

SLOUGH 8A REFERENCE DATA
COMPILED FROM SUSITNA PROJECT
BIOLOGICAL REPORTS



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**Alaska Dept. of Fish & Game
Susitna Hydro Aquatic Studies**

SLOUGH 8A REFERENCE DATA
COMPILED FROM SUSITNA PROJECT
BIOLOGICAL REPORTS

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October 1984

FOR INTERNAL PROJECT USE ONLY

NOT FOR REFERENCE

INDEX

Resident and Anadromous Fish Data

- 1=Index counts
- 2=Catch per unit effort
- 3=Total population estimate
- 4=Spawning ground surveys
- 5=Weighted useable area
- 6=Habitat indice
- 7=Timing of salmon presence
- 8=Spawning areas maps
- 9=Escapement

Aquatic Habitat Data

- 1=WSEL vs Q
- 2=Surface area of aggregate type II
- 3=Habitat zone description
- pm=Planimetric map
- S=Substrate
- ST=Substrate water temperature
- OL=Open leads
- *=Winter data
- 4=Weighted useable area
- 5=Habitat index
- 6=WSEL
- 7=X-sectional elevation
- =Collected at chum salmon redds
- + =Collected at pink salmon redds
- x=Collected at sockeye salmon redds

Slough 8A

WATER QUALITY DATA

* Winter Data

Reference Number	Study Period	Water Temperature		D.O.	pH	Hardness	Total Alkali	Specific Conductance	Turbidity	Suspended Solids			Misc.
		Continuous	Periodic							Non-filterable	Settleable	Total	
7	80-81		✓	✓	✓			✓	✓				
8	81		✓	✓	✓			✓					
11	4-5/83		✓(Q+S)	✓(Q+S)	✓(Q+S)			✓(Q+S)					
20	82		✓	✓	✓			✓	✓				
20 (cont.)	Full suite of periodic W.Q. analyses including heavy metals.												
21	82		✓										
22	82		✓*	✓*	✓*			✓*	✓*				
29	83								✓				

Sketch 8A.

ST = substrate water temp,
 OL = open leads
 S = substrate

AQUATIC HABITAT DATA
 3 = Habitat Zone Description
 DM = planimetric Map; 2 = surface area of aggregate type II

Reference Number	Study Period	Surface Water Temp		Water Temperature		Up-welling	Stage	Dis-charge	Velocity	Water		Cross-Sectional Surveys	Ice Thickness	F/low	Misc
		Continuous	Periodic	Continuous	Periodic					Depth	Thalweg				
7	80-81						✓		✓	✓		✓(17 times)	✓		PTP
8	81							✓	✓	✓					
9	81-82											✓(17)			
11	81-82	✓													OL, S
13	82							✓				S-tracks	✓		S
14	82														ST
19	82		✓		✓				✓	✓					
20	82		✓		✓										
21	82	✓													
22	82								✓	*			*		S
24	83														2 map
26	83							✓						✓	6
27	83														7
28	83	✓								✓					
29	83	✓													
31	83														
34	83		✓		✓			✓						✓	6
50	75														

-X, S

-X, ✓

-X, ✓

-X, ✓

-X, ✓

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Appendix Table B-1 Summary of intragravel and corresponding surface water quality data collected along the left bank of specific sites in sloughs 8A, 9, 11 and 21 during early (April 15-18) and late (April 29-May 2) sampling periods in spring, 1983.

Slough	Site	Sampling Period	Slough Bank	Variable	Intragravel Water					Surface Water				
					Min	Mean	Max	SD	N	Min	Mean	Max	SD	N
Slough 8A	A	Early	Left	Dissolved Oxygen	4.0	4.3	4.6	0.2	10	7.4	9.5	10.5	1.0	10
	A	Late	Left	Dissolved Oxygen	4.0	4.4	4.6	0.2	10	10.5	11.1	11.3	0.3	10
	A	Early	Left	Water Temperature	2.0	2.3	2.5	0.2	10	2.0	2.4	3.0	0.384	10
	A	Late	Left	Water Temperature	3.0	3.6	5.8	0.8	10	4.2	4.6	5.0	0.245	10
	A	Late	Left	Specific Conductance	236	254	258	6	10	178	183	188	3.0	10
	A	Early	Left	pH	7.2		7.3	--	10	7.1		7.3	--	10
	A	Late	Left	pH	6.4		6.6	--	5	6.4		6.8	--	5
Slough 9	B	Early	Left	Dissolved Oxygen	5.5	6.2	6.8	0.4	10	9.0	9.5	10.0	0.3	10
	B	Late	Left	Dissolved Oxygen	5.3	6.0	6.6	0.5	10	10.4	10.7	10.9	0.1	10
	C	Late	Left	Dissolved Oxygen	1.3	3.3	6.4	27	3	8.0	8.1	8.2	0.1	3
	B	Early	Left	Water Temperature	3.0	3.9	4.9	0.6	10	5.0	5.2	5.4	0.129	10
	B	Late	Left	Water Temperature	3.5	4.0	4.5	0.3	10	6.0	6.3	6.5	0.204	10
	C	Late	Left	Water Temperature	4.0	4.1	4.2	0.1	3	5.2	5.6	6.2	0.513	3
	B	Late	Left	Specific Conductance	201	217	236	15	10	153	157	163	3.0	10
	C	Late	Left	Specific Conductance	218	242	257	21	3	192	196	198	3.0	3
	B	Early	Left	pH	6.5		7.0	--	10	6.5		7.0	--	10
	B	Late	Left	pH	6.2		6.4	--	5	5.9		6.3	--	5
Slough 11	A	Early	Left	Dissolved Oxygen	7.4	7.9	8.4	0.3	10	11.3	11.5	11.6	0.1	10
	A	Late	Left	Dissolved Oxygen	6.7	7.1	7.5	0.3	10	10.9	11.1	11.2	0.1	10
	B	Early	Left	Dissolved Oxygen	6.2	9.0	10.5	1.1	10	9.8	10.2	11.0	6.4	10
	B	Late	Left	Dissolved Oxygen	8.1	8.9	9.2	0.3	10	10.8	11.1	11.3	0.2	10
	A	Early	Left	Water Temperature	2.5	2.8	3.0	0.1	10	3.0	3.1	3.2	0.103	10
	A	Late	Left	Water Temperature	3.5	4.7	7.2	1.0	10	7.5	7.8	8.2	0.271	10
	B	Early	Left	Water Temperature	2.0	2.1	2.2	0.1	10	2.0	2.0	2.0	0.000	10
	B	Late	Left	Water Temperature	3.5	4.0	4.5	0.4	10	6.0	6.1	6.2	0.097	10
	A	Late	Left	Specific Conductance	245	260	268	6	10	241	245	247	2	10
	B	Early	Left	Specific Conductance	258	268	271	4	8	198	262	285	25	9
	A	Early	Left	pH	7.1		7.3	--	10	7.1		7.2	--	10
Slough 21	A	Early	Left	Dissolved Oxygen	2.3	6.1	6.9	1.4	10	6.2	8.5	9.4	1.1	10
	A	Late	Left	Dissolved Oxygen	6.7	7.0	7.4	0.2	9	7.3	9.2	10.2	1.1	9
	A	Early	Left	Water Temperature	2.5	3.0	3.5	0.3	10	2.5	4.5	5.5	1.047	10
	A	Late	Left	Water Temperature	2.5	2.9	4.0	0.5	9	2.5	4.8	6.8	1.571	9
	A	Late	Left	Specific Conductance	236	242	248	4	9	245	251	262	5	9
	A	Early	Left	pH	6.6		7.1	--	10	6.6		7.2	--	10
	A	Late	Left	pH	6.6		6.8	--	5	6.6		6.8	--	5

Appendix Table B-2 Summary of Intragravel and corresponding surface water quality data collected along the right bank of specific sites in sloughs 8A, 9, 11 and 21 during early (April 15-18) and late (April 29-May 2) sampling periods in spring, 1983.

Slough	Site	Sampling Period	Slough Bank	Variable	Intragravel Water					Surface Water				
					Min	Mean	Max	SD	N	Min	Mean	Max	SD	N
Slough 8A	A	Early	Right	Dissolved Oxygen	4.2	5.0	9.2	1.5	10	10.2	11.1	11.6	0.4	10
	A	Late	Right	Dissolved Oxygen	4.4	4.9	7.9	1.1	10	11.3	11.4	11.6	0.1	10
	A	Early	Right	Water Temperature	0.4	1.8	2.0	0.5	10	0.3	0.5	1.8	0.478	10
	A	Late	Right	Water Temperature	2.2	2.9	3.2	0.3	10	2.0	3.7	4.5	0.696	10
	A	Late	Right	Specific Conductance	215	246	255	11	10	164	179	184	6	10
	A	Early	Right	pH	7.2		7.3	--	10	7.1		7.3	--	10
	A	Late	Right	pH	6.7		6.8	--	5	6.6		6.8	--	5
Slough 9	A	Early	Right	Dissolved Oxygen	3.7	4.9	6.7	0.9	10	9.3	9.6	9.8	0.2	10
	A	Late	Right	Dissolved Oxygen	7.1	8.8	10.8	1.3	10	10.9	11.0	11.0	0.1	10
	A	Early	Right	Water Temperature	4.1	4.3	5.2	0.4	10	5.1	5.3	5.3	0.070	10
	A	Late	Right	Water Temperature	3.5	4.0	5.0	0.5	10	5.8	6.0	6.2	0.133	10
	A	Late	Right	Specific Conductance	128	156	186	19	10	146	153	156	3	10
	A	Early	Right	pH	6.8		7.1		10	6.8		7.0	--	10
	A	Late	Right	pH	6.2		6.6		5	6.3		6.8	--	5
Slough 11	B	Early	Right	Dissolved Oxygen	9.5	10.0	10.8	0.4	10	9.8	10.3	10.6	0.2	10
	B	Late	Right	Dissolved Oxygen	9.4	9.8	10.4	0.3	10	10.3	10.8	11.0	0.2	10
	C	Early	Right	Dissolved Oxygen	1.3	4.9	11.2	4.5	4	11.0	11.6	12.4	0.6	4
	C	Late	Right	Dissolved Oxygen	1.1	4.3	10.2	4.1	4	10.5	10.6	10.8	0.1	4
	B	Early	Right	Water Temperature	1.8	2.1	2.2	0.1	10	1.8	2.0	2.2	0.094	10
	B	Late	Right	Water Temperature	3.5	4.2	4.8	0.4	10	5.2	5.7	6.2	0.357	10
	C	Early	Right	Water Temperature	2.2	2.4	2.5	0.1	4	1.8	1.9	2.0	0.100	4
	C	Late	Right	Water Temperature	4.0	4.7	5.2	0.6	4	5.2	5.4	5.5	0.173	4
	B	Early	Right	Specific Conductance	267	273	280	5	10	267	269	271	2	10
	C	Late	Right	Specific Conductance	159	191	234	35	4	232	239	245	5	4
	B	Early	Right	pH	6.8		6.8	--	1	6.3		6.3	--	1
	C	Early	Right	pH	6.2		6.4	--	4	6.3		6.4	--	4
	Slough 21	A	Early	Right	Dissolved Oxygen	5.0	7.6	8.8	1.1	10	9.5	9.8	10.0	0.2
A		Late	Right	Dissolved Oxygen	7.3	7.7	8.4	0.4	10	10.3	10.5	10.6	0.1	10
A		Early	Right	Water Temperature	4.0	4.4	5.0	0.3	10	5.2	5.2	5.2	0.000	10
A		Late	Right	Water Temperature	3.8	4.1	4.5	0.3	10	6.8	7.1	7.5	0.207	10
A		Late	Right	Specific Conductance	174	201	216	16	10	238	243	248	3	10
A		Early	Right	pH	6.9		7.1	--	10	6.7		7.2	--	10
A		Late	Right	pH	6.8		6.8	--	5	6.7		6.9	--	5

Appendix Table B-3 Summary of Intragravel and corresponding surface water quality data collected at specific sites in sloughs 8A, 9, 11 and 21 during early (April 15-18) and late (April 29-May 2) sampling periods in spring, 1983.

Slough	Site	Sampling Period	Variable	Intragravel Water					Surface Water				
				Min	Mean	Max	SD	N	Min	Mean	Max	SD	N
Slough 8A	A	Early	Dissolved Oxygen	4.0	4.6	9.2	1.1	20	7.4	10.3	11.6	1.1	20
	A	Late	Dissolved Oxygen	4.0	4.6	7.9	0.8	20	10.5	11.2	11.6	0.2	20
	A	Early	Water Temperature	0.4	2.0	2.5	0.5	20	0.3	1.4	3.0	1.0	20
	A	Late	Water Temperature	2.2	3.2	5.8	0.7	20	2.0	4.1	5.0	0.7	20
	A	Late	Specific Conductance	215	250	258	10	20	164	181	188	5	20
	A	Early	pH	7.2		7.3	--	20	7.1		7.3	--	20
	A	Late	pH	6.4		6.8	--	10	6.4		6.8	--	10
Slough 9	A	Early	Dissolved Oxygen	3.7	4.9	6.7	0.9	10	9.3	9.6	9.8	0.2	10
	A	Late	Dissolved Oxygen	7.1	8.8	10.8	1.3	10	10.9	11.0	11.0	0.1	10
	B	Early	Dissolved Oxygen	5.5	6.2	6.8	0.4	10	9.0	9.5	10.0	0.3	10
	B	Late	Dissolved Oxygen	5.3	6.0	6.6	0.5	10	10.4	10.7	10.9	0.1	10
	C	Late	Dissolved Oxygen	1.3	3.3	6.4	2.7	3	8.0	8.1	8.2	0.1	3
	A	Early	Water Temperature	4.1	4.3	5.2	0.4	10	5.1	5.3	5.3	0.1	10
	A	Late	Water Temperature	3.5	4.0	5.0	0.5	10	5.8	6.0	6.2	0.1	10
	B	Early	Water Temperature	3.0	3.9	4.9	0.6	10	5.0	5.2	5.4	0.1	10
	B	Late	Water Temperature	3.5	4.0	4.5	0.3	10	6.0	6.3	6.5	0.2	10
	C	Late	Water Temperature	4.0	4.1	4.2	0.1	3	5.2	5.6	6.2	0.5	3
	A	Late	Specific Conductance	128	156	186	19	10	146	153	156	3	10
	B	Late	Specific Conductance	201	217	236	15	10	153	157	163	3	10
	C	Late	Specific Conductance	218	242	257	21	3	192	196	198	3	3
	A	Early	pH	6.8		7.1	--	10	6.8		7.0	--	10
	A	Late	pH	6.2		6.6	--	5	6.3		6.8	--	5
	B	Early	pH	6.5		7.0	--	10	6.5		7.0	--	10
	B	Late	pH	6.2		6.4	--	5	5.9		6.3	--	5
Slough 11	A	Early	Dissolved Oxygen	7.4	7.9	8.4	0.3	10	11.3	11.5	11.6	0.1	10
	A	Late	Dissolved Oxygen	6.7	7.1	7.5	0.3	10	10.9	11.1	11.2	0.1	10
	B	Early	Dissolved Oxygen	6.2	9.5	10.8	1.0	20	9.8	10.3	11.0	0.3	20
	B	Late	Dissolved Oxygen	8.1	9.3	10.4	0.6	20	10.3	10.9	11.3	0.2	20
	C	Early	Dissolved Oxygen	1.3	4.9	11.2	4.5	4	11.0	11.6	12.4	0.6	4
	C	Late	Dissolved Oxygen	1.1	4.3	10.2	4.1	4	10.5	10.6	10.8	0.1	4
	A	Early	Water Temperature	2.5	2.8	3.0	0.1	10	3.0	3.1	3.2	0.1	10
	A	Late	Water Temperature	3.5	4.7	7.2	1.0	10	7.5	7.8	8.2	0.3	10
	B	Early	Water Temperature	1.8	2.1	2.2	0.1	20	1.8	2.0	2.2	0.1	20
	B	Late	Water Temperature	3.5	4.1	4.8	0.4	20	5.2	5.9	6.2	0.3	20
	C	Early	Water Temperature	2.2	2.4	2.5	0.1	4	1.8	1.9	2.0	0.1	4
	C	Late	Water Temperature	4.0	4.7	5.2	0.6	4	5.2	5.4	5.5	0.2	4
	A	Late	Specific Conductance	245	260	268	6	10	241	245	247	2	10
	B	Early	Specific Conductance	258	270	280	5	18	198	265	285	17	19
	C	Late	Specific Conductance	159	191	234	35	4	232	239	245	5	4
	A	Early	pH	7.1		7.3	--	10	7.1		7.2	--	10
	B	Early	pH	6.8		6.8	--	1	6.3		6.3	--	1
	C	Early	pH	6.2		6.4	--	4	6.3		5.4	--	4

Appendix Table B-4 Summary of intragravel and corresponding surface water quality data collected in sloughs 8A, 9, 11 and 21 during early (April 15-18) and late (April 29-May 2) sampling periods in spring, 1983.

Slough	Sampling Period	Variable	Intragravel Water					Surface Water				
			Min	Mean	Max	SD	N	Min	Mean	Max	SD	N
Slough 8A	Early	Dissolved Oxygen	4.0	4.6	9.2	1.1	20	7.4	10.3	11.6	1.1	20
	Late	Dissolved Oxygen	4.0	4.6	7.9	0.8	20	10.5	11.2	11.6	0.2	20
	Early	Water Temperature	0.4	2.0	2.5	0.5	20	0.3	1.4	3.0	1.0	20
	Late	Water Temperature	2.2	3.2	5.8	0.7	20	2.0	4.1	5.0	0.7	20
	Late	Specific Conductance	215	250	258	10	20	164	181	188	5	20
	Early	pH	7.2		7.3	--	20	7.1		7.3	--	20
	Late	pH	6.4		6.8	--	10	6.4		6.8	--	10
Slough 9	Early	Dissolved Oxygen	3.7	5.6	6.8	0.9	20	9.0	9.6	10.0	0.2	20
	Late	Dissolved Oxygen	1.3	6.9	10.8	2.3	23	8.0	10.5	11.0	1.0	23
	Early	Water Temperature	3.0	4.1	5.2	0.5	20	5.0	5.2	5.4	0.1	20
	Late	Water Temperature	3.5	4.0	5.0	0.4	23	5.2	6.1	6.5	0.3	23
	Late	Specific Conductance	128	194	257	39	23	146	160	198	14	23
	Early	pH	6.5		7.1	--	20	6.5		7.0	--	20
	Late	pH	6.2		6.6	--	10	5.9		6.8	--	10
Slough 11	Early	Dissolved Oxygen	1.3	8.5	11.2	2.2	34	9.8	10.8	12.4	0.7	34
	Late	Dissolved Oxygen	1.1	5.1	10.4	2.2	34	10.3	11.0	11.3	0.2	34
	Early	Water Temperature	1.8	2.3	3.0	0.4	34	1.8	2.3	3.2	0.5	34
	Late	Water Temperature	3.5	4.3	7.2	0.7	34	5.2	6.4	8.2	1.0	34
	Early	Specific Conductance	258	270	280	5	18	198	265	285	17	19
	Late	Specific Conductance	159	240	268	87	14	232	243	247	4	14
	Early	pH	6.2		7.3	--	15	6.3		7.2	--	15
Slough 21	Early	Dissolved Oxygen	2.3	6.9	8.8	1.4	20	6.2	9.1	10.0	1.0	20
	Late	Dissolved Oxygen	6.7	7.4	8.4	8.5	19	7.3	9.9	10.6	1.0	19
	Early	Water Temperature	2.5	3.7	5.0	0.8	20	2.5	4.8	5.5	0.8	20
	Late	Water Temperature	2.5	3.5	4.5	0.7	19	2.5	6.0	7.5	1.6	19
	Late	Specific Conductance	174	221	248	24	19	238	247	262	6	19
	Early	pH	6.6		7.1	--	20	6.6		7.2	--	20
	Late	pH	6.6		6.8	--	10	6.6		6.9	--	10

Appendix Table B-5. Intragravel and corresponding surface water quality measurements collected in Slough 8A (RM 125.9, Geographic Code S30N03W30BCD) of the Susitna River during two sampling periods (April 15-18 and April 29-May 2) in spring, 1983.

SITE	STANDPIPE NUMBER	SAMPLING DATE	SLOUGH BANK	INTRAGRAVEL				SURFACE WATER			
				pH	WATER TEMP(C)	D.O. (mg/l)	SPEC.COND. (umhos/cm)	pH	WATER TEMP(C)	D.O. (mg/l)	SPEC.COND. (umhos/cm)
A	01	830417	LEFT	7.3	2.0	4.4	---	7.3	2.0	10.4	---
A	02	830417	LEFT	7.2	2.0	4.2	---	7.3	2.2	9.2	---
A	03	830417	LEFT	7.2	2.2	4.3	---	7.3	2.0	10.5	---
A	04	830417	LEFT	7.2	2.2	4.5	---	7.2	2.5	7.4	---
A	05	830417	LEFT	7.2	2.5	4.6	---	7.3	2.5	9.5	---
A	06	830417	LEFT	7.2	2.5	4.4	---	7.3	2.2	10.4	---
A	07	830417	LEFT	7.2	2.5	4.2	---	7.2	2.2	9.5	---
A	08	830417	LEFT	7.2	2.5	4.3	---	7.3	3.0	8.4	---
A	09	830417	LEFT	7.2	2.5	4.3	---	7.2	3.0	9.4	---
A	10	830417	LEFT	7.2	2.5	4.0	---	7.1	2.0	10.2	---
A	01	830417	RIGHT	7.2	.4	9.2	---	7.3	.3	11.3	---
A	02	830417	RIGHT	7.2	1.8	4.5	---	7.2	.3	11.4	---
A	03	830417	RIGHT	7.3	1.8	4.8	---	7.3	.3	11.3	---
A	04	830417	RIGHT	7.2	2.0	4.4	---	7.2	.3	11.4	---
A	05	830417	RIGHT	7.2	1.8	4.5	---	7.2	.3	11.2	---
A	06	830417	RIGHT	7.2	2.0	4.8	---	7.2	.3	11.6	---
A	07	830417	RIGHT	7.2	1.8	4.6	---	7.2	.3	11.4	---
A	08	830417	RIGHT	7.2	2.0	4.2	---	7.1	.8	10.8	---
A	09	830417	RIGHT	7.2	2.0	4.4	---	7.1	.5	10.2	---
A	10	830417	RIGHT	7.2	2.0	4.4	---	7.2	1.8	10.6	---
A	01	830501	LEFT	6.4	5.8	4.3	236	6.4	5.0	10.5	178
A	02	830501	LEFT	6.4	3.8	4.6	255	6.5	5.0	11.0	181
A	03	830501	LEFT	6.4	3.8	4.3	252	6.6	4.5	11.2	181
A	04	830501	LEFT	6.5	3.2	4.3	257	6.8	4.5	10.9	188
A	05	830501	LEFT	6.6	3.2	4.4	257	6.8	4.5	11.3	184
A	06	830501	LEFT	---	3.2	4.4	257	---	4.5	11.3	184
A	07	830501	LEFT	---	3.0	4.3	258	---	4.5	11.3	181
A	08	830501	LEFT	---	3.2	4.5	257	---	4.5	11.3	184
A	09	830501	LEFT	---	3.2	4.4	257	---	4.5	11.2	184
A	10	830501	LEFT	---	3.2	4.0	257	---	4.2	11.2	186
A	01	830501	RIGHT	6.7	2.2	7.9	215	6.6	2.0	11.3	164
A	02	830501	RIGHT	6.8	2.8	4.6	249	6.8	3.5	11.3	183
A	03	830501	RIGHT	6.7	2.8	4.6	249	6.8	3.5	11.3	183
A	04	830501	RIGHT	6.8	2.8	4.5	249	6.6	3.8	11.4	181
A	05	830501	RIGHT	6.8	3.0	4.7	248	6.7	3.8	11.3	181
A	06	830501	RIGHT	---	2.8	4.5	249	---	3.2	11.3	184
A	07	830501	RIGHT	---	3.2	4.6	246	---	3.8	11.4	181
A	08	830501	RIGHT	---	3.0	4.4	251	---	4.2	11.5	179
A	09	830501	RIGHT	---	3.2	4.6	250	---	4.2	11.6	179
A	10	830501	RIGHT	---	3.0	4.4	255	---	4.5	11.3	181

Table 4-D-4 (Continued).

River Mile	Site	Zone	Geographic Code	Date	Time	Air Temp °C	Water (Mercury) Temp °C	HydroLab Measurements					
								Water Temp °C	D.O. (mg/l)	D.O. (% Sat.)	pH	Spec. Cond. umhos/cm	Turbidity NTU
<u>ADULT ANADROMOUS FISH INVESTIGATIONS</u>													
113.6	Lane Creek Slough		S28N04W07BCB3	821002									
113.6	Transect 1		S28N04W07BCB3	821002	1459	5.0	--	5.3	10.2	80	5.7	80.0	
113.6	Transect 2		S28N04W07BCB3	821002	1514	--	--	5.0	9.4	74	5.7	74.0	
113.6	Transect 3		S28N04W07BCB3	821002	1526	--	--	5.6	8.9	71	5.5	56.0	
<u>MAINSTEM ADULT ANADROMOUS FISH HABITAT INVESTIGATIONS</u>													
114.4	Susitna River		S28N04W06CAB	820909	1615	16.2	--	10.6	13.4	120	7.5	85	
114.4	Susitna River		S28N04W06CAB	820909	1615	16.2	--	10.5	14.0	125	6.9	79	
<u>DESIGNATED FISH HABITAT SITES</u>													
120.7	Mainstem Curry	3	S29N04W10BCD	820608	1515	--	--	--	--	--	--	--	29
120.7	Mainstem Curry	8	S29N04W10BCD	820623	1530	--	--	11.2	11.1	101	7.5	79	16
120.7	Mainstem Curry	3	S29N04W10BCD	820623	1545	--	--	11.8	11.5	106	7.7	77	12
120.7	Mainstem Curry	8	S29N04W10BCD	820707	1115	21.8	--	13.4	9.8	94	6.5	114	140
120.7	Mainstem Curry	3	S29N04W10BCD	820707	1125	--	--	13.1	10.1	95	7.2	113	150
120.7	Mainstem Curry	4	S29N04W10BCD	820728	1830	16.2	--	12.1	8.5	79	7.5	112	22
120.7	Mainstem Curry	3	S29N04W10BCD	820728	1830	16.2	--	12.3	9.0	84	7.6	113	35
<u>ADULT ANADROMOUS FISH INVESTIGATIONS</u>													
125.2	Slough 8A	-	S30N03W20DCC										
125.2	Transect 1	-	S30N03W20DCC	820826	1643	20.8	--	14.5	10.3	101	7.0	153.0	--
125.2	Transect 1	-	S30N03W20DCC	820906	1530	--	--	8.3	10.9	93	7.0	126.0	--
125.2	Transect 2	-	S30N03W20DCC	820906	1514	--	--	7.3	10.3	85	6.9	119.0	--
125.2	Transect 3	-	S30N03W20DCC	820826	1632	--	--	13.1	8.4	80	6.9	142.0	--
125.2	Transect 3	-	S30N03W20DCC	820906	1506	--	--	7.4	9.6	80	6.9	120.0	--
125.2	Transect 4	-	S30N03W20DCC	820826	1610	--	--	11.5	9.5	87	6.8	145.0	--
125.2	Transect 4	-	S30N03W20DCC	820906	1459	--	--	7.2	10.5	87	6.8	120.0	--

4-D-20

Table 4-D-4 (Continued).

River Mile	Site	Zone	Geographic Code	Date	Time	Air Temp °C	Water (Mercury) Temp °C	HydroLab Measurements					
								Water Temp °C	D.O. (mg/l)	D.O. (% Sat.)	pH	Spec. Cond. umhos/cm	Turbidity NTU
125.2	Transect 5	-	S30N03W20DCC	820822	1345	18.5	--	12.4	9.0	84	6.7	111.0	--
125.2	Transect 5	-	S30N03W20DCC	820826	1550	--	--	16.3	10.5	107	6.7	117.0	--
125.2	Transect 5	-	S30N03W20DCC	820906	1439	--	--	7.8	11.0	92	6.7	98.0	--
125.2	Transect 6	-	S30N03W20DCC	820822	1400	21.0	--	12.8	--	--	--	104.0	--
125.2	Transect 6	-	S30N03W20DCC	820826	1543	--	--	15.2	10.3	102	6.8	107.0	--
125.2	Transect 6	-	S30N03W20DCC	820906	1435	--	--	7.7	10.8	90	6.6	92.0	--
125.2	Transect 6	-	S30N03W20DCC	821003	1249	--	--	3.4	--	--	6.3	53.0	--
125.2	Transect 7	-	S30N03W20DCC	820826	1533	--	--	15.6	10.4	104	6.9	101.0	--
125.2	Transect 7	-	S30N03W20DCC	820906	1419	12.0	--	7.7	10.8	90	6.5	93.0	--
125.2	Transect 8	-	S30N03W20DCC	821003	1240	--	--	2.9	--	--	6.5	53.0	--
125.2	Transect 9	-	S30N03W20DCC	821003	1230	--	--	2.8	--	--	6.5	35.0	--
125.2	Transect 10	-	S30N03W20DCC	821003	1225	--	--	2.6	--	--	6.4	34.0	--
125.2	Transect 11	-	S30N03W20DCC	821003	1215	--	--	2.4	--	--	5.6	58.0	--
125.2	Transect 12	-	S30N03W20DCC	821003	1205	--	--	4.0	--	--	6.6	93.0	--
125.2	Transect 13	-	S30N03W20DCC	821003	1200	--	--	4.2	10.3	79	6.5	65.0	--
125.2	Transect 14	-	S30N03W20DCC	821003	1150	--	--	5.1	8.8	69	6.5	140.0	--
125.2	Transect 15	-	S30N03W20DCC	821003	1136	--	--	3.3	10.8	80	6.9	132.0	--
125.2	Transect 16	-	S30N03W20DCC	821003	1056	4.2	--	2.6	10.5	77	6.7	124.0	--

DESIGNATED FISH HABITAT SITES

125.3	Slough 8A	4	S30N03W30BCD	820608	1700	--	--	7.7	10.6	89	6.5	86	34
125.3	Slough 8A	6	S30N03W30BCD	820608	1615	--	--	7.7	10.3	86	6.4	96	--
125.3	Slough 8A	3	S30N03W30BCD	820608	1600	--	--	7.9	10.4	87	6.4	96	32
125.3	Slough 8A	1	S30N03W30BCD	820623	0945	15.0	--	7.4	11.6	96	7.1	131	2
125.3	Slough 8A	2	S30N03W30BCD	820623	1210	--	--	8.9	11.8	98	7.4	128	2
125.3	Slough 8A	3	S30N03W30BCD	820623	1130	--	--	9.3	10.7	93	7.3	123	9
125.3	Slough 8A	1	S30N03W30BCD	820712	1330	11.9	--	10.1	8.6	76	6.9	158	16
125.3	Slough 8A	2	S30N03W30BCD	820712	1320	11.9	--	10.3	8.7	78	6.9	168	--
125.3	Slough 8A	3	S30N03W30BCD	820712	1230	11.9	--	11.0	9.9	89	7.5	121	200
125.3	Slough 8A	1	S30N03W30BCD	820728	1200	18.0	--	7.6	8.6	72	6.8	--	< 1
125.3	Slough 8A	2	S30N03W30BCD	820728	1700	21.0	--	10.1	8.9	79	6.7	--	< 1
125.3	Slough 8A	3	S30N03W30BCD	820728	1800	21.3	--	12.3	8.8	82	7.3	--	68
125.3	Slough 8A	1	S30N03W30BCD	820811	1320	--	--	10.5	--	--	--	--	1
125.3	Slough 8A	2	S30N03W30BCD	820811	1345	17.8	--	10.5	--	--	--	--	2
125.3	Slough 8A	3	S30N03W30BCD	820811	1520	--	--	12.1	--	--	--	--	148
125.3	Slough 8A	1	S30N03W30BCD	820821	1510	--	--	12.1	9.7	90	7.0	--	1
125.3	Slough 8A	2	S30N03W30BCD	820821	1420	18.0	--	14.0	10.6	101	7.1	--	< 1
125.3	Slough 8A	3	S30N03W30BCD	820821	1650	--	--	13.3	10.1	96	7.8	--	88
125.3	Slough 8A	1	S30N03W30BCD	820907	1350	13.2	--	8.8	10.9	94	6.7	--	2
125.3	Slough 8A	2	S30N03W30BCD	820907	1325	13.2	--	9.1	10.7	93	6.7	--	1
125.3	Slough 8A	3	S30N03W30BCD	820907	1425	--	--	9.4	10.5	92	7.2	--	22
125.3	Slough 8A	1	S30N03W30BCD	820924	1300	8.2	--	4.2	11.1	84	6.9	--	< 1

Table 4-D-4 (Continued).

River Mile	Site	Zone	Geographic Code	Date	Time	Air Temp °C	Water (Mercury) Temp °C	HydroLab Measurements					
								Water Temp °C	D.O. (mg/l)	D.O. (% Sat.)	pH	Spec. Cond. umhos/cm	Turbidity NTU
125.3	Slough 8A	2	S30N03W30BCD	820924	1355	--	--	4.3	11.1	85	6.9	130	2
125.3	Slough 8A	3	S30N03W30BCD	820924	1545	--	--	4.7	12.8	99	7.5	130	81
MAINSTEM ADULT ANADROMOUS FISH HABITAT INVESTIGATIONS													
128.6	Susitna River	-	S30N03W16BCA	820907	1200	12.0	--	8.8	12.3	105	7.1	106	--
128.6	Susitna River	-	S30N03W16BCA	820907	1200	12.0	--	8.8	12.3	105	7.4	104	--
128.6	Susitna River	-	S30N03W16BCA	820907	1200	12.0	--	9.1	12.1	104	7.7	112	--
128.6	Susitna River	-	S30N03W16BCA	820907	1200	12.0	--	8.8	11.8	101	7.7	116	--
DESIGNATED FISH HABITAT SITES													
129.2	Slough 9	3	S30N03W16BDC	820622	1200	17.0	--	10.1	12.2	108	7.4	93	52
129.2	Slough 9	4	S30N03W16BDC	820622	1030	14.8	--	9.0	12.9	110	7.5	87	33
129.2	Slough 9	6	S30N03W16BDC	820622	1130	16.0	--	9.2	13.4	115	7.3	91	48
129.2	Slough 9	3	S30N03W16BDC	820610	1315	--	--	7.3	10.9	91	6.8	78	13
129.2	Slough 9	4	S30N03W16BDC	820610	1200	12.1	--	7.1	11.2	93	6.7	81	47
129.2	Slough 9	6	S30N03W16BDC	820610	1315	--	--	7.3	10.9	91	6.8	68	15
129.2	Slough 9	3	S30N03W16BDC	820713	1445	--	--	12.5	10.7	101	7.7	113	99
129.2	Slough 9	4	S30N03W16BDC	820713	1240	17.4	--	11.9	10.4	96	7.5	122	43
129.2	Slough 9	3	S30N03W16BDC	820727	1930	--	--	10.1	9.6	85	7.4	--	--
129.2	Slough 9	4	S30N03W16BDC	820727	1700	20.2	--	10.7	9.5	86	7.5	--	--
129.2	Slough 9	1	S30N03W16BDC	820810	1100	--	--	7.3	--	--	--	--	4
129.2	Slough 9	2	S30N03W16BDC	820810	1120	10.2	--	7.4	--	--	--	--	2
129.2	Slough 9	3	S30N03W16BDC	820810	1115	--	--	8.0	--	--	--	--	34
129.2	Slough 9	1	S30N03W16BDC	820821	1730	18.5	--	12.7	9.8	93	7.7	--	2
129.2	Slough 9	3	S30N03W16BDC	820821	1735	--	--	14.5	9.5	93	7.8	--	25
129.2	Slough 9	1	S30N03W16BDC	820907	1615	13.2	--	9.0	10.8	93	7.0	--	4
129.2	Slough 9	3	S30N03W16BDC	820907	1625	13.2	--	10.4	10.3	92	7.9	--	3
129.2	Slough 9	1	S30N03W16BDC	820923	1150	6.5	--	5.2	11.2	88	7.0	--	5
129.2	Slough 9	2	S30N03W16BDC	820923	1145	6.5	--	4.9	8.9	88	7.1	--	5
129.2	Slough 9	3	S30N03W16BDC	820923	1145	--	--	5.4	11.6	92	7.0	--	28
ADULT ANADROMOUS FISH INVESTIGATIONS													
129.2	Slough 9	-	S30N03W16BDC	820820	--	--	--	--	--	--	--	--	--
129.2	Transect 1	-	S30N03W16BDC	820918	1845	--	--	6.1	--	--	--	107	--
129.2	Transect 1	-	S30N03W16BDC	820918	1940	--	--	5.9	--	--	--	63	--
129.2	Transect 2	-	S30N03W16BDC	820820	1545	23.5	--	14.4	9.5	93	7.2	129	--
129.2	Transect 3	-	S30N03W16BDC	820905	1914	--	--	8.1	10.9	92	6.8	114	--
129.2	Transect 3	-	S30N03W16BDC	820918	1828	--	--	6.1	--	--	--	110	--
129.2	Transect 3	-	S30N03W16BDC	820918	1610	--	--	12.0	9.2	85	6.9	142	--
129.2	Transect 4	-	S30N03W16BDC	820820	1615	--	--	12.5	9.2	86	6.9	137	--

4-D-22

02

Appendix Table 4-D-6. Summary of provisional water quality data for sloughs 8A, 9, 16B, 19, 21, and mainstem Susitna River at Gold Creek, collected by ADF&G and USGS in June, July, and September, 1981, and in January and February, 1982.

Parameter	Date ^a	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Physical and Field Parameters^b							
*Water Temperature °C	June	15.5	14.2	14.0	5.5	10.7	12.4
	July	11.2	10.9	9.0	9.8	11.3	10.5
	September	3.5	5.6	4.8	1.8	2.4	0.4
	January	0.5	0.5	1.5	2.0	1.5	0.0
	March	0.5	0.5	2.0	1.0	1.5	0.0
Air Temperature °C	June	21.0	20.1	---	---	23.0	---
	July	16.0	14.0	15.5	---	---	---
	September	8.0	7.5	---	3.0	---	---
	January	---	---	---	---	---	---
	March	---	---	---	---	-11.0	---
Streamflow (discharge) cfs	June	6.4	2.9	0.7	0.2	3.2	1,780.0
	July	551.0	714.0	503.0	0.0	142.0	42,500.0
	September	2.8	1.5	0.3	<0.1	0.43	8,540.0
	January	---	---	---	---	---	---
	March	---	---	---	---	---	1,520.0
*Specific Conductance (field) umho/cm	June	140	145	71	146	226	---
	July	117	124	72	127	130	119
	September	135	113	64	150	205	172
	January	193	121	59	148	221	260
	March	142	143	59	129	196	266

^aSloughs and mainstem Susitna River were sampled on 2 or 3 consecutive days in each month (except January) as follows.

	8A	9	16B	19	21	Susitna River at Gold Creek
June	25	24	23	23	24	23
July	21	21	22	22	22	21
September	30	30	28	29	29	28
January	20	20	20	20	20	20
March	31	30	30	30	30	30

^bParameters marked with an * are averages of transect point measurements (see methods).

--- indicates data not available.

4-D-70

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Physical and Field Parameters - Cont'd							
Specific Conductance (lab) umho/cm	June	153	158	70	146	226	141
	July	118	124	71	129	131	114
	September	132	113	64	130	205	170
	January	193	121	59	148	221	260
	March	142	143	59	129	196	266
*Dissolved Oxygen mg/l	June	10.8	10.6	10.8	9.4	10.7	10.8
	July	11.4	11.4	11.7	10.4	11.3	11.7
	September	12.1	11.3	11.5	9.5	10.3	---
	January	7.0	11.7	6.6	7.7	9.0	15.8
	March	10.2	10.9	7.3	9.6	9.8	14.2
*Dissolved Oxygen (%) saturation	June	108	103	107	76	98	104
	July	104	105	102	90	105	104
	September	94	93	88	98	76	---
	January	49	82	47	57	65	110
	March	72	77	59	70	72	99
*pH (field)	June	6.9	6.8	6.4	6.5	7.0	7.4
	July	---	---	---	---	---	7.7
	September	7.6	7.4	7.1	7.3	7.7	6.5
	January	6.5	6.6	6.0	6.0	6.7	7.5
	March	6.6	7.0	6.4	6.5	7.4	6.7
pH (lab)	June	7.4	7.5	7.2	7.2	7.6	7.5
	July	7.6	7.7	7.3	7.0	7.7	7.7
	September	7.4	6.7	6.6	7.2	7.0	7.2
	January	7.2	7.3	6.9	7.1	7.6	7.6
	March	7.2	7.1	7.1	7.2	7.3	7.5
Alkalinity (field) mg/l CaCO ₃	June	---	39	24	50	62	---
	July	41	39	24	52	47	35
	September	43	34	26	62	62	---
	January	62	34	24	39	62	82
	March	43	39	23	46	61	78

4-D-71

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Physical and Field Parameters - Cont'd							
Alkalinity (lab) mg/1 CaCO ₃	June	47	33	24	52	63	45
	July	41	39	24	52	47	35
	September	42	36	26	62	61	44
	January	64	36	30	53	63	83
	March	46	42	27	50	64	82
Turbidity NTU	June	0.9	0.6	0.5	0.4	0.4	100.0
	July	130.0	130.0	43.0	2.5	150.0	170.0
	September	1.1	0.6	0.6	0.5	0.5	5.5
	January	0.4	0.5	0.5	0.3	0.5	0.7
	March	0.1	0.1	0.1	0.1	0.1	0.1
Sediments, suspended mg/1	June	1	2	1	1	5	327
	July	220	417	107	8	356	680
	September	1	1	1	2	4	44
	January	1	2	0	1	0	2
	March	7	3	6	1	6	8
Sediments, discharge suspended tons/day	June	0.02	0.02	0.0	0.0	0.04	1,570.0
	July	327.0	804.0	145.0	0.0	136.0	78,000.0
	September	0.01	0.0	0.0	0.0	0.0	1,020.0
	January	---	---	---	---	---	---
	March	---	---	---	---	---	33.0
Solids, residue at 180°C mg/1	June	88	100	51	94	137	79
	July	70	75	41	81	78	74
	September	82	69	42	95	119	101
	January	111	73	38	78	114	152
	March	92	93	42	80	124	160
Solids, sum of constituents mg/1	June	93	91	47	90	130	83
	July	61	68	43	89	68	65
	September	71	71	48	94	120	80
	January	120	76	---	92	130	165
	March	86	83	43	85	127	160

4-D-72

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Physical and Field Parameters - Cont'd							
Solids, dissolved tons/day	June	1.5	0.8	0.1	0.1	1.1	380.0
	July	104.0	145.0	55.7	0.0	29.9	8,490.0
	September	0.62	0.3	<0.1	<0.1	0.1	2,330.0
	January	---	---	---	---	---	---
	March	---	---	---	---	---	657.0
Solids, dissolved tons/acre-foot	June	0.12	0.14	0.07	0.13	0.19	0.11
	July	0.10	0.10	0.06	0.11	0.11	0.10
	September	0.11	0.09	0.06	0.13	0.16	0.14
	January	0.15	0.10	0.05	0.11	0.16	0.21
	March	0.13	0.13	0.06	0.11	0.17	0.22
Suspended sediment (%) less than 0.062 mm sieve diameter	June	---	---	---	---	---	70
	July	89	55	56	---	85	49
	September	---	---	---	---	---	81
	January	---	---	---	---	---	---
	March	---	---	---	---	---	---
Major Constituents							
Hardness mg/e CaCO ₃	June	57	56	32	69	83	57
	July	48	50	30	61	54	51
	September	54	45	30	72	77	60
	January	79	47	34	67	87	120
	March	60	52	26	58	82	100
Hardness, non-carbonate mg/l CaCO ₃	June	10.0	17.0	8.0	19.0	21.0	12
	July	7.0	11.0	6.0	9.0	7.0	16
	September	11.0	11.0	4.0	10.0	15.0	16
	January	17.0	13.0	10.0	14.0	25.0	33
	March	15.0	13.0	3.0	12.0	21.0	19
Bicarbonate, incremental titration mg/l CaCO ₃	June	---	---	---	---	---	---
	July	---	---	---	---	---	---
	September	53	42	32	75	75	---
	January	---	---	---	---	---	---
	March	---	---	---	---	---	---

4-D-73

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Major Constituents - Cont'd							
Carbonate, incremental titration mg/l CaCO ₃	June	---	---	---	---	---	---
	July	---	---	---	---	---	---
	September	0	0	0	0	0	---
	January	---	---	---	---	---	---
	March	---	---	---	---	---	---
Calcium, dissolved mg/l Ca	June	18	18	10	23	27	19
	July	16	17	10	20	18	16
	September	17	14	9	24	25	15
	January	26	15	11	22	29	39
	March	19	17	8	19	27	33
Magnesium, dissolved mg/l Mg	June	2.8	2.7	1.6	2.7	3.9	2.2
	July	1.9	1.9	1.3	2.6	2.1	1.7
	September	2.8	2.4	1.6	3.0	3.5	1.9
	January	3.4	2.3	1.6	3.0	3.5	4.6
	March	3.1	2.4	1.5	2.6	3.6	4.5
Sodium, dissolved mg/l Na	June	6.8	8.2	2.5	2.5	12.0	4.2
	July	3.0	3.0	1.8	1.8	3.4	3.4
	September	6.1	5.6	2.6	3.0	11.0	7.4
	January	11.0	5.7	2.9	4.3	12.0	15.0
	March	6.2	7.2	2.1	2.2	11.0	17.0
Sodium, (%)	June	20	24	14	7	23	14
	July	12	11	11	6	12	13
	September	19	21	15	8	23	21
	January	23	20	15	12	23	22
	March	18	23	14	7	22	26
Sodium, adsorption ratio	June	0.4	0.5	0.2	0.1	0.6	0.3
	July	0.2	0.2	0.1	0.1	0.2	0.2
	September	0.4	0.4	0.2	0.2	0.5	0.4
	January	0.5	0.4	0.2	0.2	0.6	0.6
	March	0.4	0.5	0.2	0.1	0.5	0.8

Appendix Table 4-D-6 (Continued).

<u>Parameter</u>	<u>Date</u>	<u>Slough 8A</u>	<u>Slough 9</u>	<u>Slough 16B</u>	<u>Slough 19</u>	<u>Slough 21</u>	<u>Susitna River at Gold Creek</u>
Nutrients - Cont'd							
Nitrogen, total mg/l NO ₃	June	8.5	8.4	4.1	10.0	4.2	2.4
	July	3.4	3.5	3.3	9.3	2.9	2.3
	September	7.4	7.3	2.9	9.0	4.9	2.7
	January	5.8	7.9	2.9	7.0	4.2	1.9
	March	5.7	6.4	3.3	7.6	4.3	1.9
Nitrogen, dissolved mg/l N	June	1.8	1.6	1.0	2.0	1.0	0.5
	July	---	0.7	---	2.2	0.7	0.6
	September	1.5	1.7	0.6	1.9	1.0	0.6
	January	1.3	1.6	0.6	1.2	0.9	0.4
	March	1.2	1.2	0.6	1.5	0.8	0.4
Nitrogen, total organic mg/l N	June	0.53	0.82	0.50	0.88	0.37	0.34
	July	0.40	0.54	0.31	0.45	0.44	0.10
	September	---	0.41	0.17	0.44	0.18	0.28
	January	---	---	0.18	0.50	---	0.18
	March	0.24	0.41	---	0.43	0.30	0.21
Nitrogen, dissolved organic mg/l N	June	0.45	0.51	0.55	0.62	0.49	0.34
	July	0.44	0.48	---	0.41	0.43	0.21
	September	0.36	0.44	0.10	0.49	0.19	0.34
	January	0.22	0.39	0.15	0.14	0.20	0.15
	March	0.20	0.16	---	0.22	---	0.19
Nitrogen, dissolved ammonia mg/l N	June	0.07	0.11	0.10	0.10	0.09	0.08
	July	0.10	0.13	0.13	0.32	0.14	0.24
	September	0.15	0.14	0.16	0.13	0.11	0.09
	January	0.15	0.08	0.09	0.08	0.08	0.09
	March	0.07	0.07	<0.06	0.08	<0.06	0.07
Nitrogen, dissolved ammonia mg/l NH ₄ ⁺	June	0.09	0.14	0.13	0.13	0.12	0.10
	July	0.13	0.17	0.17	0.41	0.18	0.31
	September	0.19	0.18	0.21	0.17	0.14	0.12
	January	0.19	0.10	0.12	0.10	0.10	0.12
	March	0.09	0.09	0.08	0.10	0.08	0.09

4-D-75

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Major Constituents - Cont'd							
Potassium, dissolved mg/l K	June	1.5	1.4	0.9	1.0	2.1	2.0
	July	1.6	1.6	0.9	1.6	1.9	1.6
	September	1.1	0.9	0.9	1.1	2.1	1.5
	January	2.1	1.0	0.8	1.2	2.0	2.1
	March	1.3	1.1	0.8	1.1	2.1	2.2
Chloride, dissolved mg/l Cl	June	9.1	16.0	1.3	0.9	20.0	5.6
	July	2.9	2.9	0.9	0.6	3.7	12.0
	September	7.7	6.9	1.5	0.9	17.0	11.0
	January	14.0	9.6	1.1	3.5	20.0	24.0
	March	10.0	13.0	1.2	1.1	17.0	27.0
Sulfate, dissolved mg/l SO ₄	June	11.0	9.0	4.7	13.0	14.0	17.0
	July	1.0	11.0	6.0	14.0	3.1	1.0
	September	6.0	5.0	5.0	9.0	10.0	<5.0
	January	11.0	5.0	5.0	11.0	12.0	17.0
	March	8.0	6.0	0.0	13.0	13.0	13.0
Fluoride, dissolved mg/l F	June	0.0	0.1	0.1	0.1	0.1	0.0
	July	0.0	0.0	0.1	0.0	0.0	0.1
	September	0.1	0.1	0.1	0.1	0.1	0.1
	January	0.1	0.1	0.1	0.1	0.1	0.1
	March	0.1	0.1	0.1	0.1	0.1	0.1
Silica, dissolved mg/l SiO ₂	June	9.7	11.0	10.0	10.0	11.0	5.5
	July	6.6	6.6	6.2	10.0	6.6	6.2
	September	0.0	10.0	10.0	10.0	11.0	6.1
	January	10.0	11.0	11.0	10.0	11.0	12.0
	March	11.0	11.0	11.0	10.0	12.0	13.0
Nutrients							
Nitrogen, total mg/l N	June	1.9	1.9	0.9	2.3	0.94	0.5
	July	0.8	0.8	0.8	2.1	0.2	0.5
	September	1.7	1.7	0.7	2.0	1.1	0.6
	January	1.3	1.8	0.7	1.6	1.0	0.4
	March	1.3	1.4	0.7	1.7	1.0	0.4

4-D-6

20

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Nutrients - Cont'd							
Nitrogen, total ammonia mg/l N	June	0.08	0.10	0.09	0.07	0.10	0.14
	July	0.15	0.18	0.15	0.26	0.13	0.33
	September	---	0.15	0.16	0.19	0.20	0.17
	January	<0.07	<0.07	0.12	0.09	<0.07	0.08
	March	0.12	0.08	<0.06	0.08	0.06	0.06
Nitrogen, ammonia + dissolved organics mg/l N	June	0.52	0.62	0.65	0.72	0.58	0.42
	July	0.54	0.61	---	0.73	0.57	0.45
	September	0.51	0.58	0.26	0.62	0.30	0.43
	January	0.37	0.47	0.24	0.22	0.28	0.24
	March	0.27	0.23	0.24	0.30	0.22	0.26
Nitrogen, ammonia + total suspended organics mg/l N	June	0.09	0.30	0.00	0.23	0.00	0.06
	July	0.01	0.11	---	0.00	0.00	0.00
	September	0.07	0.00	0.07	0.01	0.08	0.02
	January	0.05	0.21	0.06	0.37	0.03	0.02
	March	0.09	0.26	0.14	0.21	0.14	0.01
Nitrogen, ammonia + total organics mg/l N	June	0.61	0.92	0.59	0.95	0.47	0.48
	July	0.55	0.72	0.46	0.71	0.57	0.43
	September	0.58	0.56	0.33	0.63	0.38	0.45
	January	0.42	0.68	0.30	0.59	0.31	0.26
	March	0.36	0.49	0.38	0.51	0.36	0.27
Nitrogen, total nitrate and nitrate mg/l N	June	1.3	1.0	0.33	1.3	0.5	0.1
	July	0.2	0.1	0.3	1.4	0.1	0.1
	September	1.1	1.1	0.3	1.4	0.7	0.2
	January	0.9	1.1	0.4	1.0	0.6	0.2
	March	0.9	1.0	0.4	1.2	0.6	0.2
Nitrogen, dissolved nitrate and nitrite mg/l N	June	1.3	1.0	0.4	1.3	0.4	0.1
	July	---	0.1	0.3	1.5	0.1	0.1
	September	1.0	1.1	0.3	1.3	0.7	0.2
	January	0.9	1.1	0.4	1.0	0.6	0.2
	March	0.9	1.0	0.4	1.2	0.6	0.2

4-D-77

Appendix Table 4-D-6 (Continued).

<u>Parameter</u>	<u>Date</u>	<u>Slough 8A</u>	<u>Slough 9</u>	<u>Slough 16B</u>	<u>Slough 19</u>	<u>Slough 21</u>	<u>Susitna River at Gold Creek</u>
Nutrients - Cont'd							
Phosphorus, total mg/l P	June	0.05	0.01	0.01	0.01	<0.01	0.12
	July	0.27	0.48	0.14	0.01	0.38	0.02
	September	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
	January	<0.01	<0.01	<0.01	0.02	0.01	0.01
	March	0.01	0.01	0.01	0.01	0.01	0.01
Phosphorus, total mg/l PO ₄	June	0.2	<0.1	<0.1	<0.1	<0.1	0.4
	July	0.8	1.5	0.4	<0.1	1.2	0.1
	September	---	---	---	---	---	0.1
	January	---	---	---	0.1	<0.1	0.1
	March	<0.1	<0.1	<0.1	<0.1	<0.1	---
Phosphorus, dissolved mg/l P	June	0.03	0.01	0.01	0.01	<0.01	0.02
	July	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	September	0.01	<0.01	<0.01	<0.01	<0.01	0.01
	January	<0.01	<0.01	<0.01	0.02	0.04	0.01
	March	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Carbon, dissolved organic mg/l C	June	1.9	2.1	1.4	1.3	2.0	2.8
	July	13.0	9.0	3.3	6.2	6.0	18.0
	September	1.5	1.7	1.9	2.2	1.1	---
	January	1.4	1.3	0.5	0.7	0.5	---
	March	1.4	0.7	0.7	1.4	1.1	1.6
Carbon, total suspended organics mg/l C	June	---	0.2	---	0.2	0.2	0.9
	July	0.2	0.5	0.0	0.0	0.3	---
	September	0.1	0.1	0.1	0.1	0.1	---
	January	0.0	0.0	0.0	0.0	0.0	---
	March	0.0	0.0	0.0	0.1	0.1	0.1
Trace Metals							
Arsenic, total ug/l As	June	1	1	1	2	2	6
	July	2	5	4	1	5	7
	September	2	1	1	2	2	---
	January	2	2	1	2	2	---
	March	1	1	2	1	2	2

4-D-78

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Trace Metals - Cont'd							
Arsenic, total suspended ug/l As	June	0	0	0	1	1	5
	July	0	3	2	0	3	5
	September	1	0	0	1	1	---
	January	1	1	0	1	1	---
	March	---	0	1	0	1	0
Arsenic, dissolved ug/l As	June	2	1	1	1	1	1
	July	2	2	2	1	2	2
	September	1	1	1	1	1	---
	January	1	1	1	1	1	---
	March	< 1	1	1	1	1	2
Barium, total recoverable ug/l Ba	June	0	0	0	0	100	200
	July	200	200	100	100	300	300
	September	100	200	100	100	100	---
	January	100	100	<100	100	100	---
	March	< 100	< 100	< 100	< 100	< 100	100
Barium, suspended recoverable ug/l Ba	June	0	0	0	0	100	200
	July	200	200	70	50	300	300
	September	100	200	100	100	0	---
	January	0	---	---	---	0	---
	March	---	---	---	---	---	40
Barium, dissolved ug/l Ba	June	90	0	0	0	0	0
	July	40	40	30	50	40	0
	September	0	0	0	0	100	---
	January	100	<100	<100	<100	100	---
	March	29	27	14	29	47	60
Cadmium, total recoverable ug/l Cd	June	0	0	2	0	1	0
	July	0	0	0	1	0	5
	September	0	0	0	0	1	---
	January	<1	<1	<1	<1	<1	---
	March	<1	<1	<1	<1	<1	<1

4-D-79

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Trace Metals - Cont'd							
Cadmium, suspended recoverable ug/1 Co	June	---	0	2	0	0	---
	July	---	---	---	---	---	4
	September	0	0	0	0	1	---
	January	---	---	---	---	---	---
	March	---	---	---	---	---	---
Cadmium, dissolved ug/1 Cd	June	1	0	0	0	5	<1
	July	<1	<1	<1	<1	<1	1
	September	0	0	1	0	0	---
	January	<1	1	1	1	<1	---
	March	<3	<3	<3	<3	<3	<3
Chromium, total recoverable ug/1 Cr	June	0	10	0	0	0	40
	July	30	30	20	20	40	30
	September	0	10	10	10	10	---
	January	10	<1	10	<10	<10	---
	March	10	<1	10	10	<10	10
Chromium, suspended recoverable ug/1 Cr	June	0	10	0	0	0	40
	July	20	20	10	10	30	20
	September	0	10	10	10	10	---
	January	---	---	---	---	---	---
	March	---	---	---	---	---	---
Chromium, dissolved ug/1 Cr	June	10	0	0	0	0	0
	July	10	10	10	10	10	10
	September	0	0	0	0	0	---
	January	<10	1	<10	<10	<10	---
	March	<10	<3	<10	<10	<10	<10
Cobalt, total recoverable ug/1 Co	June	2	0	0	0	2	8
	July	5	6	2	0	7	11
	September	0	0	0	0	1	---
	January	2	1	1	1	<1	---
	March	1	1	2	2	1	1

4-D-80

20

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Trace Metals - Cont'd							
Cobalt, suspended recoverable ug/1 Co	June	---	0	0	0	1	---
	July	---	---	---	---	---	11
	September	0	0	0	0	1	---
	January	0	0	0	---	---	---
	March	---	---	---	---	---	0
Cobalt, dissolved ug/1 Co	June	<3	0	0	0	1	<3
	July	<3	<3	<3	<3	<3	0
	September	0	0	0	0	0	---
	January	2	2	1	<1	2	---
	March	<1	<1	<1	<1	<1	1
Copper, total recoverable ug/1 Cu	June	3	2	4	2	2	31
	July	20	23	10	3	23	190
	September	6	4	5	4	4	---
	January	4	2	1	2	1	---
	March	2	1	2	8	6	2
Copper, suspended recoverable ug/1 Cu	June	1	1	1	0	0	27
	July	12	20	4	0	0	190
	September	5	3	3	2	18	---
	January	3	0	0	0	3	---
	March	1	0	1	7	0	1
Copper, dissolved ug/1 Cu	June	2	1	3	2	2	4
	July	8	3	6	7	5	5
	September	1	1	2	2	1	---
	January	1	2	2	2	1	---
	March	1	1	1	1	1	1
Iron, total recoverable ug/1 Fe	June	20	40	50	40	60	15,000
	July	13,000	16,000	5,800	220	18,000	19,000
	September	20	90	280	260	100	---
	January	20	140	20	10	10	---
	March	10	30	40	30	10	40

4-D-8/

Appendix Table 4-D-6 (Continued).

<u>Parameter</u>	<u>Date</u>	<u>Slough 8A</u>	<u>Slough 9</u>	<u>Slough 16B</u>	<u>Slough 19</u>	<u>Slough 21</u>	<u>Susitna River at Gold Creek</u>
Trace Metals - Cont'd							
Iron, suspended recoverable ug/1 Fe	June	10	0	0	0	40	15,000
	July	13,000	16,000	5,700	140	18,000	19,000
	September	10	60	260	250	90	---
	January	0	80	0	0	0	---
	March	0	20	30	20	0	30
Iron, dissolved ug/1 Fe	June	10	60	50	60	20	90
	July	48	110	52	79	97	120
	September	10	30	20	10	10	---
	January	40	60	20	30	20	---
	March	12	14	9	15	11	15
Lead, total recoverable ug/1 Pb	June	0	5	3	3	15	18
	July	3	3	3	3	2	47
	September	4	1	1	2	4	---
	January	2	1	<1	1	<1	---
	March	<1	1	5	6	9	3
Lead, suspended recoverable ug/1 Pb	June	0	5	3	3	15	18
	July	0	1	3	2	0	47
	September	2	0	0	0	0	---
	January	1	0	---	0	---	---
	March	---	---	4	---	---	0
Lead, dissolved ug/1 Pb	June	0	0	0	0	0	0
	July	3	2	0	1	5	0
	September	2	3	4	3	5	---
	January	1	2	1	1	1	---
	March	1	<1	1	<1	<1	3
Manganese, total recoverable ug/1 Mn	June	10	10	10	0	0	250
	July	230	290	100	20	300	320
	September	0	0	10	10	0	---
	January	10	20	10	10	20	---
	March	10	10	<10	10	<10	10

4-D-82

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Trace Metals - Cont'd							
Manganese, suspended recoverable ug/l Mn	June	0	10	10	0	0	250
	July	220	280	90	10	290	310
	September	0	0	10	0	0	---
	January	0	10	---	0	10	---
	March	6	5	---	6	---	7
Manganese, dissolved ug/l Mn	June	10.0	0.0	0.0	0.0	0	4
	July	8.0	10.0	7.0	9.0	8	10
	September	0.0	0.0	0.0	10.0	0	---
	January	10.0	<0.1	<10.0	<10.0	10	---
	March	4.0	<0.1	3.0	4.0	3	3
Mercury, total recoverable ug/l Hg	June	0.1	0.1	0.1	0.1	0.2	0.4
	July	0.1	0.1	0.1	0.0	0.2	0.3
	September	0.1	0.0	0.0	0.0	0.0	---
	January	<0.1	<0.1	<0.1	<0.1	0.1	---
	March	0.1	0.1	0.1	0.1	0.1	0.1
Mercury, suspended recoverable ug/l Hg	June	0.1	0.1	0.1	0.1	0.2	0.4
	July	0.0	0.1	0.1	0.0	0.2	0.1
	September	0.1	0.0	0.0	0.0	0.0	---
	January	---	---	---	---	---	---
	March	---	---	---	---	---	---
Mercury, dissolved ug/l Hg	June	0.0	0.0	0.0	0.0	0.0	0.0
	July	0.1	0.0	0.1	0.0	0.0	0.2
	September	0.0	0.0	0.0	0.0	0.0	---
	January	<0.1	<0.1	<0.1	<0.1	<0.1	---
	March	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, total recoverable ug/l Ni	June	3	2	2	1	6	23
	July	14	18	6	2	18	22
	September	1	0	7	3	4	36
	January	1	2	<1	<1	<1	---
	March	1	<1	2	2	1	2

4-D-83

Appendix Table 4-D-6 (Continued).

Parameter	Date	Slough 8A	Slough 9	Slough 16B	Slough 19	Slough 21	Susitna River at Gold Creek
Trace Metals - Cont'd							
Nickel, suspended recoverable ug/l Ni	June	2	2	1	0	1	23
	July	12	18	6	0	17	29
	September	1	0	7	3	4	29
	January	---	1	---	---	---	---
	March	0	---	1	1	0	1
Nickel, dissolved ug/l Ni	June	1	0	1	1	5	0
	July	2	0	0	3	1	<1
	September	0	0	0	0	0	7
	January	<1	1	<1	<1	<1	---
	March	2	<1	1	1	1	1
Selenium, total ug/l Se	June	0	0	0	1	1	<1
	July	0	0	0	0	0	0
	September	0	0	0	0	0	1
	January	<1	<1	<1	1	1	---
	March	1	<1	<1	<1	<1	<1
Selenium, total suspended ug/l Se	June	0	0	0	0	1	0
	July	0	0	0	0	0	0
	September	0	0	0	0	0	0
	January	---	---	---	---	---	---
	March	---	---	---	---	---	---
Selenium, dissolved ug/l Se	June	0	0	0	1	0	0
	July	1	0	0	1	0	0
	September	0	0	0	1	1	---
	January	<1	<1	<1	<1	<1	---
	March	<1	<1	<1	1	1	<1
Silver, total recoverable ug/l Ag	June	0	0	1	0	0	0
	July	0	0	0	1	0	0
	September	0	0	0	0	0	---
	January	<1	<1	<1	<1	<1	---
	March	<1	<1	<1	<1	<1	<1

4-D-7
78

Appendix Table 4-D-6 (Continued).

<u>Parameter</u>	<u>Date</u>	<u>Slough 8A</u>	<u>Slough 9</u>	<u>Slough 16B</u>	<u>Slough 19</u>	<u>Slough 21</u>	<u>Susitna River at Gold Creek</u>
Trace Metals - Cont'd							
Silver, suspended recoverable ug/1 Ag	June	0	0	1	0	0	0
	July	0	0	0	1	0	0
	September	0	0	0	0	0	---
	January	---	---	---	---	---	---
	March	---	---	---	---	---	---
Silver, dissolved ug/1 Ag	June	0	0	0	0	0	0
	July	0	0	0	0	0	0
	September	0	0	0	0	0	---
	January	<1	<1	<1	1	<1	---
	March	<1	<1	1	<1	<1	1
Zinc, total recoverable ug/1 Zn	June	20	40	10	10	10	60
	July	80	60	20	10	60	120
	September	20	30	30	10	20	---
	January	20	10	20	10	10	---
	March	10	10	40	30	20	10
Zinc, suspended recoverable ug/1 Zn	June	10	30	0	0	10	50
	July	80	30	10	0	40	110
	September	10	10	0	10	0	---
	January	10	0	10	0	0	---
	March	0	---	---	20	---	---
Zinc, dissolved ug/1 Zn	June	7	10	10	10	0	6
	July	4	35	10	10	17	14
	September	10	20	30	0	20	5
	January	10	20	10	10	10	---
	March	<12	<12	<12	12	<12	<12

4-D-85

Appendix 4-I. Cont.

LOCATION: SLOUGH 8A
RIVER MILE: 125.3

ZONE	HABITAT PARAMETER	JUNE 1-15	JUNE 16-30	JULY 1-15	JULY 16-31	AUGUST 1-15	AUGUST 16-31	SEPTEMBER 1-15	SEPTEMBER 16-30
1	AIR TEMPERATURE (C)	-----	15.0	11.9	18.0	-----	-----	13.2	8.2
	WATER TEMPERATURE (C)	-----	7.4	10.1	7.6	10.5	12.1	8.8	4.2
	DISSOLVED OXYGEN (mg/l)	-----	11.6	8.6	8.6	-----	9.7	10.9	11.1
	pH	-----	7.1	6.9	6.8	-----	7.0	6.7	6.9
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	131	158	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	2	16	< 1	1	1	2	< 1
	WATER VELOCITY (ft/s)	-----	1.0	.3	.5	.4	.4	.5	.8
2	AIR TEMPERATURE (C)	-----	-----	11.9	21.0	17.8	18.0	13.2	-----
	WATER TEMPERATURE (C)	-----	8.9	10.3	10.1	10.5	14.0	9.1	4.3
	DISSOLVED OXYGEN (mg/l)	-----	11.8	8.7	8.9	-----	10.6	10.7	11.1
	pH	-----	7.4	6.9	6.7	-----	7.1	6.7	6.9
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	128	168	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	2	-----	< 1	2	< 1	1	2
	WATER VELOCITY (ft/s)	-----	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	AIR TEMPERATURE (C)	-----	-----	11.9	21.3	-----	-----	-----	-----
	WATER TEMPERATURE (C)	7.9	9.3	11.0	12.3	12.1	13.3	9.4	4.7
	DISSOLVED OXYGEN (mg/l)	10.4	10.7	9.9	8.8	-----	10.1	10.5	12.8
	pH	6.4	7.3	7.5	7.3	-----	7.8	7.2	7.5
	SPECIFIC CONDUCTANCE (micromhos/cm)	96	123	121	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	32	9	200	68	150	88	22	81
	WATER VELOCITY (ft/s)	-----	2.1	1.2	.8	3.3	1.5	2.2	1.8
4	AIR TEMPERATURE (C)	-----	-----	-----	-----	-----	-----	-----	-----
	WATER TEMPERATURE (C)	7.7	-----	-----	-----	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	10.6	-----	-----	-----	-----	-----	-----	-----
	pH	6.5	-----	-----	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	86	-----	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	34	-----	-----	-----	-----	-----	-----	-----
	WATER VELOCITY (ft/s)	1.0	-----	-----	-----	-----	-----	-----	-----
6	AIR TEMPERATURE (C)	-----	-----	-----	-----	-----	-----	-----	-----
	WATER TEMPERATURE (C)	7.7	-----	-----	-----	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	10.3	-----	-----	-----	-----	-----	-----	-----
	pH	6.4	-----	-----	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	96	-----	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	-----	-----	-----	-----	-----	-----	-----
	WATER VELOCITY (ft/s)	0.0	-----	-----	-----	-----	-----	-----	-----

4-I-15

Appendix Table 4-J-1 (Continued).

River Mile	Site	Geographic Code	Date	Time	Air Temp (°C)	Water Temp (°C)	HydroLab Measurements				Turbidity (NTU)	Water Depth (ft)	Ice Thickness (ft)
							D.O. (mg/l)	D.O. (% sat)	pH	Spec. Cond. (micromhos/cm)			
101.4	Whisker Creek	S26N05W03AAC	820204	1110	6.4	1.6	10.0	72	6.3	30	-	1.3	1.7
			820322	1130	0.0	0.9	9.6	67	7.3	37	1	1.3	0.0
			820422	1200	---	3.8	9.3	70	7.2	---	1	3.0	0.0
112.3	Slough 6A	S28N05W13CAC	820223	1345	-10.5	0.3	---	---	---	---	1	2.0	2.0
			820324	1030	8.5	1.5	7.2	51	6.9	83	3	2.5	0.0
113.6	Lane Creek - Mouth	S28N05W12ADD	820324	1110	1.8	1.8	11.4	82	7.1	64	2	0.4	0.0
114.4	Susitna River	S28N04W06CAB	820324	1145	3.0	3.9	9.2	70	7.3	206	2	1.0	0.0
121.6	Susitna River - Side Channel	S23N04W11BBB	820208	1333	---	1.5	9.4	66	6.5	101	1	0.6	0.0
			820312	1200	-1.2	1.4	9.3	66	6.4	161	-	0.4	0.0
			820422	1305	-9.8	5.8	9.3	75	7.2	82	1	1.2	0.0
122.3	Slough 8D	S29N04W02CBA	820420	1346	13.0	4.6	7.7	60	7.2	166	1	0.9	0.0
123.8	Susitna River	S30N04W26DDD	820222	1200	---	0.3	12.3	84	6.9	274	1	3.5	2.7
125.3	Slough 8A	S30N03W20CCD	820222	1300	-15.0	0.4	6.4	45	6.4	163	1	0.4	0.0
			820312	1300	0.0	1.8	6.3	45	6.4	192	2	0.6	0.0
129.2	Slough 9	S30N03W09DCB	820312	1330	-0.4	2.4	7.6	66	6.5	199	1	0.7	0.0
129.2	Slough 9B	S30N03W09DCB	820416	1540	8.0	4.5	8.3	64	6.0	175	1	1.3	0.0
131.1	Susitna River near mouth of 4th of July Creek	S30N03W03DAC	820312	1400	-0.4	1.3	9.2	65	7.1	353	1	0.9	0.0
			820209	1120	---	1.8	9.3	67	6.2	291	1	4.7	0.0
			820416	1653	6.6	2.3	11.3	83	7.5	279	1	1.5	0.0
133.6	Slough 9A	S30N03W36DAA	820416	1800	4.0	3.7	10.0	86	7.4	184	1	1.1	0.0
133.8	Slough 10	S31N03W36AAC	820208	1354	---	0.8	11.6	81	6.7	197	1	2.4	0.0
			820312	1415	-0.4	1.4	10.0	71	6.8	213	1	1.2	0.0
			820416	1715	5.8	3.6	10.0	75	7.3	187	-	1.5	0.0
135.3	Slough 11	S32N02W19DDD	820205	1556	-1.6	0.9	12.4	87	6.9	224	1	0.8	---
			820308	1120	5.0	1.6	10.5	75	6.4	217	1	0.8	0.0
			820414	1500	4.4	2.2	13.3	69	6.9	207	1	---	1.2
136.9	Susitna River - Inside Bend	S31N02W17CDA	820205	1446	-3.2	0.0	15.1	101	7.0	259	1	1.8	2.6
			820308	1215	4.0	0.1	13.1	89	7.1	292	1	1.5	2.5

4-5-4

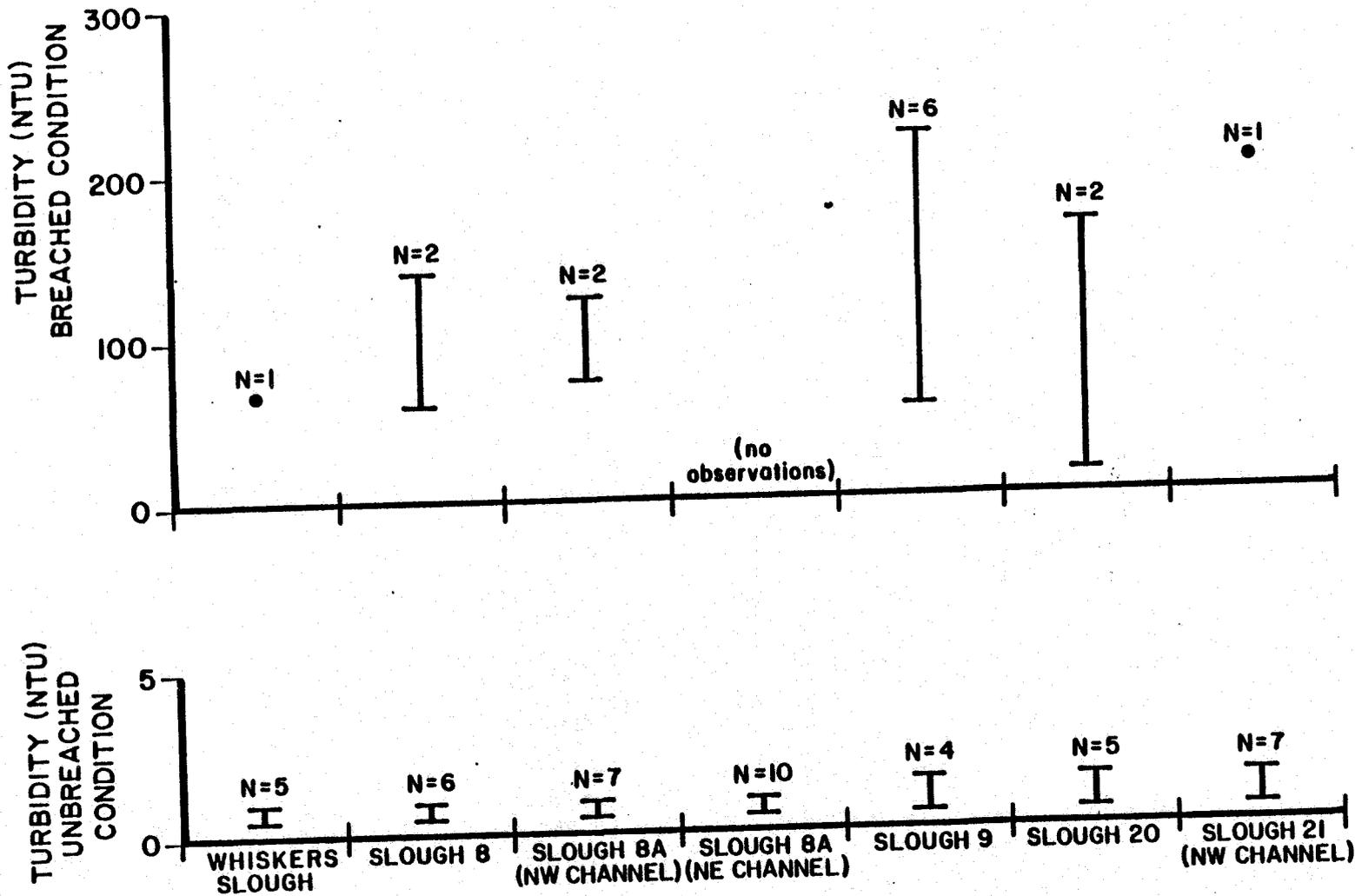


Figure 4-11. Range of turbidity during unbreached and breached hydraulic condition for side slough habitats.

Table EB-39. Habitat Location - Slough 8A

River Mile 125.3

Geographic Code - 30N 03W 30 BCD

DATE	TIME	D O (MG/L)	PH	SPEC COND MICROMHOS/CM	TEMP - °C		TURBIDITY (NTU)
					AIR	H2O	
810617	1520	9.30	7.00		26.40	16.40	1.70
810706	1330	10.30	6.90	118.00	17.00	11.10	
810723	1145	9.40	7.00	123.00	13.80	10.60	78.00
810809	1800	10.50	7.60	108.00	13.60	10.10	205.00
810828	1630	8.80	6.80	152.00	19.00	12.60	7.00
810915	1115	8.80	6.90	160.00	11.00	6.60	1.40
810927	1430		6.90	159.00	3.00	4.50	.70

EB-20

Table EB-40. Habitat Location - Fourth of July Creek

River Mile 131.1

Geographic Code - 30N 03W 03 DAC

DATE	TIME	D O (MG/L)	PH	SPEC COND MICROMHOS/CM	TEMP - °C		TURBIDITY (NTU)
					AIR	H2O	
810617	1245	9.90	6.70		25.10	15.00	.45
810706	1625	10.10	6.50	18.00		11.60	
810720	1300	9.90	6.30		15.80	10.90	3.00
810811	1700		6.40	20.00	11.40	11.40	2.60
810828	1445	9.50	6.60	27.00	23.40	12.80	.40
810915	1330	9.70	6.70	15.00	12.00	8.20	.47
810927	1245		6.50	17.00	2.20	2.00	3.00

7

Appendix Table A-1 (Continued).

- SEPTEMBER 1982 -

DATE	INTRAGRAVEL			SURFACE WATER		
	MIN	MEAN	MAX	MIN	MEAN	MAX
820901	6.5	6.7	6.7	7.7	8.9	10.4
820902	6.4	6.5	6.8	7.1	8.4	9.9
820903	6.2	6.3	6.4	7.3	8.0	8.9
820904	6.2	6.3	6.4	6.4	7.5	9.0
820905	6.1	6.2	6.3	6.3	7.4	8.4
820906	6.2	6.2	6.3	6.5	7.4	7.9
820907	6.2	6.3	6.3	6.8	8.0	9.8
820908	6.2	6.3	6.4	7.5	8.2	8.9
820909	6.3	6.3	6.4	7.3	8.0	9.1
820910	6.2	6.3	6.4	6.9	7.8	8.9
820911	6.1	6.2	6.3	6.3	7.0	7.5
820912	6.0	6.1	6.2	5.3	6.6	8.5
820913	6.0	6.1	6.2	5.8	6.2	6.6
820914	6.0	6.0	6.1	6.1	6.4	6.8
820915	6.0	6.0	6.1	6.3	7.0	8.4
820916	5.9	6.0	6.1	7.3	7.6	8.1
820917	5.9	6.0	6.0	6.6	6.9	7.6
820918	5.8	6.0	6.0	5.5	6.2	6.8
820919	5.8	5.9	6.0	5.6	6.0	6.6
820920	5.9	5.9	6.0	5.6	6.0	6.5
820921	5.9	5.9	6.0	5.4	5.8	6.3
820922	5.9	6.0	6.0	5.3	5.7	6.5
820923	5.9	6.0	6.1	3.9	4.9	5.9
820924	6.0	6.1	6.1	2.9	4.2	5.4
820925	6.1	6.2	6.3	3.4	4.4	5.1
820926	6.3	6.3	6.4	4.6	5.0	5.4
820927	6.3	6.4	6.4	4.8	5.2	6.1
820928	6.3	6.4	6.5	2.9	3.9	4.9
820929	6.4	6.5	6.6	4.1	4.7	5.6
820930	6.4	6.5	6.5	4.5	5.2	6.0
MONTHLY VALUE	5.8	6.2	6.8	2.9	6.5	10.4

Appendix Table A-1 (Continued).

- JANUARY 1983 -

DATE	INTRAGRAVEL			SURFACE WATER		
	MIN	MEAN	MAX	MIN	MEAN	MAX
830101	-.1	0.0	0.0	0.0	0.0	.1
830102	-.1	0.0	0.0	0.0	<.05	.1
830103	-.1	0.0	0.0	0.0	0.0	0.0
830104	-.1	0.0	0.0	-.1	0.0	0.0
830105	-.1	0.0	0.0	-.1	0.0	0.0
830106	-.1	0.0	0.0	-.1	0.0	0.0
830107	-.1	0.0	0.0	-.1	0.0	.1
830108	-.1	0.0	0.0	-.1	0.0	.1
830109	-.1	0.0	0.0	-.1	0.0	.1
830110	-.1	0.0	0.0	-.1	0.0	.1
830111	-.1	0.0	0.0	-.1	0.0	.1
830112	-.1	0.0	0.0	-.1	0.0	0.0
830113	-.1	0.0	0.0	-.1	0.0	0.0
830114	-.1	0.0	0.0	-.1	0.0	.1
830115	-.1	0.0	0.0	-.1	0.0	.1
830116	-.1	0.0	0.0	0.0	0.0	.1
830117	-.1	-.1	0.0	0.0	0.0	.1
830118	-.1	0.0	0.0	0.0	0.0	.1
830119	-.1	0.0	0.0	0.0	0.0	.1
830120	-.1	0.0	0.0	-.1	0.0	0.0
830121	-.1	0.0	0.0	-.1	0.0	.1
830122	-.1	0.0	0.0	-.1	0.0	.1
830123	-.1	0.0	0.0	-.1	0.0	.1
830124	-.1	0.0	0.0	-.1	0.0	0.0
830125	-.1	0.0	0.0	0.0	0.0	0.0
830126	-.1	0.0	0.0	0.0	0.0	.1
830127	-.1	0.0	0.0	0.0	0.0	.1
830128	-.1	0.0	0.0	0.0	0.0	.1
830129	-.1	0.0	0.0	0.0	0.0	.1
830130	-.1	0.0	0.0	0.0	0.0	.1
830131	-.1	0.0	0.0	0.0	<.05	.1
MONTHLY VALUE	-.1	0.0	0.0	-.1	<.05	.1

Appendix Table A-1 (Continued).

- MARCH 1983 -

DATE	INTRAGRAVEL			SURFACE WATER		
	MIN	MEAN	MAX	MIN	MEAN	MAX
830301	0.0	.1	.2	0.0	.1	.1
830302	.1	.1	.2	0.0	.1	.1
830303	.1	.1	.2	.1	.1	.2
830304	.1	.2	.2	.1	.1	.2
830305	.1	.2	.3	0.0	.1	.2
830306	.1	.2	.3	.1	.1	.2
830307	.2	.3	.3	.1	.2	.3
830308	.2	.3	.4	.1	.2	.3
830309	.3	—	.4	.2	.3	.3
830310	—	—	—	.2	.3	.3
830311	—	—	—	.3	—	.4
830312	—	—	—	.3	.4	.4
830313	—	—	—	.3	.3	.5
830314	—	—	—	.3	.4	.5
830315	—	—	—	.4	.4	.5
830316	—	—	—	.4	.4	.5
830317	—	—	—	.4	.5	.6
830318	—	—	—	.4	.5	.6
830319	—	—	—	.5	.5	.6
830320	—	—	—	.5	.5	.6
830321	—	—	—	.5	.6	.6
830322	—	—	—	.5	.6	.6
830323	—	—	—	.5	.6	.7
830324	—	—	—	.5	.6	.7
830325	—	—	—	.6	.6	.7
830326	—	—	—	.6	.6	.7
830327	—	—	—	.6	.6	.7
830328	—	—	—	.6	.6	.8
830329	—	—	—	.6	.6	.8
830330	—	—	—	.6	.6	.8
830331	—	—	—	.6	.6	.8
MONTHLY VALUE	0.0	—	.4	0.0	.4	.8

Appendix Table A-3 (Continued).

- NOVEMBER 1982 -

DATE	INTRAGRAVEL			SURFACE WATER		
	MIN	MEAN	MAX	MIN	MEAN	MAX
821101	1.9	2.0	2.1	.4	.5	.7
821102	1.7	1.9	2.0	.3	.4	.5
821103	1.7	1.8	1.9	.3	.5	.7
821104	1.5	1.7	1.8	0.0	.2	.3
821105	1.5	1.5	1.6	.2	.3	.4
821106	1.5	1.6	1.6	0.0	.2	.4
821107	1.5	1.5	1.6	-.1	<.05	.1
821108	1.4	1.5	1.6	-.1	.1	.3
821109	1.4	1.5	1.6	-.1	<.05	.3
821110	1.4	1.5	1.5	.2	_____	.3
821111	1.5	1.5	1.6	_____	_____	_____
821112	1.5	1.5	1.5	_____	_____	_____
821113	1.5	1.5	1.5	_____	_____	_____
821114	1.4	1.5	1.5	_____	_____	_____
821115	1.4	1.5	1.5	_____	_____	_____
821116	1.5	1.5	1.6	_____	_____	_____
821117	1.6	1.6	1.7	_____	_____	_____
821118	1.6	1.6	1.7	_____	_____	_____
821119	1.6	1.6	1.7	_____	_____	_____
821120	-.1	1.5	1.7	_____	_____	_____
821121	0.0	.1	.4	_____	_____	_____
821122	-.1	0.0	.2	_____	_____	_____
821123	-.1	-.1	0.0	_____	_____	_____
821124	-.1	0.0	0.0	_____	_____	_____
821125	-.1	0.0	0.0	_____	_____	_____
821126	-.1	-.1	0.0	_____	_____	_____
821127	-.1	-.1	0.0	_____	_____	_____
821128	-.1	0.0	0.0	_____	_____	_____
821129	-.1	0.0	0.0	_____	_____	_____
821130	-.1	0.0	0.0	_____	_____	_____
MONTHLY VALUE	-.1	1.1	2.1	-.1	_____	.7

Appendix Table A-3 (Continued).

- MARCH 1983 -

DATE	INTRAGRAVEL			SURFACE WATER		
	MIN	MEAN	MAX	MIN	MEAN	MAX
830301	.1	.1	.1	---	---	---
830302	.1	.1	.1	---	---	---
830303	.1	.1	.1	---	---	---
830304	.1	.1	.1	---	---	---
830305	.1	.1	.1	---	---	---
830306	.1	.1	.1	---	---	---
830307	.1	.1	.1	---	---	---
830308	.1	.1	.1	---	---	---
830309	.1	.1	.1	---	---	---
830310	.1	.1	.1	---	---	---
830311	.1	.1	.1	---	---	---
830312	.1	.1	.1	---	---	---
830313	.1	.1	.1	---	---	---
830314	.1	.1	.1	---	---	---
830315	.1	.1	.1	---	---	---
830316	.1	.1	.1	---	---	---
830317	.1	.1	.1	---	---	---
830318	0.0	.1	.1	---	---	---
830319	.1	.1	.1	---	---	---
830320	.1	.1	.1	---	---	---
830321	.1	.1	.1	---	---	---
830322	0.0	.1	.1	---	---	---
830323	.1	.1	.1	---	---	---
830324	.1	.1	.1	---	---	---
830325	.1	.1	.1	---	---	---
830326	.1	.1	.1	---	---	---
830327	.1	.1	.1	---	---	---
830328	.1	.1	.1	---	---	---
830329	.1	.1	.1	---	---	---
830330	.1	.1	.1	---	---	---
830331	0.0	.1	.1	---	---	---
MONTHLY VALUE	0.0	.1	.1	---	---	---

Appendix Table A-4 (Continued).

- SEPTEMBER 1982 -

DATE	INTRAGRAVEL			SURFACE WATER		
	MIN	MEAN	MAX	MIN	MEAN	MAX
820901	4.8	4.9	5.0	5.6	6.2	7.1
820902	4.8	4.9	5.0	5.8	6.3	7.6
820903	4.9	4.9	5.0	5.9	6.3	7.0
820904	4.9	4.9	5.0	5.5	6.1	7.1
820905	4.9	5.0	5.0	5.2	6.0	6.8
820906	4.9	5.0	5.1	5.4	5.9	6.4
820907	5.0	5.1	5.1	5.5	6.0	7.3
820908	5.1	5.1	5.2	5.5	5.9	6.5
820909	5.1	5.2	5.2	5.5	5.9	6.7
820910	5.1	5.2	5.3	5.4	5.9	6.5
820911	5.2	5.3	5.3	5.1	5.7	6.2
820912	5.2	5.3	5.3	5.0	5.6	6.8
820913	5.2	5.2	5.3	5.3	5.6	6.2
820914	5.2	5.2	5.3	5.5	5.9	6.3
820915	5.2	5.2	5.3	5.7	6.4	7.7
820916	5.2	5.3	5.3	5.9	6.7	8.3
820917	5.2	5.2	5.3	5.8	6.1	7.0
820918	5.1	5.2	5.2	5.3	5.8	6.5
820919	5.1	5.1	5.2	5.5	5.7	6.1
820920	5.1	5.1	5.2	5.5	5.7	6.2
820921	5.1	5.1	5.2	5.3	5.6	6.0
820922	5.0	5.1	5.1	5.2	5.6	6.5
820923	5.0	5.1	5.1	4.7	5.3	6.8
820924	5.0	5.1	5.1	4.3	5.1	6.2
820925	5.0	5.0	5.1	4.7	5.2	5.8
820926	5.0	5.0	5.1	5.2	5.3	5.8
820927	4.9	5.0	5.0	4.9	5.3	6.0
820928	4.9	4.9	5.0	4.4	5.0	5.5
820929	4.9	4.9	5.0	5.0	5.3	5.9
820930	4.8	4.9	4.9	5.0	5.4	6.0
MONTHLY VALUE	4.8	5.1	5.3	4.3	5.8	8.3

APPENDIX Table 4-C-75 Cont.

DATE PERIOD	TIME PERIOD	INTRAGRAVEL			SURFACE WATER		
		MIN	MEAN	MAX	MIN	MEAN	MAX
820904 - 820904	0249 - 0851	6.3	6.3	6.4	6.8	7.3	7.7
820904 - 820904	0852 - 1454	6.2	6.3	6.3	6.4	6.6	6.8
820904 - 820904	1455 - 2057	6.2	6.2	6.2	6.5	7.5	8.5
820904 - 820905	2058 - 0300	6.2	6.2	6.3	7.8	8.5	9.0
820905 - 820905	0301 - 0903	6.2	6.3	6.3	6.7	7.3	7.8
820905 - 820905	0904 - 1506	6.2	6.2	6.3	6.3	6.5	6.8
820905 - 820905	1507 - 2109	6.1	6.2	6.2	6.7	7.7	8.3
820905 - 820906	2110 - 0312	6.1	6.2	6.2	7.8	8.2	8.4
820906 - 820906	0313 - 0915	6.2	6.2	6.3	7.0	7.4	7.8
820906 - 820906	0916 - 1518	6.2	6.2	6.2	6.5	6.8	7.1
820906 - 820906	1519 - 2121	6.2	6.2	6.3	6.9	7.6	7.8
820906 - 820907	2122 - 0324	6.2	6.3	6.3	7.4	7.7	7.9
820907 - 820907	0325 - 0927	6.2	6.3	6.3	7.0	7.3	7.5
820907 - 820907	0928 - 1530	6.2	6.2	6.3	6.8	7.0	7.5
820907 - 820907	1531 - 2133	6.2	6.2	6.3	7.5	8.9	9.8
820907 - 820908	2134 - 0336	6.3	6.3	6.3	8.5	8.9	9.6
820908 - 820908	0337 - 0939	6.3	6.3	6.4	7.9	8.2	8.6
820908 - 820908	0940 - 1542	6.2	6.3	6.3	7.5	7.7	8.1
820908 - 820908	1543 - 2145	6.3	6.3	6.3	8.2	8.7	8.9
820908 - 820909	2146 - 0348	6.3	6.3	6.4	8.0	8.3	8.7
820909 - 820909	0349 - 0951	6.3	6.3	6.3	7.6	7.8	7.9
820909 - 820909	0952 - 1554	6.3	6.3	6.3	7.3	7.4	7.6
820909 - 820909	1555 - 2157	6.3	6.3	6.3	7.6	8.4	9.1
820909 - 820910	2158 - 0400	6.3	6.3	6.4	7.8	8.5	9.1
820910 - 820910	0401 - 1003	6.3	6.3	6.4	7.2	7.4	7.7
820910 - 820910	1004 - 1606	6.2	6.3	6.4	6.9	7.1	7.6
820910 - 820910	1607 - 2209	6.2	6.3	6.3	7.7	8.5	8.9
820910 - 820911	2210 - 0412	6.2	6.3	6.3	7.5	8.2	8.9

Table 4-B-8. Hydraulic habitat variables collected
at transects in Slough 8A, Sep 07, 1982.

TRANSECT	DEPTH (ft)	VELOCITY (ft/s)	FLOW (cfs)	SUBSTRATE	
				PRIMARY	SECONDARY
1	.65	.03	.02	SAND	
1	1.00	.09	.18	SAND	
1	1.10	.09	.20	SAND	COBBLE
1	1.10	.05	.11	SAND	
1	1.15	.10	.23	SAND	
1	1.20	.10	.24	SAND	
1	1.20	.10	.24	SAND	
1	1.40	.05	.14	SAND	
1	1.65	.08	.26	SAND	
1	1.65	.08	.26	SAND	
1	1.65	.05	.17	SAND	
1	1.65	.01	.03	SAND	
1	1.70	.08	.27	SAND	
1	1.75	.08	.28	SAND	
1	1.75	.08	.28	SAND	
1	1.80	.08	.29	SAND	
1	1.90	.11	.42	SAND	
1	1.85	.10	.37	SAND	
1	1.75	.12	.42	SAND	
1	1.70	.15	.51	SAND	
1	1.70	.15	.51	SAND	
1	1.65	.15	.50	SAND	
1	1.50	.15	.45	SAND	
1	1.50	.11	.33	SAND	
1	1.35	.11	.30	SAND	
1	1.30	.11	.29	SAND	
1	1.25	.11	.28	SAND	
1	1.15	.10	.23	SAND	
1	1.10	.10	.22	SAND	
1	1.05	.11	.23	SAND	
1	1.00	.05	.10	SAND	
1	1.00	.02	.04	SAND	
1	1.00	.01	.02	SAND	
1	1.00	0.00	0.00	SAND	
1	.90	.01	.02	SAND	
1	.80	.01	.02	SAND	
1	.80	0.00	0.00	SAND	
1	.60	.02	.02	SAND	
1	.50	.03	.03	SAND	
1	.40	0.00	0.00	SAND	
1	.30	.01	.01	SAND	
1	.10	0.00	0.00	SAND	
2	.50	.12	.11	COBBLE	SILT
2	.60	.20	.24	COBBLE	SILT

Table 4-B-8. (Continued).

TRANSECT	DEPTH (ft)	VELOCITY (ft/s)	FLOW (cfs)	SUBSTRATE	
				PRIMARY	SECONDARY
2	.70	.19	.27	SAND	
2	.70	.18	.25	SAND	COBBLE
2	.55	.18	.20	COBBLE	RUBBLE
2	.55	.09	0.00	COBBLE	BOULDER
2	.60	.10	.12	COBBLE	RUBBLE
2	.70	.20	.28	COBBLE	RUBBLE
2	1.10	.22	.48	GRAVEL	BOULDER
2	1.30	.32	.83	COBBLE	GRAVEL
2	1.70	.30	.02	COBBLE	BOULDER
2	1.70	.28	.95	GRAVEL	COBBLE
2	1.80	.22	.79	COBBLE	RUBBLE
2	1.90	.20	.76	SAND	COBBLE
2	1.75	.18	.63	SAND	
2	1.80	.12	.43	SAND	
2	2.00	.10	.40	SAND	
2	2.10	.05	.21	SAND	
2	2.10	.02	.08	SAND	
2	2.10	.01	.04	SAND	
2	2.00	.01	.04	SAND	COBBLE
2	1.90	0.00	0.00	SAND	
2	1.70	.02	.07	SAND	
2	1.60	0.00	0.00	SAND	
2	1.40	0.00	0.00	SAND	
2	1.30	0.00	0.00	SAND	
2	1.30	0.00	0.00	SAND	
2	1.30	.01	.03	SAND	
2	1.25	0.00	0.00	SAND	
2	1.20	0.00	0.00	SAND	
2	1.20	0.00	0.00	SAND	
2	1.10	0.00	0.00	SAND	
2	.60	0.00	0.00	SAND	
2				SAND	
3	.80	.05	.04	BOULDER	SAND
3	1.00	.08	.16	RUBBLE	COBBLE
3	1.10	.09	.20	RUBBLE	COBBLE
3	1.00	.05	.10	BOULDER	SAND
3	1.25	.03	.08	COBBLE	SILT
3	1.15	.05	.12	COBBLE	SILT
3	1.10	.08	.18	SILT	RUBBLE
3	1.10	.08	.18	SILT	COBBLE
3	1.10	.05	.11	SILT	RUBBLE
3	1.00	.02	.04	SILT	RUBBLE
3	.95	.03	.06	SILT	COBBLE
3	1.00	0.00	0.00	SILT	COBBLE
3	.09	0.00	0.00	SILT	COBBLE

