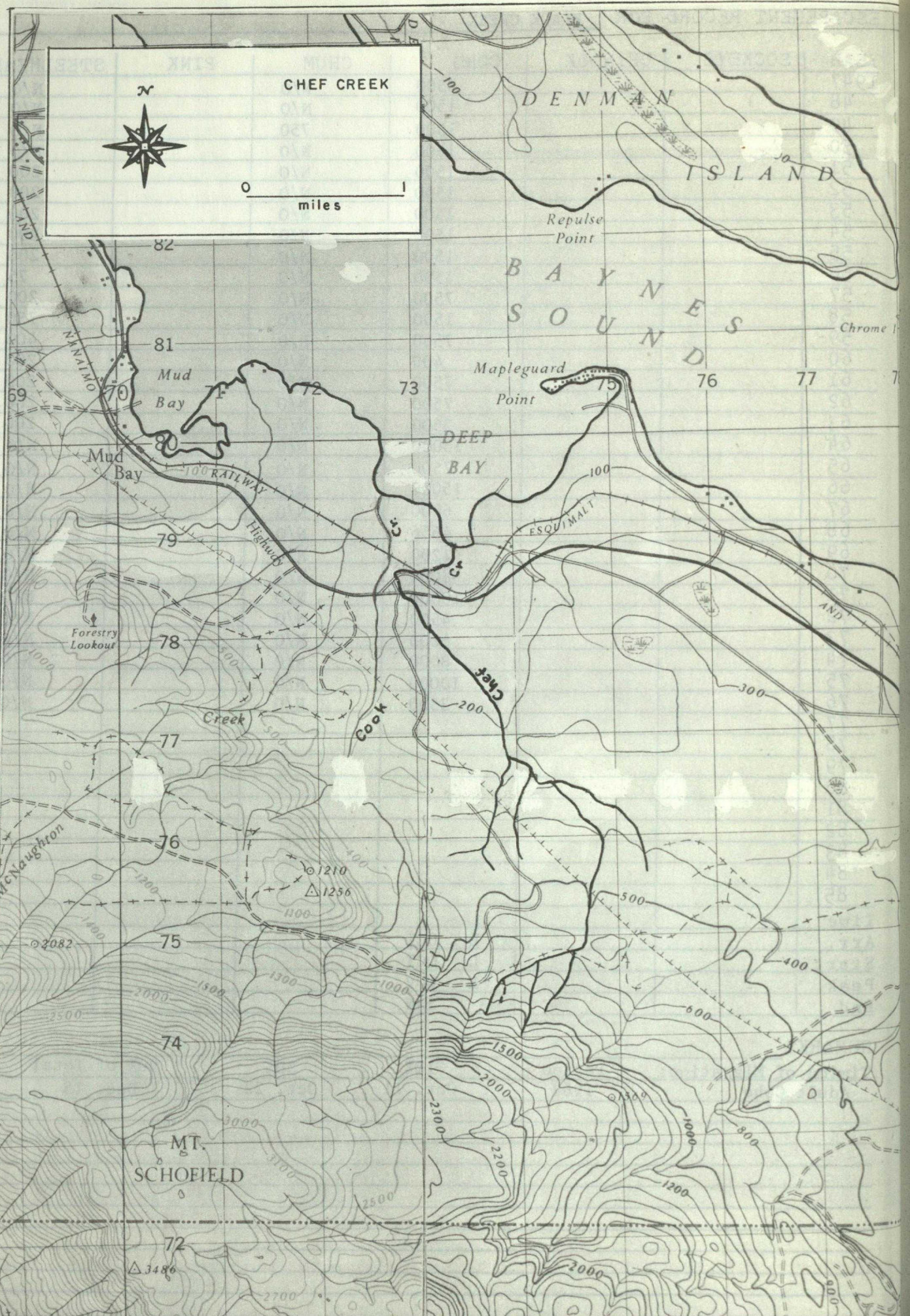
YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48			NO RECORDS PRIOR TO 1951			
49						
50						
51			400	200		
52			400	N/O		
53			1500	200		
54			400	200		
55			750	75		
56			400	25		
57			750	200		
58			750	25		
59			200	N/O		
60			1500	200		
61			750	25		
62			750	25		
63			750	75		
64			1500	75		
65			750	25		
66			1500	25		
67			800	N/O		
68			900	100		
69			1000	50		
70			1200	N/O		
71			1500	N/O		
72			1300	N/O		
73			800	N/O		
74			1200	N/O		
75			800	N/O		
76			600	100		
77						
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79						
80						
81						
82						
83						
84						
85						
Time						
Arr.			M OCT	E OCT		
Start			E NOV	E NOV		
Peak			L NOV	E DEC		
End			DEC	L DEC		

REMARKS

Timing of Migration:	Period	10%	50%	90% of Total
Adult Coho	1961	Nov. 1	Nov. 10	Nov. 22
" "	1962	Nov. 9	Nov. 12	Nov. 21
" "	1963	Oct. 21	Nov. 14	Nov. 29
" "	1964	Nov. 9	Nov. 23	Nov. 30
Juvenile Coho (Smolt)	1963	Apr. 2	May 7	May 25
" " "	1964	Mar. 26	May 17	May 24
Juvenile Coho (Fry)	1963	Apr. 11	Apr. 18	Apr. 27
" " "	1964	Apr. 17	Apr. 25	Jun. 13

CHEF CREEK

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NAME OF STREAM _____ (Cook Creek)

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows N. into Deep Bay, NW. of Bowser, Newcastle Dist.

POSITION 49 124 SW.

LENGTH 1.6 MI. WIDTH 33 FT. DRAINAGE 7.3 SQ. MI.

COMPOSITION: BEDROCK 1 BOULDER 40 COARSE 18 FINE 28

SILT & SAND _____ UNCLASSIFIED pools 13

GRADIENT:

FALL IN FT/000

0.0 - 2.5

2.5 - 5.0

5.0 - 7.5

7.5 - 10.0

> 10.0

throughout

WETTED AREA 30976 SQ. YD. SPAWNING AREA 14000 SQ. YD.

DISCHARGE _____ CFS MAX _____ MIN _____

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

- Impassable falls at 1.6 mi. - 20' vertical drop.

SPAWNING DISTRIBUTION:

SPECIES

SECTION OF STREAM USED

SOCKEYE

CHINOOK

COHO

throughout

CHUM

0.0 - 0.4 mi.

PINK (ODD YR)

PINK (EVEN YR)

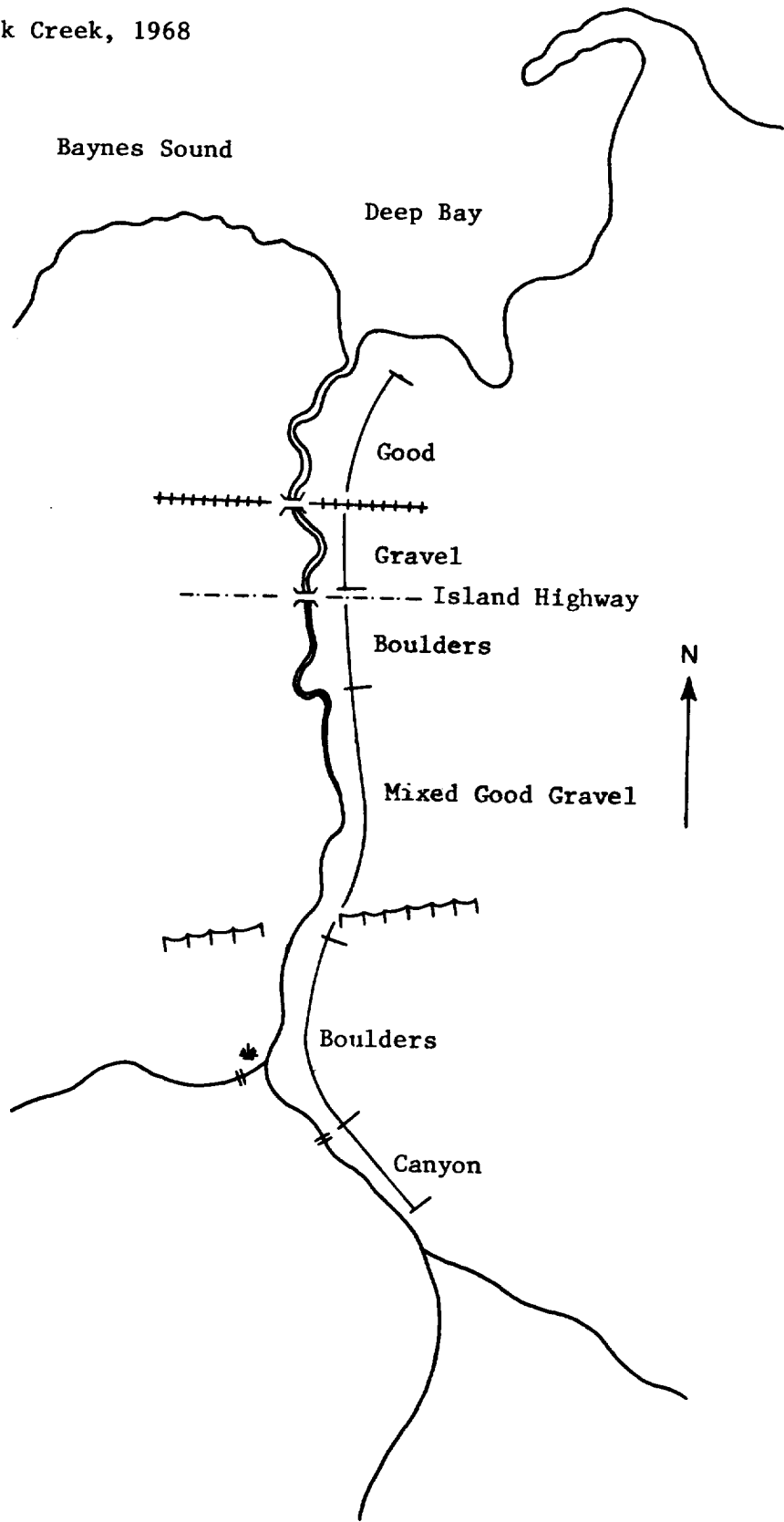
STEELHEAD

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

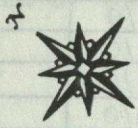
GENERAL REMARKS:

- The stream bed goes dry in the lower reaches during summer and late fall.

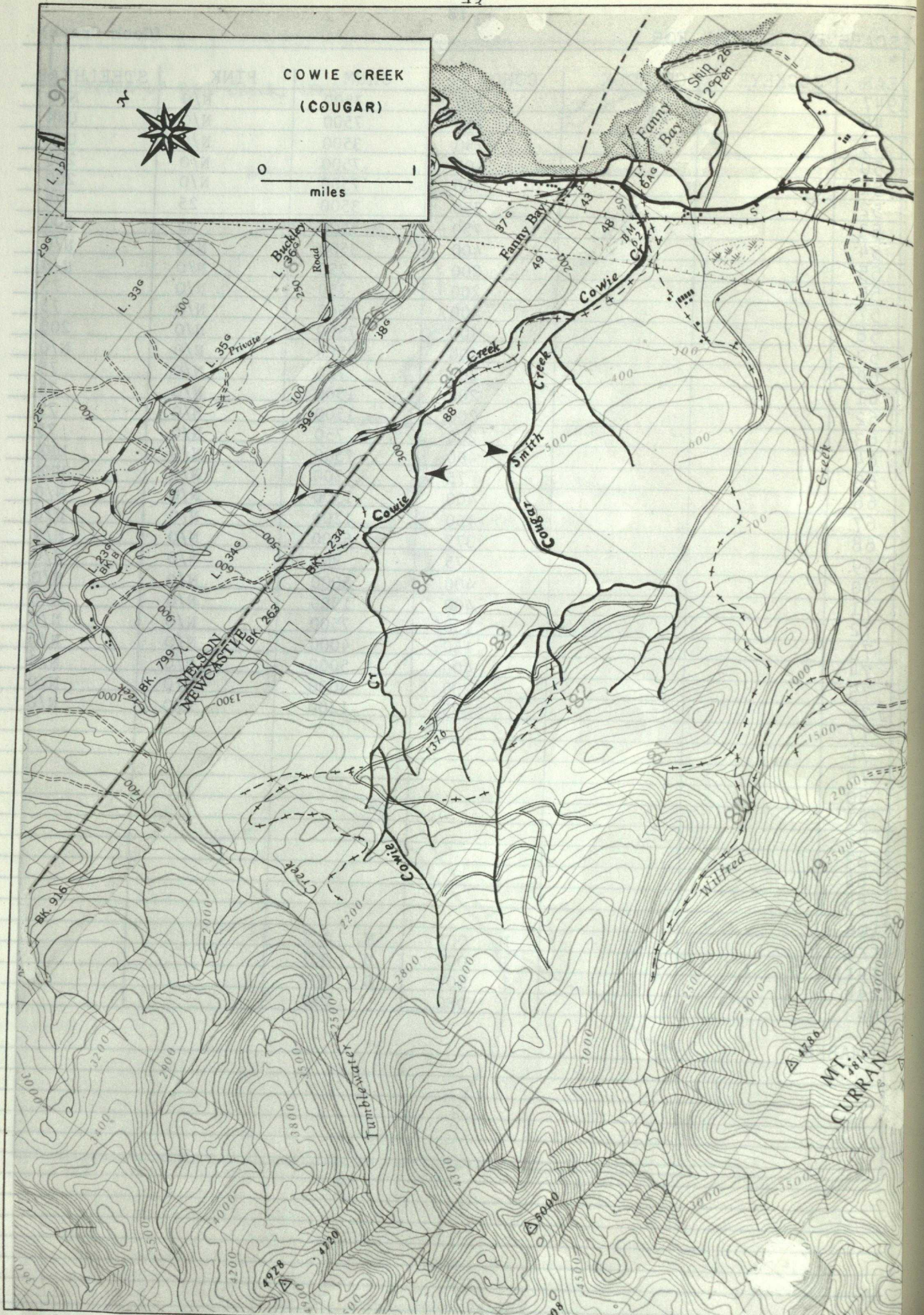
Sketch of Cook Creek, 1968



COWIE CREEK (COUGAR)



0 1
miles



NAME OF STREAM COWIE CREEK (Cougar Creek)

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Fanny Bay, Newcastle Dist.

POSITION 49 124 NW.

LENGTH 3.0 MI. WIDTH 24 FT. DRAINAGE 9.2 SQ. MI.

COMPOSITION: BEDROCK 4 BOULDER 43 COARSE 26 FINE 27

SILT & SAND _____ UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000

10.0 - 2.5	
12.5 - 5.0	
15.0 - 7.5	
17.5 - 10.0	
> 10.0	throughout

WETTED AREA 54560* SQ. YD. SPAWNING AREA 29000* SQ. YD.

DISCHARGE _____ CFS MAX _____ MIN _____

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT

- Passable falls at 1.0 mi. - approx. 4 ft. drop.
- Impassable falls at 3.0 mi. - 30 ft. vertical drop.

SPAWNING DISTRIBUTION:

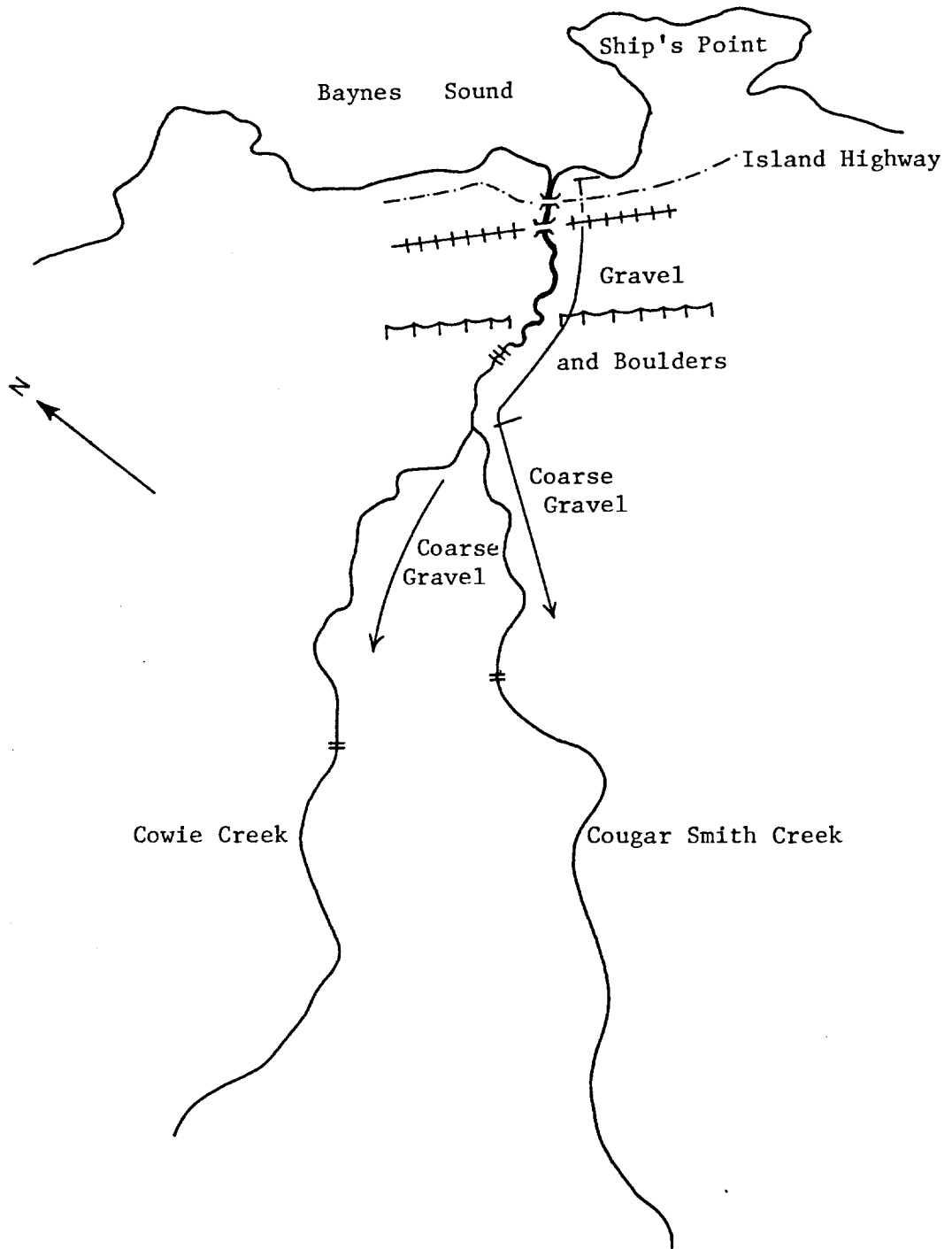
SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	mainly mid to upper reaches
CHUM	lower reaches
PINK (ODD YR)	
PINK (EVEN YR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

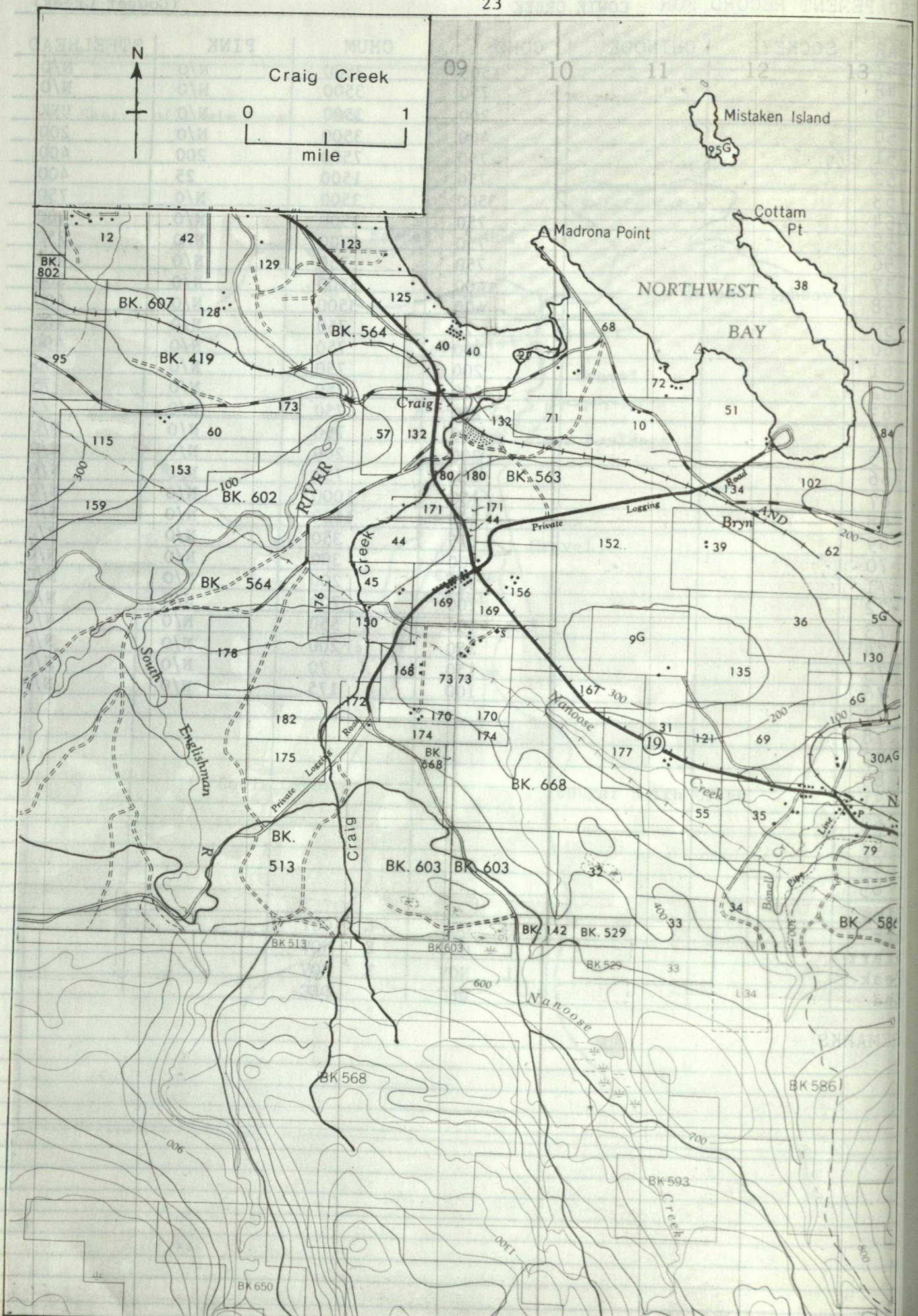
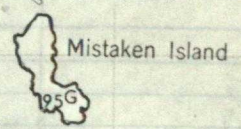
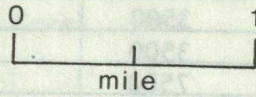
- * Cougar Smith, a tributary of Cowie Cr., has a total accessible length of 1 mi. with an average width of 21 ft. and contributes approx. 12,320 sq. yds. of wetted area (included above), this being 25% fine, 25% coarse, and 50% boulder. Impassable falls, 1 mi. above junction with Cowie Cr., 20 ft. vertical drop. Gradient and temperature comparable to Cowie Cr.
- Best gravel areas exist in Cowie Cr. from 1 - 2 mi.
- Water levels are very low during summer months.
- In 1970, the winter works stream clearing crew removed fallen trees, logs and forest debris from the stream.

Sketch of Cowie Creek, 1968





Craig Creek



NAME OF STREAM CRAIG CREEK

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows N. into Str. of Georgia, SE. of Parksville, Nanoose Dist.

POSITION 49 124 SE.

LENGTH 2.0 MI. WIDTH 10 FT. DRAINAGE 5.9 SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE 22 FINE 23

SILT & SAND 49 UNCLASSIFIED pools 6

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	0.0 - 0.5 mi.
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	0.5 - 2.0 mi.

WETTED AREA 11616 SQ. YD. SPAWNING AREA 5200 SQ. YD.

DISCHARGE _____ CFS MAX. _____ MIN

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

Beaver dams (broached as required).

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	largely from 0.5 mi. to E & N Railroad Bridge (1.5 mi.)
CHUM	
PINK (ODD YR)	
PINK (EVEN YR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- * Partially spring-fed, "7 Springs" area, approx. 2 mi. from mouth.
- * Lowermost half mi. of creek is swamp.
- * A small stream with good gravel up to the vicinity of Highway 19. (1973)
- * Extensive land clearing in the headwater locality has aggravated low flows during acute summer - early fall drought conditions. This has caused additional environmental stress for the coho juveniles rearing in this creek. The land clearing is preliminary to developments similar to the present subdivisions adjacent to the swamp and tidewater. (1974)
- * In 1974, an L.I.P. grant was activated. Improved definition of the creek in the swamp area was their main accomplishment.

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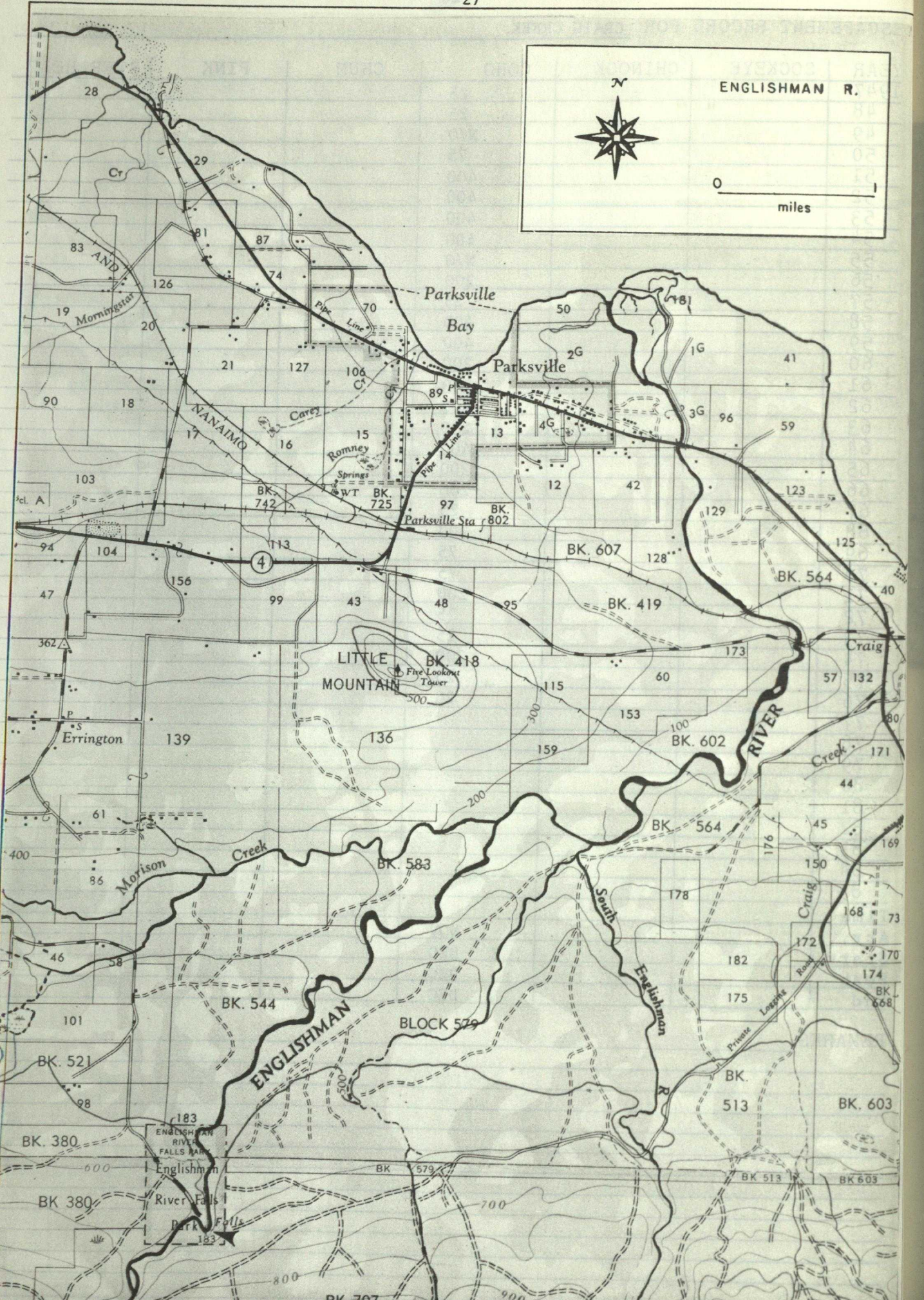
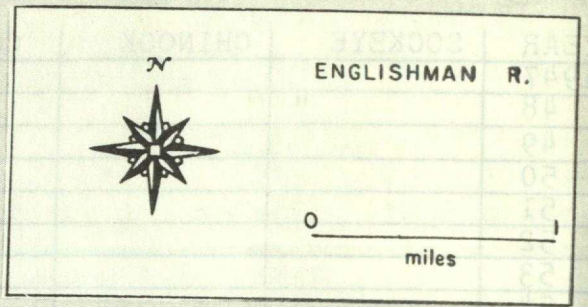
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NAME OF STREAM ENGLISHMAN RIVER

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows N. into Str. of Georgia, E. of Parksville, Nanoose Dist.

POSITION 49 124 SE.

LENGTH 10.0 MI. WIDTH 130 FT. DRAINAGE 110.5 SQ. MI.

COMPOSITION: BEDROCK 8 BOULDER 69 COARSE 12 FINE 5

SILT & SAND _____ UNCLASSIFIED pools 6

GRADIENT:

FALL IN FT/000

0.0 - 2.5	0.0 - 5.8 mi.
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	5.8 - 10.0 mi.

WETTED AREA 762608 SQ. YD. SPAWNING AREA 130000 SQ. YD.

DISCHARGE 309* CFS MAX 3680 cfs 15/02/16* MIN 5.0 cfs 04/09/14*

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT

- Impassable falls at 10.0 mi. consists of a lower falls (approx. 20 ft. vertical drop) and an upper falls (approx. 50 ft. vertical drop). These falls are separated by a series of smaller falls and pools in a 300 yd. long gorge. The overall drop is approx. 100 ft.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	few "Creek Sockeye" in pool below falls
CHINOOK	mid reaches to falls
COHO	scattered throughout
CHUM	lower reaches
PINK (ODD YR)	
PINK (EVEN YR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

- From aerial observation it would appear that suitable spawning and rearing conditions exist for eight mi. above the falls. However, due to clear logging in some areas the environment may be endangered for salmon production. Theoretical potential for coho is 5600.

GENERAL REMARKS:

- There has been some gravel removal near mouth.
- The watershed has been heavily deforested by logging over many years and the river is especially vulnerable to winter flooding and summer low flows (usually acute).
- Land developments show a steady increase along the lower river's west bank.
- Accessible tributaries: South Englishman R., Morison Cr.

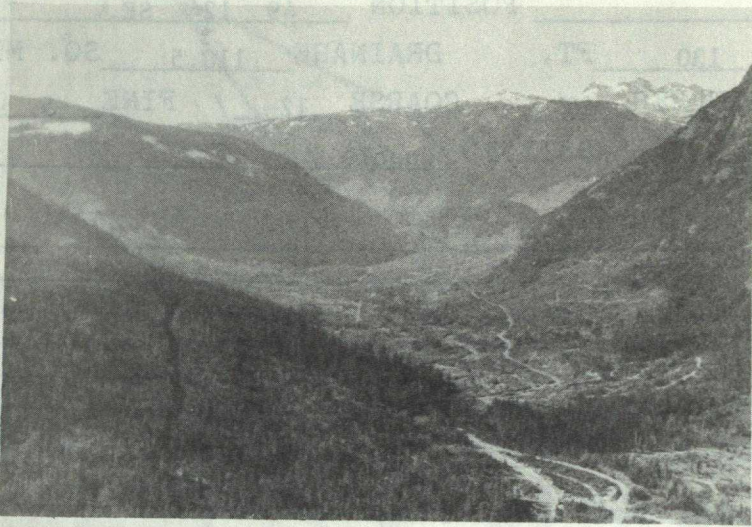
* For years 1914 - 1917.

NAME OF STREAM ENGLISHMAN RIVER

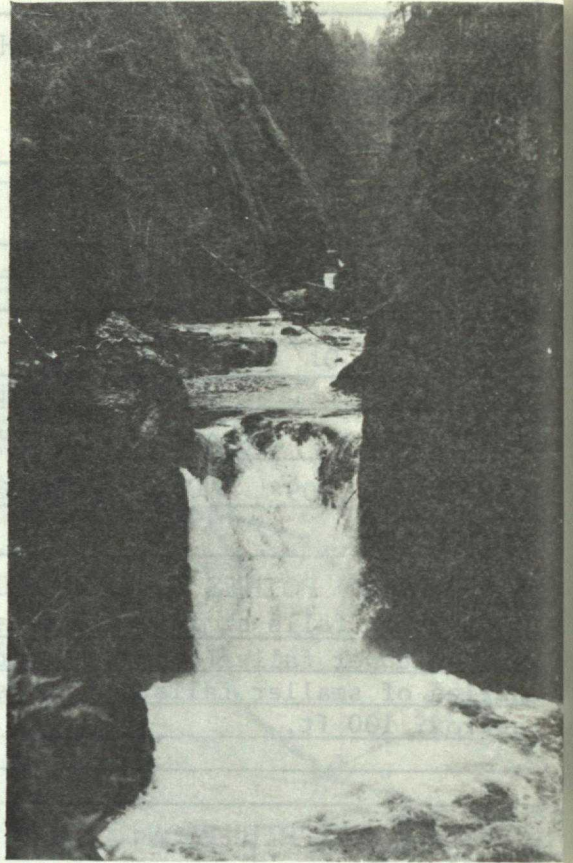
CONSERVATION DISTRICT

STATISTICAL AREA

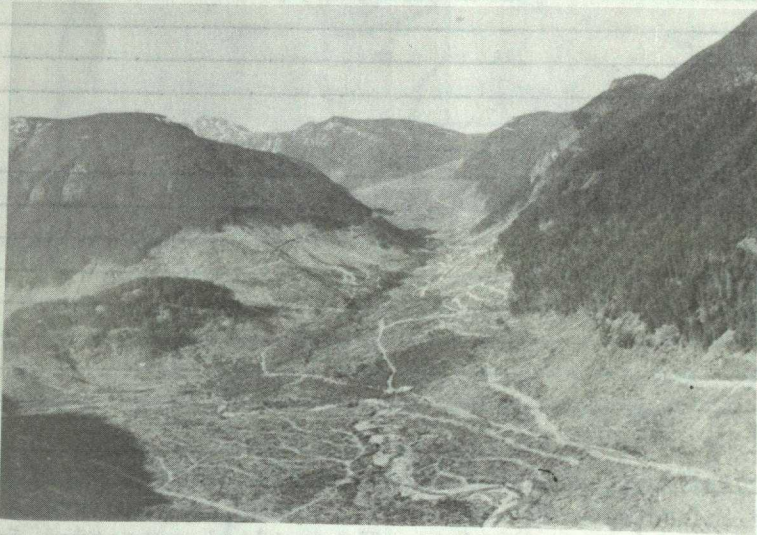
LOCATION OF MOUTH Flows N. into Sec. of Co. of Georgia, E. of Parkville, Hancock Co., Ga.



Upper watershed area above falls



Lower falls area

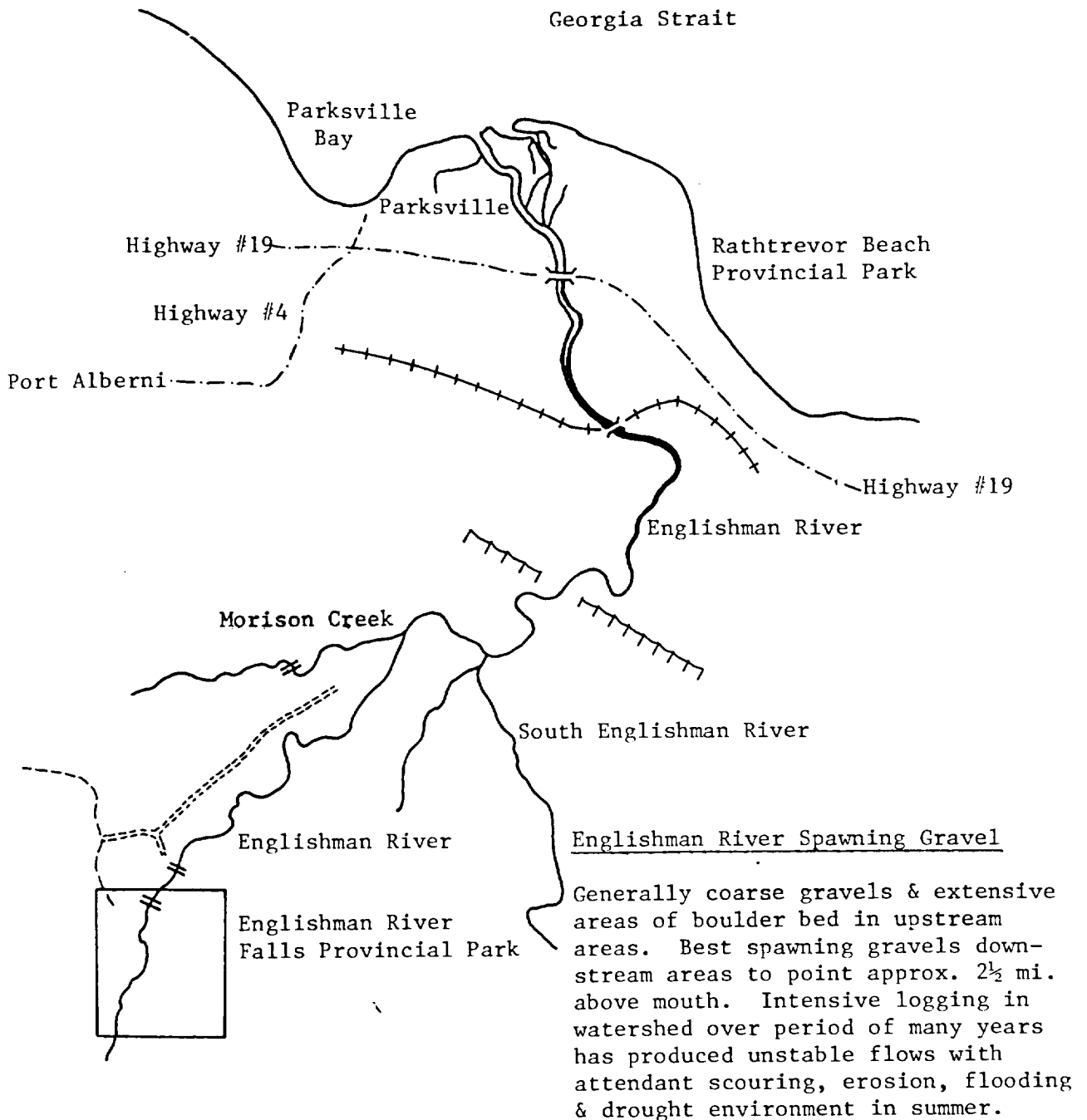


Upper watershed area above falls

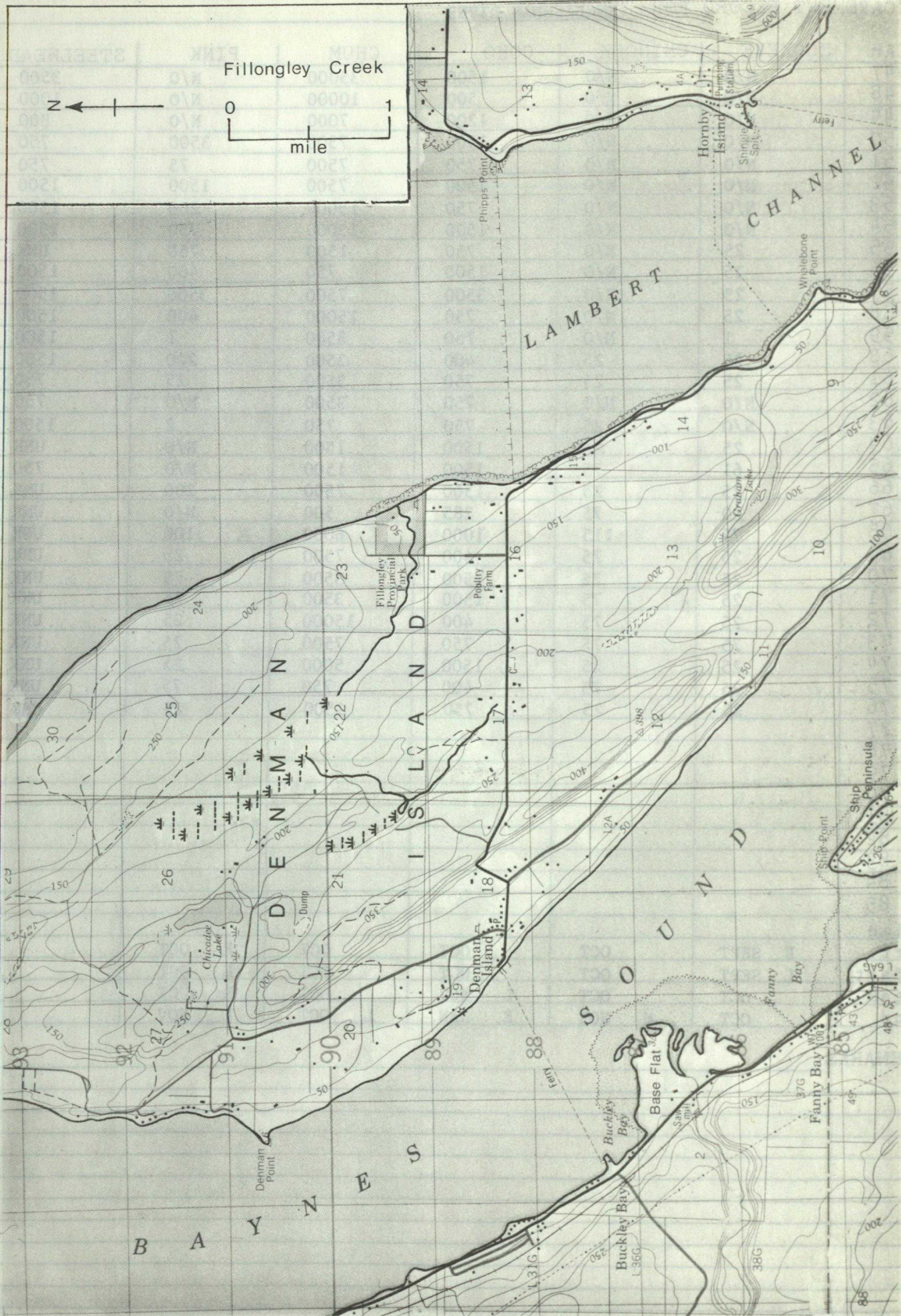
GENERAL REMARKS:

- There has been some gravel removal near mouth.
- The watershed has been heavily deforested by logging over many years and the river is especially vulnerable to winter flooding and summer low flows (usually spring).
- Land developments show a steady increase along the lower river valley.
- Accessible riparian areas south of Parkville, Ga.

Sketch of Englishman River, 1968



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NAME OF STREAM _____ (Fillongley Creek)

CONSERVATION DISTRICT 3 STATISTICAL AREA 14LOCATION OF MOUTH Flows SE. into Lambert Chan., E. side of Denman I., NanaimoDist. _____ POSITION 49 124 NW.LENGTH 1.4 MI. WIDTH _____ FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000

0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA _____ SQ. YD. SPAWNING AREA _____ SQ. YD.

DISCHARGE _____ CFS MAX _____ MIN _____

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

- Passable rapids through shale section at .75 mi.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	throughout
CHUM	
PINK (ODD YR)	
PINK (EVEN YR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____


GENERAL REMARKS:

- In the winter of 1970, a stream clearing crew removed impassable obstructions - log jams, beaver dams and debris to allow passage of salmon.
- The lower .25 mi. of the stream is affected by silting and tidal sludge. The upper tributaries and the low swampy area in the mainstem are also badly silted. (1970-74)
- Eighty percent of the stream has very low gradient. (1974)
- For the last five years, coho fry have been removed from the lower section of the stream and transplanted into Chickadee Lake. (1974)
- The lower section of the stream is dry during summer. (1970-74)
- Molestation by humans is a problem. (1970-75)

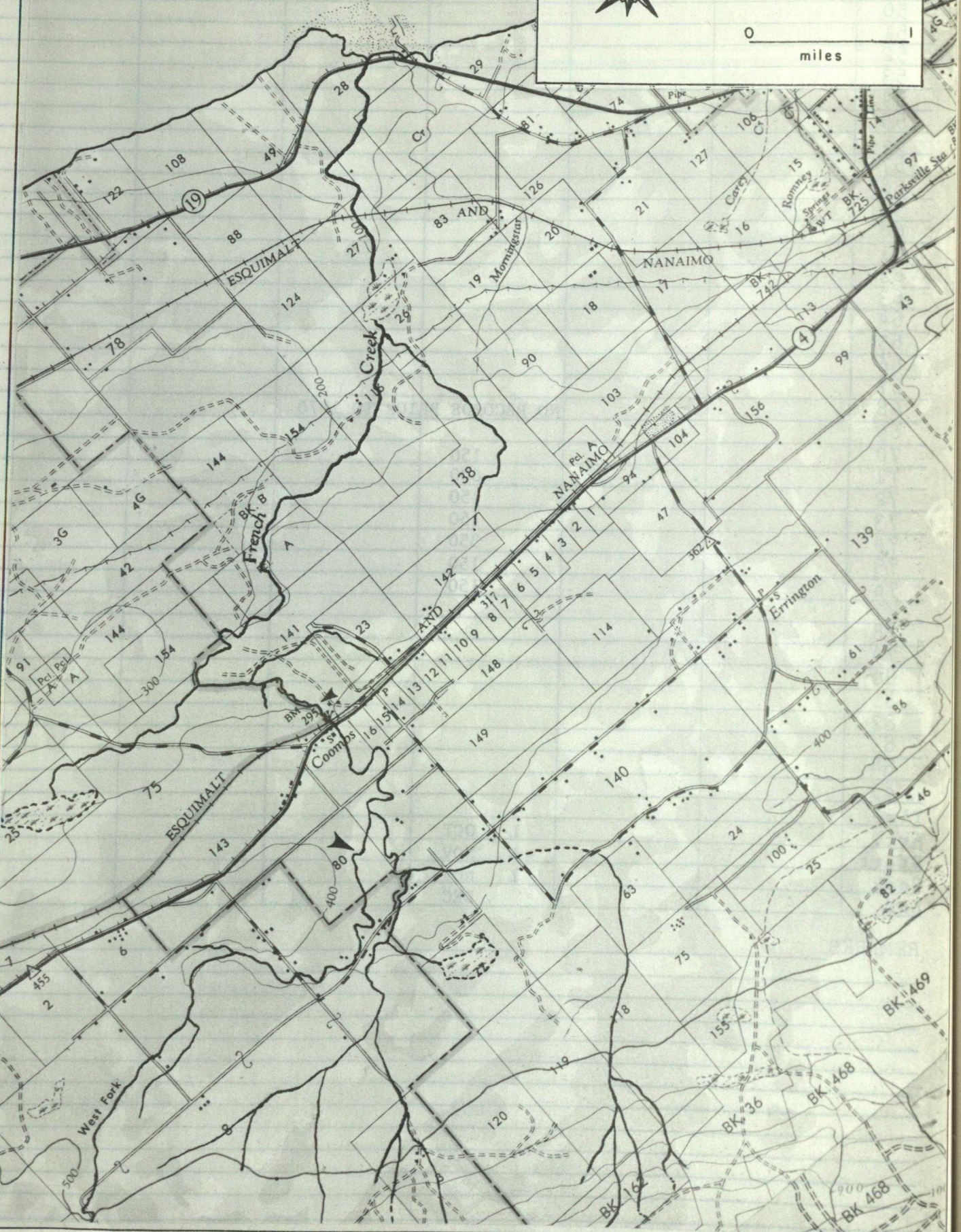
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FRENCH CREEK



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NAME OF STREAM FRENCH CREEK
 CONSERVATION DISTRICT 3 STATISTICAL AREA 14
 LOCATION OF MOUTH Flows NE. into Str. of Georgia, W. of Parksville, Nanoose Dist.
 POSITION 49 124 SE.
 LENGTH 9.2 MI. WIDTH 40 FT. DRAINAGE 28.2 SQ. MI.
 COMPOSITION: BEDROCK 19 BOULDER 19 COARSE 20 FINE 20
 SILT & SAND _____ UNCLASSIFIED pools 22

GRADIENT:

FALL IN FT/000

0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	1.4 - 4.1 mi.
7.5 - 10.0	5.9 - 8.2 mi.
> 10.0	0.0 - 1.4 mi., 4.1 - 5.9 mi., 8.2 - 9.2 mi.

WETTED AREA 215858 SQ. YD. SPAWNING AREA 86000 SQ. YD.

DISCHARGE _____ CFS MAX _____ MIN _____

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT

- Brook Falls, located 5.7 mi. from mouth (approx. $\frac{1}{4}$ mi. below Island Highway bridge at Coombs) was a partial obstruction but the problem was eliminated in 1960 by the construction of a fishway.
- Impassable falls, 20 ft. vertical drop, on west fork above highway, approx. $\frac{1}{4}$ mi. upstream from confluence with main stream.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	scattered to headwaters
CHUM	mainly lower reaches, scattered to Brook Falls
PINK (ODD YR)	
PINK (EVEN YR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- A sandstone ledge approx. 200 yds. above Brook Falls causes difficulty to fish passage during unfavourable flows (low).
- French Cr. is a very good coho producer. However, land development and related water withdrawal for domestic use and irrigation is causing severe stress in the coho rearing environment. Land development shows no sign of slackening but in fact is increasing each year particularly along the lower course of the creek and estuarial zone. Acute water shortages occur during summer. (1974)
- Floods in Jan. /73 caused severe erosion and bank undercutting in 25% of the stream. Severe scouring also occurred. Similar damage to the stream bed also occurred during floods in Dec. /72 and Jan. /68.

GENERAL REMARKS: (Cont'd)

- Good stands of second growth timber are now established in previously logged over headwater areas. (1969)

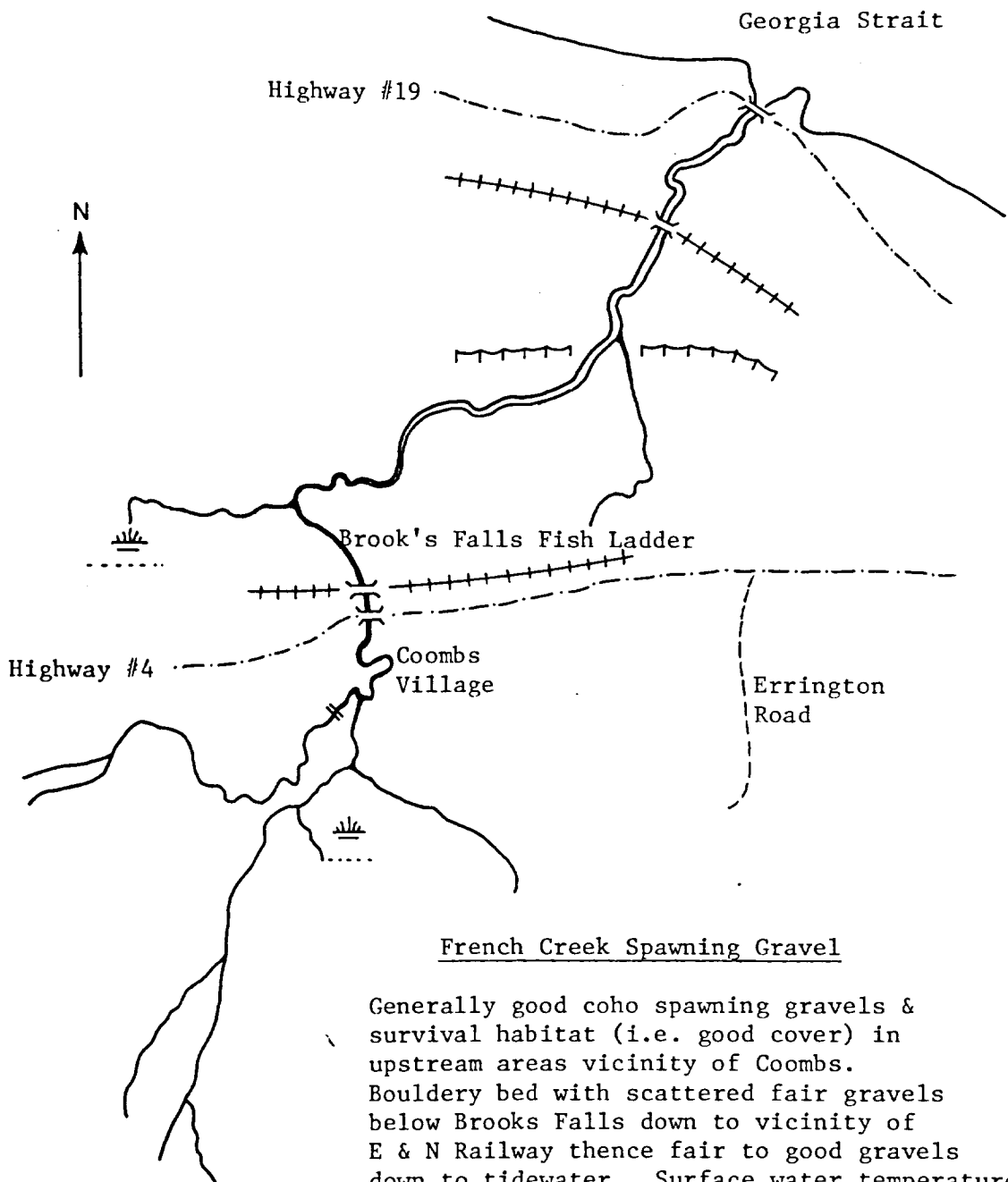
References:

Dayton & Knight Ltd. 1977. Contract for Construction and Completion of the French Creek Outfall - Stage II. 5900-85-F125, 45p & Appendix.

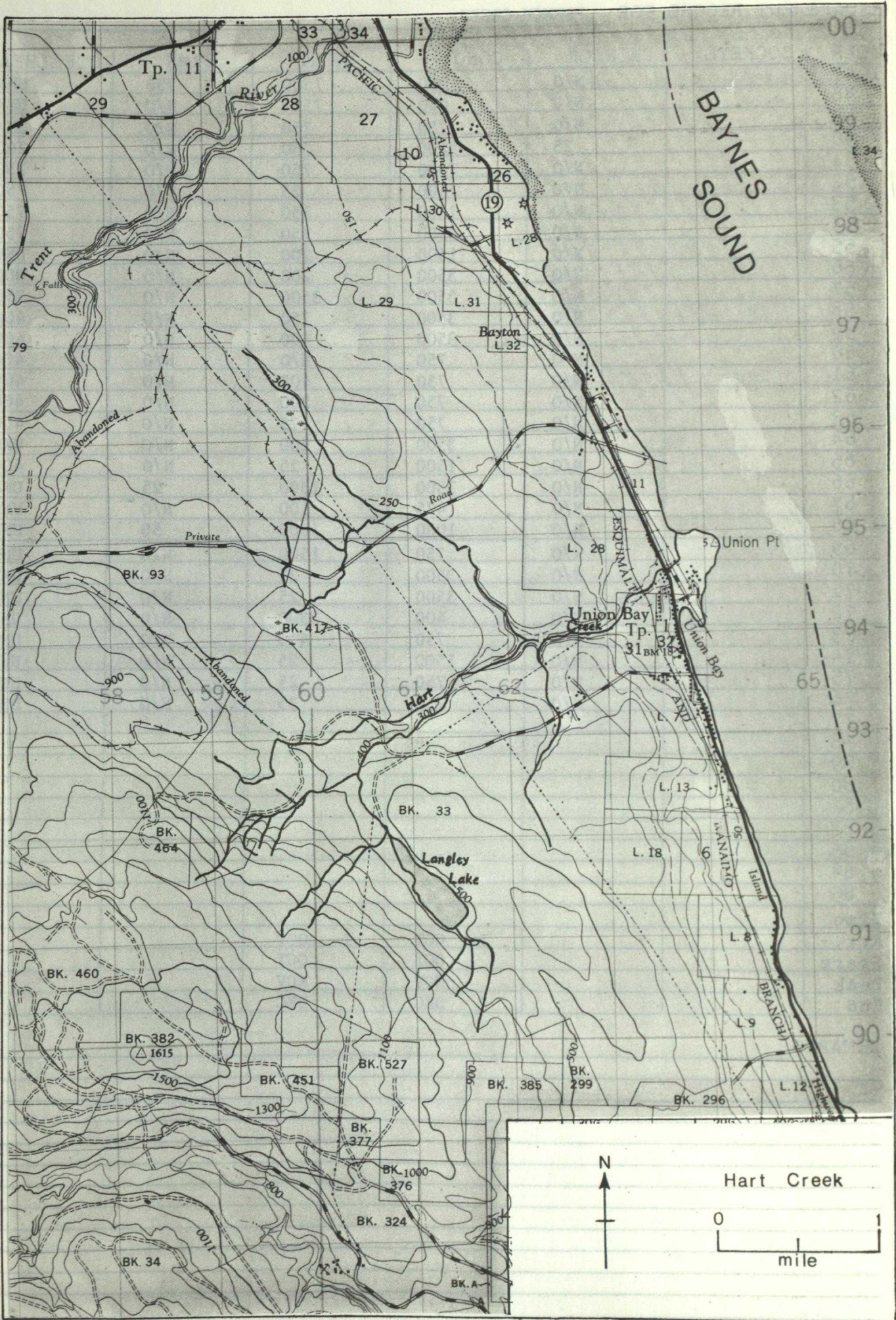


Fishway at falls area on mainstem

Sketch of French Creek, 1968

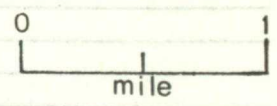
French Creek Spawning Gravel

Generally good coho spawning gravels & survival habitat (i.e. good cover) in upstream areas vicinity of Coombs. Bouldery bed with scattered fair gravels below Brooks Falls down to vicinity of E & N Railway thence fair to good gravels down to tidewater. Surface water temperature in upstream areas during summer are usually 2 - 3 degrees cooler than downstream areas near Highway #19.



BAYNES SOUND

Hart Creek



NAME OF STREAM HART CREEK (Washer Creek)

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Baynes Sd., N. of Union Bay, Nelson Dist.

POSITION 49 124 NW.

LENGTH 0.5 MI. WIDTH _____ FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000

0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA _____ SQ. YD. SPAWNING AREA _____ SQ. YD.

DISCHARGE _____ CFS MAX _____ MIN _____

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

Impassable falls at about 0.5 mi.

SPAWNING DISTRIBUTION:

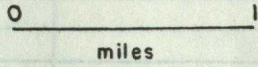
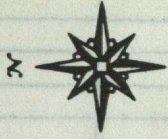
SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	throughout
CHUM	below Island Highway
PINK (ODD YR)	
PINK (EVEN YR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

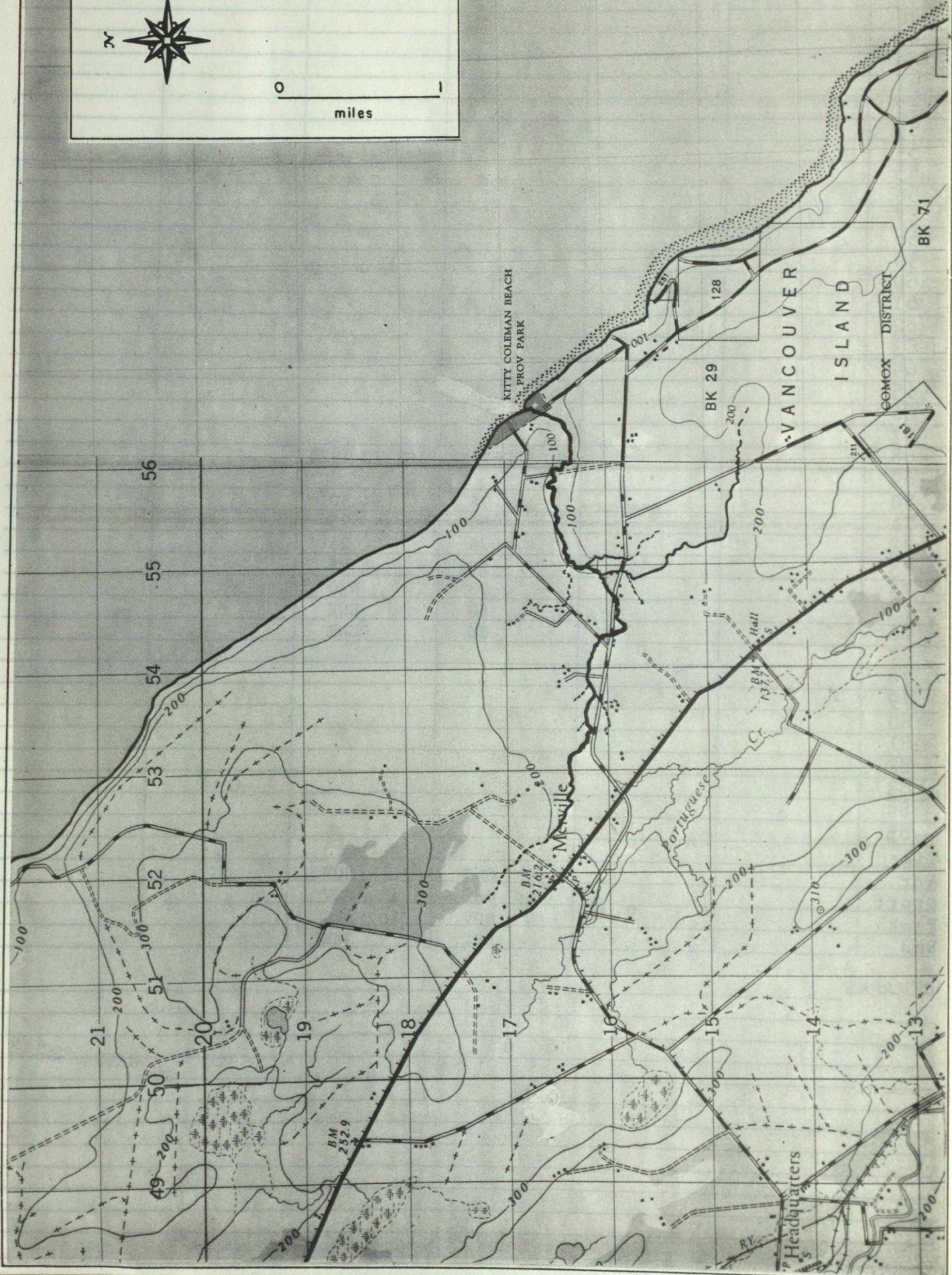
GENERAL REMARKS:

At one time, a coal washing and shipping facility was located near the estuary of this stream. The stream was contained by a wooden cribbing and utilized in the washing facility. Its outflow then ran a few hundred yards to the sea. This adjacent area was utilized as a tailings (slag) dump and through the years encroached upon the stream causing it to shift. It is now etching into the slag heap towards its original course. A man-made impoundment (Langley Lake) exists on this stream but its use as a water reservoir no longer functions as the water main is in a state of complete disrepair.

KITTY COLEMAN CR.



miles



NAME OF STREAM (Kitty Coleman Creek)

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows E. into Str. of Georgia, Comox Dist.

POSITION 49 125 NE.

LENGTH 1.4 MI. WIDTH 6 FT. DRAINAGE 4.0 SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 50 COARSE 25 FINE 25

SILT & SAND _____ UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000

0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	throughout

WETTED AREA 4928 SQ. YD. SPAWNING AREA 2400 SQ. YD.

DISCHARGE _____ CFS MAX _____ MIN _____

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

- Beaver dams in the middle and upper reaches of the stream broached as required.

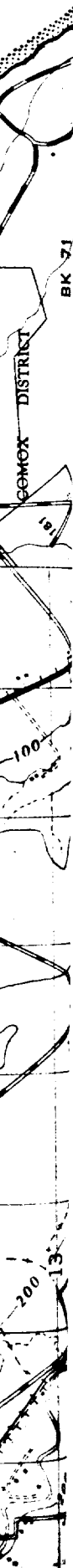
SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	throughout
CHUM	
PINK (ODD YR)	
PINK (EVEN YR)	
STEELHEAD	

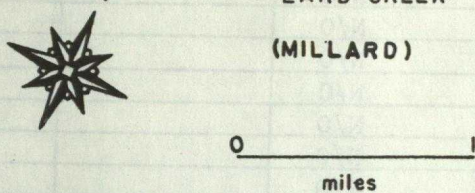
POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

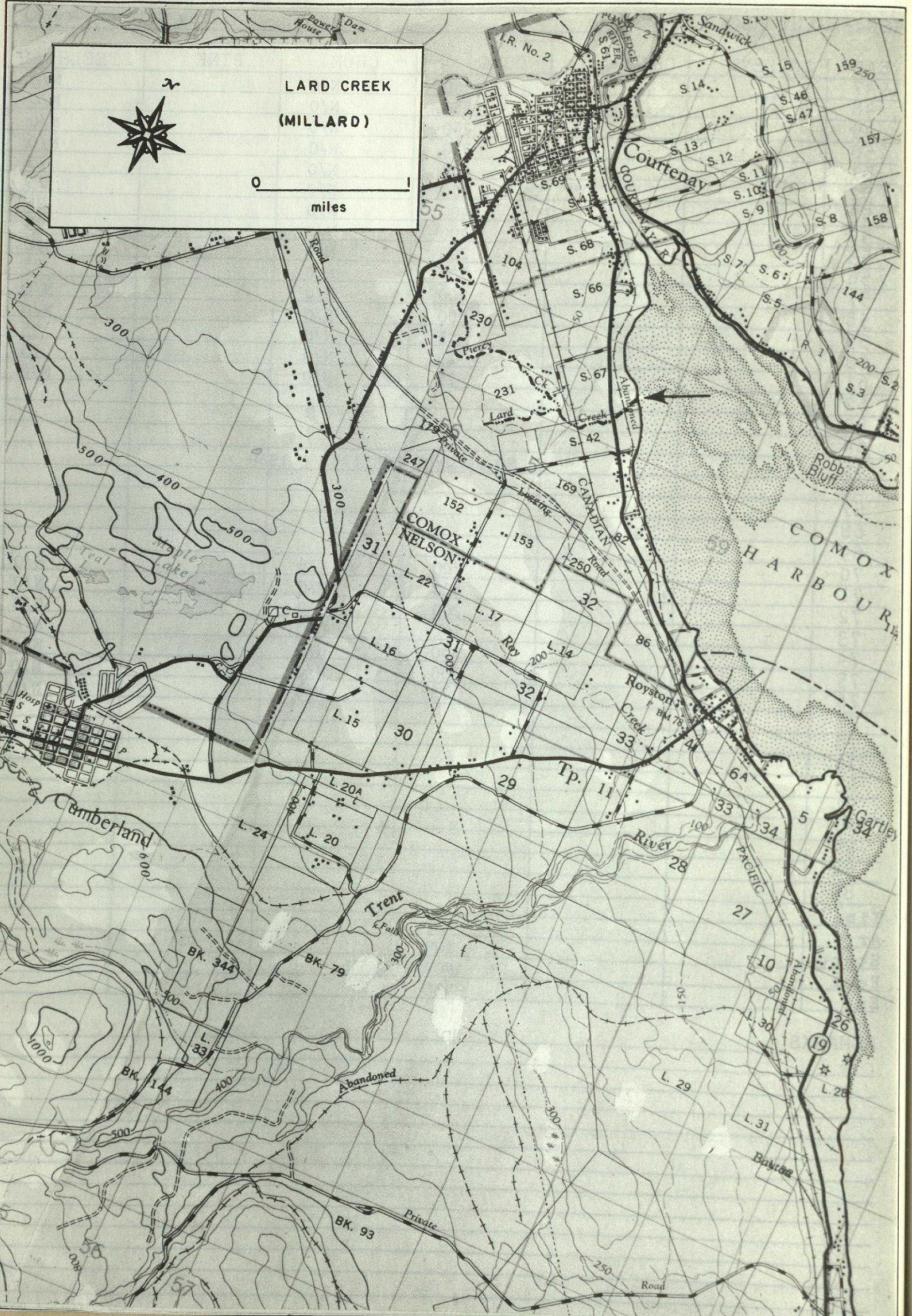
- The stream bed was dry at the mouth during the summers of 1970-75.



**LARD CREEK
(MILLARD)**



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NAME OF STREAM LARD CREEK (Millard Creek)

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows NE. into Comox Hr., Comox Dist.

POSITION 49 124 NW.

LENGTH 1.5 MI. WIDTH 15 FT. DRAINAGE 1.4 SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 5 COARSE 30 FINE 45

SILT & SAND 20 UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000

0.0 - 2.5

2.5 - 5.0

5.0 - 7.5

7.5 - 10.0

> 10.0 | throughout

WETTED AREA 13200 SQ. YD. SPAWNING AREA 9900 SQ. YD.

DISCHARGE _____ CFS MAX _____ MIN _____

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

SPAWNING DISTRIBUTION:

SECTION OF STREAM USED

SPECIES

SOCKEYE

CHINOOK

COHO

throughout

CHUM

PINK (ODD YR)

PINK (EVEN YR)

STEELHEAD

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- April water temperatures are approx. 10°F. warmer than those measured in other streams in this area.
- Stream environment being radically changed to the detriment of salmonids by the encroachment of man.
- In 1975, fry in one tributary were poisoned by farming effluent. The effluent tank has been re-located and this should not re-occur.
- Although water levels are low during summer, this stream never completely dries up. (1970)

ESCAPEMENT RECORD FOR LARD CREEK

(Millard Creek)

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			750	N/O	N/O	N/O
48			400	N/O	N/O	N/O
49			75	75	N/O	N/O
50			400	75	N/O	N/O
51			400	75	750	200
52			750	75	75	75
53			750	200	75	200
54			400	75	25	N/O
55			400	25	25	N/O
56			200	25	25	200
57			400	25	N/O	N/O
58			400	25	25	200
59			200	N/O	N/O	200
60			200	N/O	N/O	UNK
61			200	N/O	N/O	N/O
62			75	N/O	N/O	25
63			200	N/O	25	25
64			400	N/O	N/O	UNK
65			200	N/O	N/O	N/O
66			200	N/O	N/O	N/O
67			75	N/O	N/O	N/O
68			200	N/O	N/O	N/O
69			175	N/O	N/O	N/O
70			350	N/O	N/O	N/O
71			350	N/O	N/O	N/O
72			250	N/O	N/O	N/O
73			250	N/O	N/O	N/O
74			500	N/O	N/O	N/O
75			250	N/O	N/O	N/O
76			350	N/O	N/O	N/O
77						
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85						
Time						
Arr.			L	OCT		
Start			L	OCT		
Peak			L	NOV		
End				DEC		

REMARKS

NAME OF STREAM LITTLE RIVER

CONSERVATION DISTRICT 3 STATISTICAL AREA 14

LOCATION OF MOUTH Flows E. into Str. of Georgia, NW. of Kye Bay, Comox Dist.

POSITION 49 124 NW.

LENGTH 1.0 MI. WIDTH 13 FT. DRAINAGE 1.6 SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE 12 FINE 13

SILT & SAND 75 UNCLASSIFIED _____

GRADIENT:

FALL IN FT/1000

0.0 - 2.5

2.5 - 5.0

5.0 - 7.5

7.5 - 10.0

> 10.0

throughout

FLOODED AREA _____ SQ. YD. SPAWNING AREA _____ SQ. YD.

DISCHARGE _____ CFS MAX _____ MIN _____

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

Beaver dams, mid and upper reaches (broached as required).

SPAWNING DISTRIBUTION:

SPECIES SECTION OF STREAM USED

SOCKEYE _____

CHINOOK _____

COHO throughout

CHUM _____

PINK (ODD YR) _____

PINK (EVEN YR) _____

STEELHEAD _____

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- The stream environment is being changed by residential development, farming and airport activities, the coho population can be expected to diminish in time.

Irrigation and CFB Comox utilization result in low water levels and often cause sections in the lower reaches to dry up during summer.

- In the winter of 1972, a stream clearing crew cleared out old growth fir logs left by past logging operations and several beaver dams between Anderton Road and the beach. The severe build-up of silt caused by these obstructions was alleviated when they were removed.

- In 1975, the Lands Branch permitted utilization of unused springs in the area for irrigation thus resulting in more water for downstream flows.

Millery
Mural Be-
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GENERAL REMARKS: (Cont'd)

References:

Zirul, M.L. 1973. Little River near Comox, British Columbia:- Flooding Conditions and Possible Means for Correction. Dept. of Lands, Forests, and Water Resources. Unpublished report. 01217 43D or 0248269, 13p & Appendix.

ESCAPEMENT RECORD FOR LITTLE RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			1500			
48			750			
49			750			
50			750			
51			400			
52			750			
53			750			
54			400			
55			200			
56			400			
57			200			
58			400			
59			400			
60			200			
61			200			
62			200			
63			200			
64			400			
65			400			
66			400			
67			75			
68			150			
69			75			
70			350			
71			350			
72			125			
73			200			
74			500			
75			200			
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Time						
Arr.			L	OCT		
Start			E	NOV		
Peak			L	NOV		
End				DEC		

REMARKS