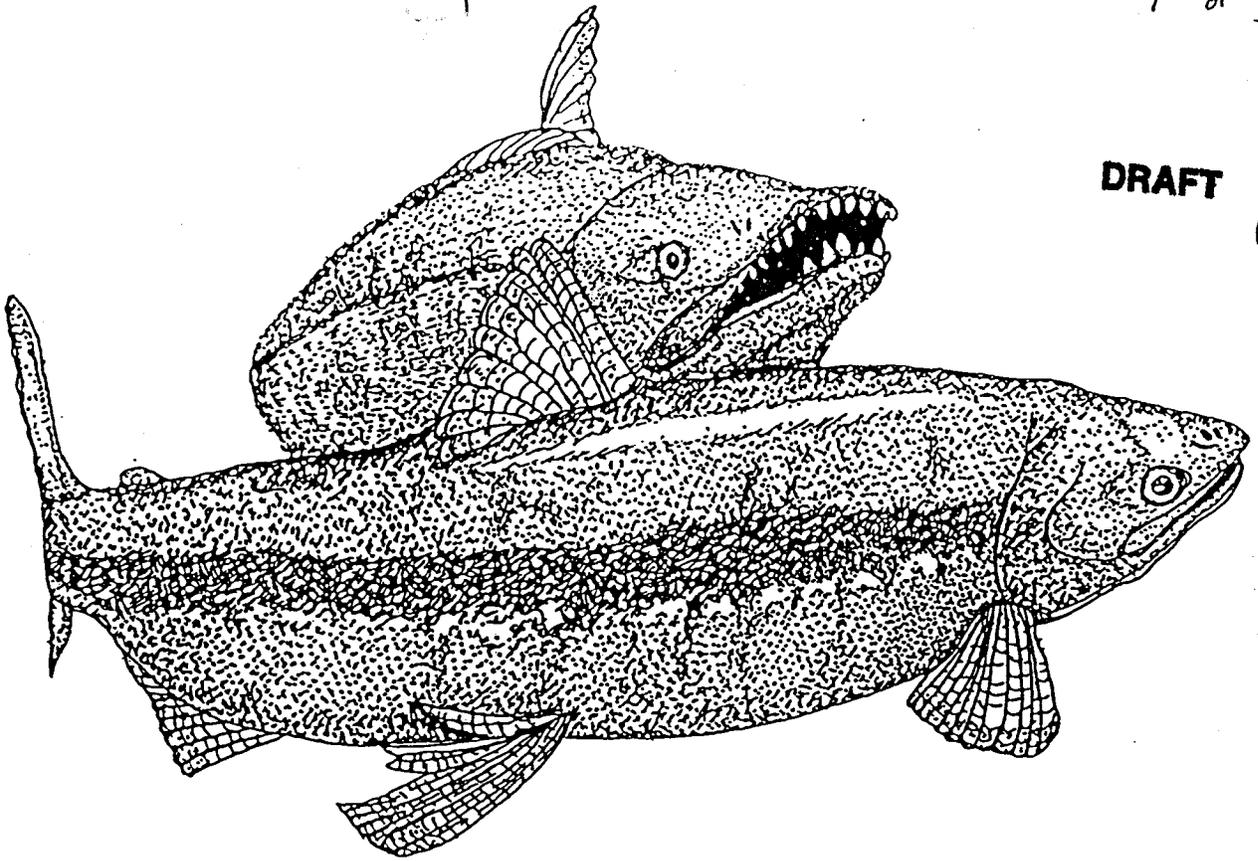


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SUSITNA HYDRO AQUATIC STUDIES
PHASE II BASIC DATA REPORT

Volume 4. Aquatic Habitat and
Instream Flow Studies, 1982.

Appendices E-J

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Headpin, Cross Section, and Thalweg Tables

The following data consist of headpin and cross sectional elevations obtained at study transects (reported in feet) during 1982, from five sites: Chum Channel, Rabideaux Slough, and sloughs 8A, 9, and 21. Thalweg profile data is also presented for sloughs 8A, 9, 11, and 21. Presentation of tables is ordered by slough with one table of head pin data for each slough, one table of cross sectional data for each transect within each slough (number of transects differed between sloughs) and one table of thalweg elevations. Transects in each slough were oriented perpendicular to the direction of water flow and had limits defined by two head pins located on left and right banks of the slough channel (looking upstream).

Table Headings

Table headings for head pin (Bench Mark, Elevation, True Elevation, and Comments) and cross sectional data (Station, Elevation, True Elevation, and Comments and Substrate) are defined as follows.

- 1) Bench Mark is the location (i.e., head pin, nail in tree base, or ground) which is assigned an arbitrary elevation (usually 100.00 ft) from which relative elevations were determined.
- 2) Station is the measured distance from the head pin at the left bank (station 0.0 feet) to the point where an elevation was determined.

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- 3) Elevation is the relative height (in feet), at a particular station or bench mark, referenced from a convenient temporary bench mark (elevation arbitrarily defined) in the immediate vicinity of survey.
- 4) True Elevation is the elevation of a bench mark or station (referenced from R&M survey data) defined as feet above mean sea level. (The true elevation of the head pin and cross section in Chum Channel are estimated from USGS topographic maps.)
- 5) Comments and/or Comments and Substrate primarily refer to unique or important characteristics at a station and are expressed in abbreviated forms indicated below.

Table abbreviations are as follows.

TRM	- temporary bench mark
LBHP "X"	- left bank head pin for transect number "X"
RBHP	- right bank head pin
GB	- ground beside the head pin previously listed
LWS	- left bank water surface
RWS	- right bank water surface
LWE	- left bank waters edge
RWE	- right bank waters edge
SI	- silt (very fine particles)
SA	- sand (fine particles)
GR	- gravel (0.5" - 3" diameters)
RU	- rubble (3" - 5" diameters)
CO	- cobble (5" - 10" diameters)
BO	- boulder (10" - diameter and above)

Note: 1) Water surface and waters edge are generally the same point. However, in situations where a bank is steeply inclined or where it is undercut, they may differ.

2) In Slough 21, high and low values for water surface and waters edge are reported for values obtained at two discharges and are noted under the Comments heading of the cross section tables.

Table headings for thalweg tables are defined as follows.

- 1) Point refers to a station where an elevation was determined and are numbered from downstream up.
- 2) Distance is the linear measurement between two points (or stations).
- 3) Station is the upstream (positive) or downstream (negative) distance referenced from the mouth of a slough. The mouth is assigned the station 0+00 (note that this definition differs from that used in cross section tables).
- 4) Thalweg Elevation is the elevation of the lowest point in a cross section at a particular station.

- 5) Depth is the distance from the water surface to the substrate at the point where the thalweg elevation was surveyed.
- 6) WSE is the water surface elevation.
- 7) Comments refers to unique or important characteristics of the stream channel at a particular station.

Table 4-E-1. Head pin elevations in Chum Channel, surveyed July 30, 1982 (see pages E-1, -2, for definitions of terms).

<u>Bench Mark</u>	<u>Elevation (ft)</u>	<u>Estimated True Elevation (ft)^a</u>
TBM	100.00	180.00
LBHP 1	95.28	175.28
RBHP 1	95.83	175.83
LBHP 2	96.04	176.04
RBHP 2	94.66	174.66
LBHP 3	95.98	175.98
RBHP 3	95.02	175.02
LBHP 4	95.67	175.67
RBHP 4	96.96	176.96
LBHP 5	96.45	176.45
RBHP 5	96.05	176.05
LBHP 6	96.54	176.90
RBHP 6	96.73	176.73
LBHP 7	96.59	176.59
RBHP 7	96.64	176.64
LBHP 8	95.61	175.61
RBHP 8	96.65	176.65

^aEstimated for the TBM from a USGS topographical map to be approximately 180.00 feet. The estimated true elevation for each headpin was based on this estimate.

Table 4-E-2. Cross section elevations in transect 1 of Chum Channel surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 1	95.28	175.28	--
0.0 GB	94.72	174.72	SI
14.0	94.25	174.25	SI
17.3	93.42	173.42	SI
38.6	92.95	172.95	SA
68.3 LWS, LWE	92.10	172.10	GR
85.0	91.64	171.64	GR
112.0	91.94	171.94	SA
128.0	92.03	172.03	SA
148.0 RWS, RWE	92.07	172.07	SA
173.8	91.97	171.97	SI
220.5	93.24	173.24	SI
231.9 GB	95.27	175.27	SI
231.9 RBHP 1	95.84	175.84	--

Table 4-E-3. Cross section elevations in transect 2 of Chum Channel surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 1	96.04	176.04	--
0.0 GB	95.43	175.43	SI
4.0	95.20	175.20	SI
11.5	93.87	173.87	SI
38.1	93.39	173.39	SI
62.5	93.11	173.11	SA
84.4	92.30	172.30	SA
89.0	92.16	172.16	SA
113.0	92.16	172.16	GR
129.0	92.10	172.10	GR
145.0	91.89	171.89	GR
159.0	91.96	171.96	GR
186.8	92.20	172.20	GR
209.0	92.51	172.51	GR
231.3	92.89	172.89	SA
249.2	93.09	173.09	SA
270.0	93.47	173.47	SI
276.3	93.98	173.98	SI
296.8 GB	94.17	174.17	SI
296.8 RBHP 2	94.66	174.66	--

Table 4-E-4. Cross section elevations in transect 3 of Chum Channel surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 3	95.98	175.98	--
0.0 GB	95.55	175.55	SI
3.3	94.83	174.83	SI
7.2	94.71	174.71	SI
23.5	94.02	174.02	SI
29.0	93.15	173.15	SI
39.3	92.32	172.31	SA
48.0	91.72	171.72	GR
59.0	91.32	171.32	GR
77.0	91.39	171.39	GR
97.0	91.67	171.67	GR
115.6	92.31	172.31	GR
133.0	92.94	172.94	SA
138.4	93.41	173.41	SA
143.6	94.71	174.71	SA
151.2 GB	94.46	174.46	SI
151.2 RBHP 3	95.03	175.03	--

Table 4-E-5. Cross section elevations in transect 4 of Chum Channel surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 4	95.67	175.67	--
0.0 GB	95.18	175.18	SI
12.5	93.41	173.41	SI
28.1	92.32	172.32	SA
38.0	91.51	171.51	GR
50.0	91.20	171.20	GR
70.0	91.47	171.47	GR
93.5	92.33	172.33	GR
112.2	93.25	173.25	Vegetation
121.5	93.60	173.60	Soil
134.3 GB	95.37	175.37	Soil
134.3 RBHP 4	95.96	176.96	--

Table 4-E-6. Cross section elevations in transect 5 of Chum Channel surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 5	96.45	176.45	--
0.0 GB	95.23	175.23	SI
8.5	93.89	173.89	SI
11.6	93.79	173.79	SA
36.2	92.35	172.35	GR
48.0	91.69	171.69	GR
57.0	91.53	171.53	GR
72.0	92.34	172.34	GR
128.3	93.77	173.77	SA
135.0	93.96	173.96	SA
148.0	95.35	175.35	SI
153.7 GB	95.43	175.43	SI
153.7 RBHP 5	96.05	176.05	--

Table 4-E-7. Cross section elevations in transect 6 of Chum Channel surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 6	96.59	176.90	--
0.0 GB	95.91	175.91	SI
5.6	93.64	173.64	SI
31.9	92.35	172.35	SA
44.5	91.66	171.66	SA
57.0	91.77	171.77	GR
69.5	92.19	172.19	GR
80.5	92.36	172.36	GR
108.5	93.05	173.05	SA
133.3	93.98	173.98	SI
146.0 GB	96.23	176.23	SI
146.0 RBHP 6	96.74	176.74	--

Table 4-E-8. Cross section elevations in transect 7 of Chum Channel surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 7	96.59	176.59	--
0.0 GB	96.09	176.09	SI
7.7	95.60	175.60	SI
12.2	92.64	172.64	SI
13.3	92.36	172.36	SI
18.8	90.44	170.44	SI
27.6	92.36	172.36	SI
35.5	92.67	172.67	SI
48.5	92.48	172.48	SA
62.0	92.11	172.11	GR
79.0	92.19	172.19	GR
104.6	92.50	172.50	GR
141.6	92.96	172.96	SA
160.4	95.06	175.06	SI
164.2 GB	96.19	176.19	SI
164.2 RBHP 7	96.66	176.66	--

Table 4-E-9. Cross section elevations in transect 8 of Chum Channel surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 8	95.61	175.61	--
0.0 GB	94.93	174.93	SI
7.8	94.76	174.76	SI
61.3	93.68	173.68	SI
92.9	92.66	172.66	SA
105.6	92.38	172.38	GR
127.4	92.44	172.44	GR
151.0	92.57	172.57	GR
174.5	92.46	172.46	GR
200.8	92.76	172.76	SA
210.0	92.91	172.91	SA
234.0	94.85	174.85	SI
245.7 GB	96.19	176.19	SI
245.7 RBHP 8	96.66	176.66	--

Table 4-E-10. Head pin elevations in Rabideaux Slough, surveyed August 10, 1982 (see pages E-1, -2, for definitions of terms).

<u>Bench Mark</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>
TBM	100.00	263.08
LBHP 0	98.57	261.65
RBHP 0	94.16	257.24
LBHP 1	98.64	261.72
RBHP 1	94.06	257.14
LBHP 2	98.56	261.64
RBHP 2	91.98	255.06
LBHP 3	98.40	261.48
RBHP 3	94.76	257.84
LBHP 4	98.51	261.59
RBHP 4	96.28	259.36
LBHP 5	98.28	261.36
RBHP 5	95.20	258.28
LBHP 6	98.58	261.66
RBHP 6	96.06	259.14
LBHP 7	98.61	261.69
RBHP 7	94.14	257.22

Table 4-E-11. Cross section elevations in transect 0 of Rabideux Slough surveyed August 10, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP .0	98.57	261.65	RU
3.7	98.26	261.34	RU
4.1	95.13	258.21	RU
6.7	94.05	257.13	RU
9.1	93.94	257.02	RU
11.0 LWS, LWE	90.50	253.58	RU
14.3	88.75	251.83	RU
19.1	86.77	249.85	RU
21.3	85.47	248.55	RU
24.7	84.65	247.73	RU
27.4	85.49	248.57	RU
31.0	86.77	249.85	RU
35.4	87.76	250.84	RU
42.0	88.75	251.83	RU
50.0	89.64	252.72	RU
57.0	89.80	252.88	SI
64.0	89.63	252.71	SI
73.0	90.02	253.01	SI
78.2 RWS, RWE	90.86	253.94	SI
82.6	92.65	255.73	SI
86.0	93.22	256.30	SI
87.0	93.08	256.16	SI

Table 4-E-12. Cross section elevations in transect 1 of Rabideux Slough surveyed August 10, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 1	98.64	261.72	--
0.0 GB	98.41	261.49	--
4.6	98.13	261.21	High bank
8.8	93.18	256.21	Vegetation
11.8 LWS, LWE	90.89	253.97	--
13.1	88.89	251.97	SI
15.6	88.25	251.33	GR RU
17.5	87.88	250.96	GR RU
23.0	87.65	250.73	GR RU
27.9	86.74	249.82	GR RU
32.0	86.15	249.23	GR RU
40.0	87.84	250.92	GR RU
48.0	89.66	252.74	GR RU
51.0 RWS, RWE	90.89	253.97	GR RU
64.0	92.15	255.23	--
100.3 GB	93.65	256.73	--
100.3 RBHP 1	94.01	257.09	--

Table 4-E-13. Cross section elevations in transect 2 of Rabideux Slough surveyed August 10, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 2	98.55	261.63	--
0.0 GB	98.28	261.36	--
3.9	97.95	261.03	High bank
6.5	93.08	256.16	Vegetation
10.0 LWS, LWE	90.88	253.96	SI
15.0	88.92	252.00	SI
20.0	88.45	251.53	SI
25.0	87.99	251.07	SI
32.0	89.24	252.32	GR
27.0	90.04	253.12	GR
40.0 RWS, RWE	90.89	253.97	GR
72.5 GB	91.72	254.80	GR
72.5 RBHP 2	91.92	255.00	GR

Table 4-E-14. Cross section elevations in transect 3 of Rabideux Slough surveyed August 10, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 3	98.40	261.48	Vegetation
0.0 GB	98.15	261.23	Vegetation
4.6	96.96	260.04	Vegetation
7.0	94.63	257.71	High bank
9.2 LWS, LWE	91.01	254.09	SI
16.0	89.71	252.79	SI
25.0	90.62	253.70	SI
32.4	90.71	253.79	SI GU
33.3 RWS, RWE	91.01	254.09	SI GU
37.2	91.96	255.04	SI GU
41.6	91.95	255.03	GR RU
47.3	92.73	255.81	SI
51.2	94.62	257.70	SI
56.3 GB	94.52	257.60	SI
56.3 RBHP 3	94.75	257.83	SI

Table 4-E-15. Cross section elevations in transect 4 of Rabideux Slough surveyed August 10, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 4	98.51	261.59	Vegetation
0.0 GB	98.11	261.19	Vegetation
10.0	97.02	260.10	High bank
11.8	89.92	253.00	Vegetation
15.0	93.60	256.68	SI
26.0 LWS, LWE	91.0	254.08	SI
28.9 RWS, RWE	90.05	253.13	GR RU
33.0	91.20	254.28	De-watered
37.2 LWS, LWE	90.98	254.06	Main channel
41.0	90.79	253.87	GR RU (SI)
46.0	90.67	253.75	GR RU (SI)
51.2	90.63	253.71	GR RU (SI)
53.6 RWS, RWE	90.91	253.99	GR
56.0	91.44	254.52	GR
58.9	92.53	255.61	GR SI
63.0	94.29	257.37	SI
72.9 GB	95.91	258.99	--
72.9 RBHP 4	96.27	259.35	--

Table 4-E-16. Cross section elevations in transect 5 of Rabideux Slough surveyed August 10, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 5	98.28	261.36	Vegetation
0.0 GB	98.04	261.12	Vegetation
3.0	97.49	260.57	Vegetation
7.0	95.42	258.50	High bank
12.5	91.09	254.17	SI
17.0	91.36	254.44	GR
27.0	91.65	254.73	GR RU
37.7 LWS, LWE	91.05	254.13	GR RU
39.7	90.90	253.98	GR SA
46.0	90.61	253.69	GR SI
49.7 RWS, RWE	91.01	254.09	SA SI
57.6	92.68	255.76	SA SI
61.4	94.59	257.67	SA SI
65.7 GB	94.71	257.79	SA SI
65.7 RBHP 5	95.19	258.27	SA SI

Table 4-E-17. Cross section elevations in transect 6 of Rabideux Slough surveyed August 10, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 6	98.58	261.66	Vegetation
0.0 GB	99.53	262.61	Vegetation
3.4	97.61	260.69	Vegetation
6.0	95.26	258.34	Vegetation
8.2 LWS, LWE	91.15	254.23	Vegetation
15.2	89.53	252.61	RU
27.4 RWS, RWE	91.10	254.18	SA GR
35.0	93.60	256.68	SA
41.9	93.61	256.99	SA
43.3	93.40	256.48	SA
49.0 GB	95.72	258.80	SA
49.0 RBHP 6	96.05	259.13	SA

Table 4-E-18. Cross section elevations in transect 7 of Rabideux Slough surveyed August 10, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 7	98.61	261.69	Vegetation
0.0 GB	98.11	261.19	Vegetation
7.0	97.52	260.60	Vegetation
9.0	98.04	261.12	Vegetation
10.6	93.18	256.26	SA
13.7	91.50	254.58	GR
18.3 LWS, LWE	91.25	254.33	GR
21.0	90.97	254.05	GR
24.0	90.96	254.04	GR
28.5 RWS, RWE	91.26	254.34	GR
33.4	91.55	254.63	GR
34.8	91.87	254.95	GR
39.5	92.32	255.40	GR
43.0	93.06	256.14	SA
44.3	93.50	256.58	SA
49.3	93.51	256.59	SA
61.3 GB	93.89	256.97	SA
61.2 RBHP 7	94.13	257.21	SA

Table 4-E-19. Head pin elevations in Slough 8A surveyed August 23, 1982 (see pages E-1, -2 for definitions of terms).

<u>Bench Mark</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>
LBHP 1	105.48	573.03
RBHP 1 (WP ^a)	100.72	568.27
LBHP 2	105.90	573.45
RBHP 2	100.95	568.50
LBHP 3	100.62	568.17
RBHP 3	100.86	568.41
LBHP 4	100.00	567.55
RBHP 4	100.83	568.38
LBHP 5	102.05	569.60
RBHP 5	101.67	569.22
LBHP 6	101.47	569.02
RBHP 6	102.13	569.68
LBHP 7	101.02	568.57
RBHP 7	102.43	569.98
LBHP 8	101.09	568.64
RBHP 8	102.38	569.93
LBHP 9	101.47	569.02
RBHP 9	103.31	570.86
LBHP 10	103.08	570.63
RBHP 10	106.60	574.15
LBHP 11	102.55	570.10
RBHP 11	107.44	574.99

^aWorking pin

Table 4-E-20. Cross section elevations in transect 1 of Slough 8A surveyed August 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 1	105.48	573.03	--
0.0 GB	105.08	572.63	Vegetation ^a
2.1	104.93	572.48	Vegetation ^b
3.2	104.12	571.67	Vegetation ^c
3.9	101.44	568.99	Cut bank
10.7 LWS, LWE	97.90	565.45	SA SI
13.2	97.16	564.71	SA SI
28.0	96.48	564.03	SA SI
58.6	96.52	564.07	SA SI
80.2	97.18	564.73	SA SI
93.0 RWS, RWE	97.93	565.48	SA SI
99.2	98.83	566.38	Vegetation ^a
101.9	99.81	567.36	Vegetation ^b
107.7	100.43	567.98	High bank
110.7 RBWP 1	100.73	568.28	Vegetation ^b
110.7 GB	100.37	567.92	Vegetation ^b
117.2	99.46	567.01	Vegetation ^b
122.2	98.53	567.08	Vegetation ^b
127.4	98.89	566.44	Vegetation ^c
131.4	99.97	567.52	Vegetation ^c
162.4	99.28	566.83	Vegetation ^c
169.0	100.27	567.82	Vegetation ^c
172.1 GB	100.90	568.45	Vegetation ^d
172.1 RBHP 1	101.04	568.59	Vegetation ^d

^aVegetation of undetermined type.

^bVegetation dominated by horsetail.

^cVegetation dominated by sedges.

^dVegetation dominated by willows.

Table 4-E-21. Cross section elevations in transect 2 of Slough 8A surveyed August 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 2	105.90	573.45	Vegetation
0.0 GB	105.41	572.96	Vegetation
2.3	104.89	572.44	Vegetation
3.3	101.21	568.76	Cut bank
10.0	99.59	561.14	Vegetation
20.0	98.73	566.28	Vegetation
24.2 LWS, LWE	97.94	565.49	RU CO
28.7	97.37	564.92	RU CO
44.0	96.69	564.24	RU CO
53.0	96.27	563.82	RU CO
67.1	96.18	563.73	CO SI
78.5	96.72	564.27	CO SI
89.4	97.11	564.66	CO SI
92.0 RWS, RWE	97.92	565.47	SA
97.6	98.80	566.35	Vegetation
111.5 GB	100.71	588.26	Vegetation
111.5 RBHP 2	100.97	568.52	Vegetation

Table 4-E-22. Cross section elevations in transect 3 of Slough 8A surveyed August 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 3	100.62	568.17	--
0.0 GB	100.55	568.10	--
5.5	99.92	567.47	Vegetation
8.4	98.69	566.24	Cut bank
9.0 LWS, LWE	97.96	565.51	Cut bank
9.1	97.63	565.18	RU CO
10.9	97.12	564.67	RU CO
24.9	97.00	564.55	RU CO
42.8	97.18	564.73	RU CO
46.9	97.94	565.49	RU CO
50.6	98.05	565.60	RU CO
54.9	97.94	565.49	GR RU
63.9	97.37	564.92	GR RU
77.0	97.56	565.11	GR RU
82.1 RWS, RWE	97.98	565.53	Vegetation
83.9	98.71	566.26	Cut bank
90.0	99.86	567.41	Vegetation
107.3 GB	100.61	568.16	Vegetation
107.3 RBHP 3	100.88	568.43	Vegetation

Table 4-E-23. Cross section elevations in transect 4 of Slough 8A surveyed by R & M Consultants (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 GB (LBHP 4)	100.82	568.37	CO RU
5.0	100.40	567.95	CO RU
14.0	99.10	566.65	High bank
15.0 LWS, LWE	98.09	565.64	--
24.0	96.90	564.45	CO RU
34.0	96.50	564.05	CO RU
43.0	96.80	564.35	CO RU
56.0 RWS, RWE	98.49	566.04	--
73.0	111.80	579.35	CO RU
90.0	99.60	567.15	CO RU
100.0 GB (RBHP 4)	100.01	567.56	CO RU

Table 4-E-24. Cross section elevations in transect 5 of Slough 8A surveyed August 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 5	102.05	569.60	Vegetation
0.0 GB	101.81	569.36	Vegetation
11.6	99.79	567.34	SA
17.2 LWS, LWE	98.44	566.49	SA
26.4	94.28	561.83	CO SI
31.2	93.78	561.33	CO SI
36.4	93.68	561.23	CO SI
39.3	94.00	561.55	CO SI
49.2	96.34	563.89	CO SI
54.8	97.03	564.58	RU SI
58.8	96.95	564.50	RU SI
66.3	97.61	565.16	RU CO
80.4	98.40	565.95	RU CO
80.5 RWS, RWE	98.47	566.02	Vegetation
80.6	98.62	566.17	Cut bank
82.4	98.89	566.44	Vegetation
83.9	99.32	566.87	Vegetation
86.4	99.52	567.07	Vegetation
99.8	100.41	567.96	Vegetation
115.2 GB	101.31	568.86	Vegetation
115.2 RBHP 5	101.69	569.24	Vegetation

Table 4-E-25. Cross section elevations in transect 6 of Slough 8A surveyed August 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 6	101.47	569.02	--
0.0 GB	101.25	568.80	Vegetation
27.9	98.98	566.53	Cut bank
28.1 LWS	98.48	566.03	RU CO
28.1 LWE	98.34	565.89	RU CO
33.2	98.33	565.88	RU CO
37.9	98.10	565.65	RU CO
41.9	98.06	565.61	RU CO
54.7	98.24	565.79	RU CO
68.2	97.94	565.49	RU CO
73.7	98.32	565.87	RU CO
81.9	98.25	565.80	RU CO
86.6 LWS, LWE	98.51	566.06	RU CO
87.7	99.13	566.68	Vegetation
93.7	99.59	567.14	Vegetation
95.8	98.92	566.47	SI CO
97.1	98.70	566.25	SI CO
98.2	98.83	566.38	SI CO
98.8	99.21	566.76	Vegetation
100.5	99.25	566.80	Vegetation
102.3	100.04	567.59	Vegetation
104.6	100.43	567.98	Vegetation
119.2 GB	101.85	569.40	Vegetation
119.2 RBHP 6	102.15	569.70	Vegetation

Table 4-E-26. Cross section elevations in transect 7 of Slough 8A surveyed August 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 7	101.02	568.57	--
0.0 GB	100.74	568.29	--
16.3	100.09	567.64	--
19.1	99.52	567.07	Vegetation
23.1	99.11	566.66	Vegetation
28.0 LWS, LWE	98.78	566.33	GR RU
34.7	98.48	566.03	GR RU
46.4	98.61	566.16	GR RU
55.9	98.43	565.98	GR RU
62.0	98.13	566.00	GR RU
67.2	98.59	566.14	GR RU
69.1	98.34	565.89	GR RU
73.7	98.63	566.18	GR RU
81.0	98.38	565.93	GR RU
92.2	98.53	566.08	GR RU
98.7 RWS, RWE	98.74	566.29	GR RU
99.3	99.27	566.82	Vegetation
101.8	99.66	567.21	Vegetation
120.3 GB	102.19	569.74	Vegetation
120.3 RBHP 7	102.44	569.99	Vegetation

Table 4-E-27. Cross section elevations in transect 8 of Slough 8A surveyed August 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 8	101.09	568.64	--
0.0 GB	100.81	568.36	Vegetation
4.9	100.27	567.82	Vegetation
6.6	99.54	567.09	Vegetation
9.3	99.44	566.99	Vegetation
11.3	100.04	567.59	Vegetation
16.0	100.17	567.72	Vegetation
23.5	99.23	566.78	Vegetation
24.2 LWE	99.09	566.64	GR RU
24.2 LSE	99.07	566.62	GR RU
26.5	98.81	566.36	GR RU
33.7	98.90	566.45	GR RU
42.1	99.06	566.61	GR RU
44.0	99.18	566.73	GR RU
47.4	99.01	566.56	GR RU
51.1	98.87	566.42	GR RU
53.4	98.95	566.50	GR RU
58.1	98.97	566.52	GR RU
62.6	98.77	566.32	GR RU
73.3	98.29	565.84	GR RU
85.0	98.65	566.20	GR RU
89.5	98.85	566.40	GR RU
94.0	98.96	566.51	GR RU
95.9 RWS, RWE	99.06	566.61	GR RU
103.2	99.23	566.78	GR RU
106.4	99.77	567.32	Vegetation
111.8	100.85	568.40	Vegetation
118.0	102.00	569.55	Vegetation

Table 4-E-27. (Continued).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
122.3 GB	102.21	569.76	Vegetation
122.3 RBHP 8	102.40	569.95	Vegetation

Table 4-E-28. Cross section elevations in transect 9 of Slough 8A surveyed August 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 9	101.46	569.01	--
0.0 GB	101.30	568.85	Vegetation
3.6	100.24	567.79	Vegetation
5.4	100.44	567.99	Vegetation
6.5	100.91	568.46	Vegetation
9.9	100.61	568.16	Vegetation
33.3 LWS, LWE	99.93	567.48	GR RU
44.6	99.49	567.04	GR RU
48.5	99.60	567.15	GR RU
56.2	99.14	566.69	GR RU
64.8	99.29	566.84	GR RU
66.2	99.57	567.12	GR RU
67.8	99.31	566.86	GR RU
74.5	99.03	566.58	GR RU
80.8	98.59	566.14	GR RU
89.0	98.95	566.50	GR RU
95.3	99.17	566.72	GR RU
103.0	99.25	566.80	GR RU
104.9 RWS, RWE	99.66	567.21	GR RU
105.7	100.01	567.56	Vegetation
106.1	100.45	568.00	Vegetation
109.7	100.91	568.46	Vegetation
120.2	101.25	568.80	Vegetation
121.4	101.75	569.30	Vegetation
127.5 GB	102.63	570.18	Vegetation
127.5 RBHP 9	103.33	570.88	Vegetation

Table 4-E-29. Cross section elevations in transect 10 of Slough 8A surveyed August 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 10	103.07	570.62	--
0.0 GB	102.84	570.39	Vegetation
3.2	102.50	570.05	Vegetation
12.9	100.79	568.34	Vegetation
15.0	101.30	568.85	Vegetation
19.7	101.18	568.73	Vegetation
20.1	100.37	567.87	Vegetation
25.0 LWS, LWE	99.64	567.19	SI
27.8	99.27	566.82	GR RU
43.4	98.95	566.50	RU CO
48.4	99.26	566.81	GR SA
50.8	99.40	566.95	GR SA
68.9	98.74	566.29	RU CO
97.0	99.65	567.20	RU CO
101.3 RWS, RWE	100.23	567.78	RU CO
109.0	102.37	569.92	Vegetation
109.8	103.28	570.83	--
116.2 GB	106.35	573.90	--
116.2 RBHP 10	106.59	574.14	--

Table 4-E-30. Cross section elevations in transect 11 of Slough 8A surveyed August 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 11	102.55	570.10	--
0.0 GB	102.32	569.87	Vegetation
24.9	101.14	568.69	Vegetation
26.3	100.42	567.97	Vegetation
27.5	100.12	567.67	Vegetation
34.1 LWS, LWE ^a	99.65	567.20	SA GR
34.3	99.63	567.18	RU CO
38.8	99.38	566.93	RU CO
40.0 RWS, RWE	99.64	567.19	RU CO
41.7	99.89	567.44	RU CO
42.8 LWS, LWE ^b	99.65	567.20	RU CO
44.5	99.21	566.76	RU CO
47.7	99.55	567.10	RU CO
47.7	99.65	567.20	RU CO
47.9	100.14	567.69	Vegetation
51.2	100.49	568.04	Vegetation
53.0	100.23	567.78	RU CO
58.3	99.65	567.20	RU CO
63.2	99.42	566.97	RU CO
65.1	99.57	567.12	RU CO
68.5	99.52	567.07	SA
69.3 RWS, RWE	99.65	567.20	SA
70.1	99.64	567.19	SA
71.0 LWS, LWE ^c	99.65	567.20	SA
74.4	99.18	566.73	SA CO
80.8	98.15	565.70	RU CO
84.1	97.92	565.47	RU CO
98.0 RWS, RWE	99.65	567.20	RU CO

Table 4-E-30. (Continued).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
99.6	100.34	567.89	RU CO
105.2	102.22	569.77	RU CO
113.0	102.60	570.15	Vegetation
118.0	104.35	571.90	Vegetation
119.6	105.80	573.35	Vegetation
120.7	107.11	574.66	Vegetation
121.4 GB	107.21	574.76	Vegetation
121.4 RBHP 11	107.45	575.00	Vegetation

^aStations 34.1 and 40.0 are edges of small channel.

^bStations 42.8 and 69.3 are edges of larger channel.

^cStations 71.0 and 98.0 are edges of small channel.

Table 4-E-31. Data (ft) for streambed (thalweg) profile of Slough 8A, 1982 (see pages E-3, -4 for definitions of terms).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
1	74	-3 + 74	558.60	1.05	559.65	Riffle
2	75	-3 + 00	559.40	0.35	559.75	Top riffle
3	75	-2 + 25	558.95	0.85	559.80	Backwater
4	50	-1 + 50	558.40	1.40	559.80	Backwater
5	63	-1 + 00	557.85	2.05	559.90	Backwater
6	37	-0 + 37	559.40	0.50	559.90	Backwater
7	133	0 + 00	558.50	1.45	559.95	Mouth
8	6	1 + 33	556.95	3.00	559.95	Pool
9	50	1 + 39	559.30	0.70	560.00	Head pool
10	113	1 + 89	559.95	0.20	560.15	Top pool
11	107	3 + 02	560.60	0.35	560.95	Top riffle
12	74	4 + 09	559.70	1.25	560.95	Pool
13	114	4 + 83	560.40	0.55	560.95	Pool
14	151	5 + 97	560.05	0.90	560.95	Pool
15	112	7 + 48	560.05	0.90	560.95	Pool
16	53	8 + 60	560.15	0.80	560.95	Pool
17	144	9 + 13	559.70	1.25	560.95	Pool
18	22	10 + 57	560.55	0.40	560.95	Pool
19	18	10 + 79	560.75	0.20	560.95	Top pool
20	37	10 + 97	561.15	0.20	561.35	Top riffle
21	43	11 + 34	560.85	0.55	561.40	Run
22	43	11 + 77	561.05	0.45	561.50	Run
23		12 + 20	561.00	0.55	561.55	Run

Table 4-E-31. (Continued).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
24	40	12 + 60	561.50	0.20	561.70	Btm. riffle
25	20	12 + 80	562.05	0.60	562.65	Btm. pool
26	72	13 + 52	562.05	0.65	562.70	Pool
27	24	13 + 76	562.40	0.30	562.70	Pool
28	7	13 + 83	562.40	0.40	562.80	Run
29	41	14 + 24	562.15	0.70	562.85	Run
30	15	14 + 39	562.60	0.40	563.00	-
31	36	14 + 75	562.80	0.35	563.15	-
32	47	15 + 22	563.00	0.40	563.40	-
33	123	16 + 45	563.50	0.20	563.70	-
34	244	18 + 89	563.60	0.30	563.90	-
35	10	18 + 99	563.50 ^b	2.00 ^b	565.50	Top dam
36	156	20 + 55	563.00 ^b	2.50 ^b	565.50	-
37	150	22 + 05	559.50 ^b	4.00 ^b	565.50	Rt. bank
38	269	24 + 74	563.50 ^b	2.00 ^b	565.50	Pool
39	132	26 + 06	562.50 ^b	3.00 ^b	565.50	Pool
40	208	28 + 14	564.00 ^b	2.00 ^b	565.75	Water edge
41	111	29 + 25	563.75 ^b	2.00 ^b	565.75	-
42	90	30 + 15	564.55	1.23	565.78	-
43	132	31 + 47	564.05	2.31	566.36	-
44	89	32 + 36	561.25	5.13	566.35	-
45	66	33 + 02	565.60	0.76	566.35	-
46	41	33 + 43	565.70	0.79	566.45	-

Table 4-E-31. (Continued).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
47	103	34 + 46	565.85	0.95	566.80	-
48	176	36 + 22	566.15	1.29	567.45	-
49	113	37 + 35	566.30	1.16	567.45	-
50	88	38 + 23	565.45	1.98	567.45	-
52	50	38 + 73	566.60	0.43	567.05	Btm. riffle
53	131	40 + 04	568.40	0.16	568.60	Top riffle
54	185	41 + 89	567.80	0.82	568.60	Top pool
55	44	42 + 33	568.35	0.56	568.90	Top riffle
56	140	43 + 73	568.25	0.84	569.10	Top pool
57	45	44 + 18	569.10	0.64	569.75	Top riffle
58	69	44 + 87	567.80	1.95	569.75	Pool
59	67	45 + 54	569.15	0.60	569.75	Top pool
60	35	45 + 89	569.15	0.64	569.80	Btm. riffle
61	71	46 + 60	570.15	0.58	569.75 ^b	Top riffle
62	159	48 + 19	570.05	0.79	570.80	Pool
63	151	49 + 70	569.60	1.27	570.85	Pool
64	178	51 + 48	570.55	0.32	570.85	Riffle
65	116	52 + 64	570.20	0.74	570.90	-
66	340	56 + 04	567.90 ^b	3.00 ^b	567.95	On ice
67	331	59 + 35	567.90 ^b	3.00 ^b	567.50	On ice
68	291	62 + 26	570.40	0.50	570.90	-
69	178	64 + 04	570.95	0.35	571.30	-
70	178	65 + 82	571.90	--	--	- ^c

Table 4-E-31. (Continued).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
71	365	69 + 47	571.25	0.97	572.25	-
72	217	71 + 64	573.80	--	--	No water ^c
73	290	74 + 54	573.70	0.24	573.95	-
74	170	76 + 24	573.15	--	--	No water ^c
75	293	79 + 17	575.35	--	--	No water ^c
76	339	82 + 56	576.45	--	--	Head ^c
77	120	83 + 76	575.05	--	--	No water ^c
78	975	93 + 51	576.15	--	--	No water ^c
79	1012	103 + 63	579.20	--	--	No water ^c
80	300	106 + 63	580.25	--	--	No water ^c

^aWater surface elevation.

^bEstimated value.

^cNo water at time of survey.

Table 4-E-32. Head pin elevations in Slough 9 surveyed August 23, 1982 (see pages E-1, -2 for definitions of terms).

<u>Bench Mark</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>
LBHP 1	110.21	600.69
RBHP 1	97.56	598.04
LBHP 2	102.70	603.18
RBHP 2	97.96	598.44
LBHP 3	104.12	604.60
RBHP 3	94.42	594.90
LBHP 4	102.94	603.42
RBHP 4	94.94	595.42
LBHP 5	100.31	600.79
RBHP 5	96.10	596.58
LBHP 6	99.96	600.44
RBHP 6	98.36	598.84
LBHP 7	98.46	598.94
RBHP 7	99.64	600.12
LBHP 8	98.38	598.86
RBHP 8	102.66	603.14
LBHP 9	98.46	598.94
RBHP 9	99.50	599.98
LBHP 10	100.58	601.06
RBHP 10	100.98	601.46

Table 4-E-33. Cross section elevations in transect 1 of Slough 9 surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 1	100.21	600.69	--
0.0 GB	99.85	600.33	--
3.3	100.06	600.54	High bank
5.6	97.77	598.25	Bank step
7.7	94.70	595.18	Low bank
15.2	93.31	593.79	SI CO
20.3 LWS, LWE	91.93	592.41	--
24.3	91.19	591.67	CO
31.4	91.19	591.67	CO
38.3	91.10	591.58	CO
44.0	91.19	591.67	CO
51.2	91.11	591.59	CO SI
59.1	91.23	591.71	SA CO
70.0	91.36	591.84	SA
78.9 LWS, RWE	90.88	591.36	SI
107.7	92.19	592.67	CO
120.0	92.91	593.39	CO SA
134.0	94.12	594.60	CO SA
145.5	93.66	594.14	CO
160.2	94.35	594.83	CO
176.2	94.56	595.04	CO
185.2	94.93	595.41	Vegetation
191.2	95.81	596.29	SA/Vegetation ^a
198.3	95.93	596.41	SA/Vegetation ^a
205.6 GB	97.24	597.72	--
205.6 RBHP 1	97.56	598.04	--

^aVegetation = Willow

Table 4-E-34. Cross section elevations in transect 2 of Slough 9 surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 2	102.69	602.69	--
0.0 GB	102.55	603.03	--
4.1	102.08	602.56	High bank
12.4	94.72	595.20	Low bank
23.6	92.62	593.10	SI (bank)
28.0 LWS, LWE	92.05	592.53	--
32.2	91.47	591.95	CO
39.5	91.51	591.99	CO
51.3	91.37	591.85	CO
66.1	91.45	591.93	CO
89.0 LWS, RWE	92.03	592.51	--
137.7	94.42	594.90	CO (on HP3)
137.7	94.16	594.64	CO (GB HP3)
151.5	94.91	595.39	CO (on HP4)
151.5	94.63	595.11	CO (GB HP4)
181.5	96.06	596.54	CO (on HP5)
181.5	95.80	596.28	CO (GB HP5)
205.8	96.35	596.83	Vegetation
223.7 GB	97.55	598.03	--
223.7 RBHP 2	97.95	598.43	--

Table 4-E-35. Cross section elevations in transect 3 of Slough 9 surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 3	104.72	605.20	--
0.0 GB	104.26	604.74	--
1.2	104.00	604.48	High bank
2.5	101.12	601.60	Bank step
14.2	99.38	599.86	Bank step
17.0	96.14	596.62	Low bank
24.0	95.12	595.60	Bank
24.7	93.45	593.93	CO SI
34.0 LWS, LWE	92.80	593.28	--
45.0	92.65	593.13	CO SI
57.7	92.26	592.74	CO SI
63.0	92.12	592.60	CO SI
69.0	92.31	592.79	CO SI
78.0	92.59	593.07	CO SI
90.7	92.56	593.04	CO SI
103.0	92.60	593.08	CO SI
117.1	92.68	593.16	CO SI
127.8 LWS, RWE	92.80	593.28	--
136.7	92.98	593.46	CO SA
149.4	93.22	593.70	CO SA
169.0	93.76	594.24	CO SA
190.0	94.34	594.82	CO SA
205.7 GB	94.06	594.54	--
205.7 RBHP 3	94.42	594.90	--

Table 4-E-36. Cross section elevations in transect 4 of Slough 9 surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 4	102.94	603.42	--
0.0 GB	102.49	602.97	--
3.5	101.86	602.34	High bank
5.0	98.22	598.70	Bank step
8.0	98.18	598.66	Low bank
15.5	96.46	596.94	Vegetation
16.5	94.91	595.39	CO
50.0 LWS, LWE ^a	92.23	592.71	SA GR
60.5	92.04	592.52	SA GR
67.3 RWS, RWE	92.19	592.67	GR SA
69.3 LWS, LWE ^b	92.19	592.67	SA GR
80.0	92.26	592.74	GR SA
90.0	92.23	592.71	GR
100.0	92.26	592.74	GR
110.0	92.41	592.89	GR
125.0 RWS, RWE	92.48	592.96	--
140.0	92.61	593.09	GR CO
150.0	92.64	593.12	GR CO
170.0	93.01	593.49	GR CO
190.0	93.45	593.93	GR CO
210.0	93.94	594.42	GR CO
238.3 GB	94.56	595.04	--
238.3 RBHP 4	94.94	595.42	--

^aStations 50.0 and 67.3 are edges of small channel.

^bStations 69.3 and 125.0 are edges of larger channel.

Table 4-E-37. Cross section elevations in transect 5 of Slough 9 surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 5	100.28	600.76	--
0.0 GB	100.04	600.52	--
4.7	98.46	598.94	High bank
8.1	95.54	596.02	Low bank
20.2	93.76	594.24	CO
36.0 LWS, LWE ^a	92.26	592.74	--
45.0	91.77	592.25	CO
58.0 RWS, RWE	92.25	592.73	--
85.3	93.04	593.52	SI
98.4	92.94	593.42	CO
111.0 LWS, LWE ^b	92.78	593.26	--
118.5	92.59	593.07	RU CO
131.5	92.45	592.93	RU CO
144.2	92.29	592.77	RU CO
166.4 RWS, RWE	92.81	593.28	--
184.8	93.56	594.04	CO
209.9	94.33	594.81	CO
236.4	95.03	595.51	CO
264.8	95.39	595.87	CO
283.7 GB	95.78	596.26	--
283.7 RBHP 5	96.07	596.55	--

^aStations 36.0 and 58.0 are edges of small channel.

^bStations 111.0 and 166.4 are edges of larger channel.

Table 4-E-38. Cross section elevations in transect 6 of Slough 9 surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 6	99.96	600.44	--
0.0 GB	99.83	600.31	--
2.4	99.05	599.53	High bank
4.4	97.38	597.86	Bank step
14.4	94.49	594.97	Low bank
15.8 LWS, LWE ^a	93.10	593.58	--
23.0	92.85	593.33	CO
28.7	92.68	593.16	CO
34.8 RWS, RWE	92.84	593.32	--
59.3	93.21	593.69	CO SI
81.0	93.68	594.16	CO SI
97.4 LWS, LWE ^b	93.18	593.66	--
106.1	92.89	593.37	CO
118.8	92.37	592.85	CO
130.3	91.70	592.18	CO
137.4	92.34	592.82	CO
145.5	92.35	592.83	CO
149.4 RWS, RWE	92.86	593.34	--
150.8	93.42	593.34	CO
157.4	94.15	594.63	CO
164.5	94.46	594.94	CO
170.2	95.39	595.87	CO
174.2	97.16	597.64	CO
181.1 GB	98.19	598.67	--
181.1 RBHP 6	98.36	598.84	--

^aStations 15.0 and 34.8 are edges of small channel.

^bStations 97.4 and 149.4 are edges of larger channel.

Table 4-E-39. Cross section elevations in transect 7 of Slough 9 surveyed by R & M Consultants (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 GB (LBHP 7)	99.62	600.10	SA
7.0	98.65	599.13	SA/High bank
10.0	95.15	595.63	SA
15.0 LWS, LWE	92.48	592.96	SA
26.0	91.98	592.46	SA
37.0	91.88	592.36	GR RU
49.0	92.08	592.56	GR RU
59.0	92.18	592.66	GR RU
72.0	92.18	592.66	SA
85.0	92.38	592.86	SA
100.0	92.68	593.16	SA
113.0	92.88	593.36	SA
135.0 RWS, RWE	93.48	593.96	SA
161.0	93.75	594.23	SA
169.0	98.25	598.73	SA/High bank
170.0 GB (LBHP 7)	97.46	598.94	SA

Table 4-E-40. Cross section elevations in transect 8 of Slough 9 surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 8	98.41	598.89	SA
0.0 GB	98.18	598.66	High bank
7.3	96.40	596.88	Vegetation
8.5	94.25	594.73	SA
26.0	94.32	594.80	SA
40.0	93.85	594.33	SA
51.2 LWS, LWE	92.90	593.38	--
64.0	91.52	592.00	SA SI
76.0	91.07	591.55	SA SI
89.0	90.50	590.98	SA SI
97.0	90.61	591.09	SA SI
104.0	91.29	591.77	B0 SI
110.4 RWS, RWE	92.89	593.37	--
116.0	95.09	595.57	B0 SI
119.0	98.83	599.31	B0
120.6	97.62	598.10	B0
123.6	98.42	598.90	B0
127.1	102.71	603.19	Vegetation
129.8 GB	102.25	602.73	--
129.8 RBHP 8	102.68	603.16	--

Table 4-E-41. Cross section elevations in transect 9 of Slough 9 surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 9	98.45	598.93	--
0.0 GB	98.26	598.74	--
2.2	97.71	598.19	High bank
3.0	95.76	596.24	Low bank/SA
10.0	93.86	594.34	CO
28.0	94.21	594.69	CO
44.0	93.64	594.12	CO
56.4 LWS, LWE	92.85	593.33	--
74.2	91.58	592.06	SA SI
88.0	91.41	591.89	SA SI
100.0	91.51	591.99	SA SI
106.0	91.43	591.91	SA SI
113.0	90.42	590.90	SA SI
115.4	89.72	590.20	BO
122.0	91.58	592.06	BO
123.7 RWS, RWE	92.83	593.31	--
128.2	95.34	595.82	BO SA
131.0	95.50	595.98	BO SA
133.1	96.93	597.41	BO SA
139.0 GB	99.29	599.77	--
139.0 RBHP 9	99.47	599.95	--

Table 4-E-42. Cross section elevations in transect 10 of Slough 9 surveyed August 11, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 10	100.54	601.02	SA
0.0 GB	100.23	600.71	SA
4.8	99.89	600.37	SA
7.9	98.74	599.22	Vegetation
16.1	94.45	594.93	SA (bar)
25.0	94.57	595.05	SA (bar)
36.0	93.09	593.57	SA (bar)
41.6 LWS, LWE	92.84	593.32	--
59.0	91.34	591.82	SA
66.0	90.56	591.04	SA
76.0	89.45	589.93	SA
85.0	89.86	590.34	SA
92.0	89.49	589.97	SA
96.0	91.64	592.12	BO
99.6 RWS, RWE	92.85	593.33	--
106.0	94.30	594.78	BO
119.2	97.90	598.38	BO
126.8 GB	100.71	601.19	--
126.8 RBHP 10	100.94	601.42	--

Table 4-E-43. Data (ft) for streambed (thalweg) profile of Slough 9
 (see pages E-3, -4 for definitions of terms).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
1		-8 + 76	588.10	1.11	589.20	--
	62					
2		-8 + 14	588.00	1.22	589.20	--
	65					
3		-7 + 49	588.40	0.83	589.25	--
	142					
4		-6 + 07	589.00	0.62	589.60	--
	53					
5		-5 + 54	588.90	0.88	589.80	--
	96					
6		-4 + 58	589.45	0.45	589.85	--
	82					
7		-3 + 77	589.60	0.34	589.95	--
	145					
8		-2 + 32	589.20	0.77	589.95	--
	206					
9		-0 + 26	588.05	1.96	589.95	--
	26					
10		0 + 00	588.30	1.67 ^b	589.95 ^b	Mouth
	274					
11		2 + 74	588.45	1.58	590.00	--
	245					
12		5 + 19	587.85	2.07	589.95	--
	7					
13		5 + 26	589.80	0.18	589.00	--
	114					
14		6 + 40	589.80	0.38	590.20	--
	98					
15		7 + 38	591.00	0.25	591.25	--
	143					
16		8 + 81	591.85	0.22	592.00	--
	146					
17		10 + 27	591.70	0.42	592.10	--
	105					
18		11 + 32	591.20	0.93	592.15	--
	300					
19		14 + 32	591.50	0.67	592.15	--
	215					
20		16 + 47	591.40	0.90 ^b	592.30 ^b	1982/TR-1 ^c
	290					
21		19 + 37	591.80	0.70 ^b	593.50 ^b	1982/TR-2 ^c
	168					
22		21 + 05	591.80	0.80 ^b	592.60 ^b	1982/TR-3 ^c
	28					
23		21 + 33	592.40	0.30 ^d	592.70 ^d	1982/TR-4 ^c

Table 4-E-43. (Continued).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
24	41	21 + 74	592.10	-- ^d	-- ^d	1982/TR-5 ^C
25	91	22 + 65	592.00	1.30 ^d	597.30 ^d	1982/TR-6 ^C
26	116	23 + 81	592.40	0.90 ^d	593.30 ^d	1982/TR-7 ^C
27	187	25 + 68	590.80	2.60 ^d	593.40 ^d	1982/TR-8 ^C
28	138	27 + 06	590.00	3.40 ^d	593.40 ^d	1982/TR-9 ^C
29	158	28 + 64	589.80	3.70	593.50 ^d	1982/TR-10 ^C
30	152	30 + 16	591.85	1.25	593.10	--
31	123	31 + 39	592.75	0.40	593.15	--
32	94	32 + 33	593.65	0.48	594.15	--
33	124	33 + 57	594.40	0.42	594.80	--
34	173	35 + 30	595.10	0.20	595.30	--
35	294	38 + 24	596.10	0.20	596.30	--
36	290	41 + 14	597.00	0.35	597.30	--
37	184	42 + 98	597.10	0.20	597.30	--
38	202	45 + 00	597.35	0.20	597.55	--
39	183	46 + 83	598.25	0.10	598.35	--
40	145	48 + 28	599.85	0.35	600.20	--
41	295	51 + 23	600.20	0.20	600.40	--
42	241	53 + 64	601.20	--	--	-- ^d
43	177	55 + 41	600.85	--	--	-- ^d
44	168	57 + 09	601.65	--	--	-- ^d
45	248	59 + 57	602.40	--	--	-- ^d
46	145	61 + 02	602.60	--	--	-- ^d

Table 4-E-43. (Continued).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
47	149	62 + 51	604.60	--	--	Head ^d

^aWater surface elevation.

^bEstimated value.

^cData surveyed on August 25, 1982.

^dNo water present at time of survey.

Table 4-E-44. Data (ft) for streambed (thalweg) profile of Slough 11, 1982 (see pages E-3, -4 for definitions of terms).

Point	Distance	Station	Thalweg Elevation	Depth	WSE ^a	Comments
1	165	-7 + 09	662.80	1.70	664.50	Below mouth
2	300	-5 + 44	664.00	0.52	664.50	Below mouth
3	115	-2 + 44	665.30	0.50	665.80	Below mouth
4	129	-1 + 29	665.15	1.03	666.15	Below mouth
5	171	0 + 00	665.45	0.85	666.30	Mouth
6	137	1 + 71	666.00	0.37	666.35	Top pool
7	212	3 + 08	667.90	0.49	668.40	Top riffle
8	72	5 + 20	667.55	0.90 ^b	668.45 ^b	Top pool
9	235	5 + 92	668.30	0.33	668.65	Top riffle
10	124	8 + 27	668.25	0.45	668.70	Top pool
11	157	9 + 51	668.95	0.55	669.50	Top riffle
12	94	11 + 08	669.25	0.43	669.70	Top pool
13	325	12 + 02	670.00	0.44	670.45	Top riffle
14	79	15 + 27	669.80	0.91	670.70	At R & M well
15	35	16 + 06	670.50	0.21	670.70	Top pool
16	218	16 + 41	670.75	0.30	671.05	Top riffle
17	139	18 + 59	669.65	1.32	671.00	Pool
18	51	19 + 98	671.05	0.27	671.30	Top pool
19	117	20 + 49	673.15	0.24	673.35	Top riffle
20	300	21 + 66	673.55	Ice	673.55	Pool
21	56	24 + 66	673.05	0.51	673.55	Top pool
22	241	25 + 22	674.30	0.28	674.55	Top riffle
23		27 + 63	674.40	0.25	674.65	Top pool

Table 4-E-44. (Continued).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
24	48	28 + 11	675.15	0.25	675.40	Top riffle
25	300	31 + 11	675.45	--	--	Pool ^c
26	300	34 + 11	675.35	--	--	Top pool ^c
27	302	37 + 13	677.30	--	--	- ^c
28	128	38 + 41	682.80	--	--	Channel ^c
29	154	39 + 95	679.75	--	--	Channel ^c
30	100	40 + 95	682.55	--	--	Mound ^c
31	190	42 + 85	680.70	--	--	Mound ^c
32	211	44 + 96	680.25	--	--	Btm. pool ^c
33	106	46 + 02	680.40	--	--	Top pool ^c
34	68	46 + 70	682.80	--	--	Mound ^c
35	177	48 + 47	681.35	--	--	Btm. pool ^c
36	139	49 + 86	681.35	--	--	Top pool ^c
37	123	51 + 09	684.60	--	--	Head ^c

^aWater surface elevation.

^bEstimated value.

^cNo water present at time of survey.

Table 4-E-45. Head pin elevations in Slough 21 surveyed September 2, 1982 (see pages E-1, -2 for definitions of terms).

<u>Bench Mark</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>
LBHP 1	98.33	748.72
RBHP 1	100.02	750.41
LBHP 2	99.04	749.43
RBHP 2	98.85	749.24
LBHP 3	97.09	747.48
RBHP 3	99.57	749.96
LBHP 4	98.19	748.58
RBHP 4	99.89	750.28
LBHP 5	97.91	748.30
RBHP 5	100.76	751.15
LBHP 6	97.86	748.25
RBHP 6	100.77	751.16
LBHP 7	97.51	747.90
RBHP 7	100.24	750.63
LBHP 8	101.10	751.49
RBHP 8	100.57	750.96

Table 4-E-46. Cross section elevations in transect 1 of Slough 21 surveyed September 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 1	98.33	748.72	--
0.0 GB	98.17	748.56	GR RU
1.5	97.92	748.31	SA CO
80.2	95.00	745.39	SA
99.7 LWS, LWE	94.10	744.49	Low bank
127.7	92.54	742.93	SA CO
134.9	92.27	742.66	SA
149.9	91.90	742.29	SA BO
154.0	91.58	741.97	SA BO
166.0	92.19	742.58	BO CO
184.0	92.56	742.95	CO SA
192.0	92.32	742.71	CO SA
207.0 RWS, RWE	93.14	743.53	CO SA
230.0	94.09	744.48	CO SA
251.0	94.85	745.24	Vegetation
268.0	97.39	747.78	--
270.6 GB	99.56	749.95	--
270.6 RBHP 1	100.02	750.41	--

Table 4-E-47. Cross section elevations in transect 2 of Slough 21 surveyed September 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 2	99.04	749.43	--
0.0 GB	98.65	749.04	GR SA
5.0	97.83	748.22	GR SA
17.0	97.86	748.25	GR SA
27.3	96.86	747.25	SA RU
52.7 LWS, LWE	94.14	744.53	RU SA
67.5	93.17	743.56	CO RU
73.4	93.06	743.45	CO RU
87.8	93.91	744.30	CO RU
131.0	94.44	744.83	CO RU
144.4	93.75	744.14	CO RU
203.8	93.33	743.72	BO RU
210.2	93.13	743.52	BO RU
214.6	93.05	743.44	BO RU
231.6	93.46	743.85	BO RU
243.7	93.83	744.22	SI CO
259.8	93.86	744.25	SI CO
256.2 LWS, RWE	94.14	744.53	--
260.3	95.65	746.04	Soil
261.8	96.80	747.19	Soil
264.0	95.80	746.19	Soil
272.5	96.20	746.59	Soil
274.0	97.32	747.71	Soil
284.2 GB	98.60	748.99	Soil
284.2 RBHP 2	98.84	749.23	Soil

Table 4-E-48. Cross section elevations in transect 3 of Slough 21 surveyed by September 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 3	97.09	747.48	--
0.0 GB	96.98	747.37	RU CO
12.0	96.95	747.34	--
16.9 LWS, LWE	95.49	745.88	High
20.0 LWS, LWE	94.20	744.59	Low
25.0	93.78	744.17	SI
34.0	93.23	743.62	SI BO
39.0	93.14	743.53	SI BO
47.0	92.89	743.28	SI BO
51.0	93.00	743.39	SI BO
56.0	92.68	743.07	SI BO
69.0	92.71	743.10	SI BO
75.0	93.03	743.42	SI BO
88.0	93.29	743.68	SI BO
Top of Staff Gage	96.30	746.69	SI BO
97.5 RWS, RWE	94.22	744.61	Low
101.4 RWS, RWE	95.40	745.79	High
106.0	98.41	748.86	--
112.2 GB	99.25	749.64	--
112.2 RBHP 3	99.57	749.96	--

Table 4-E-49. Cross section elevations in transect 4 of Slough 21 surveyed September 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 4	98.19	748.58	--
0.0 GB	98.03	748.42	--
11.5	97.63	748.02	RU CO
24.0	97.00	747.39	SA
30.0 LWS, LWE	94.45	744.84	High
32.5	94.27	744.66	Upwelling
33.7 LWS, LWE	94.18	744.57	Low
43.0	93.76	744.15	SA
46.0	93.70	744.09	SA
50.0	93.97	744.36	SA
66.0	93.25	743.64	SA
77.0	92.59	742.98	SA
81.0	91.96	742.35	SA
84.0	91.52	741.91	SA
85.0	91.41	741.90	SA
89.0	91.69	742.08	SA
93.0	92.38	742.77	BO SI
100.0 RWS, LWE	94.21	744.60	Low
102.3 RWS, LWE	95.46	745.85	High
106.0	98.42	748.81	--
109.9 GB	99.58	749.97	--
109.9 RBHP 4	99.89	750.28	--

Table 4-E-50. Cross section elevations in transect 5 of Slough 21 surveyed September 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 5	97.91	748.30	--
0.0 GB	97.70	748.09	--
10.0	97.57	747.96	SA
17.5	96.78	747.17	SA
24.0	94.95	745.34	SA
27.0	94.80	745.19	SA
29.0	94.97	745.36	SA
33.0	95.51	745.90	SA
35.2 LWS, RWE	95.47	745.86	SA/High
60.0	94.66	745.05	SA
67.5 LWS, WSE	94.19	744.58	SA/Low
72.0	93.86	744.25	SA
78.5	93.47	743.86	RU BO
82.5	93.08	743.47	RU BO
88.0	93.52	743.91	RU BO
91.5	93.20	743.59	RU BO
93.0	93.27	743.66	RU BO
100.0	93.57	743.96	RU BO
102.5	93.96	744.35	RU BO
106.0	93.66	744.05	RU BO
114.0	93.43	743.82	RU BO
117.7 RWS, WSE	94.25	744.64	Low
120.5	95.02	745.41	--
121.3 RWS, WSE	95.48	745.87	High
126.5	100.45	750.84	--
131.8 GB	100.54	750.93	--
131.8 RBHP 5	100.75	751.14	--

Table 4-E-51. Cross section elevations in transect 6 of Slough 21 surveyed September 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 6	97.86	748.25	--
0.0 GB	97.67	748.06	--
8.0	97.56	747.95	Vegetation
19.5	96.84	747.23	SA
25.0	96.08	746.47	SA
29.5	96.27	746.66	SA
36.0 LWS, LWE	95.51	745.90	High
42.0	94.84	745.23	SA
45.0	95.21	745.60	SA
66.0	94.71	745.10	GR CO
76.2 LWS, LWE	94.40	744.79	Low
85.0	94.08	744.47	GR CO
93.0	94.12	744.51	GR CO
96.5	94.27	744.66	GR CO
102.0	94.09	744.48	GR CO
104.5	93.85	744.24	GR CO
107.0	93.70	744.09	GR CO
109.0	93.65	744.04	CO BO
111.5	93.85	744.24	CO BO
120.5	94.14	744.53	CO BO
123.8 RWS, RWE	94.38	744.77	Low
131.0 RWS, RWE	95.48	745.87	High
136.0	100.49	750.88	--
138.3 GB	100.59	750.98	--
138.3 RBHP 6	100.77	751.16	--

Table 4-E-52. Cross section elevations in transect 7 of Slough 21 surveyed September 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 7	97.51	747.90	--
0.0 GB	97.28	747.67	GR RU
33.5	95.89	746.28	SI SA
38.0	95.74	746.13	SI SA
43.0	95.83	745.72	SI SA
49.0	95.23	745.62	SI SA
63.0	95.87	746.26	SI SA
66.0 LWS, LWE	95.54	745.93	High
74.0	94.95	745.34	GR CO
96.5 LWS, LWE	94.68	745.07	GR CO/Low
125.0	94.05	744.44	GR CO
108.0	93.47	743.86	CO RU
111.5	93.38	743.77	CO RU
115.0	93.12	743.51	CO RU
118.0	92.78	743.17	BO CO
125.5 RWS, LWE	94.52	744.91	Low
126.5 RWS, LWE	95.64	746.03	High
127.5	96.54	746.93	BO CU
130.0	100.18	750.57	BO CU
132.6 GB	100.09	750.48	--
132.6 RBHP 7	100.19	750.58	--

Table 4-E-53. Cross section elevations in transect 8 of Slough 21 surveyed September 22, 1982 (see pages E-1, -2, for definitions of terms).

<u>Station (ft)</u>	<u>Elevation (ft)</u>	<u>True Elevation (ft)</u>	<u>Comments and Substrate</u>
0.0 LBHP 8	101.10	751.49	--
0.0 GB	100.88	751.27	--
3.5	99.52	749.91	Vegetation
7.7	95.45	745.84	Vegetation
8.0 LWS, LWE	94.28	744.67	Low
8.0 LWS, LSE	94.53	744.92	High
9.5	93.69	744.08	SI
16.0	93.39	743.78	GR SI
27.0	93.39	743.78	SI
42.0	93.18	743.57	GR
55.0	92.29	742.68	SI
66.0	92.37	742.76	SI
82.0	92.95	743.34	SI
91.0	93.26	743.65	SI
97.0	93.49	743.88	SI
99.5	93.22	743.61	SI
104.0	93.93	744.32	SI
108.0	93.37	743.76	SI
111.0	93.07	743.46	CO BO
115.0	92.69	743.08	CO BO
115.5	92.69	743.08	SI
119.5 LWS, RWE	94.38	744.77	Low
119.5 LWS, RSE	94.54	744.93	High
120.0	95.20	745.59	--
123.0	96.64	747.03	--
125.0	98.90	749.29	--
126.5	100.08	750.47	--
129.3 GB	100.37	750.76	--
129.3 RBHP 8	100.57	750.96	--

Table 4-E-54. Data (ft) for streambed (thalweg) profile of Slough 21, 1982 (see pages E-3, -4 for definitions of terms).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
1		0 + 00	731.05	0.40	731.45	Mouth
	46					
2		0 + 46	730.95	0.45	731.40	Bar at mouth
	41					
3		0 + 87	730.15	1.35	731.50	Btm. riffle
	24					
4		1 + 11	730.55	1.05	731.60	Riffle
	26					
5		1 + 37	731.15	0.75	731.90	Top riffle
	74					
6		2 + 11	731.65	0.30	731.95	Pool
	200					
7		4 + 11	730.25	1.70	731.95	Pool
	90					
8		5 + 01	730.70	1.25	731.95	Top pool
	2					
9		5 + 03	731.25	0.70	731.95	Top pool
	108					
10		6 + 11	731.50	0.45	731.95	Top pool
	61					
11		6 + 72	731.50	0.60	732.10	Btm. run
	58					
12		7 + 30	731.65	0.60	732.25	Top run
	17					
13		7 + 47	732.40	0.20	732.60	Riffle
	11					
14		7 + 58	732.10	0.55	732.65	Top riffle
	28					
15		7 + 86	731.30	1.35	732.65	Pool
	53					
16		8 + 39	731.85	0.80	732.65	Top pool
	88					
17		9 + 27	732.05	0.65	732.70	Run
	126					
18		10 + 53	732.55	0.50	733.05	Run
	130					
19		11 + 83	731.05	2.05	733.10	Pool
	146					
20		13 + 29	731.45	1.65	733.10	Top pool
	20					
21		13 + 49	731.55	1.55	733.10	Top pool
	31					
22		13 + 80	732.75	0.35	733.10	Top pool
	87					
23		14 + 67	733.65	0.50	734.15	Riffle

Table 4-E-54. (Continued).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
24	82	15 + 49	734.55	0.25	734.80	Top riffle
25	45	15 + 94	734.85	0.60	735.45	Top riffle
26	66	16 + 60	734.90	0.70	735.60	Pool
27	80	17 + 40	735.20	0.40	735.60	Pool
28	38	17 + 78	735.35	0.35	735.70	Top pool
29	37	18 + 15	735.90	0.40	736.30	Top riffle
30	62	18 + 77	735.40	0.95	736.35	Pool
31	91	19 + 68	736.00	0.35	736.35	Pool
32	87	20 + 55	736.10	0.70	736.80	Run
33	39	20 + 94	736.10	0.80	736.90	Pool
34	67	21 + 61	736.00	0.90	736.90	Pool
35	57	22 + 18	736.55	0.50	737.05	Top pool
36	9	22 + 27	736.85	0.45	737.30	Top riffle
37	53	22 + 80	737.05	0.40	737.45	Btm. riffle
38	47	23 + 27	737.10	0.65	737.75	Riffle
39	85	24 + 12	737.50	0.35	737.85	Riffle
40	48	24 + 60	737.50	0.55	738.05	Riffle
41	42	25 + 02	737.80	0.45	738.25	
42	33	25 + 35	737.35	0.95	738.30	Boulder run
43	19	25 + 54	737.85	0.45	738.30	Boulder run
44	22	25 + 76	737.35	0.10	738.45	Boulder run
45	75	26 + 51	737.90	0.60	738.50	Top run
46	63	27 + 14	738.10	0.45	738.55	Pool

Table 4-E-54. (Continued).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
47	31	27 + 45	737.55	1.00	738.55	Pool
48	101	28 + 46	738.05	0.55	738.60	Top pool
49	63	29 + 09	738.55	0.25	738.80	Btm. riffle
50	100	30 + 09	738.60	0.45	739.05	Riffle
51	113	31 + 22	739.30	0.25	739.55	Riffle
52	87	32 + 09	739.45	0.55	740.00	Riffle
53	95	33 + 04	740.20	0.30	740.50	Riffle
54	108	34 + 12	740.85	0.50	741.35	Riffle
55	88	35 + 00	741.60	0.50	742.10	Riffle
56	96	35 + 96	742.10	0.55	742.65	Riffle
57	82	36 + 78	742.25	0.50	742.75	Riffle
58	70	37 + 48	742.00	0.85	742.85	Run
59	90	38 + 38	742.55	0.30	742.85	Run
60	128	39 + 66	742.15	0.75	742.90	Top run
61	80	40 + 46	742.20	0.80	743.00	Pool
62	103	41 + 49	742.65	0.35	743.00	Pool
63	163	43 + 12	742.70	0.30	743.00	Top pool
64	54	43 + 66	742.55	0.70	743.25	Run
65	73	44 + 39	742.75	0.80	743.55	Run
66	63	45 + 02	743.65	0.40	744.05	Run
67	32	45 + 34	743.40	0.75	744.15	Run
68	152	46 + 86	743.05	1.20	744.25	1982/TR-3
69	97	47 + 83	742.00	2.25	744.25	1982/TR-4

Table 4-E-54. (Continued).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
70	141	49 + 24	743.65	0.68	744.35	1982/TR-5
71	60	49 + 84	744.10	0.51	744.60	1982/TR-6
72	89	50 + 73	743.25	1.58	744.80	1982/TR-7
73	95	51 + 68	743.15	--b	--b	1981/TR-13
74	82	52 + 50	743.45	--b	--b	1981/TR-12
75	118	53 + 68	743.85	--b	--b	1981/TR-11
76	126	54 + 94	744.10	--b	--b	1981/TR-10
77	314	58 + 08	744.80	--b	--b	1981/TR-9
78	204	60 + 12	745.55	--b	--b	1981/TR-8
79	214	62 + 26	746.30	--b	--b	1981/TR-7
80	139	63 + 65	747.05	--b	--b	1981/TR-6
81	106	64 + 71	747.75	--b	--b	1981/TR-5
82	206	66 + 77	749.65	--b	--b	1981/TR-4
83	212	68 + 89	748.30	--b	--b	1981/TR-3
84	440	73 + 29	752.10	--b	--b	1981/TR-2
85	297	76 + 26	753.80	--b	--b	1981/TR-1

^aWater surface elevation.

^bEstimated value.

Table 4-E-55. Data (ft) for streambed (thalweg) profile of side-channel of Slough 21, 1982 (see pages E-3, -4 for definitions of terms).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
1		0 + 00	742.70	0.30	743.00	43+12=0+00
	26					
2		0 + 26	741.80	1.20	743.00	-
	73					
3		0 + 99	742.80	0.20	743.00	-
	53					
4		1 + 52	743.80	0.20	744.00	-
	61					
5		2 + 13	743.85	0.55	744.40	-
	112					
6		3 + 25	743.50	0.90	744.40	-
	133					
7		4 + 58	744.50	--	--	- ^b
	179					
8		6 + 37	747.20	--	--	- ^b
	70					
9		7 + 07	747.45	--	--	Head ^b

^aWater surface elevation.

^bNo water present at time of survey.

Table 4-E-56. Data (ft) for streambed (thalweg) profile of right fork of Slough 21, 1982 (see pages E-3, -4 for definitions of terms).

<u>Point</u>	<u>Distance</u>	<u>Station</u>	<u>Thalweg Elevation</u>	<u>Depth</u>	<u>WSE^a</u>	<u>Comments</u>
1	50	63 + 65	747.05	0.30 ^b	747.35 ^b	1981/TR-6
2	124	64 + 15	747.05	0.30 ^b	747.35 ^a	Btm. rt. fork
3	63	65 + 39	747.20	0.30 ^b	747.55 ^b	Riffle
4	126	66 + 02	748.75	0.30 ^b	749.05 ^b	Riffle
5	152	67 + 28	749.50	--	--	Top riffle ^c
6	110	68 + 80	748.85	--	--	Pool ^c
7	186	69 + 90	750.00	--	--	Top pool ^c
8	176	71 + 76	750.85	--	--	No water ^c
9	224	73 + 52	752.80	--	--	No water ^c
10	194	75 + 76	753.25	--	--	No water ^c
11	247	77 + 70	154.05	--	--	No water ^c
12	179	80 + 17	755.55	--	--	No water ^c
13	247	81 + 96	756.70	--	--	No water ^c
14		84 + 43	756.85	--	--	Head ^c

^aWater surface elevation.

^bEstimated value.

^cNo water present at time of survey.

APPENDIX F

Site Descriptions of Designated Fish Habitat Sites

Descriptions and aerial photographs of each of the 17 Designated Fish Habitat (DFH) sites sampled during the open water season are included in this appendix. Each narrative gives a general introduction to the site, a summary of hydraulic conditions at the site, a general introduction to the site, a description of habitat characteristics and a summary of major fish species present. The narratives are only descriptive in nature and are intended as an aid to the reader in understanding conditions at each site. They do not include any data (except for the presence/absence of the various habitat zones) not presented elsewhere in this report, nor do they draw any conclusions.

Various sources of data are referred to in each site description. Provisional USGS Susitna River discharge data are contained in Appendix 4-A. Discharges associated with sites from Goose Creek to Birch Creek (below the Chulitna River confluence) are referenced to Susitna discharges at the Parks Highway bridge. The sites from Whiskers Creek to Portage Creek (above the Chulitna River confluence) are referenced to Susitna discharges at Gold Creek. The discharges referred to in each site description are the discharges at the appropriate gaging station on the day that biological sampling occurred at that site. The results of the studies relating changes in the surface area of the mainstem backwater area to mainstem discharge at each site, are contained in section 4-I-3.1.3.1. Habitat data for each site are included in Appendix 4-I.

Fish catch data are presented in Appendix 4-G and fish catch per unit effort data are found in Appendix 4-H. The biological summaries also include results obtained by boat electrofishing at the DFH sites. These data are contained in Section 3.1.1 and Appendix 3-A of Volume 3. Boat electrofishing effort at DFH sites occurred in zone 3 or in the mainstem backwater zones (zone 2, zone 6, zone 7, zone 8).

Descriptions of each habitat zone are contained in Appendix Table 4-F-1. The distribution of zones at a hypothetical site at three different levels of mainstem discharge is shown in Appendix Figure 4-F-1. Discussion of the habitat zone concept is presented in Section 4-II-2.2.

References to slough heads being open or closed and the presence/absence of various hydraulic zones are restricted to the two days out of every two weeks that sampling was being conducted at the site. The slough head status and the zone distribution may well have been different between sampling trips at any particular site.

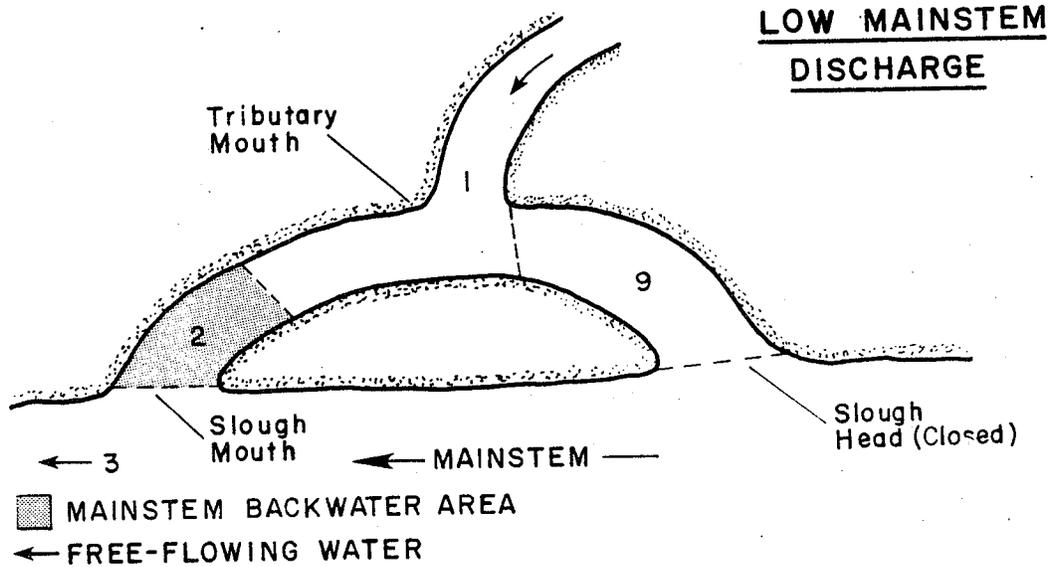
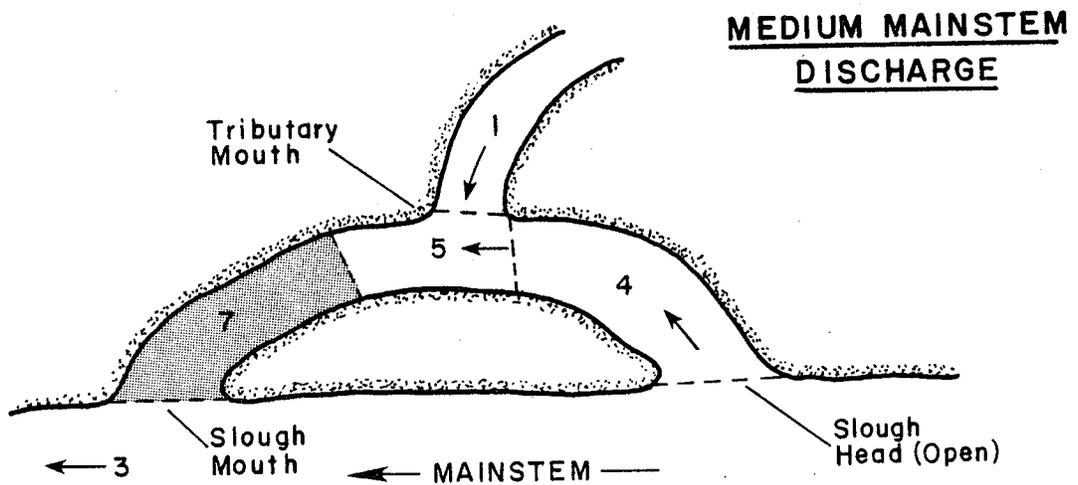
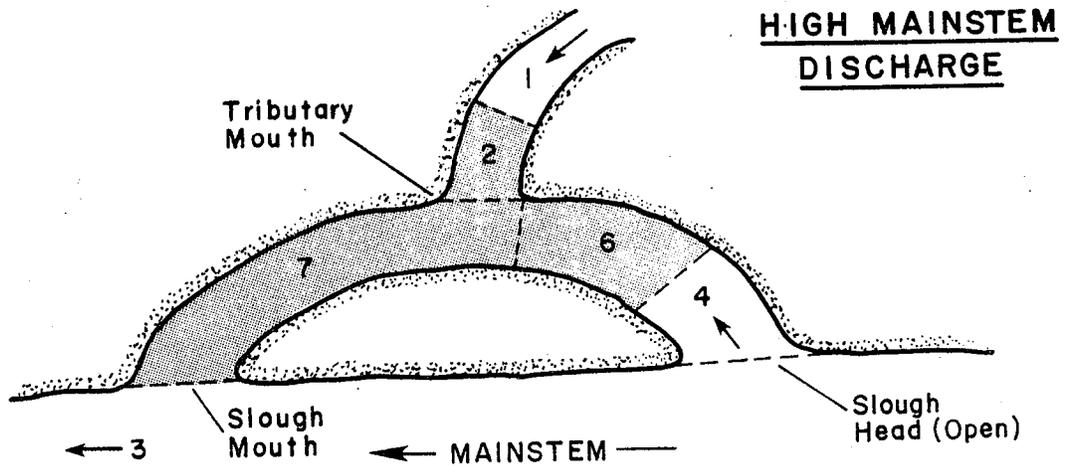


Figure 4-F-1 Hypothetical slough with associated tributary showing hydraulic zones present at three different levels of mainstem discharges.

4-F3

Appendix Table 4-F-1. Description of habitat zones sampled at Designated Fish Habitat Sites, June through September, 1982.

ZONE

CODE

DESCRIPTION

- 1 Areas with a tributary or groundwater water source, which are not influenced by mainstem stage, and which usually have significant surface water velocity.
- 2 Areas with a tributary or groundwater water source, which have no appreciable surface water velocity as a result of a hydraulic barrier created at the mouth of a tributary or slough by mainstem stage.
- 3 Areas of significant surface water velocities, primarily influenced by mainstem, where tributary or slough water mixes with the mainstem water.
- 4 Areas of significant surface water velocities, which are located in a slough or side channel above a tributary confluence (or in a slough or side channel where no tributary is present), when the slough head is open.

Appendix Table 4-F-1. Description of habitat zones sampled at
Designated Fish Habitat Sites, June through September, 1982.
(continued)

ZONE

CODE DESCRIPTION

- 5 Areas of significant water surface velocities, which are located in slough or side channel below a tributary confluence, when the slough head is open.
- 6 Backwater areas with no appreciable surface water velocities resulting from a hydraulic barrier created by mainstem stage, which occur in a slough or side channel above a tributary confluence (or in a slough or side channel where no tributary is present), when the head of the slough is open.
- 7 Backwater areas with no appreciable surface water velocities resulting from a hydraulic barrier created by mainstem stage, which occur in a slough or side channel below a tributary confluence, when the head of the slough is open.
- 8 Backwater areas consisting of mainstem eddies.
- 9 A pool with no appreciable surface water surface velocities, which is created by a geomorphological feature of a free-flowing zone or from a hydraulic barrier created by a tributary; not created as a result of mainstem stage.

1. Goose Creek 2 and Side Channel

Goose Creek 2 and Side Channel is located at RM 73.1 on the east side of the Susitna River, approximately 10.9 miles downriver from the Parks Highway Bridge (Appendix Plate 4-F-1). The study site is centered around the confluence of the north mouth of Goose Creek and a side channel of the Susitna River.

The north fork of Goose Creek was typically 1 to 4 feet deep in the study area and was relatively swift and clear. The substrate consisted of sand overlying gravel in the lower reaches of the area and grades into gravel in the upper reaches. A log and debris jam wedged across the mouth of the creek created a small cascading water fall which was present during the entire 1982 summer field season. A large sand delta had been deposited in the side channel at the mouth of the tributary.

The side channel has a low gradient in the study area (about 1600 feet). The steep south banks are covered with sparse emergent and overhanging riparian vegetation. Mud banks on the north side of the channel foster sparse vegetation and indicate the scouring effects of water and ice at high mainstem flows.

Hydraulic Conditions

The mainstem discharges (water surface elevations) observed in the side channel at this habitat location were higher in June and July than in August and September (Appendix Table 4-F-2). The highest mainstem

0 1000
FEET

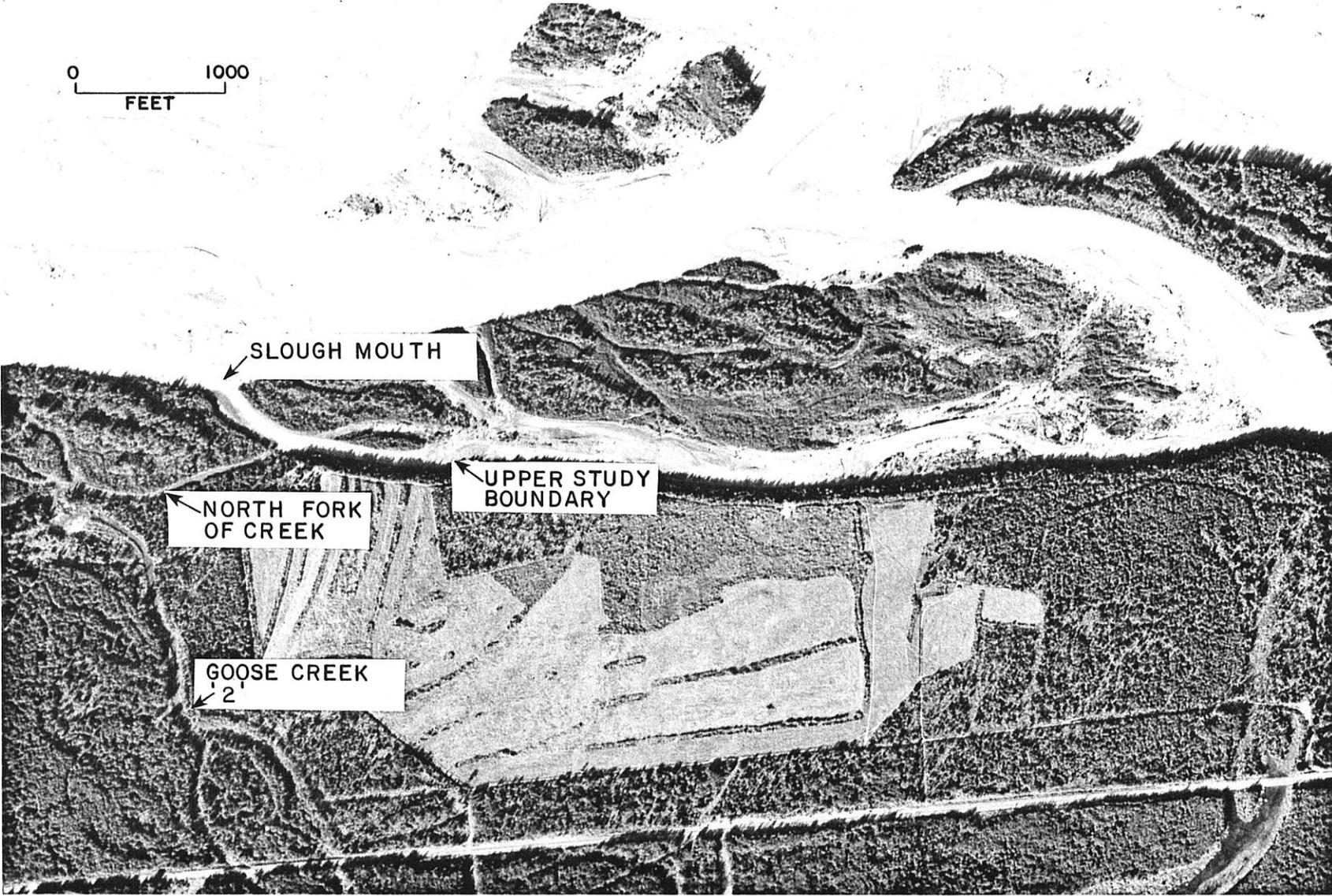
SLOUGH MOUTH

NORTH FORK
OF CREEK

UPPER STUDY
BOUNDARY

GOOSE CREEK
2

4-F-7



Appendix Plate 4-F-1. August 1980 aerial photograph of Goose Creek 2 and Sidechannel (RM 73.1). The Susitna River flows from right to left in this photo.

Appendix Table 4-F-2. Hydraulic zones, mainstem discharges at the Parks Highway bridge^a, and the status of the controlling streambed elevation at the upstream entrance (head) of Goose side channel at the Goose Creek-2 and Side channel site, for sampling dates from June to September, 1982.

Sampling Date	June 10	June 25	July 13	July 28	August 11	August 25	September 13	September 29
Mainstem Discharge (cfs)	64,200	66,700	63,000	72,000	47,900	38,700	36,400	33,900
Status of Channel Head	Open	Open	Open	Open	Open	Open	Transition Closing	Closed
Hydraulic Zones								
1	+	+	+	+	+	+	+	+
2	0	0	0	0	0	0	0	0
3	+	+	+	+	+	+	+	+
4	+	+	+	+	+	+	0	0
5	0	0	0	0	0	0	0	0
6	+	+	+	+	+	+	0	0
7	+	+	+	+	+	+	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	+	+

^aUSGS provisional data at Sunshine 15292780.

+ Zone present.

0 Zone absent.

4-F-8

discharge recorded at the Parks Highway Bridge during biological sampling of this site was 72,000 cfs in late July. The lowest mainstem discharge observed was 33,900 cfs during late September.

The head of the side channel was breached (open) to the conveyance of mainstem water into the side channel at mainstem discharges exceeding 34,000 cfs. The head was not found completely closed until the late September sampling trip.

The water in the side channel above the mouth of Goose Creek was turbid until late September and a heterogeneous mixture of turbid mainstem and clear tributary water was often distinguishable in the side channel below the mouth of Goose Creek.

On September 13 (mainstem discharge of 36,400 cfs) hydraulic conditions had changed substantially compared to previous observations as mainstem stage no longer regulated water surface elevations in the side channel above the mouth of the tributary.

The greatest area of backwater observed in the side channel above the tributary confluence (zone 6) occurred when the mainstem flows were about 39,000 cfs. At greater mainstem discharges, the surface area of this backwater area was decreased; the smallest backwater (zone 6) surface area was observed during mainstem flows around 72,000 cfs. This relationship resulted from the increasing velocities imparted to the waters in this area as increasing discharges raise the volume of water breaching the head of the side channel.

Conversely, the surface area and elevation of the low velocity backwater area located in the side channel below the tributary mouth (zone 7) was greatest during high mainstem flows and steadily decreased with a lowering mainstem, until around 39,000 cfs when zone 7 was lost to free flowing tributary condition.

Thus, the water surface areas, zone boundaries, and water quality changed dramatically in the hydraulic zones of the side channel located above and below the tributary as the head of the side channel regulated flows into the area. The backwater area (zone 6) above the tributary changed to a zero velocity slackwater area (zone 9) as the head dewatered, forming a pool type area resulting from channel morphology. The water cleared in this area (zone 9) due to the settling of suspended silt. The free-flowing area (zone 4) also disappeared. The lower zone boundary of the tributary (zone 1) which was at the log jam during high mainstem flows, moved down the side channel to the confluence of the sidechannel with the mainstem river at this time.

Other Habitat Characteristics

The drainage area of Goose Creek is approximately 12 square miles. Goose Creek was clear throughout the summer sampling season except during periods of precipitation when the water levels rose and the tributary became discolored due to increased sediment loads. Mean turbidity levels of the tributary were 8.3 NTU. The mean water temperature for the tributary during the season was 8.5°C. Highest tributary water temperature of 11.6°C was found in early July and the

Lowest tributary water temperature of 4.7°C was recorded during late September. The north fork of Goose Creek is 15 to 25 feet wide and had a mean velocity of 1.6 ft/sec.

A mean water temperature of 10.4°C was found in the side channel during the time the side channel head was open. The highest water temperatures of 12.8°C was found in late June and the lowest water temperature of 8.0°C was found in early June. The side channel above the geographic mouth had mainstem chemical and turbidity characteristics during the period the slough head was open. A clearwater plume extended from the tributary geographic mouth to the mainstem along the side channel. The mean turbidity level recorded in the side channel during the period the slough head was open was 87 NTU.

The water temperature (tributary water primarily) in the sidechannel was 5.5°C during late September when the slough head was closed. A mean turbidity level of 36 NTU taken during this period showed a significant decrease over previous sampling periods.

The mainstem mixing area (zone 3) area also exhibited changes throughout the sampling season. Water temperatures recorded in zone 3 during early and late September were 6.5°C and 5.1°C, respectively. Turbidity levels recorded for the same periods are 26 NTU and 19 NTU, respectively. Water temperatures and turbidity levels showed a progressive decline.

Substrate types varied throughout the site. The tributary had a base substrate composed predominantly of gravel. Suspended sands carried by

the tributary were continually deposited, shifting over the substrate. At the geographic confluence of the side channel and tributary, a large deposit of sand was continually observed, fluctuating in size from 20 to 40 ft. The side channel above the geographic mouth had a substrate predominantly composed of silt deposited from the mainstem. The side channel below the geographic mouth and the mainstem had a substrate of rubble and cobble.

The tributary, side channel and mainstem areas provided good habitat for resident and juvenile salmon species. Emergent vegetation was abundant throughout the side channel and tributary. Equisetum (horsetail) was found in abundance throughout the side channel above the geographic mouth and was utilized for cover by fry. Emergent sedges were abundant throughout the tributary and present along the margins of the sidechannel and mainstem. Grasses were abundant along the banks of the sidechannel, tributary and mainstem. Overhanging trees and shrubs were abundant along the banks of the tributary, mainstem and the south margin of the side channel.

Other forms of cover were provided throughout this site. Deadfalls were abundant throughout the tributary, mainstem and side channel. Undercut banks provided good cover in the tributary, especially when covered with sedges and grasses. Undercut banks were sparse in the side channel and mainstem. Turbidity levels created cover in the mainstem and side channel when the slough head was open.

Biological Summary

Chinook and chum salmon juveniles were abundant at this site in zone 2 and in zone 7, the area of the side channel below the creek mouth. Adults of both species spawn in the creek. Chum juveniles were not captured after late June and only a few chinook juveniles were captured after early August.

Juvenile round whitefish and both juvenile and adult longnose suckers were frequently captured in the side channel. Burbot were caught regularly in zone 3.

4-F-13

2. Whitefish Slough

Whitefish Slough (RM 78.7) is located on the west side of the Susitna River, below the Parks Highway Bridge (Appendix Plate 4-F-2). The study area consisted of a large branched upland slough whose head is never open to mainstem flows. The morphology of the slough consisted of a channel with a flat gradient and gentle sloping mud banks, which steepened at the elevations of the highest mainstem flows.

The primary source of water for the slough was supplied from surface runoff originating in a muskeg. The water in the slough appeared opaque brown in color and was warmer than the mainstem water. Water depths ranged between approximately 2 and 8 feet depending on the mainstem elevation.

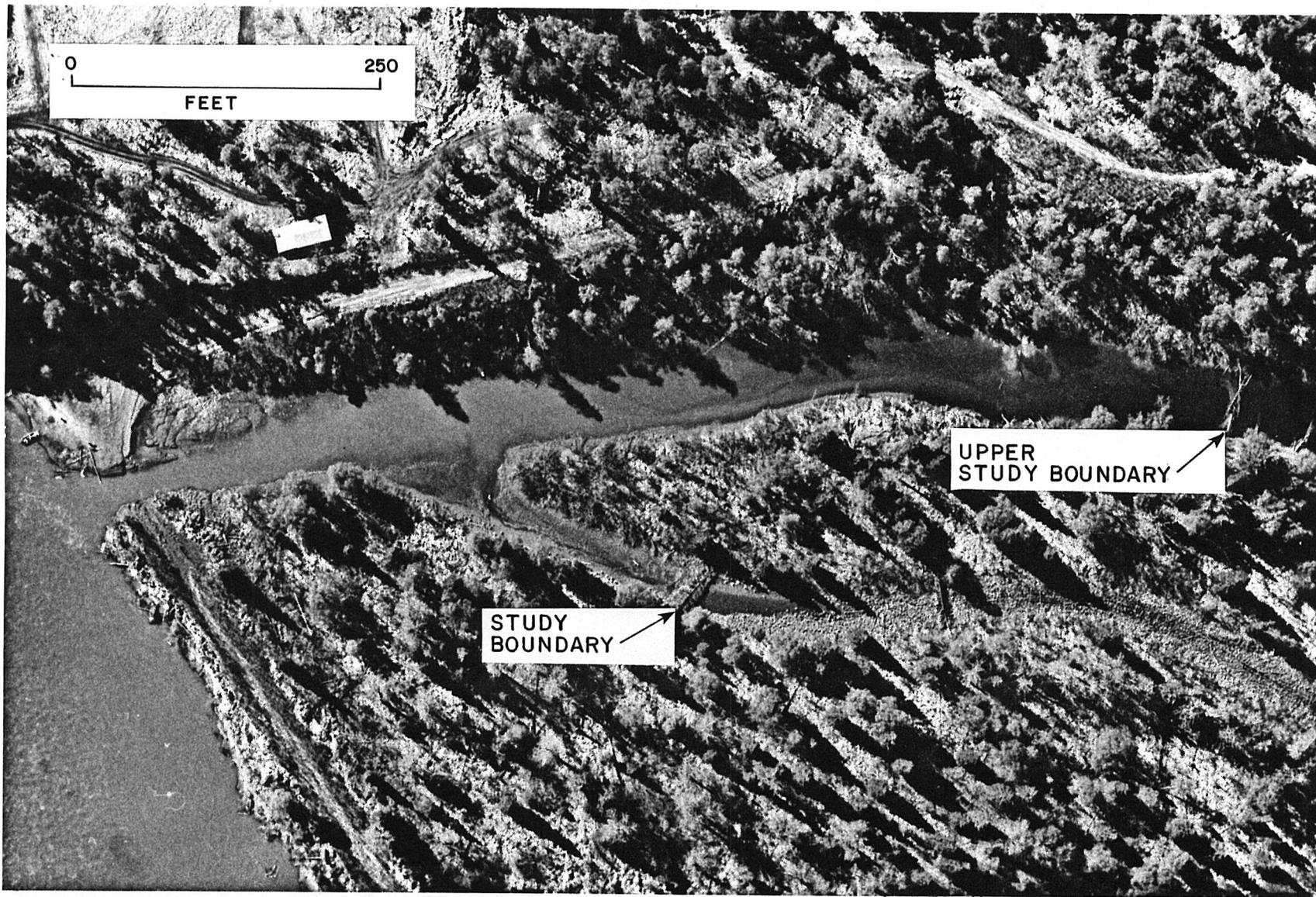
Hydraulic Conditions

The mainstem discharges (water surface elevations) observed at this habitat location were higher in late June and July, than in August and September (Appendix Table 4-F-3). The highest mainstem discharge recorded at the Parks Highway Bridge during biological sampling at this site was 72,000 cfs in late July. The lowest mainstem discharge observed was at 33,900 cfs during late September.

Two hydraulic zones were present at this site; the backwater area created by the mainstem (zone 2) and a high velocity mainstem mixing area (zone 3). The range of mainstem discharges observed had no

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4-F-15



Appendix Plate 4-F-2. May 1982 aerial photograph of Whitefish Slough (RM 78.7). The Susitna River flows towards the upper left corner in this photo.

Appendix Table 4-F-3. Hydraulic zones, mainstem discharges at the Parks Highway bridge^a for the Whitefish Slough site, for sampling dates from June to September, 1982.

<u>Sampling Date</u>	<u>June 1-15^b</u>	<u>June 25</u>	<u>July 12</u>	<u>July 28</u>	<u>August 11</u>	<u>August 25</u>	<u>September 14</u>	<u>September 29</u>
Mainstem Discharge (cfs)		66,700	60,100	72,000	47,900	38,700	53,300	33,900
Hydraulic Zones								
1		0	0	0	0	0	0	0
2		+	+	+	+	+	+	+
3		+	+	+	+	+	+	+
4		0	0	0	0	0	0	0
5		0	0	0	0	0	0	0
6		0	0	0	0	0	0	0
7		0	0	0	0	0	0	0
8		0	0	0	0	0	0	0
9		0	0	0	0	0	0	0

^aUSGS provisional data at Sunshine 15292780.

^bSite not sampled.

+Zone present.

0Zone absent.

4-F-3b

significant effect on the position of the boundary between the two zones located at the slough's mouth.

The elevation and the surface area of the backwater area in the slough (zone 2) decreased dramatically as mainstem discharges decreased between 72,000 cfs and 33,900 cfs (Appendix Plate 4-F-3, Appendix Figure 4-F-2).

Other Habitat Characteristics

The drainage area for Whitefish Slough is approximately six square miles. Primary water sources for the slough originate from runoff of surrounding bogs and small lakes. Secondary water sources originate from ground water, springs and surface runoff. Tannins generated from vegetative detritus discolored the slough and reduced visibility so that the substrate could not be seen (typical slough depth 2 to 8 feet). An average turbidity level of 3.6 NTU was recorded for the slough throughout the season. A high turbidity level recorded during early September 4.2 NTU, while the lowest during late September indicated a comparative reading of 2.6 NTU. The average water temperature for the slough during the sampling season was 12.8°C. Highest water temperature of 16.4°C was found during late July and a low water temperature of 6.1°C was recorded during late September.

Mainstem mixing areas (zone 3) associated with Whitefish Slough exhibited changes in water temperatures and turbidity levels throughout the sampling season. The average water temperature for the mainstem was 8.3°C during the sampling season. A high water temperature of 10.2°C



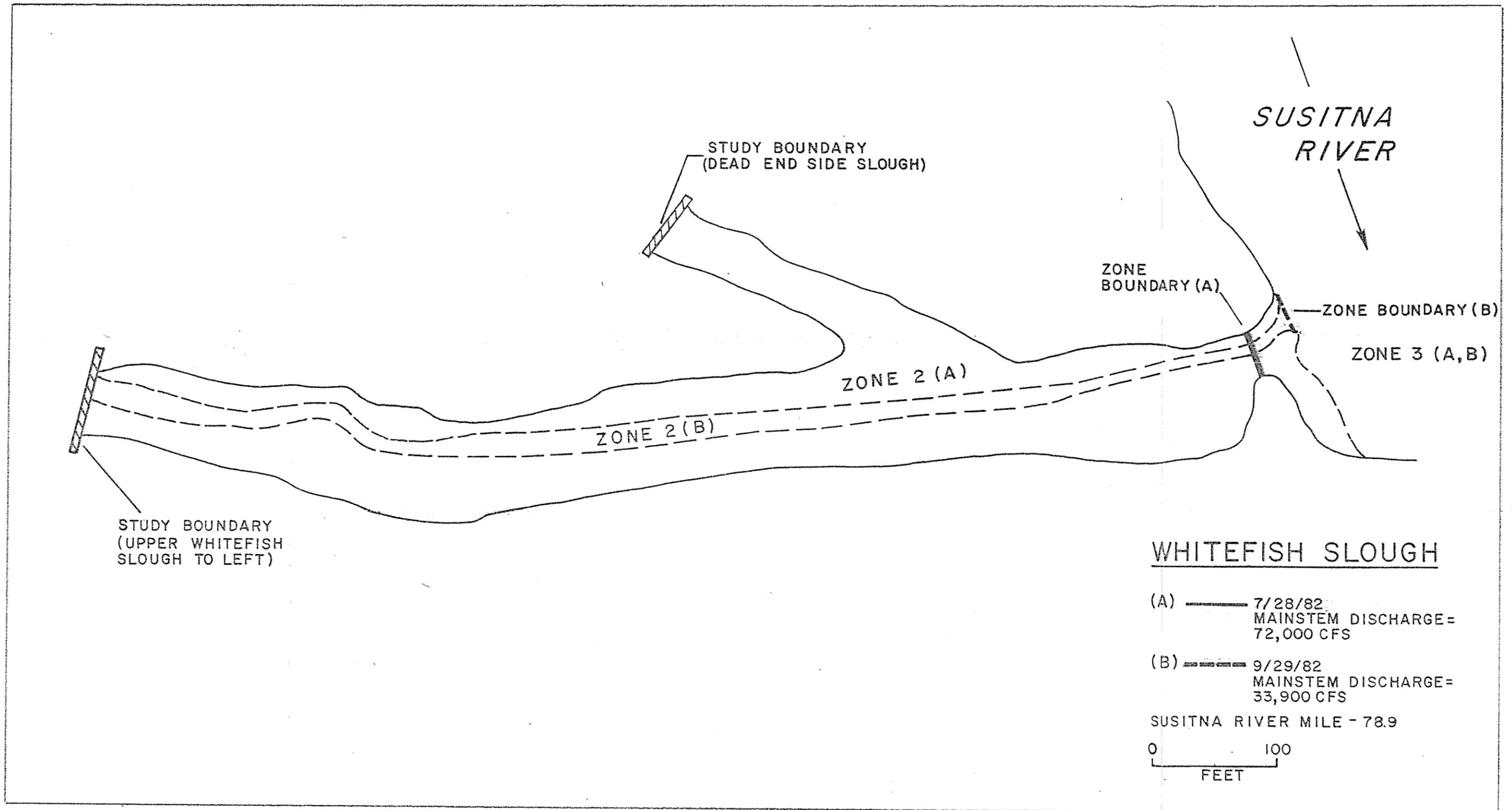
Whitefish Slough (RM 78.7) in early August. Discharge at USGS gaging station at Sunshine recorded at 47,900 cfs.



Whitefish Slough (RM 78.7) in late September. Discharge at USGS gaging station at Sunshine recorded at 33,900 cfs.

Appendix Plate 4-F-3. Hydraulic changes at a designated fish habitat site caused by fluctuations in the discharge of the mainstem Susitna River.

4-F-18



Appendix Figure 4-F-2. Map of surface areas and zone types at Whitefish Slough (RM 78.7) on two sampling dates. Discharges (CFS) at Sunshine (USGS Provisional Data 1982, 15292780).

4-F-19

was found during late July and a low temperature of 4.5°C was recorded during late September. An average turbidity level of 77 NTU was recorded for the mainstem (zone 3), but turbidity ranged from 16 NTU during early June to 146 NTU in early July.

The mainstem mixing area and the slough had different substrates. The dominant substrate of the slough was composed of silt. Rubble and cobble were predominant throughout the mainstem.

Habitat availability in Whitefish Slough was greatly affected by fluctuations of mainstem discharge. Abundant cover in the form of overhanging vegetation, deadfalls, emergent grasses and turbidity were present at high mainstem discharges during June and July. Dewatering of the slough during low discharges in late August and late September drastically reduced the availability of this cover so that turbidity was the only available form of cover remaining.

Emergent and overhanging vegetation were found in abundance along the margins of the slough and mainstem. Equisetum (horsetail) grew in the shallow margins of these areas. Sedges (particularly those of the Genus Carex) were abundant throughout the slough and provided cover as overhanging and emergent vegetation. Emergent and overhanging vegetation, deadfalls and undercut banks were not available in late August and late September when water levels were low.

Turbidity levels in the mainstem and slough were high throughout most of the season, providing cover. Pools and eddies were present along the

bank of the zone 3 area in the mainstem, providing additional habitat for the resident and juvenile anadromous species.

Biological Summary

Catches were generally low at this site with the exception of chinook juveniles in late June (site was not sampled in early June).

Threespine sticklebacks were abundant in August. Burbot were frequently captured from mid-August to mid-September.

3. Rabideux Creek and Slough(s)

Rabideux Creek and Slough(s) is located at RM 83.1, 0.9 miles below the Parks Highway Bridge (Appendix Plate 4-F-4). The study area was very large, extending over 1.25 miles between the Susitna and a marshy meadow located immediately above the site of a former road crossing the creek. Tributary water enters a one-third mile long lake-like area after passing the road then exits through a sandy bottomed channel which slowly opens over a one-half mile reach to join the Susitna. Two different sloughs, which convey mainstem water at the higher discharges, enter the lower one-half mile reach.

Hydraulic Conditions

The mainstem discharges (water surface elevations) observed at this habitat location were greater in June and July than in August or September. The highest mainstem discharges recorded at the Parks Highway Bridge on those days when biological sampling occurred was at 71,700 cfs in late June. The lowest discharge when biological sampling occurred was at 33,400 cfs was recorded in late September (Appendix Table 4-F-4).

At high mainstem discharges the lower portion of this site can be viewed as two separate and independent sloughs that converged into one slough channel at two points located below the mouth of the tributary. The conveyance of mainstem water over the controlling stream bed elevations at the heads of the two sloughs occurred in June and late July, during



Appendix Plate 4-F-4. August 1982 aerial photograph of Rabideux Creek and Slough (RM 83.1). The Susitna River flows from top to bottom in this photo.

Appendix Table 4-F-4. Hydraulic zones, mainstem discharges at the Parks Highway bridge^a and the status of the controlling streambed elevation at the upstream entrance (head) of Rabideux slough at the Rabideux Creek and Slough site, for sampling dates from June to September, 1982.

Sampling Date	June, 1-15 ^b	June 26	July, 1-15 ^b	July 29	August 12	August 26	September 14	September 30
Mainstem Discharge (cfs)		71,700		67,900	44,000	38,400	53,300	33,400
Status of Channel Head		Open		Open	Closed	Closed	Closed	Closed
Hydraulic Zones								
1		+		+	+	+	+	+
2		+		+	+	+	+	+
3		+		+	+	+	+	+
4		0		0	0	0	0	0
5		0		0	0	0	0	0
6		0		0	0	0	0	0
7		+		+	0	0	0	0
8		+		0	0	0	0	0
9		0		0	0	0	0	+

^aUSGS provisional data at Sunshine 15292780.

^bSite not sampled.

+ Zone present.

0 Zone absent.

4-F-24

mainstem flows exceeding 70,000 cfs. The two slough heads were closed to the conveyance of mainstem water during August and September when mainstem flows were less than 54,000 cfs.

A large backwater area (zone 2) was observed in the tributary at all mainstem flows greater than 33,400 cfs. The water surface area of this low velocity backwater area decreased as mainstem flows decreased. During the highest mainstem discharges observed the backwater area extended up the tributary to a point about 1500 feet above the old bridge site. Another large low velocity backwater area (zone 7) existed below the mouth of the tributary during high mainstem discharges when the slough heads were open and discharges exceeded 67,900 cfs. The length of the zone 7 backwater area was as great as 3,400 feet on July 29. This area consisted of a mixture of cold turbid mainstem water and warmer, clearer tributary water.

Other Habitat Characteristics

The drainage area of Rabideux Creek is approximately 45 square miles. Primary water sources for the tributary are small tributaries and bogs. Secondary sources stem from surface runoff, groundwater and springs. Tannins generated from organic breakdown discolored the tributary. The tributary had coffee-colored discoloration levels that commonly reduced visibility to several feet. An average turbidity of 3.2 NTU was recorded. The mean water temperature for the tributary throughout the sampling season was 11.5°C, but the temperature ranged from 6.0°C during

late September to 14.2°C in late August. Rabideux Creek varied between 25 and 40 feet in width and had an average velocity of 1.3 ft/sec.

When the main slough head was open in late June and late July, there was a turbid mainstem plume extending down the north side of the slough from the tributary mouth to the slough mouth. The average water temperature during this time was 14.8°C and the mean turbidity level was 45 NTU.

When the slough head was closed during August and September, the primary water in the lower part of the study site exhibited tributary water quality characteristics. Mainstem water surface elevations created a large backwater area throughout the lower study area during most of the sampling season. Water in this area, as in the upper tributary, exhibited a coffee-colored discoloration. The mean turbidity during these sampling periods was 4.8 NTU. The water temperatures of the slough channel during late August, early September and late September were 15.6°C, 8.3°C and 6.1°C, respectively.

The mainstem mixing area (zone 3) exhibited changes in water temperatures and turbidity levels throughout the sampling season. The average water temperature was 8.4°C during the sampling season. A high water temperature of 12.2°C was recorded during late August while a low water temperature of 5.1°C was recorded in late September. Substrate found in the tributary above the old road site was predominantly gravel. Large boulders were scattered throughout the lake-like area of the tributary below the old road site and were also in the channel above the

4-F-26

road. Substrate of the slough channel was primarily sand, while cobble was prevalent in the mainstem area.

Emergent vegetation was abundant throughout the tributary. The upper tributary had a shallow broad channel profile that was conducive for growth of Equisetum and sedges. Equisetum was found in abundance throughout the shallow low velocity margins of the tributary. Emergent sedges of the genera Carex and Scirpus were abundant throughout the tributary and slough channel. Grasses were abundant along the banks of the tributary and slough and provided cover as overhanging vegetation.

Overhanging vegetation, in the form of shrubs and trees, was found in abundance throughout Rabideux Creek/Slough. However, overhanging vegetation in the form of grasses, shrubs and trees was virtually absent along the slough side or northern bank of the slough and mainstem.

Other forms of cover were provided throughout Rabideux Creek/Slough. Coves present in the slough provided cover for fry at high water levels. Deadfall was abundant throughout the tributary and present in the slough and mainstem. Undercut banks were abundant through the tributary and present along the south bank of the slough and mainstem. Discoloration, due to organic stains, in the tributary and slough probably provided cover for fish.

Biological Summary

Rabideux Creek and Slough provided excellent habitat for chinook and coho juveniles, both of which were abundant until mid-August.

Burbot were caught on a regular basis in August and September. Schools of adult longnose suckers were present during July and August in the slough, as well as a few adult humpback whitefish and juvenile round whitefish.

4-F-28

4. Sunshine Creek and Side Channel

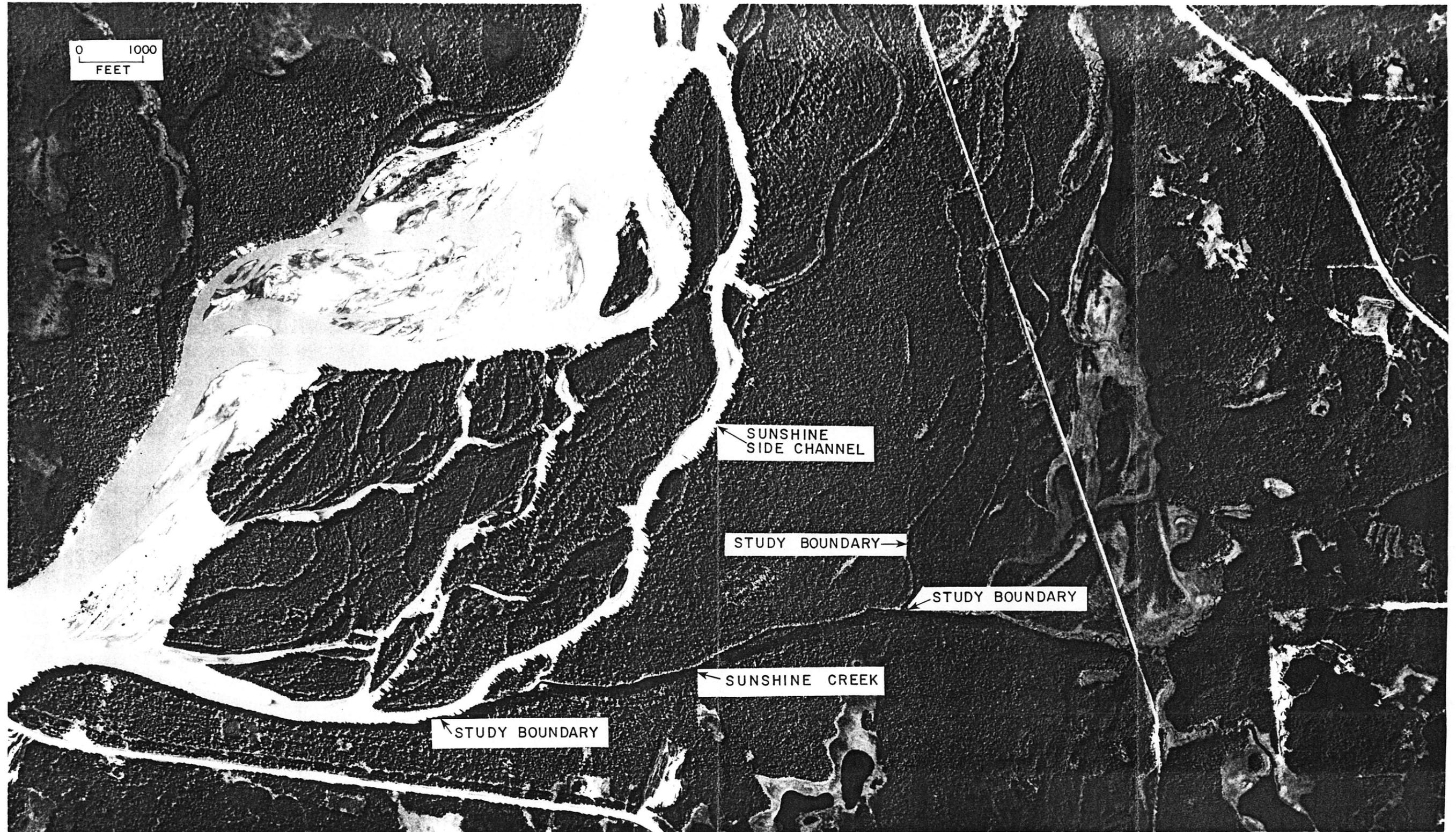
The Sunshine Creek and Side Channel site (Appendix Plate 4-F-5) is located at RM 85.7, 1.7 miles above the Parks Highway Bridge. The site is located on the southeast side of a side channel of the river and consists of a tributary, its mouth, and a 1000 foot long minor side channel between the tributary mouth and a larger Susitna side channel.

The tributary is a slow meandering clear water creek which divides to become Question Creek and Answer Creek about 1.1 mile above the tributary/side channel junction. The creekbed has a very low gradient within the study boundaries. The channel is relatively uniform in cross section near the mouth of the tributary but there is a 3 to 4 foot deep V-shaped trench located mid channel which extends the length of the tributary starting roughly 100 yards above the creek mouth. The depth of the shallow areas along the banks were typically 1 to 3 feet depending on the discharge of the creek and mainstem stage.

Hydraulic Conditions

The mainstem mainstem Susitna River discharges (water surface elevations) observed at this habitat location were greater in June and July than in August and September. The lowest discharge (33,400 cfs) recorded at the Parks Highway gauging station on a day when biological sampling occurred was in late September. The side channel head was closed at mainstem discharge of 38,700 cfs and less (Appendix Table 4-F-5).

4-F-29



Appendix Plate 4-F-5. August 1980 aerial photograph of Sunshine Creek and Side Channel (RM 85.7). The lakes and tributaries above the study area provide water to Sunshine Creek. The Susitna River flows from top to bottom in this photo.

Appendix Table 4-F-5. Hydraulic zones, mainstem discharges at the Parks Highway bridge^a, and the status of the controlling streambed elevation at the upstream entrance (head) of Sunshine side channel at the Sunshine Creek and Side channel site, for sampling dates from June to September, 1982.

Sampling Date	June 09	June 24	July 12	July 27	August 10	August 24	September 12	September 30
Mainstem Discharge (cfs)	70,800	62,700	60,100	82,400	51,600	38,700	35,000	33,400
Status of Channel Head	Open	Open	Open	Open	Transition Closing	Closed	Closed	Closed
Hydraulic Zones								
1	+	+	+	+	+	+	+	+
2	+	+	+	+	+	+	+	0
3	+	+	+	+	+	+	+	+
4	+	+	+	+	0	0	0	0
5	+	+	+	+	0	0	0	0
6	0	0	0	0	+	0	0	0
7	0	0	0	0	+	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	+	+	+

^aUSGS provisional data at Sunshine 15292780.

+Zone present.

0Zone absent.

4-F-31

During mainstem discharges of 60,100 cfs and above, free-flowing water in the side channel below the tributary (zone 5) consisted of a mixture of clear, warmer tributary water and turbid colder (zone 4) mainstem water. In the tributary above, a calm and clear backwater area (zone 2) existed at these mainstem discharges.

The surface area and length of the backwater zone was greatest during the highest mainstem discharges and generally decreased with a receding mainstem; however the relationship between these variables was not linear (see Backwater Areas, Section 4-I-3.1.3.1). At the highest mainstem discharges observed (82,400 cfs) a large backwater (zone 2) extended from the slough/creek junction to approximately 4,000 feet up the creek. Thus, the upper boundary of the backwater in the tributary (zone 2) appeared to fluctuate considerably with mainstem discharges observed in June and July.

During the transitional period (mainstem discharges around 51,600 cfs) when the side channel head dewatered in response to decreasing mainstem discharges, water quality in the side channel below the tributary changed considerably; the free-flowing hydraulic zones in the side channel above the tributary mouth (zone 4) and below the tributary mouth (zone 5) which were present before the head dewatered, changed to backwater areas (zones 6 and 7) during the transition phase. Thus, during early August sampling, this low velocity backwater area extended from the mouth of the side channel to 1,400 feet up the creek and also up into the closing side channel. On August 24th (mainstem discharge 38,700 cfs), when the side channel head was completely closed, low

velocity (zone 2) tributary water had reached and was found entirely between the junction of the two side channels and the old tributary mouth and Sunshine Creek was free-flowing down to its former mouth.

During mainstem discharges of 33,400 and 35,000 cfs in September, the backwater (zone 2) area extended only above the confluence of the two side channels about 790 and 250 feet respectively.

The closing of the head of the side channel in late August resulted in the formation of a pool (zone 9) in the slough above the tributary mouth because a gravel bar acted as a physical barrier to contain the pool. The surface area of the pool (zone 9) remained relatively constant during September.

Other Habitat Characteristics

The drainage area of Sunshine Creek is approximately ten square miles. Primary water sources for the tributary are Sunshine Lake and Question Lake and Creek. Secondary contributions stem from runoff water, bogs, ground water and springs. The tributary was mostly clear and the average turbidity was 2.9 NTU. The mean water temperature for the tributary during the sampling season was 11.2°C. Water temperatures ranged from 6.0°C in late September to 14.0°C in early July.

When the side channel head was open during June and July, side channel water had mainstem characteristics (e.g. high turbidity levels and high water velocity).

When the side channel head was closed during late August and September, turbidity water velocity and surface area of the side channel decreased significantly.

The mainstem and Sunshine Creek mixing area (zone 3) experienced significant changes in turbidity levels and water temperatures throughout the sampling season. The mean turbidity level for this area during the sampling season was 42 NTU and the mean water temperature was 9.3°C. A high water temperature of 12.5°C was recorded during late August and a low water temperature of 6.3°C was recorded in late September.

The substrate of the mainstem was predominantly composed of rubble and cobble. The tributary substrate was composed mostly of gravel. The side channel between the geographic mouth and the mainstem had a substrate composed mostly of sand.

Emergent and overhanging vegetation were found in abundance along the margins of the tributary and side channel. Sedges (particularly those of the Genus Carex), and horsetail (Equisetum) were abundant emergent plants observed in the tributary. Emergent plants were dewatered in side channel and tributary areas when the side channel head closed. Grasses, were abundant along the banks during periods of high discharge. Aquatic vegetation present in the tributary above the geographic mouth included both Hippurus vulgaris of the water milfoil family and Ranunculus trichophyllus of the buttercup family. Fry used the cover offered by the large mats of these flaccid aquatic plants.

Overhanging vegetation, in the form of trees and shrubs, was abundant throughout the entire sampling site. The side channel, particularly below the geographic mouth, was covered by a canopy of trees during most of the season. Deadfall was abundant along the tributary, side channel and mainstem areas. Turbidity levels in the mainstem and side channel were high enough throughout most of the season to provide cover.

Biological Summary

Sunshine Creek was another site that provided excellent habitat for chinook and coho juveniles. As at Rabideux, these two species were abundant until mid-August.

Slimy sculpins were relatively abundant in late August and early September. Rainbow trout were fairly abundant in late May and June. Burbot were regularly caught from mid-August to the end of September after the sampling effort moved down the side channel as a result of low water. Longnose suckers spawned in May and early June just below the creek mouth in the side channel. Humpback whitefish and round whitefish were also commonly captured in zone 3.

5. Birch Creek and Slough

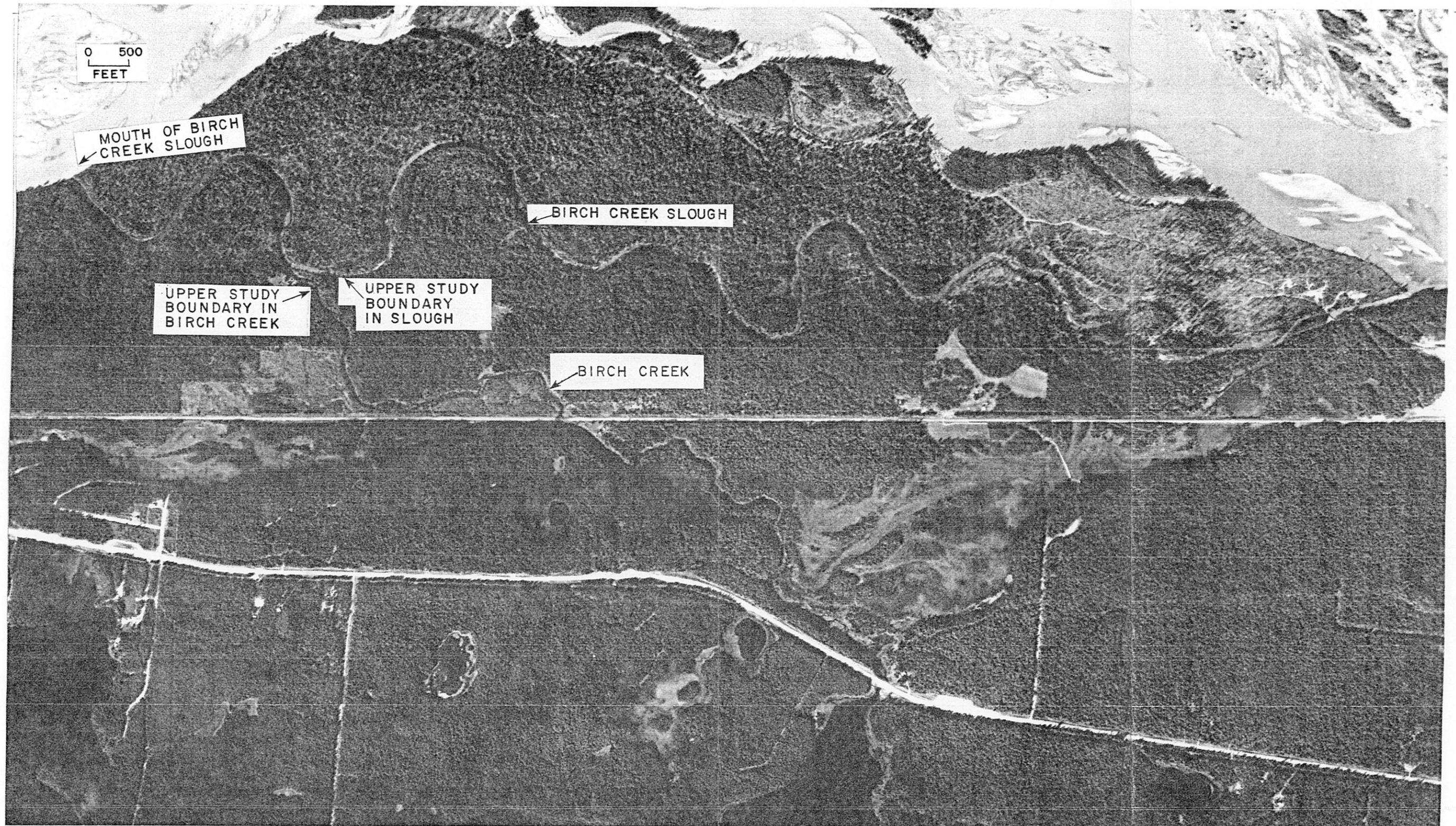
Birch Creek and Slough (Appendix Plate 4-F-6) is located at RM 88.4, about 10 miles below the confluence of the Talkeetna and Susitna rivers. The study area was located around the confluence of Birch Creek and Birch Creek Slough, and on down the slough to its confluence with the east bank of mainstem Susitna.

The tributary reach in the study area was roughly 600 feet. Moderately sloped banks and loose gravel are characteristic of this tributary area. Abundant emergent and riparian vegetation was available for cover. The reach of slough below Birch Creek is approximately 4,900 feet in length, has steep banks with overhanging trees and deadfall cover but little emergent or riparian vegetation. Substrates are silt, sand and gravel. The length of slough studied above the junction with Birch Creek was about 525 feet. This area had a wide (about 60 feet) flat bottomed surface with a sandy substrate. When the water in this area was clear (late season) there was little cover.

Hydraulic Conditions

The mainstem discharges (water surface elevations) observed at this habitat location were greater in June and July than in August or September. The highest discharge recorded at the Parks Highway Bridge when biological sampling occurred was in late July (Appendix Table 4-F-6). The conveyance of mainstem water over the controlling stream bed elevation at the upstream entrance (head) of the slough, and the

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Appendix Plate 4-F-6. August 1980 aerial photograph of Birch Creek and Slough (RM 88.4). The Susitna River flows from right to left in this photo.

Appendix Table 4-F-6. Hydraulic zones, mainstem discharges at the Parks Highway bridge^a, and the status of the controlling streambed elevation at the upstream entrance (head) of Birch slough at the Birch Creek and Slough site, for sampling dates from June to September, 1982.

<u>Sampling Date</u>	<u>June 04</u>	<u>June 23</u>	<u>July 11</u>	<u>July 26</u>	<u>August 09</u>	<u>August 23</u>	<u>September 11</u>	<u>September 28</u>
Mainstem Discharge (cfs)	59,700	61,600	58,400	99,300	52,500	38,000	33,800	35,900
Status of Channel Head	Transition Closing	Open	Transition Closing	Open	Transition Closing	Closed	Closed	Closed
Hydraulic Zones								
1	+	+	+	+	+	+	+	+
2	0	0	0	+	0	+	+	+
3	+	+	+	+	+	+	+	+
4	+	0	+	0	+	0	0	0
5	0	0	0	0	+	0	0	0
6	+	+	+	+	0	0	0	0
7	+	+	+	+	+	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	+	+	+

^aUSGS provisional data at Sunshine 15292780.

+Zone present.

0Zone absent.

4-F-38

presence of low velocity backwater areas at this site were regulated by mainstem flows. The slough head remained open during June, July, and early August when mainstem flows were greater than 38,000 cfs. The slough head was completely closed during the observations made from late August to the end of the open water season (mainstem flows of 38,000 cfs and less). During these periods, warmer clear tributary water predominated in the slough above and below the creek mouth.

During the highest mainstem flows observed (99,300 cfs), a backup zone extended to the limits of the study area in the slough (zone 6) and about 160 feet up the tributary (zone 2). Below the tributary/slough junction the backwater area (zone 7) extended to the slough/Susitna River confluence. As mainstem discharges dropped, the extent of this backwater area decreased (see 4-I-3.1.3.1). At 52,500 cfs (the lowest transitional period of dewatering at the slough head) the backwater area (zone 7) extended about 2100 feet above the slough's mouth; free-flowing waters existed in the tributary and slough above the point.

After the slough head closed, the water in backed up areas of the lower slough was predominately clear tributary water. A pool area (zone 9) had formed in the slough above the tributary mouth; its stage was regulated by the stage of the tributary alone.

At the lowest mainstem stages observed (35,900 and 33,800 cfs) tributary water was free-flowing to within 0.2 mile of the slough mouth.

Other Habitat Characteristics

The drainage area of Birch Creek is approximately eight square miles. Primary water sources for Birch Creek originate in Fish Lake. Other water sources are runoff, bogs, ground water and springs. The tributary was slightly discolored by organic stain throughout most of the sampling season. The mean water temperature of the tributary was 12.9°C, with high temperature of 16.0°C in early July and a low temperature of 5.2°C in late September. The mean turbidity level of the tributary was 7.3 NTU.

Water temperatures in late June and late July in the slough above the geographic mouth (head was open) were 9.3°C and 8.7°C, respectively. A mean turbidity of 18 NTU was recorded for these conditions. Springs, ground water and runoff contributed to the discharge of the slough.

Turbidity levels and water temperatures in the slough during late August and September, when the slough head was closed, were similar to those observed on the tributary. A turbidity recorded in the slough in early September was 4.2 NTU.

The mainstem mixing areas associated with Birch Creek exhibited changes in water temperatures and turbidity levels in the latter part of the sampling season. Water temperatures recorded for late August, early September and late September were 11.6°C, 8.0°C, and 4.7°C, respectively. Turbidity levels for late August, early September and late September were 82 NTU, 32 NTU, 21 NTU, respectively.

The tributary had a dominant substrate of gravel. The substrate of the slough channel in the study area was dominated by sand that frequently shifted exposing a non-embedded gravel base.

The tributary (above its confluence with the slough), provided cover for juvenile fish in the form of dense mats of emergent vegetation, undercut banks, deadfalls and overhanging vegetation. Low velocity pool areas were also associated with the emergent vegetation and undercut banks. Flaccid aquatic plants were of the Myrophyllum and Callitriche genera. Sedges of the genera Carex and Scirpus were found in scattered clumps along the tributary margins. Equisetum (horsetail) was associated with shallow still water areas of the tributary. Juvenile salmonids were observed in abundance throughout the emergent vegetation.

Emergent vegetation was sparse within the slough and absent from the mainstem areas. Overhanging shrubs and trees, were abundant along the tributary and slough. Overhanging grasses were abundant along the mainstem and the tributary above the geographic mouth. Grasses were present within the slough but were not available to fish due to their being dewatered throughout most of the season. Aquatic vegetation was absent in the mainstem and the slough, both above and below the geographic mouth.

Deadfall was abundant throughout the tributary, slough and mainstem areas.

Biological Summary

Coho salmon juvenile were abundant at this site until mid-September and chinook salmon juveniles were moderately abundant through July. Chum juveniles were also relatively well represented in mid-July; the last chum juvenile was captured at this site in early August.

Burbot were caught on a regular basis after the sampling effort moved down the slough in mid-August as a result of low water. In late May and early June, rainbow trout, Arctic grayling, humpback whitefish, round whitefish, and longnose suckers were all found in the slough. Only a few longnose suckers remained in the slough after mid July.

4-F-42

6. Whiskers Creek and Slough

Whiskers Creek and Slough (Appendix Plate 4-F-7) is located on the west bank of the Susitna River (RM 101.2), 3.3 miles above the confluence of the Chulitna and Susitna rivers. The study area was centered around the confluence of Whiskers Creek and Whiskers Creek Slough, and the confluence of the slough with the Susitna.

Approximately 1200 feet of Whiskers Creek were included in the study area. The banks here were low but very steep. The creek was typically about 15 to 20 feet wide and approximately 2 to 4 feet deep. The lower 100 yards of the tributary had a relatively flat streambed gradient.

Approximately 1800 feet of the slough were included in the study area. The slough had both sharp and gentle sloping banks with sparse vegetation available for cover. Whiskers Creek entered the slough 1100 feet above the slough mouth. The lower third of this distance had a relatively low gradient before slowly reaching another flat gradient immediately above the tributary outlet. In low water conditions, pools (zone 9) formed in the slough above the tributary.

Hydraulic Conditions

The mainstem discharges (water surface elevations) observed at this habitat location were greater in June and July than in August or September. The highest mainstem discharges (31,900 cfs) at the Gold Creek gaging station when the site was sampled occurred in late July. The



Appendix Plate 4-F-7. May 1982 aerial photograph of Whiskers Creek and Slough (RM 101.2). The Susitna River flows from right to left in this photo.

4-F-44

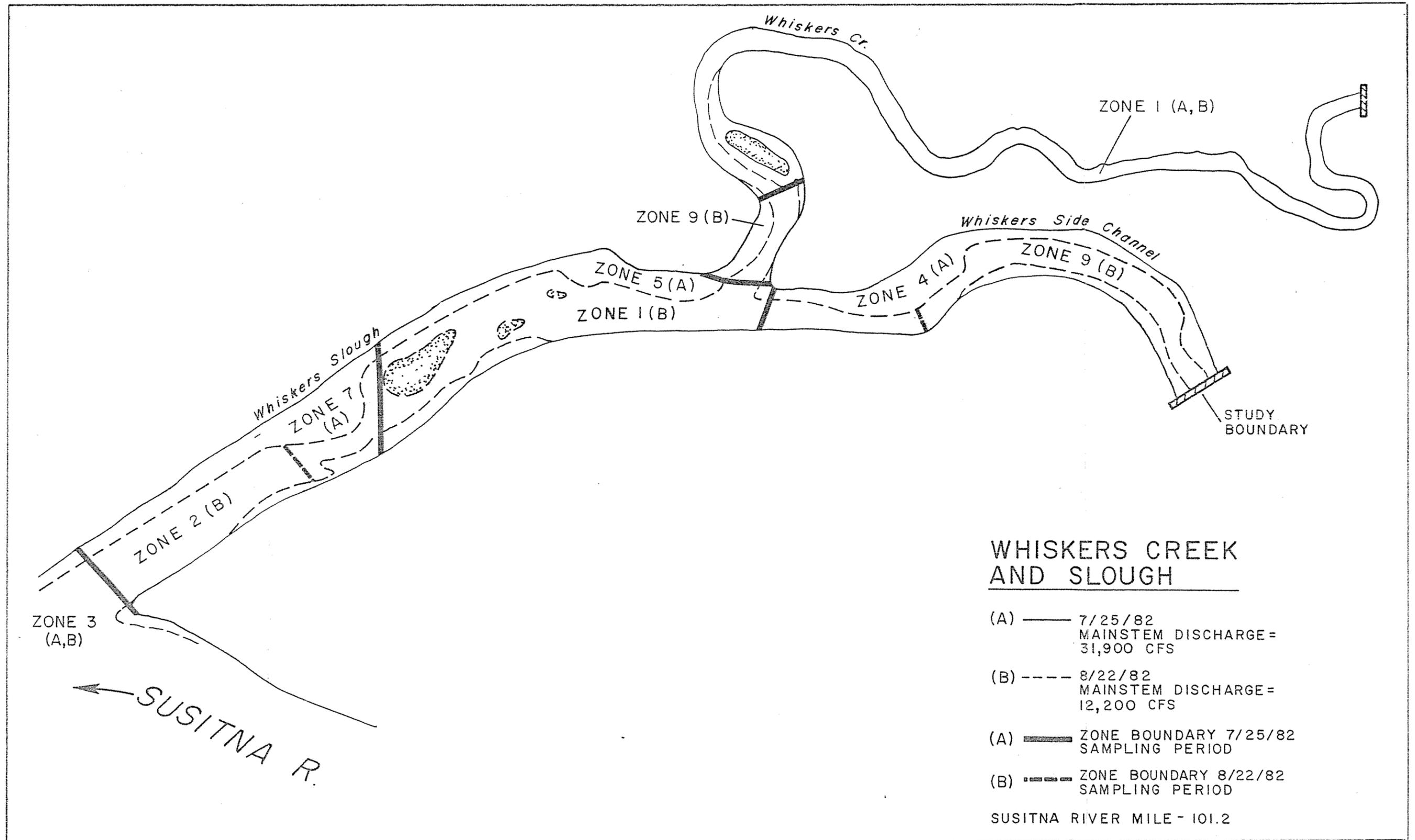
lowest mainstem discharge on a sampling day (12,200 cfs), occurred in late August (Appendix Table 4-F-7).

The predominant hydraulic conditions observed at this site varied considerably with mainstem stage and tributary discharge (Appendix Figure 4-F-3). At moderate mainstem discharges (25,000 cfs) large backwater zones predominated. At higher discharges, higher velocity areas (zones 4 and 5) were more pronounced and at lower discharges the free flowing tributary water was the dominant feature of the study site (see 4-I-3.1.3.1).

At mainstem discharges of 16,600 cfs and below (slough head closed) the free-flowing (zone 4) mainstem water in the slough above the creek mouth changed to zone 9 pool type areas, and the normally turbid water cleared. Under these same conditions, the turbid zones 5 and 7 (which were present below the tributary mouth at higher discharges) were replaced by free-flowing or backed-up tributary water areas (zones 1 and 2).

During the lowest mainstem stages observed, the free-flowing tributary (zone 1) extended down the slough to within 100 yards of the Susitna, where a small zone 2 backwater area existed. During the September 29th sampling trip (after major rains) the discharge of Whiskers Creek was high enough to raise the velocities in the pool to those of the free-flowing (zone 1) category.

4-F-45



Appendix Figure 4-F-3. Map of surface areas and zone types at Whiskers Creek and Slough (RM 101.2) on two sampling dates. Discharges at Gold Creek (USGS Provisional Data 1982, 15292000).

Appendix Table 4-F-7. Hydraulic zones, mainstem discharges at the Gold Creek Station^a, and the status of the controlling streambed elevation at the upstream entrance (head) of Whiskers slough at the Whiskers Creek and Slough site, for sampling dates from June to September, 1982.

<u>Sampling Date</u>	<u>June 03</u>	<u>June 21</u>	<u>July 10</u>	<u>July 25</u>	<u>August 08</u>	<u>August 22</u>	<u>September 09</u>	<u>September 27</u>
Mainstem Discharge (cfs)	25,000	28,000	23,000	31,900	16,600	12,200	13,400	13,800
Status of Channel Head	Open	Open	Transition Closing	Open	Closed	Closed	Closed	Closed
Hydraulic Zones								
1	+	+	+	+	+	+	+	+
2	+	0	0	0	+	+	+	0
3	+	+	+	+	+	+	+	+
4	+	+	0	+	0	0	0	0
5	0	0	+	+	0	0	0	0
6	0	0	0	0	0	0	0	0
7	+	+	+	+	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	+	+	+	+	+	+	+

^aUSGS provisional data at Gold Creek 15292000.

+Zone present.

0Zone absent.

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Other Habitat Characteristics

The drainage area of Whiskers Creek is approximately 20 square miles. Primary water source of the tributary is surface runoff from bogs. The tributary was discolored with tannins generated in these bogs. Suspended silts occasionally discolored the tributary during periods of high runoff. The mean water temperature of the tributary was 10.3°C. A high water temperature of 12.3°C was found during late July and a low water temperature of 4.5°C was found during late September. The mean turbidity level of the tributary for the sampling season was 7.8 NTU. Whiskers Creek had an average velocity of 1.8 ft/sec.

The slough head was open during June and July. The mean water temperature of the slough above Whiskers Creek during June and July was 9.8°C while the mean turbidity was 41 NTU. Below the geographic mouth of Whiskers Creek, the slough water was a mixture of mainstem and tributary water. The slough head was closed during August and September and the water in the slough above the geographic mouth exhibited a reduction in velocity, discoloration and surface area during this time. Emergent plants were dewatered when the slough head was closed.

The mean temperature for water in the slough above Whiskers Creek during August and September was 11.3°C. The water between the confluence of the tributary mouth and the mainstem was primarily tributary water throughout August and September. Turbidity levels and water temperatures in the slough below Whiskers Creek were thus similar to those

4-F-48

observed in the tributary, although some secondary spring, percolation and runoff entered from the upper slough.

The mainstem water mixing zone (zone 3) experienced declining turbidity and water temperature levels towards the latter part of the season. Mean water temperatures for August and September were 10.5°C and 7.0°C, respectively.

Substrate types varied throughout the Whiskers Creek site. Gravel was abundant throughout the tributary while rubble and cobble were predominant in the mainstem and slough areas. Interstitial space found throughout the rubble and cobble provided cover for fry. Extensive areas near the mouth of the slough were also covered with silt.

Emergent and overhanging vegetation were abundant throughout most of this sampling location. In areas influenced by consistent tributary flows vegetation was more abundant. Emergent plants were inundated in slough and mainstem areas until late August.

Emergent plants occurring throughout the study area included sedges (Carex and Scirpus), grasses and horsetail (Equisetum). In addition to the presence of emergent plants, an aquatic moss of the Genus Fontinalus was present in small amounts on the substrate of the tributary.

Deadfall and undercut banks were abundant throughout the tributary and provided cover for juvenile and resident species. Slough and mainstem areas had little deadfall or undercut banks.

Biological Summary

Chinook salmon juveniles were relatively abundant at this site throughout the open water season. Fair numbers of coho juveniles were captured in late June and early September.

Slimy sculpins were moderately abundant during July, August, and September. In May and early June, rainbow trout, arctic grayling, round whitefish, and longnose suckers were all abundant in the slough. Catches of these species decreased in July but adult longnose suckers and juvenile Arctic grayling and round whitefish were present most of the summer in zone 3.

4-F-50

7. Slough 6A

Slough 6A (Appendix Plate 4-F-8) is located at RM 112.3, on the west bank of the Susitna River. Slough 6A is an upland slough; the head is rarely breached by mainstem flow. The channel bed is a relatively deep and uniformly shaped wide U and the water in the study area of the slough was always calm.

Cover was provided along the sloping banks by overhanging trees, shrubs and emergent aquatic vegetation. The substrate of the slough consisted of silt, interspersed with organic debris and sparse aquatic vegetation.

The primary source of water for the slough was surface runoff from a series of beaver dams located at the head of the slough. A very small intermittent creek located midway in the slough provided a secondary source of water.

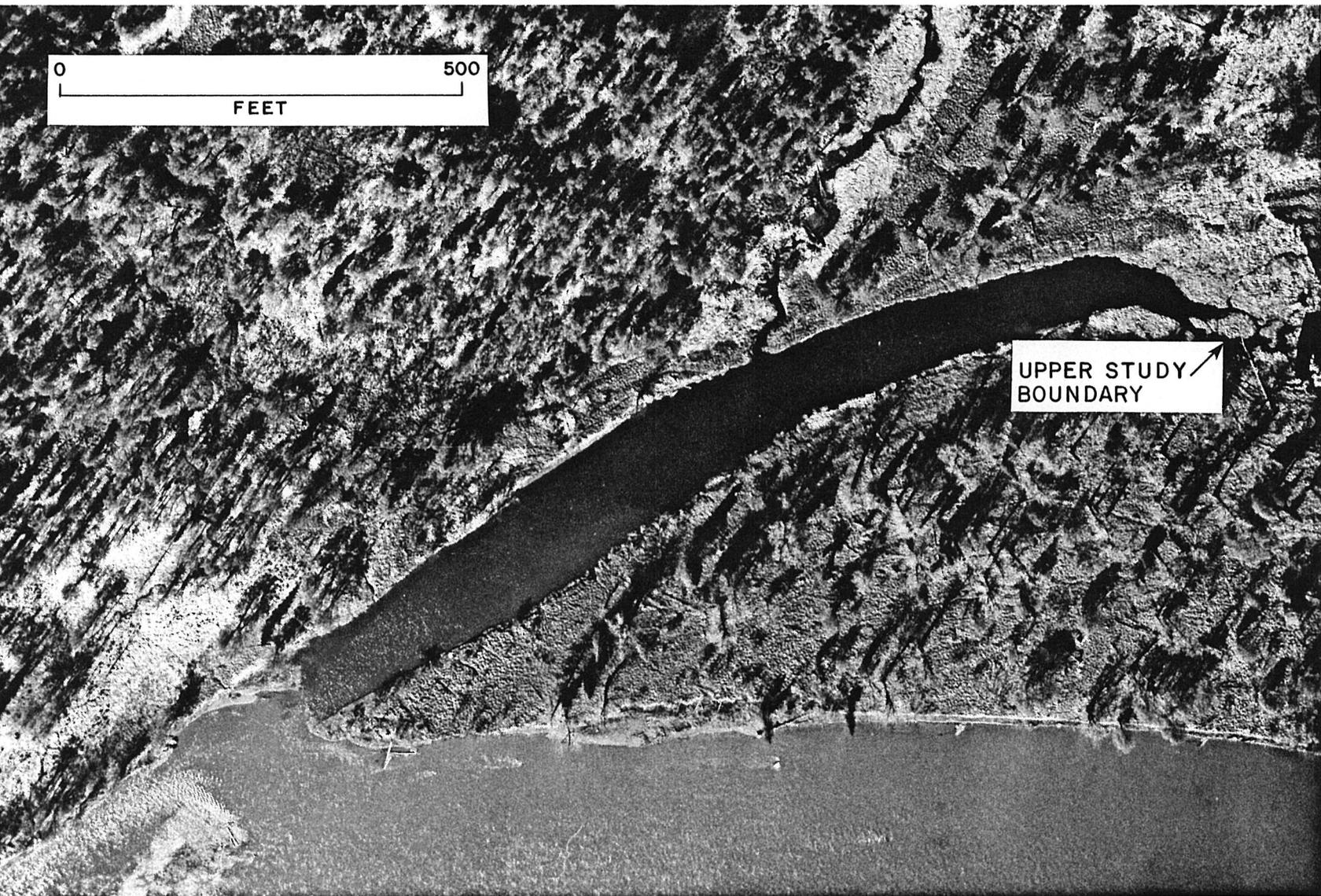
Hydraulic Conditions

The mainstem discharges (water surface elevations) observed at this habitat location were greater in June and July than in August or September. The highest mainstem flow recorded at the gaging station at Gold Creek for dates on which biological sampling occurred was 28,000 cfs in late June (Appendix Table 4-F-8). The lowest mainstem discharge was 12,200 cfs during late August.

4-F-51

0 500
FEET

UPPER STUDY
BOUNDARY



Appendix Plate 4-F-8. May 1982 aerial photograph of Slough 6A (RM 112.3). The Susitna River flows from right to left in this photo.

4-F-52

Appendix Table 4-F-8. Hydraulic zones and mainstem discharges at the Gold Creek Station^a for the Slough 6A site for sampling dates from June to September, 1982.

<u>Sampling Date</u>	<u>June 06</u>	<u>June 20</u>	<u>July 09</u>	<u>July 23</u>	<u>August 08</u>	<u>August 21</u>	<u>September 10</u>	<u>September 26</u>
Mainstem Discharge (cfs)	23,000	28,000	21,500	24,900	16,600	12,200	14,400	14,000
Hydraulic Zones								
1	0	0	0	0	0	0	0	0
2	+	+	+	+	+	+	+	+
3	+	+	+	+	+	+	+	+
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0

^aUSGS provisional data at Gold Creek 15292000.

+Zone present.

0Zone absent.

4-F-53

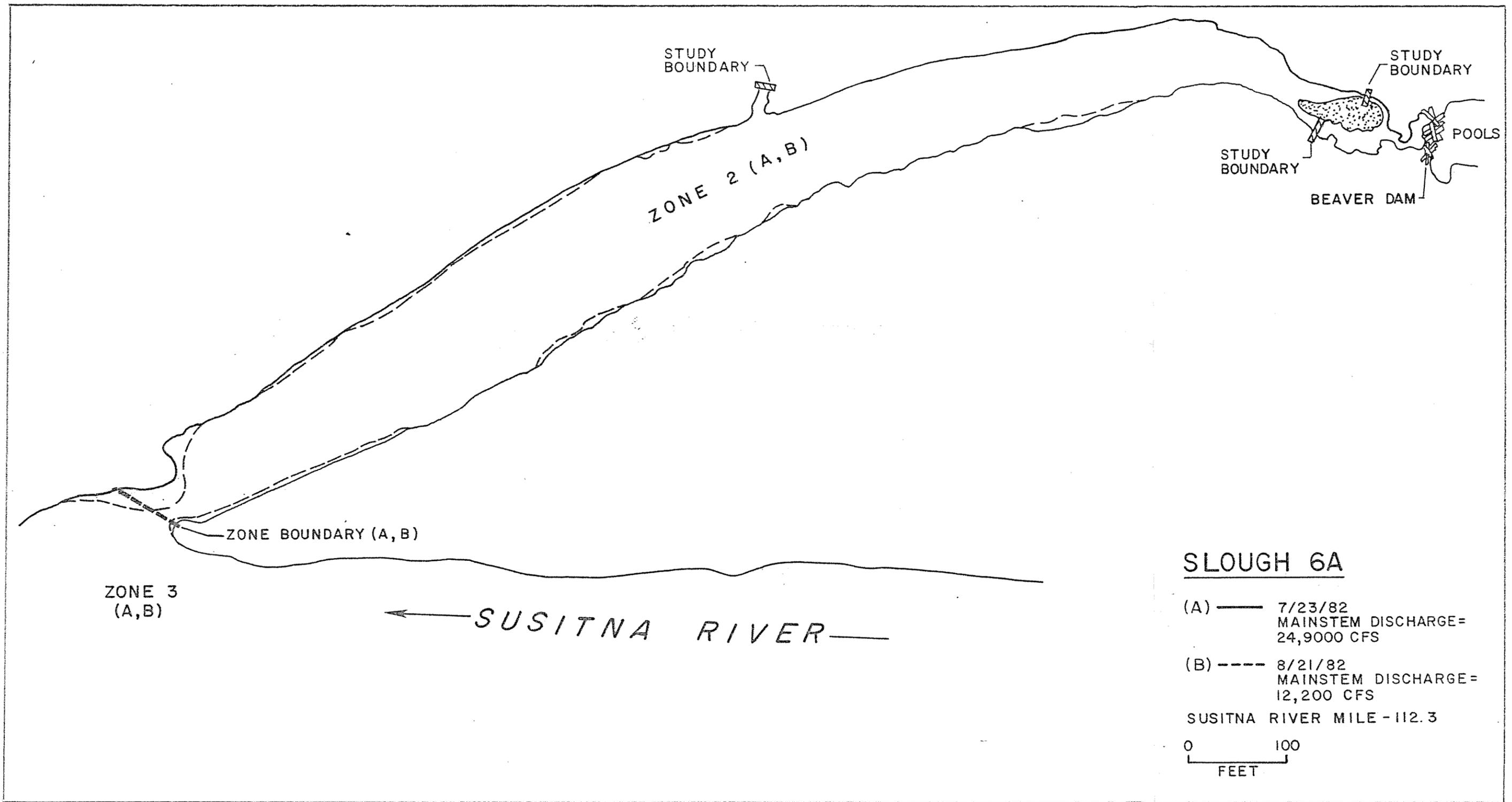
Two hydraulic zones were present all season; zone 2, the slough area backed up by the mainstem, and zone 3 the mixing area. The surface area of the slough was not strongly influenced by variations in mainstem discharge, because of its steep banks. The surface area of the backup zone at two different mainstem discharges is shown in Appendix Figure 4-F-4. The zone boundary separating the slackwater area of the slough (zone 2) and the mainstem high velocity area (zone 3) was located at the mouth of the slough.

Other Habitat Characteristics

The drainage area for Slough 6A is approximately four square miles. Primary water sources for the slough originate from a small lake, tributaries and runoff waters. Secondary contributions originate from bogs, springs and ground water sources. Overflow from a beaver dam in the upper end provided a constant source of clearwater. Tannins generated from vegetative detritus discolored the slough to varying degrees, but normally the substrate could be seen in 3 to 6 feet of water. Turbidity in the slough averaged 3.6 NTU. The mean water temperature for the slough was 10.1°C, and the water temperature ranged from 4.9°C in late September to 15.0°C in early July.

The mainstem mixing area (zone 3) associated with Slough 6A were significantly more turbid than the slough. The mean turbidity of this area was 77 NTU. Mainstem water temperatures never deviated more than 2°C from the slough water temperature. The mean water temperature of

4-F-54



Appendix Figure 4-F-4. Map of surface areas and zone types at Slough 6A (RM 112.3) on two sampling dates. Discharges (CFS) at Gold Creek (USGS Provisional Data 1982, 15292000).

zone 3 was 9.6°C, and water temperature ranged from 13.7°C during early July to 5.0°C during late September.

Substrate types varied between zone 3 area and the slough. The dominant substrate of the slough was composed of a thick layer of silt. Rubble and cobble were predominant throughout the mainstem.

Deadfalls were present in the mainstem but sparse throughout the slough. Grasses were abundant along the banks of the slough and overhanging trees and shrubs were present. Turbidity levels in the mainstem were high enough throughout most of the season to provide cover. Pools and eddies in the mainstem (zone 3) provided additional habitat for fish.

Emergent vegetation was found in abundance along the margins of the slough and mainstem. Overflow from the beaver dam at the upper end of the slough created small channels throughout an area of abundant emergent growth and overhanging vegetation. Abundant cover in the upper end was productive and provided excellent rearing habitat throughout the sampling season. Emergent and overhanging vegetation associated with the mainstem and slough included sedges of the genera, Carex and Scirpus and grasses of the genus Callamagrostis. Equisetum (horsetail) was found in abundance in the shallow margins of the slough.

Biological Summary

Sockeye salmon were relatively abundant in this slough the entire season; chum salmon were abundant in June. Coho juveniles salmon were

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relatively abundant throughout the season, except for August. Chinook juveniles were present in low numbers.

Round whitefish juveniles were fairly common during the season and a few juvenile longnose suckers were present during June and July. A few adult humpback whitefish and longnose suckers were also present in early July. Rainbow trout and more frequently burbot were caught on a regular basis. Large numbers of adult round whitefish were present in early July.

8. Lane Creek and Slough 8

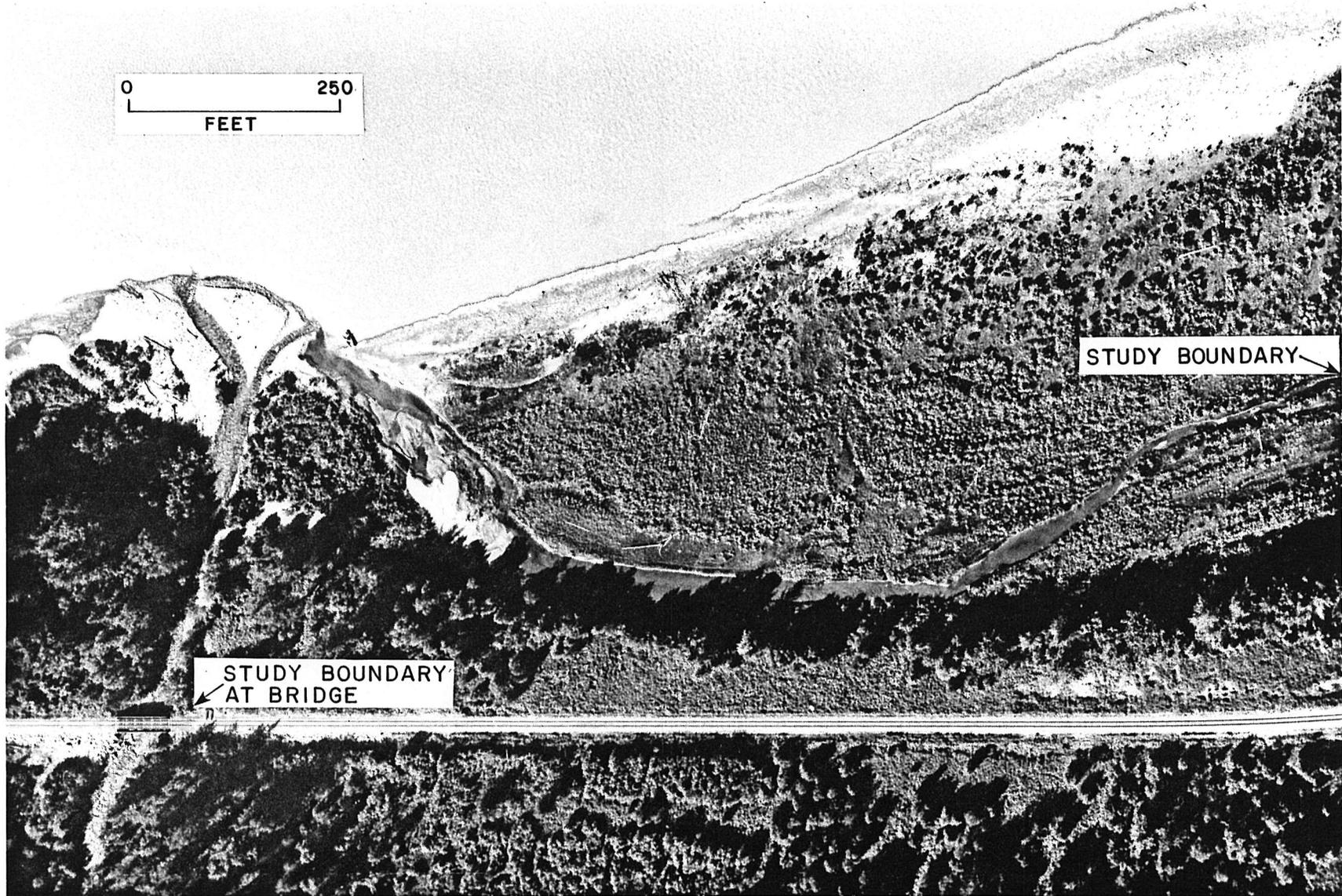
The Lane Creek and Slough 8 study area (Appendix Plate 4-F-9) was centered around the confluence of Lane Creek and Slough 8 with the Susitna River at RM 113.6.

The 500 foot portion of Lane Creek in the study area has a relatively steep gradient which early in the season had two mouths in the mainstem and one in Slough 8. In early August the creek cut a new channel which did not enter Slough 8 (this is how it was when the aerial photo, Appendix Plate 4-F-9, was taken). The creek channel shift resulted in the deposition of a large quantity of rubble, cobble and boulders into the slough. The deposition of this substrate created a debris barrier which, at the lower mainstem stage observed, isolated the slough from the influence of the tributary and the mainstem.

Slough 8 is a long uniformly U-shaped channel about 30 feet wide which was open to mainstem water only during early June when mainstem discharge was 25,000 cfs. After early August, Slough 8 was joined to the mainstem without being hydraulically related to Lane Creek discharge. Several springs enter Slough 8 along its southeast bank. About 1500 feet of the slough were in the study area. The lower 315 feet of the slough is a wider (70 foot) eroded flat bottomed channel.

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4-F-59



Appendix Plate 4-F- 9. August 1982 aerial photograph of Lane Creek mouth and Slough 8 (RM 113.6). The Susitna River flows from right to left in this photo.

Hydraulic Conditions

The mainstem discharges (water surface elevations) observed at this habitat location were greater in June and July than in August or September. The highest mainstem flow of 25,000 cfs at the Gold Creek gaging station at which biological sampling occurred was in early June (Appendix Table 4-F-9). The lowest mainstem flow of 12,500 cfs occurred in late August.

The conveyance of mainstem water through the slough head occurred only during the early June sampling period at 25,000 cfs. Backwater zones 6 and 7 were found in the slough (above and below the tributary) in early June. The slough head was closed on June 19th, when the estimated Susitna discharge at Gold Creek was the same as in early June. It should be noted that the gaging station at Gold Creek was not operating in June and the Susitna discharges were estimates from other data (see Part I). The slough head was open on June 20, when the Gold Creek discharge was estimated to be 28,000 cfs.

The water surface elevations in the slough were higher than mainstem elevations after late June. During late June the mainstem stage still regulated the stage in the slough, so this (backwater) area was classified zone 2.

Runoff from Lane Creek, springs and a small creek located near the head of the slough were the most important factors affecting the hydraulic conditions of this pool area (zone 9) after the mainstem stage dropped to 22,400 cfs.

4-F-6D

Appendix Table 4-F-9. Hydraulic zones, mainstem discharges at the Gold Creek Station^a, and the status of the controlling streambed elevation at the upstream entrance (head) of slough 8 at the Lane Creek and Slough 8 site, for sampling dates from June to September, 1982.

Sampling Date	June 07	June 19	July 08	July 22	August 08	August 20	September 10	September 25
Mainstem Discharge (cfs)	25,000 ^b	25,000 ^b	18,100	22,400	16,600	12,500	14,400	15,000
Status of Channel Head	Transition Closing	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Hydraulic Zones								
1	+	+	+	+	+	+	+	+
2	0	+	+	+	+	+	+	+
3	+	+	+	+	+	+	+	+
4	+	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	+	0	0	0	0	0	0	0
7	+	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	+	+	+	+	+	+

^aUSGS provisional data at Gold Creek 15292000.

^bThe June discharge figures are approximations (see text).

+Zone present.

0Zone absent.

4-F-61

Large pools (zone 9) and smaller backwater areas (zone 2) were present after the mainstem stage reached 22,400 cfs in late July. The size of the zone 2 areas steadily decreased as mainstem discharges decreased.

The water surface area of the tributary (zone 1) remained relatively constant at the mainstem flows observed. The steep gradient of the stream bed and the high velocity water of this tributary did not permit the formation of tributary backwater areas (zone 2) in the tributary channel. A zone 2 was present in the slough channel after the head of the slough closed.

Other Habitat Characteristics

The drainage area of Lane Creek is approximately 12 square miles. Primary water sources include tributaries, surface runoff, springs, bogs, and ground water areas. Lane Creek was clear throughout the sampling season, and had a mean turbidity of 3.6 NTU.

Mainstem characteristics (e.g., high turbidity levels, increased surface areas and increased water velocity), were present in the slough when the slough head was open in early June. The water temperature for the slough during early June was 6.5°C. The turbidity recorded in late June was 2.2 NTU.

Mean turbidity in the slough when the head was closed was 1.3 NTU and mean water temperature was 6.2°C. A high water temperature of 8.9°C was found during the late August sampling period.

4-F-62

Lane Creek is a narrow (approximately 15 ft), shallow 1-2 ft average depth), high velocity (seasonal mean 2.6 ft/sec) tributary. The mean water temperature was 6.4°C and ranged from 4.0°C in late September to 8.3°C in late August.

The mainstem mixing areas (zone 3) exhibited changes throughout the sampling season. A clear water plume generated from the tributary was present at the confluence of the tributary and mainstem. A mean water temperature of 8.4°C was recorded at the mainstem throughout the season. Mean turbidity level recorded throughout the season was 75 NTU. Mainstem turbidity levels and water temperatures exhibited significant reductions between late August and late September.

Substrate types varied between Lane Creek and Slough 8. Gravel was the dominant substrate of the tributary and the upper reaches of the slough. The lower slough was distinguished by having a substrate composed primarily of rubble and cobble. Interstices found within the substrate of the lower slough offered the only form of cover when slough discharge was negligible and water levels were low. Cobble was the dominant substrate found in the mainstem.

Emergent vegetation was abundant throughout the slough and present around the tributary and mainstem areas. Small tributary channels and shallow, low velocity pools of the upper slough had abundant growths of emergent and overhanging vegetation. Equisetum (horsetail) was found

in abundance along the shallow margins of the slough. Emergent sedges and Equisetum were dewatered in the lower slough for most of the sampling season. Grasses and emergent sedges were abundant along the banks of the slough, tributary and mainstem. Sedges and grasses were found as interspersed clumps and provided beneficial overhanging vegetation for fry. Overhanging shrubs and trees, were abundant along the banks of the tributary. Shrubs and trees were also present along the east bank of the slough.

Deadfall was abundant throughout the tributary, slough and mainstem areas. Undercut banks were abundant through the tributary and upper slough, present along the lower slough and absent along the mainstem. Turbidity levels provided cover in the mainstem and in the slough when its head was open.

Biological Summary

Chum salmon juveniles were abundant in the slough in June. Sockeye juveniles were moderately abundant throughout the season. Chinook juveniles were present in low numbers after June. Coho juveniles were relatively abundant in September.

Slimy sculpins were moderately abundant throughout the season. Round whitefish and Arctic grayling were often abundant in zone 3. A few rainbow trout and longnose suckers were also found in zone 3 during much of the summer.

9. Slough 8A

This site at RM 125.3 on the Susitna (Appendix Plate 4-F-10) is one of a complex of sloughs within a 5.5 mile stretch. The slough mouth is within a protected side channel, which was open at least until October 20th. The slough has a broad basin above the mouth which extends to a fork. Above the fork, a network of upper braided channels are impounded by a series of beaver dams. Some dams are completely rocked in with cobble, offering a semi-permanent barrier while others are modified by stage changes. There are two primary head channels which connect to the mainstem Susitna.

The head of this slough opens to the mainstem at flows of 30,000 cfs. Some percolation through gravel occurs in the various head channels at moderate mainstem flows. A long shallow basin occurs in the uppermost channel. This basin, 100-125 feet wide by 1350 feet long, runs along the railroad embankment and is fed by stream runoff and mainstem percolation.

Hydraulic Conditions

The head channels were seldom open to the mainstem this season (only during the early June trip), although percolation of mainstem water through the cobble was evident (Appendix Table 4-F-10).

The mixing zone (zone 3) varied only slightly, due to the high bank along the lower portion of the slough. The mixing interface seldom

4-F-65



Appendix Plate 4-F-10. August 1980 aerial photograph of Slough 8A (RM 125.3). The Susitna River flows from right to left in this photo.

4-F-66

Appendix Table 4-F-10. Hydraulic zones, mainstem discharges at the Gold Creek station^a and the status of the controlling streambed elevation at the upstream entrance (head) of slough 8A for the Slough 8A site for sampling dates from June to September, 1982.

<u>Sampling Date</u>	<u>June 08</u>	<u>June 23</u>	<u>July 12</u>	<u>July 28</u>	<u>August 11</u>	<u>August 21</u>	<u>September 07</u>	<u>September 24</u>
Mainstem Discharge (cfs)	28,000	26,000	26,500	25,600	15,400	12,200	11,700	17,100
Status of Channel Head	Open	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Hydraulic Zones								
1	0	+	+	+	+	+	+	+
2	0	+	+	+	+	+	+	+
3	+	+	+	+	+	+	+	+
4	+	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	+	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0

^aUSGS provisional data at Gold Creek 15292000.
+Zone present.
0Zone absent.

4-F-67

extended more than 4 feet from the shore. The sampling area extended approximately 350 feet below the turbid interface at the slough mouth. The mouth of the slough was fixed by the morphology of the site. The 150 foot width of the interface (i.e. the mouth of the slough) remained fairly constant all season and also contributed to the rapid mixing of slough and mainstem water. A strong, small eddy area was present on the shoreward end of the interface. The location of the turbid interface and the eddy area remained fairly constant throughout the 1982 open water season.

The basin comprising zone 2 was approximately 150 by 1500 feet. A 3 to 6 feet deep channel runs about 300 feet along the cut bank. The dimensions of this zone varied only slightly throughout the season (surface area discussion - Vol. 4, Part I, Section 3.1.2.1). However it did diminish after the first week in September as discharge fell below 15,000 cfs. The upper boundary of this pool shifted about 400 feet as the water varied seasonally. The surface area decreased in June and early July, then increased briefly in late July. After this period the size of the zone decreased gradually throughout the remainder of the season. As the mainstem Susitna began to ice up, the flow in zone 2 was generally restricted to a narrow channel.

The upper sampling zone, in free-flowing slough water, extended to the second fork in the system approximately 350 yards above the backup pool. The width of the channels varied from 25-50 feet. Later sampling was restricted to the channel below the beaver dam about 55 yards above zone 2. This change was made when the water level in the upper slough

4-F-68

dropped below the top of the beaver dam, and further activity by beavers reduced flow immediately above this control.

Other Habitat Characteristics

Slough 8A offered a variety of substrate and cover situations for juvenile fish rearing areas and adult salmon spawning. The mixing zone was a cut bank with cobble bottom and much deadfall or overhanging vegetation. Velocity was high one or two feet out from the bank (3.0+ fps). The interface of zone 2/zone 3 remained fixed, varying no more than 20-30 feet in the season.

The backup zone had a variety of substrates, cover, depths and low turbidity (mean = 1.2 NTU). The channel along the cut bank had many deadfalls available. Substrate was primarily silt with little aquatic vegetation. The opposite bank sloped gradually, with large areas of Sparganium multipedunculatum and Equisetum available for cover. Above these areas were dense growth of alder, willow and cottonwood. The substrate consisted of rubble with a heavy layer of silt. The cobble and gravel substrate in the upper half of this zone was good spawning habitat for chum and sockeye salmon. This spawning area was very similar to that seen in zone 2 of Slough 11. A beaver lodge, deadfalls, and sparse vegetation provided cover. Turbidity varied in early season, but was always very slight (0.8-2.0 NTU). In the latter part of the season, the decreasing mainstem turbidity was reflected by the clarity within this zone (0.4-1.5 NTU). The dimensions of this zone varied throughout the season, but the surface area was great enough that a

4-F-69

variety of depth, cover and turbidity remained available at all levels. The zone 2/zone 1 interface covered an area of gravel interspersed in cobble. Late in the season the interface was fixed by dewatering cobble areas at the narrow right fork of the slough. This occurred after the middle of August, when discharge was about 12,500 cfs. This general area was the site of much spawning activity of anadromous species. The grassy areas in the lower back up zone were utilized by fry as was the large beaver lodge.

The free-flowing zone was generally crystal-clear and had several large pooling areas. Although a good deal of cover (deadfall, cobble) was present, the upper reaches were unproductive during earlier sampling trips in the open-water field season. Sockeye juveniles were dip netted in shallow head channels and various shallow pools in the area above the first beaver dam. In post-July trips, zone 1 sampling was limited to the channel below the beaver dam. This reach had deadfalls (beaver dam) and organic debris for cover.

Sparse aquatic vegetation was present and the depth ranged from 0.5-1.5 feet. No cover was offered by turbidity in this zone once the water level dropped below the height of the dam.

Growth of algae was profuse in July and August on the rocks in this upper zone. A similar condition was seen in Slough 11 at this time. Substrate in zone 1 was primarily gravel interspersed in cobble. Stage changes this season were not sufficient to alter the substrate, as was

evidenced during the 1981 season in high-water months with mean discharge of 30,000+ cfs.

Biological Summary

Sockeye and chinook salmon juveniles were fairly common throughout the season and chum salmon were abundant in June.

Round whitefish, longnose suckers, and slimy sculpins were moderately abundant all season. Rainbow trout and Arctic grayling were relatively abundant in June.

4-F-71

10. Slough 9

This slough is basically a long winding side channel of the Susitna with the mouth at RM 129.2. It is one of a complex of sloughs and is somewhat removed from the main channel of the Susitna (Appendix Plate 4-F-11). Several small subsidiary sloughs are present within this area and a small stream feeds into the lower portion of the sampling area.

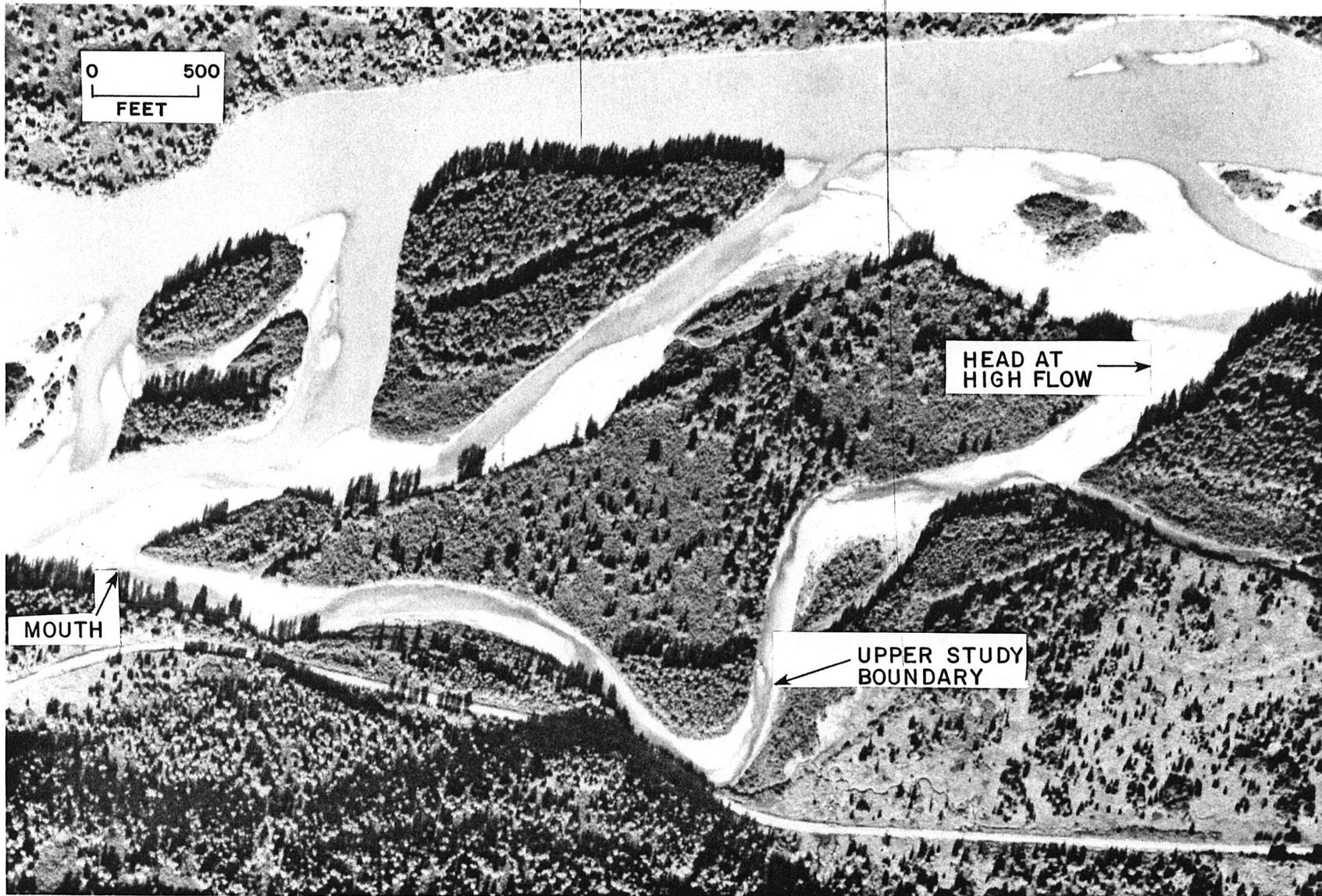
The mouth of the slough is an area of sand bars which were sometimes covered with water. The confluence moved within a 300-500 foot area. The mixing zone had a gradual slope with relatively constant gradient well into the turbid water. Sampling within this zone extended approximately 300 feet below the slough mouth.

The backwater zone was very sandy on the mainstem side. The opposite bank had a gradual cobble slope extending 20-30 feet from the brushline of alder and cottonwood. The contribution of clear water by the stream was minimal relative to the slough discharge until late August, when the mainstem began to clear up and percolation through the head of the slough was reduced. At moderate to high water conditions (20,000+ cfs) the clear plume of the stream is very small in the slightly turbid, low velocity (0.2-1.3 fps) backed up water.

The free-flowing zone had a varied morphology with cut-banks, cobble beaches, sand beaches and a railroad embankment of boulders. The gradient was variable, but the usual configuration was a cut bank on one side with a gradual slope of sand or cobble on the opposite shore. The

4-F-12

4-F-73



Appendix Plate 4-F-11. August 1980 aerial photograph of Slough 9 (RM 129.2). The Susitna River flows from right to left in this photo.

upper sampling boundary early in the season was the railroad embankment. Following the late July trip, the upper study boundary was redefined at a point approximately 600 feet above the stream mouth. This was dictated by the control between zones 1 and 2 which emerged in the delta area of the stream discharge at this time.

Hydraulic Conditions

The head of the slough was open to the mainstem in June and July (Appendix Table 4-F-11). Free-flowing slough (zone 4) with velocities ranging from 0.6 to 2.6 fps and the mixing zone (zone 3) were present in both June and July, with a possible additional backed up area of water (zone 6) in both June trips (velocity data is incomplete). Dropping Susitna water levels in early August (less than 20,000 cfs), dewatered the sand bar and subsequently shifted the zone 3 interface about 400 feet downstream. Also at this time, the primary source of water in the system became groundwater from percolation of water from small feeder sloughs and the tributary stream above the mouth. Velocity ranged from 0.2 to 1.5 fps in these conditions.

The delta pushed out by the stream constricted the slough flow. This control became the upper boundary of the pool zone during September. Zones 1, 2 and 3 were present in early August (16,700 cfs) and late September (19,400 cfs). The remainder of the sampling trips, zone 1 flowed into zone 3, at discharges of 11,700 and 12,000 cfs.

4-F-74

Appendix Table 4-F-11. Hydraulic zones, mainstem discharges at the Gold Creek Station^a, and the status of the controlling streambed elevation at the upstream entrance (head) of Slough 9 for the Slough 9 site for sampling dates from June to September, 1982.

Sampling Date	June 10	June 22	July 13	July 27	August 10	August 21	September 07	September 23
Mainstem Discharge (cfs)	26,000	26,000	28,400	29,100	16,700	12,200	11,700	19,400
Status of Channel Head	Open	Open	Open	Open	Closed	Closed	Closed	Closed
Hydraulic Zones								
1	0	0	0	0	+	+	+	+
2	0	0	0	0	+	0	0	+
3	+	+	+	+	+	+	+	+
4	+	+	+	+	0	0	0	0
5	0	0	0	0	0	0	0	0
6	+ ^b	+ ^b	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0

^aUSGS provisional data at Gold Creek 15292000.

^bQuestionable conclusion, data inconclusive (see text).

+Zone present.

0Zone absent.

4-F-75

The Susitna discharge at Gold Creek decreased from September 1-7 (17,900 - 11,700 cfs). The discharge remained low until September 13 (15,200 cfs), then began increasing to a season peak of 32,500 cfs on September 16. Following the mid-September peak, the discharge decreased steadily through the remainder of the season.

Other Habitat Characteristics

The turbidity (13-99 NTU) present in this site during July and August provided cover fish in all zones. Vegetative cover consisted of a narrow area, 300 feet in length of Sparganium multipedunculatum, which was inundated during June and July in the area above the stream. Also, woody shrubs calving off the cut bank areas into the water. Areas of deadfall accumulation were also present in all zones. Algae growth was very slight here in comparison to Slough 8A Slough 11 no other true aquatic vegetation offered significant cover to fry.

The substrate in the mixing zone was cobble interspersed with gravel. The shoreline grasses and deadfall were inundated in late July (29,100 cfs) and briefly in June. Velocity in the mixing area was fairly low (mean = 1.4 fps) due to the braiding of the river and buffering effect of the sand bars. During early September sand covered spawning redds and quickly built up in trap sets.

The backwater zone was very sandy with a narrow channel of cobble extending up to the stream. A few dead trees were present and provided cover at moderate to high discharge (June through July). High water

4-F-76

levels did not provide any additional vegetative cover in the slough because the banks were bare rock and sand. Turbidity, offered cover most of the season.

Early in the open-water season the upper boundary of the backwater zone appeared to be further up the slough at high water stages. Due to the lack of a turbid interface, a slackening of the velocity was often the only indicator of the backwater area. Once the water had lowered below the control opposite the stream, the upper boundary remained constant throughout the season. Surface area of the backwater zone from high stage to low stage varied significantly due to the morphology of this system, particularly in the lower portion. Further discussion of surface area relationships is found in Volume 4, Part I, section 3.1.2.1.

The free-flowing area of this system was rather extensive and sampling efforts dealt only with the lower portions. In early season trips, the upper sampling boundary was just above the railroad embankment some 2500 feet above the late season zone 2/zone 1 interface control. Cover in this zone was deadfall, turbidity and some overhanging vegetation. The predominant substrate was cobble with areas of sand and gravel present in the upper reaches. As the backwater zone disappeared in late season, the free-flowing zone continued into the sand and gravel areas in the mouth region. No significant cover was offered by aquatic vegetation in this zone.

Due to the winding nature of this channel, micro-habitats of variable velocity are available within a range of cover when the head of the system is open to the Susitna. At lower discharges (less than 20,000 cfs) the amount of riffle area present became greater. Two primary riffle areas were present, in upper area above the sharp bend at the railroad embankment and a lower area at the control immediately above the stream mouth. Pool areas were present in the lower half of the slough, adjacent to and below the stream discharge. At late season conditions, the riffle/pool ratio was about 2:1.

Biological Summary

Chinook and sockeye salmon juveniles were present in low numbers. Chum salmon were moderately abundant in June.

Round whitefish, longnose suckers, and slimy sculpins were fairly common in June and July.

11. Fourth of July Creek Mouth

This site (Appendix Plate 4-F-12) is a clear water tributary of the Susitna at RM 131.1. The sampling area extends from approximately 1200 feet downstream to the narrow tributary channel 400 feet above the confluence with the Susitna. The mouth and delta area is a dynamic system, with substantial substrate movement and channel diversity noted in the course of the season.

As the flow of the creek varied, points of discharge varied. The tributary (zone 1) discharges into a Susitna side channel in an area of extensive cobble bars so the lower mixing zone (zone 3) was also subject to a great deal of change as water heights varied. The morphology of the mouth this season was such that no back-up zone was present throughout the ice-free season. This was in contrast to last season and was indicative of ongoing geomorphic changes.

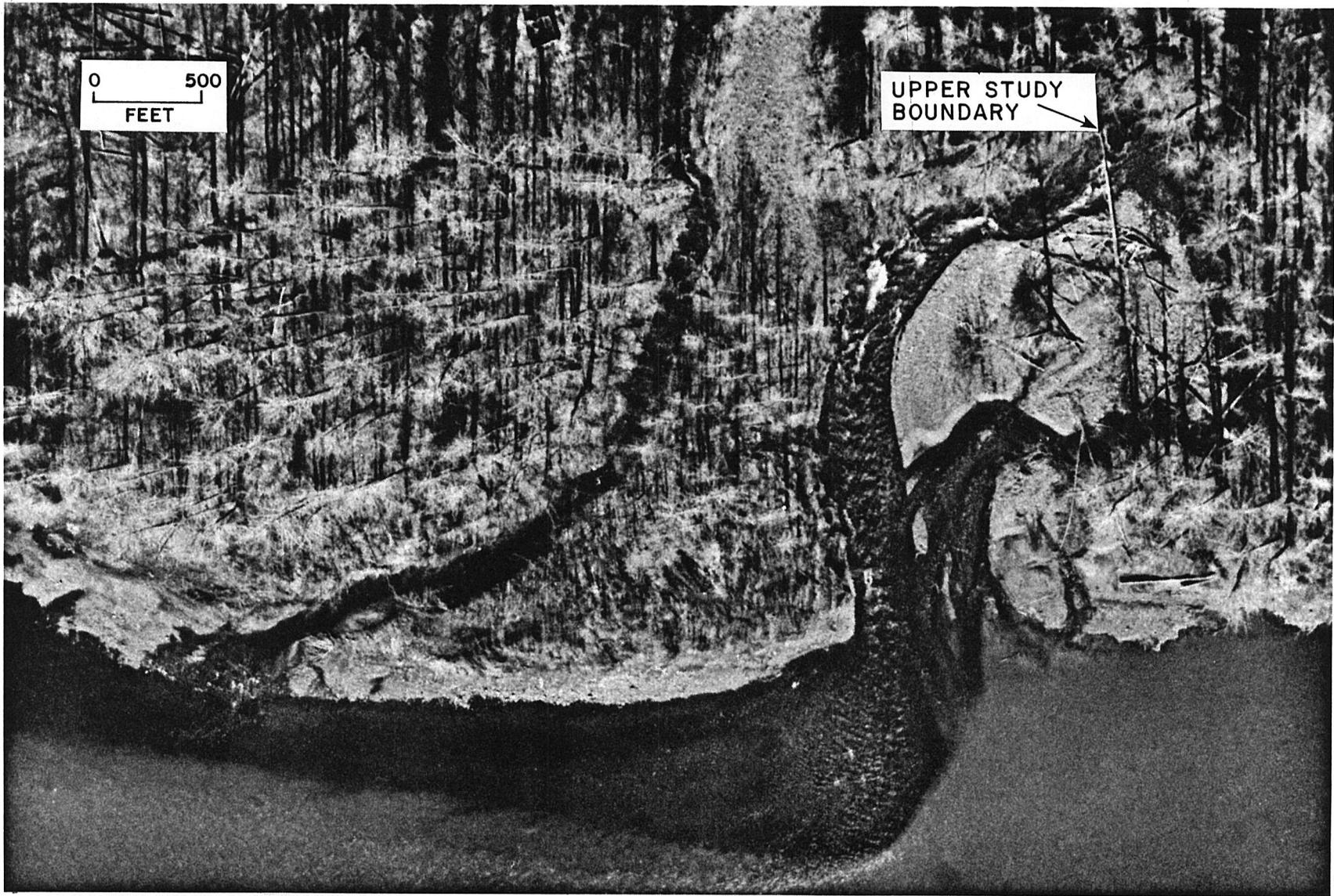
Hydraulic Conditions

Zone 1 and zone 3 were present throughout the 1982 open water season (Appendix, Table 4-F-12). The primary channel of this free-flowing tributary changed considerably following periods of heavy rain in late July.

The early season channel made a sharp bend immediately below the straight upper creek portion (the bottom of which marks the zone 1 uppermost sampling boundary). A terrace system which rose up the

4-F-79

4-F-80



Appendix Plate 4-F-12. May 1982 aerial photograph of the mouth of 4th. of July Creek (RM 131.1). The Susitna River flows from right to left in this photo.

Appendix Table 4-F-12. Hydraulic zones and mainstem discharges at the Gold Creek station^a for the Fourth of July Creek-mouth site for sampling dates from June to September, 1982.

<u>Sampling Date</u>	<u>June 09</u>	<u>June 24</u>	<u>July 12</u>	<u>July 27</u>	<u>August 10</u>	<u>August 22</u>	<u>September 08</u>	<u>September 24</u>
Mainstem Discharge (cfs)	27,000	26,000	26,500	29,100	16,700	12,200	11,900	17,100
Hydraulic Zones								
1	+	+	+	+	+	+	+	+
2	0	0	0	0	0	0	0	0
3	+	+	+	+	+	+	+	+
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0

^aUSGS provisional data at Gold Creek 15292000.

+ Zone present.

0 Zone absent.

4-F-12

north side of the delta was open in June but dry in the early July sampling period. During the high creek discharge in late July, the primary channel moved the substrate under a large deadfall accumulation; the net result was a straightening of the channel, coupled with a braiding effect. The step-like back channel was still open, but less often once the straight channel had been created. This flow was reduced in late August and early September, running through to the mainstem in early August and late September. This dynamic shift of substrate also occurred during the 1982 open water season.

The high water also extended the delta 50-100 feet. Several large breakwater areas were formed behind the delta and cobble bars, which subsequently dewatered. The mixing zone varied with the discharge from the creek. As water levels in the Susitna dropped, the large beds of dewatered cobble caused the turbid interface to move farther out from shore. In June and early July, the mixing zone followed the shoreline similar to Indian River. Following the channel change in late July, the shoreline and the mixing was extended out into the channel. Several large backwater areas were formed behind the delta and cobble bars, which subsequently dewatered when the water in the mixing zone dropped in August and September.

In September, the surface area of the mixing zone substantially increased as extensive shallow areas were created by the dewatering of cobble banks in the near-shore area. Mainstem Susitna discharge decreased through the first week of September an open water seasonal low of 11,700 cfs, then peaked on September 16 at 32,500 cfs. Following

4-F-82

this season high, discharge decreased throughout the remaining open-water season.

In early September the dewatering of a bar (about 2950 ft²) at the mouth coupled with the emergence of a bar about 500 feet below caused a slackening of the velocity which extended the mixing zone about 50 feet offshore between these bars. Prior to this, the turbid interface had been 3-10 feet offshore in this zone.

In late September, the upper bar dewatered completely, thus extending the continuous shoreline at the mouth. In the same period, a smaller bar (about 450 ft²) began dewatering at the mouth to further buffer the tributary effect on the mainstem water. The downstream shoreline was simultaneously extended by decreasing mainstem discharge. The extension of this shoreline coupled with the decreasing depth of the sidechannel acted to extend the mixing zone outward to approximately 100 feet offshore (nearly to the offshore bar marking the opposite bank of the sidechannel).

At this time, the lower portion of the sampling area was also very shallow due to the dewatering of a large cobble bar. The net result of this was a doubling of the surface area of the mixing zone from early to late September.

4-F-83

Other Habitat Characteristics

The tributary remained clear (mean = 1.0 NTU) throughout the season, except during the brief highwater phase mentioned previously. The banks are densely brushed, supporting alders, willows and cottonwoods. A large amount of deadfall provide cover, in a range of velocities. Submerged tree roots below cut banks provided additional suitable cover for fry. Several small runoff and seepage areas channeled water from higher points in the creek (velocity was less than 1.0 fps).

Substrate varied from boulders in the upper sample area to gravel interspersed in cobble in the lower mouth. The terraces provided a great deal of cover and appeared to be good rearing habitat, as well as a holding area for spawning adults. The back channel was a holding area, offering much cover (overhanging vegetation) and many breakwater situations. Very little aquatic vegetation was present.

The turbidity (mean = 18 NTU) in the mixing zone provided cover for resident and juvenile anadromous fish. Also areas of deadfall and numerous pooling areas became available as mainstem water levels decreased. Vegetative cover was virtually non-existent, because the highwater stage never reached the woody shrubs along shore as was the case in 1982.

Biological Summary

Chinook salmon juveniles were fairly common throughout the season. Coho juveniles were abundant in early September.

Rainbow trout were relatively abundant from June through September. Round whitefish and Arctic grayling were common in zone 3 throughout the season. Adult longnose suckers were also common in zone 3 in August and September.

4-F-85

12. Slough 11

This site (Appendix Plate 4-F-13), located at RM 135.3 is a long (1800 yards) slough which in recent years has eroded much land through channel shifting, as evidenced by large deposits of soil and further verified by local residents. Originally enlarged by an ice jam several years ago, the ice outs of the last few winters have scoured the upper reaches of the slough, furthering the morphological change.

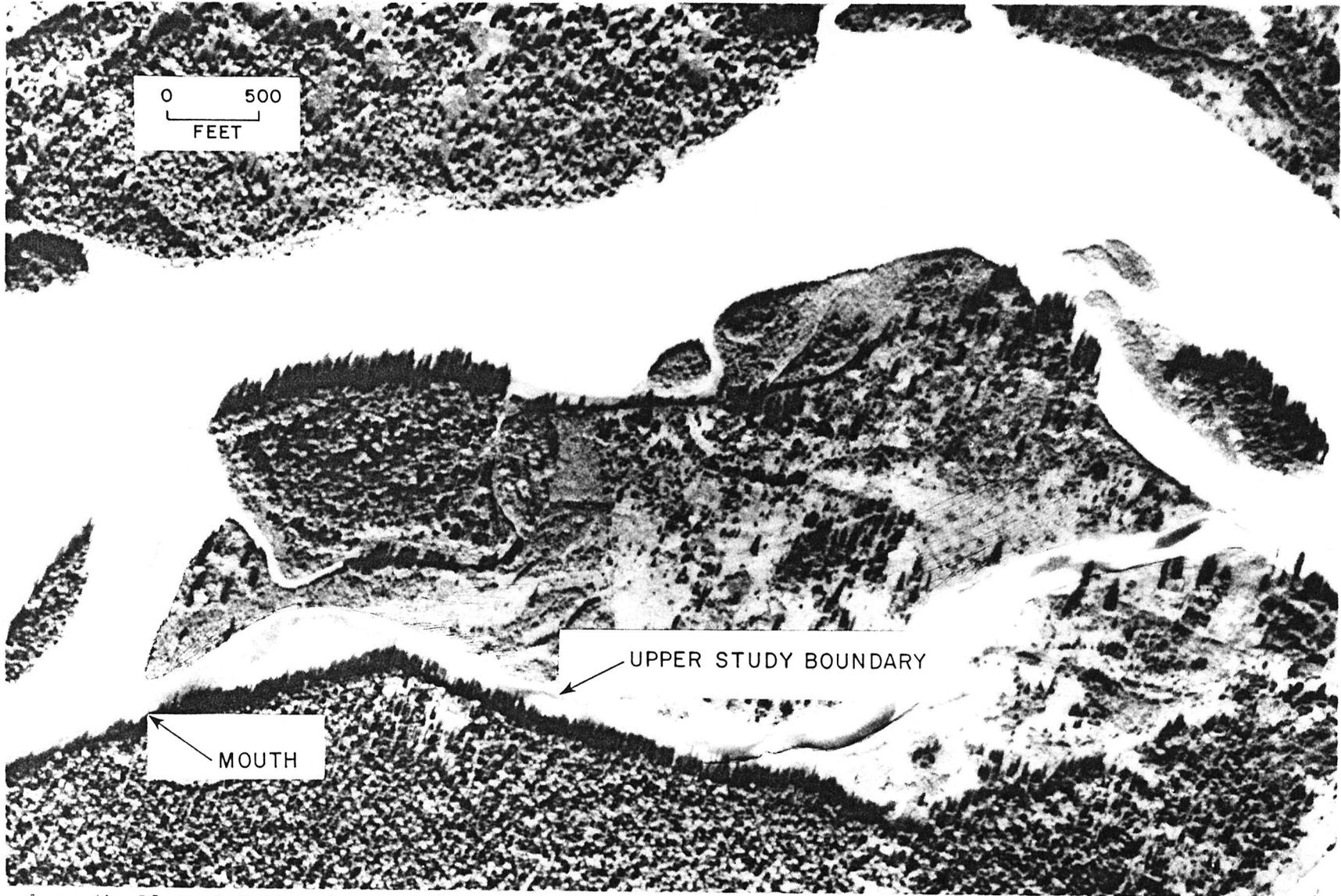
The slough has a single head. When the head is closed, springs are the only source of water flowing through the slough. The channel meanders down past large accumulations of rock deposited in S-curves by ice movement.

The mouth of the slough (RM 135.3) is fixed by a sand bar, which was dewatered most of the 1982 open water season (in contrast to the 1981 summer sampling season). The mouth was confluent to a Susitna side channel in an area separated from the primary channel by a series of 90 degree bends. The backwater area formed behind this varied considerably in size throughout this season, and appeared to be considerably reduced from 1981, based on the location of active redds in 1981 which were never wetted this season.

The sampling area encompassed the lower portion of the slough from approximately 50 yards below the mouth to the upper end of the backwater area, a total length of about 700 yards. Following the high water of late July, the sampling boundary was dropped about 50 yards to an

4-F-86

4-F-87



Appendix Plate 4-F-13. August 1980 aerial photograph of Slough 11 (RM 135.3). The Susitna River flows from right to left in this photo.

established control below the backwater area. This boundary remained consistent the remainder of the season. The interface between zone 1 and zone 2 stabilized at a control 450 yards below the upper boundary in early August. Although the width varied slightly after this period, the interface remained at this control for the rest of the season.

Hydraulic Conditions

The slough head was never open during the open water sampling season of 1982. Zone 1, zone 2, and zone 3 were present all season (Appendix Table 4-F-13).

The mixing zone remained fixed along a 15-20 foot cut bank. The slope flattened 2-3 feet beyond the water line; depth ranged from 0.5 to 3.0 feet during the course of the season. During the early season sampling trips the zone was more extensive at the upper end due to the inundation of the sand bar. The interface between slough and mainstem water was much wider when the barrier sand bar was submerged in June and July (28,000+ cfs). In August (17,000- cfs), the sand bar was dewatered and the interface (width of the mouth) was greatly reduced from previous conditions, the season width ranging from 175 to 8 feet. Also, as the mainstem dropped to 12,200 cfs in early September, the mixing zone was further compressed by the extension of the sand bar downstream, parallel with the mixing zone shoreline. A Susitna peak discharge of 32,500 cfs, which occurred on September 16, between sampling trips, again submerged the downstream extension of the sand bar at the mouth. The discharge

4-F-88

Appendix Table 4-F-13. Hydraulic zones, mainstem discharges at the Gold Creek station^a and the status of the controlling streambed elevation at the upstream entrance (head) of Slough 11 at the Slough 11 site for sampling dates from June to September, 1982.

Sampling Date	June 04	June 20	July 14	July 29	August 12	August 22	September 06	September 29
Mainstem Discharge (cfs)	23,000	28,000	27,300	23,600	14,400	12,200	12,200	12,400
Status of Channel Head	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Hydraulic Zones								
1	+	+	+	+	+	+	+	+
2	+	+	+	+	+	+	+	+
3	+	+	+	+	+	+	+	+
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0

^aUSGS provisional data at Gold Creek 15292000.

+ Zone present.

0 Zone absent.

4-F-89

from the slough was generally low relative to the mainstem flow; the turbid interface down the length of this zone was usually within 3.5 feet of shore.

The backwater area varied quite a lot seasonally in surface area with changes in stage, due to the low discharge of ground waters when the slough head was closed. The dewatering of the sand bar and two other margins of the pool as the season progressed significantly reduced the surface area. The maximum surface area was noted during late June and July while the smallest recorded surface area was on September 29. Further presentation of surface area data is found in Volume 4, Part I, section 3.1.2.1. The irregular shape and size of the bar encroaching on the zone produced a marked baffling effect of the velocity from the free-flowing zone 1. In late September, the zone had large deadwater areas in pockets of the sand bar.

A large portion of the potential backwater area was never inundated this year as it was in 1981 when mean discharge was 30,000+ cfs in July and August. Many of the redd sites used in 1981 were dry in 1982 when salmon returned to spawn.

The free-flowing zone was greatly reduced because the head of the slough was closed to mainstem flow all summer. This zone did not exhibit much fluctuation this season due to the lack of mainstem contribution. The primary mainstem effect was seen during the peak flow periods on July 25 and September 16, which occurred between sampling trips. Apparently, percolation of mainstem water increased flows and expanded the wetted edge perimeter in the slough during late July.

4-F-90

Other Habitat Characteristics

The mixing zone substrate was primarily rubble, but a large area of sand and cobble existed when the barrier bar was submerged. Very little vegetative cover was available in the cut bank area. Turbidity was available as cover until the Susitna began to clear up in September. The velocity of the water in the mixing zone closely reflected the flows of the sidechannel, due to the relatively small contribution of the slough system.

The backwater area had gravel and sand substrate. Turbidity was very slight in this zone, 0.1 to 9.0 NTU. Velocity was very low in most areas (0.0-0.6 fps). Late in the season the sand bar restricted flow, forming large deadwater areas. Deadfall was present near an earthen cut-bank. No vegetative cover was present, although algae buildup occurred late in the season.

The difference in the depth of the backwater zone from this year to last was reflected in the fact that the sand bar was not substantially dewatered until early September, a month later than in 1981. The mid-season reduction of surface area reflected the low precipitation rate of 1982 relative to the previous season.

The backwater zone was similar to that of Slough 8A in early season; slightly less aquatic vegetation was available in Slough 11, but the wide zone 2/zone 3 interface was present in both. The similarity rapidly decreased as the sand bar drastically reduced the backup zone at Slough 11 in late season.

4-F-91

The free-flowing zone offered a variety of cover in the form of deadfall and boulder areas. Many slackwater areas were available within this zone. Vegetative cover was scarce; at high water in early July (27,300 cfs) hummocks of grass that had calved off cut-banks were inundated. Blooms of algae occurred throughout the season. Algae blooms were also observed last year, however, lower water conditions and more days of sunshine caused extensive algae growth during the 1982 season.

Substrate varied from gravel to boulder, a sorting by size was common and many areas available for spawning and rearing were present. Depth varied from two to eight inches in riffle areas, while upper pools were up to 6 feet deep.

The pools and sorting of substrate in beds of a given size was similar to the head channels of Slough 8A. There seemed to be more boulder areas in Slough 11, which resulted from cut-bank degradation rather than from river movements (hydraulic or ice related).

Biological Summary

Chinook, coho, and sockeye salmon juveniles were all present in low numbers throughout the season. A few chum juveniles were present in June.

The number of resident fish captured was low but a large number of round whitefish were present in late June.

4-F-92

13. Indian River Mouth

This site is a major tributary in the Susitna drainage area above the Chulitna confluence (Appendix Plate 4-F-14). The mouth of this river (RM 138.6) was braided and subject to major morphological change due to hydraulic interactions of the tributary and mainstem Susitna. No mainstem backwater zone (zone 2) was present, due to the steep gradient of the mouth.

Helicopter surveys of the upper reaches of this river were conducted on a monthly basis from June through September. Sites were located between Indian TRM 2.7 and TRM 12.0. Results and discussion of this data are included in Appendix Report 3-D-1.

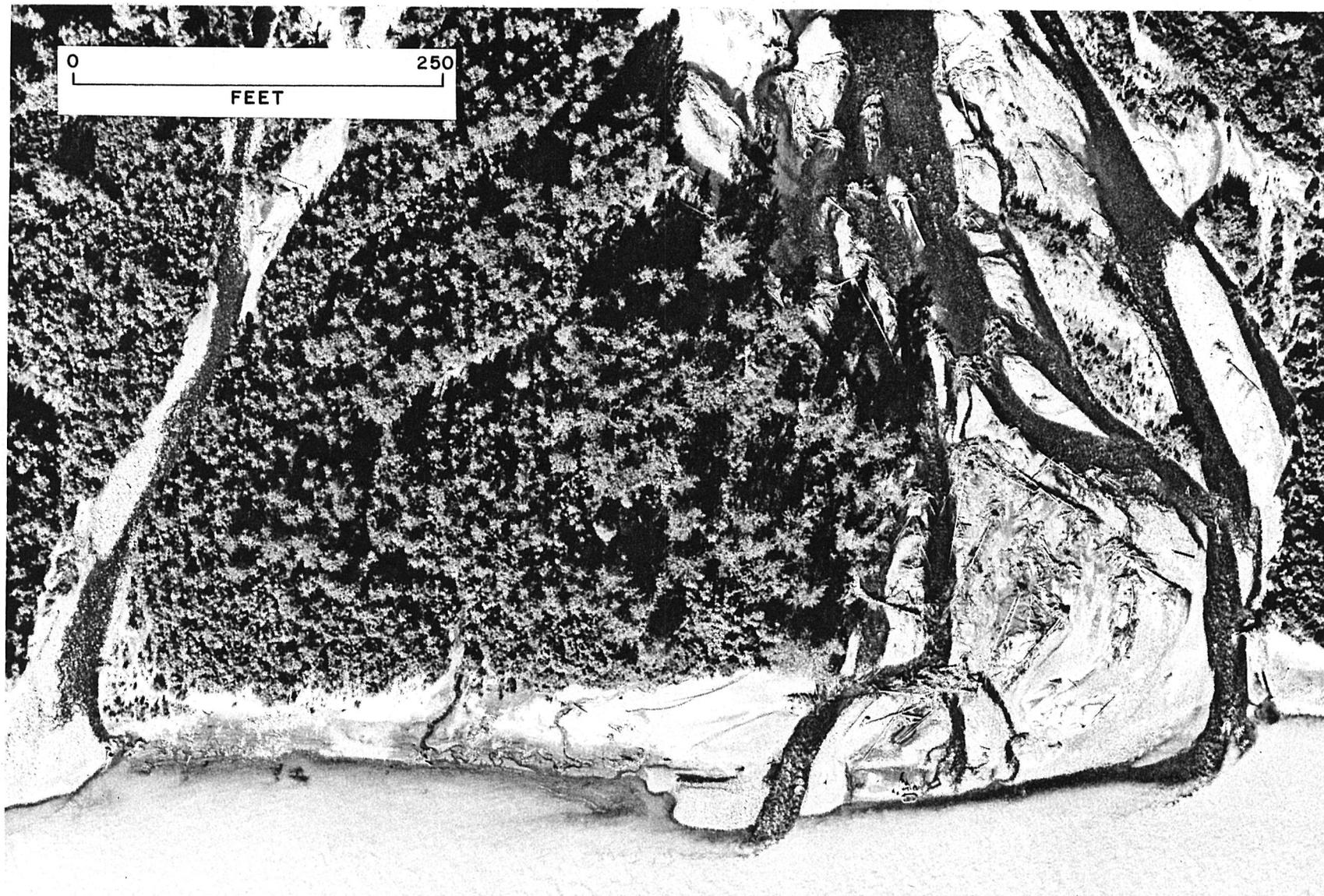
Hydraulic Conditions

Only zone 1 and zone 3 were present during the open water season (Appendix Table 4-F-14). The free-flowing tributary underwent a significant change after the high water period in July. Prior to the stage increase, the river forked into two branches about 800 feet from the mainstem confluence. One of the branches discharged at the upper edge of the river delta after a small channel branched off from it. The other primary fork only slightly smaller in size, discharged into the Susitna some 800 feet below the first.

During the late July sampling periods (31,900 - 24,900 cfs), Indian River ran straight through the previous forking area and continued down

4-F-93

4-F-94



Appendix Plate 4-F-14. August 1982 aerial photograph of the mouth of Indian River (RM 138.6). The Susitna River flows from right to left in this photo.

Appendix Table 4-F-14. Hydraulic zones and mainstem discharges at the Gold Creek station^a for the Indian River-mouth site for sampling dates from June to September, 1982.

<u>Sampling Date</u>	<u>June 04</u>	<u>June 18</u>	<u>July 07</u>	<u>July 23</u>	<u>August 06</u>	<u>August 19</u>	<u>September 05</u>	<u>September 25</u>
Mainstem Discharge (cfs)	23,000	23,000	16,600	24,900	16,800	13,300	13,600	15,000
Hydraulic Zones								
1	+	+	+	+	+	+	+	+
2	0	0	0	0	0	0	0	0
3	+	+	+	+	+	+	+	+
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0

^aUSGS provisional data at Gold Creek 15292000.

+Zone present.

0Zone absent.

4-F-95

to a large deadfall pile which diverted the channel about 75 feet short of the mainstem. A new fork was established approximately 250 feet down from the early season split; both channels ran to the Susitna in the primary delta area. In this case, the upriver channel was a secondary point of discharge. The braiding generally followed the previously existing patterns, but the almost total closure of the downstream channel diverted most of the river water through this upper network. As a result, the surface area was increased in this delta. Also, the substrate shift extended the edge of the delta 25-50 feet. This caused the tributary discharge to extend well into the mainstem for about 24-48 hours. When the tributary discharge decreased, the erosion of the outer delta edge left a net increase of approximately 35 feet. The channels thus formed were stable throughout the remainder of the season.

After the delta extension a breakwater area formed below the lower primary discharge in the mixing zone. This zone occasionally extended downstream to the head of Slough 16 in early season. The upper sampling boundary of this hydraulic zone was located immediately below the downstream delta discharge. The lower limit of the sampling effort extended to the channel of the lowest possible tributary discharge (dry in late season trips). The gradual slope of the sand bottom in this zone was created by an eddy effect created by tributary discharge out into the mainstem. Similar hydraulic conditions were found at Portage Creek, and to a lesser extent at Fourth of July Creek.

4-F-96

Other Habitat Characteristics

The habitat in the free-flowing area was quite varied due to the extensive braiding of the mouth. Large accumulations of deadfall were available in velocity ranging from about 5.0 fps to backwater pools and eddies. The water was clear most of the summer (0.9-7.2 NTU), with the exception of brief (approximately 24 hours) periods following rain in the headwater drainages, during which time organic stain raised the turbidity. At the peak of flushing, the organic load of the river had darkened the water (85 NTU) so the mainstem appeared light in contrast.

The substrate available is varied due to the sorting effect of the velocity. Although spatial shifting of these substrate areas occurred as a result of high water, the variety of substrate remained available throughout the entire season. Size of substrate ranges from large gravel to boulder, with a general decrease in size from the upper sampling boundary to the confluence.

Vegetative cover was limited to downed terrestrial shrubs and exposed roots in cut-bank areas. No aquatic vegetation was seen, but high tributary water conditions flushed out loose materials and created large accumulations of organic debris at the mouth which appeared to offer excellent cover for fry.

In the mixing zone, substrate was primarily sand with sparse cobble; a small gravel area (less than 1000 ft²) was evident immediately below the

4-F-97

tributary discharge, which marked the upper limit of the zone. Beyond the sand, extending out towards the mainstem was cobble bottom. Deadfall offered cover, in addition to increasing turbidity. The mean mixing zone turbidity was 21 NTU. No vegetative cover was present. Susitna River levels did not reach high enough to encroach on shoreline vegetation as was observed during the 1981 open water season. During late July, the mixing zone interface became difficult to distinguish due to the organic load of Indian River.

Biological Summary

Low numbers of chinook juveniles were present throughout the season.

Round whitefish and Arctic grayling were often abundant in zone 3. In late September, large numbers of rainbow trout and longnose suckers were present in zone 3.

4-F-98

14. Slough 19

Slough 19 is an upland slough located at RM 140.0 (Appendix Plate 4-F-15). Groundwater is the only water source as the head of the slough is overgrown with vegetation and is never open to mainstem water flow. The uppermost point of the slough is approximately 220 yards from the mainstem. The slough is in a latter stage of senescence. Terrestrial and aquatic vegetation indicate an aquatic habitat being filled in.

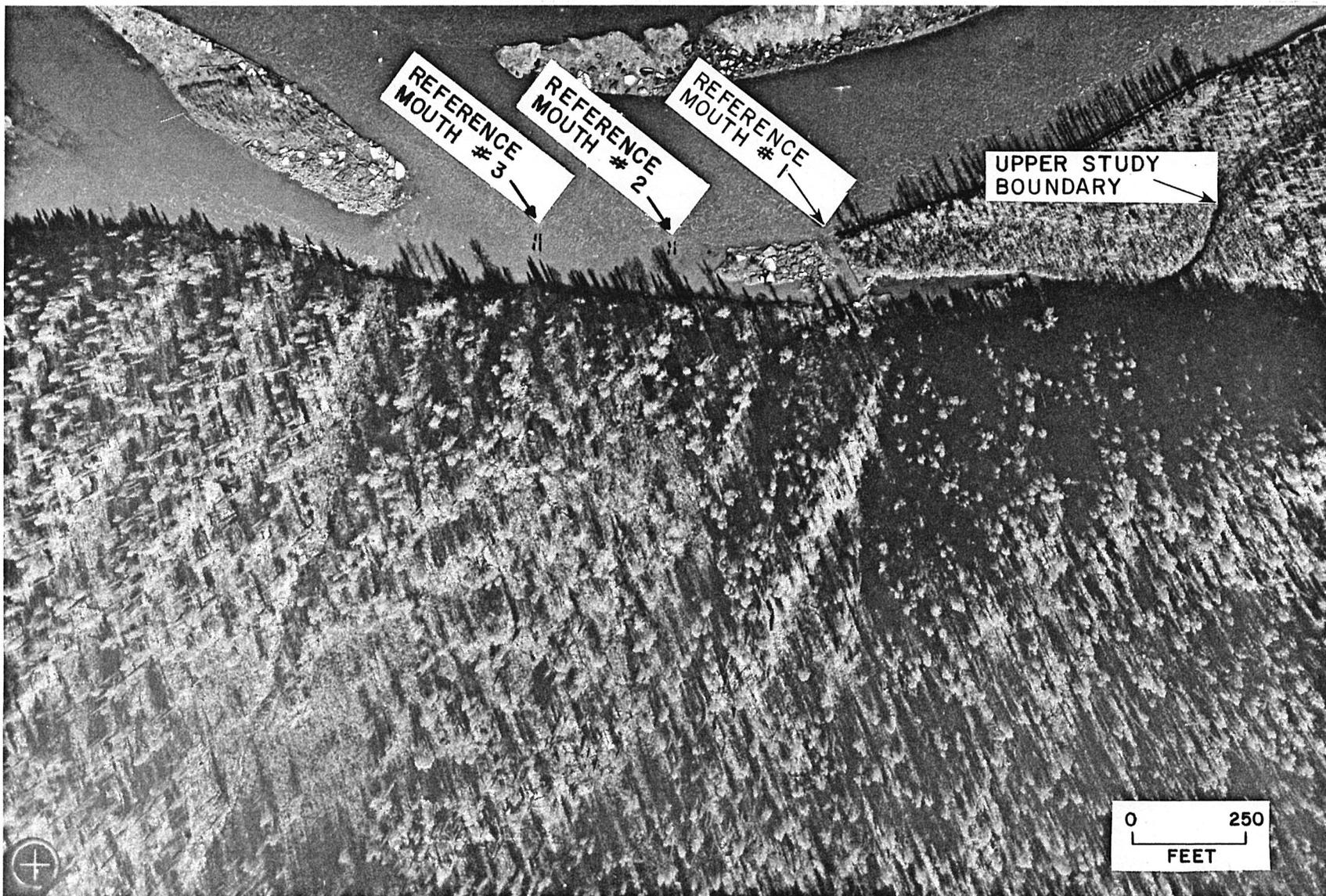
The upper free-flowing zone was quite shallow on several occasions. The mixing zone underwent the most change as the mainstem levels dropped late in the season.

Hydraulic Conditions

Zone 1 and zone 3 were present all season; zone 2 was present until September (Appendix Table 4-F-15). The upper zone originated in a pool at the head of the heavily brushed channel. The gradient and velocity were very slight. The slough discharge decreased late in the year as the mainstem stage dropped. The average depth in the upper portion of this zone was about 0.5 feet, limiting fry trap sets, but allowing electrofishing of virtually the entire zone. Length of this zone varied from 440 feet in early season to 1275 feet in late season (after the early season the backwater area had been reduced to a channel).

4-F-99

4-F-100



Appendix Plate 4-F-15. May 1982 aerial photograph of Slough 19 (RM 140.0). The Susitna River flows from right to left in this photo.

Appendix Table 4-F-15. Hydraulic zones and mainstem discharges at the Gold Creek station^a for the Slough 19 site for sampling dates from June to September, 1982.

Sampling Date	June 05	June 18	July 07	July 23	August 06	August 19	September 04	September 25
Mainstem Discharge (cfs)	22,000	23,000	16,600	24,900	16,800	13,300	14,400	15,500
Hydraulic Zones								
1	+	+	+	+	+	+	+	+
2	+	+	+	+	+	+	0	0
3	+	+	+	+	+	+	+	+
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0

^aUSGS provisional data at Gold Creek 15292000.

+ Zone present.

0 Zone absent.

4-F-15/1

The backwater zone was a small rectangular pool with an area of upwelling at the head and a narrow restriction which defined the lower boundary during the early season. After early August, this pool area was simply a portion of the free-flowing zone 1. Subsequently, the backup interface moved down 350 feet as the gravel bar dewatered; surface area in this back-channel backup was 4158 ft². In the late season, no zone 2 was observed, and the free-flowing water from the slough ran directly into the mixing zone with the mainstem. A discussion of surface and relationships is presented in Volume 4, Part I, section 3.1.2.1.

The actual zone 2/zone 3 interface at moderate to high discharge (16,500+ cfs) was about eight feet wide. This was due to the very narrow bottleneck which marks the lower boundary of the pool zone. At high water, the mixing zone located in a protected channel behind a barrier sand bar about 350 feet in length. The mainstem enters the channel at approximately a 90 degree angle. This creates an eddy which quickly mixes mainstem and slough water.

Below the sand bar, a gravel bar extended an additional 300 feet as a barrier when mainstem flows were less than 16,000 cfs. The uppermost side channel (mainstem source) was open in varying degrees through early August. On all subsequent trips, the mainstem initially merged with slough water via seepage below the sand bar, with the actual slough/mainstem confluence below the barrier gravel bar, some 650 feet below the pool area.

4-F-102

Other Habitat Characteristics

The channel in the upper zone 1 was 2 to 8 feet wide; the depth was 0.1 to 1.5 feet. The velocity was very minimal with algae growth extensive in the late season. Substrate was cobble and gravel with a heavy silt layer in the lower end. An area of upwellings was present at the top of the rectangular backup area. Vegetative cover consisted of overhanging woody shrubs, deadfall and much organic debris.

As the water level dropped, the lower boundary moved down behind the barrier sand bar. This shift encompassed an area which had little cover, resulting in a net loss of cover per unit area, although the length of the zone was greatly extended. This includes the dewatering of a pool (previously zone 2) a free-flowing channel. At the lower levels of discharge in the late season (below 15,000 cfs) the channel in the pool was well below any vegetative cover present.

The backwater zone had emergent vegetation (Equisetum sp.) available for cover in early season, with emergent reeds (Sparganium multipedunculatum) during the high water in late July. As the season progressed, the wetted edge declined below the grassy areas and the primary cover was deadfall and a beaver lodge in mid-zone. The substrate was a thick silt bed with sparse cobble. The water remained very clear throughout the season, 0.3-6.4 NTU. On a single occasion during late July (24,900 cfs), a plume of turbidity encroached about 70 feet within the zone. When the zone moved out of the pool to the lower

4-F-103

sand bar, the substrate was sand; cover was absent except for boulders and limited deadfall.

The mixing zone was generally without any vegetative cover. Turbidity offered cover throughout the season, 16 - 150 NTU. Substrate was predominantly sand, with areas of sparse cobble and a few boulders. As the zone moved down in late season, runoff seepage entered the length of the zone. Velocity was fairly low (0.4 - 1.0 fps) due to channel morphology.

Biological Summary

Sockeye salmon juveniles were moderately abundant at this site throughout the season.

Round whitefish were common in zone 3 all season. Humpback whitefish were present in late June.

4-F-104

15. Slough 20

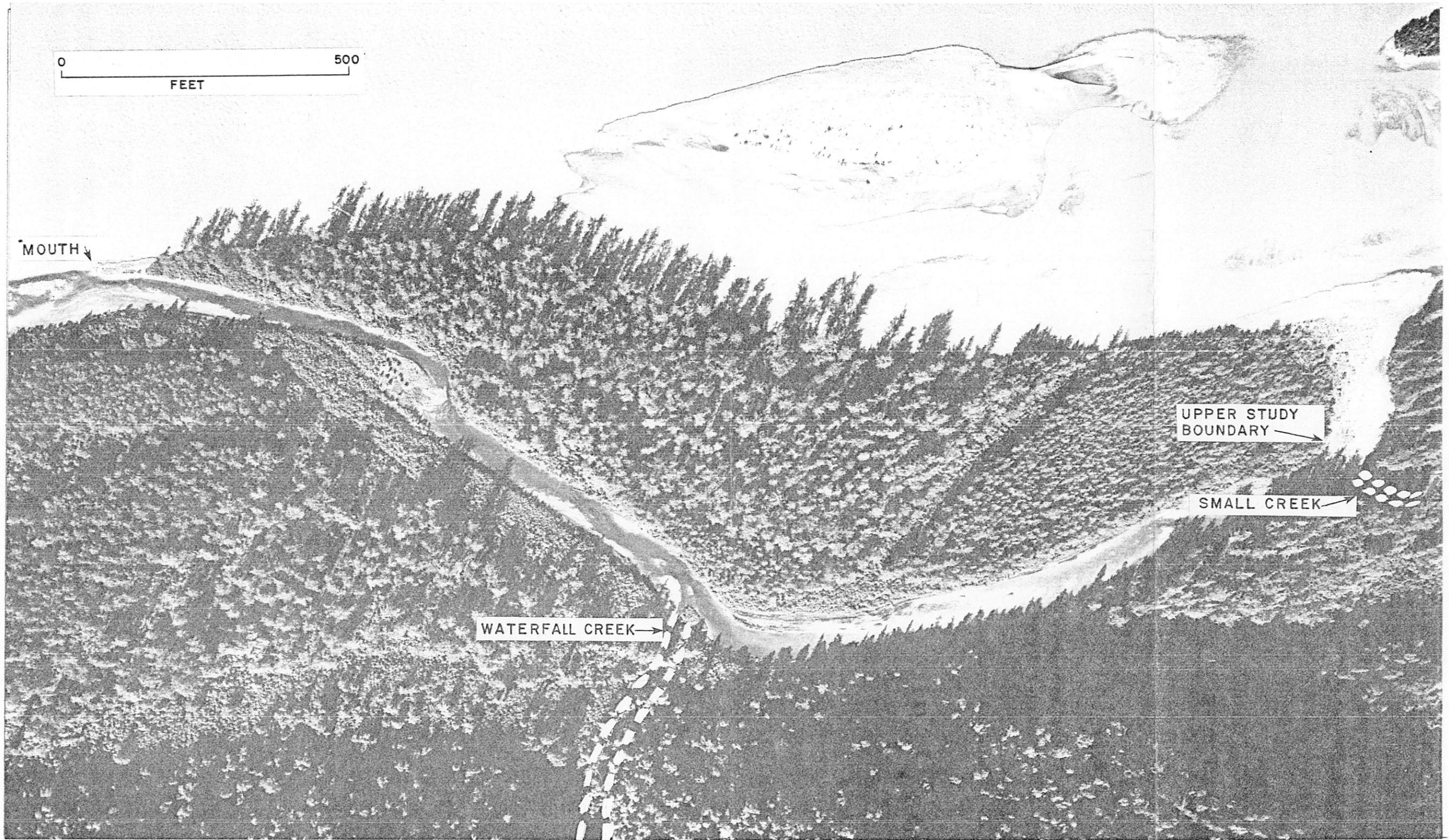
Slough 20 (Appendix Plate 4-F-16) is a winding channel (2600 feet) which had mainstem flow through the head channel at moderate to high discharge (20,000+ cfs). This was the only slough sampled in the upper reach of the river which had a large tributary associated with a slough. Waterfall Creek enters the system at the mid-point of the primary slough. At the lower mainstem discharges, there was a morphological pool (zone 9) in the slough immediately above the creek confluence caused by the gravel delta at the mouth of the creek. A small tributary enters the slough about 350 feet below the head of the main slough.

The channel makes a series of right angle bends 500 feet below Waterfall Creek, then continues 550 feet straight to the mouth. The mixing zone at moderate to high Susitna stage had a straight shoreline. At low discharges less than 13,000 - 14,500 cfs, the water level drops below a cobble/rubble area which forms a shallow, intermittent barrier in the mixing zone.

Hydraulic Conditions

The slough head was open in June and in late July (Appendix Table 4-F-16). The head of this slough is a very flat shelf-like channel, which opened to the mainstem at a discharges between 18,100 and 26,800 cfs. The smaller tributary appeared stable in discharge over the season. When the mainstem was flowing through the system in June and late July, the free-flowing water was classified as zone 4. The free-

4-F-105



Appendix Plate 4-F-16. August 1982 aerial photograph of Slough 20 (RM 140.1). The Susitna River flows from right to left in this photo.

4-F-106

Appendix Table 4-F-16. Hydraulic zones, mainstem discharges at the Gold Creek Station^a, and the status of the controlling streambed elevation at the upstream entrance (head) of Slough 20 at the Slough 20 site for sampling dates from June to September, 1982.

Sampling Date	June 04	June 20	July 08	July 24	August 07	August 20	September 04	September 26
Mainstem Discharge (cfs)	23,000	28,000	18,100	26,800	16,500	12,500	14,400	14,000
Status of Channel Head	Open	Open	Closed	Open	Closed	Closed	Closed	Closed
Hydraulic Zones								
1	+	+	+	+	+	+	+	+
2	0	0	0	0	0	+	+	0
3	+	+	+	+	+	+	+	+
4	+	+	0	+	0	0	0	0
5	+	+	0	+	0	0	0	0
6	0	0	0	0	0	0	0	0
7	+	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	+	+	+	+	+	+	+	+

^aUSGS provisional data at Gold Creek 15292000.

+Zone present.

0Zone absent.

4-F-16

flowing water below the tributary in June and late July was zone 5, while the backup zone at the mouth was a zone 7. The backup pool formed above Waterfall Creek was described as zone 9 under all flow conditions, i.e., it was created by channel morphology, not by mainstem backup.

The hydraulic conditions in the latter half of the season differed due to the source of the flow. The upper zone, supplied with discharge from groundwater and subsidiary slough, became a zone 1. The backup area was zone 2. These conditions were encountered in post-July trips, although in mid-September, the head opened up briefly (32,500 cfs) between sampling periods.

The small area of zone 2 in late August and September (Volume 4, Part I, section 3.1.2.1) was quite small.

The profile of the mixing zone at high discharge was fairly constant. The turbid interface was a sweeping arc from the mouth 200 to 450 feet downstream, about five to ten feet offshore. At lower discharges, the profile became quite different; as the rubble bar gradually dewatered in the mouth area (13,000 - 14,500 cfs) it created an area which dissipated the (decreasing) discharge of the slough. Mixing then occurred by mainstem wave action against the rubble bar and the two water sources were thoroughly mixed within the 250 foot length of the bar.

The mixing zone at all flow conditions was described as a zone 3. The interface of zone 3 was somewhat fixed by the barrier spit at the upriver edge of the mouth.

4-F-108

Other Habitat Characteristics

Some emergent vegetation (Equisetum sp.) was present and offered a small amount of cover among the rubble substrate in the area from the head halfway to the creek mouth. There were also clumps of frequently submerged terrestrial shrubs on hummocks within the channel. When the head was open, turbidity provided additional cover.

Bank morphology consisted of low cut banks with low sloping sand banks on the opposite side of the channel. Channel substrate in the upper half of the slough was rubble, changing to gravel and sand immediately above the creek in the pool. The lower half of the site was gravel and cobble; in this segment, the water was less turbid and the gravel was kept relatively clear of silt by tributary flushing. Cover was available in deadfall, debris and overhanging vegetation. The mixing zone had turbidity as cover in addition to rubble and boulders creating slack water areas. During high stage in July, the water submerged sedges (Carex sp.) and woody shrubs in all zones, thus greatly increasing cover for brief periods. When the head was open, turbidity was high throughout the slough.

In low water conditions, the dewatered cobble bar at the mouth created a shallow pool/eddy system of varying turbidity and abundant interstitial cover.

4-F-109

Biological Summary

Only a few chinook, coho, and sockeye salmon juveniles were captured at this site.

Round whitefish and Arctic grayling were relatively abundant throughout the season in zone 3. Slimy sculpins were common in July. Longnose suckers were common during late August and September.

4-F-11D

16. Slough 21

Slough 21 is a long straight channel with two heads located at RM 142.0 (Appendix Plate 4-F-17). The slough is a long narrow shelf with a relatively uniform width of about 100 feet. A cut bank runs the length of the shoreward side; the opposite bank is a less steep but constant slope. The actual basin is very flat with a narrow channel running along the base of the cut bank. The mouth of the slough has several positions, depending on the stage of the Susitna. Three potential points of confluence with the mainstem exist as a line of islands isolate the slough from the mainstem. At high water, the slough resembles a side channel approximately 0.5 miles in length.

A backwater area (zone 2) was present for most of the season, although the position shifted about mid-season. At discharges below 8,000 cfs, the slough continues to a point 0.25 miles above the head of Slough 20 before mixing with the mainstem, a shift of one mile from the high stage position.

The banks and woody vegetation of the slough had been scoured during ice out the previous winter. A heavy layer of silt was deposited over the area of 1981 spawning redds in the flat pan of the slough. This silt layer remained in place throughout the season, and was not flushed out by the high water peaks of late July (31,900 cfs) or mid-August (32,500 cfs).

4-F-111



Appendix Plate 4-F-17. August 1980 aerial photograph of Slough 21 (RM 142.0). The Susitna River flows from right to left in this photo.

4-F-112

Hydraulic Conditions

The zones present at different mainstem discharges are listed in Appendix Table 4-F-17. The zone distribution on different sample dates are shown in Appendix Figure 4-F-5. The head of the slough forks about 1200 feet in from the river. A relatively straight primary channel and a smaller branching channel are present. The slough head appeared to open between 24,000-31,900 cfs, discharges which were infrequent this season. The head was open in June and late July. At low water levels, there was a seepage area above the morphologized pool. Depth was one to three inches in most of the area, and eight to ten inches in the narrow channel below the cut bank.

The zone 4/zone 6 interface (high water) was about 25 to 50 feet in width. Low water conditions created a zone interface of 75 to 250 feet, when the initial point of mainstem confluence moved to one of the lower channels. As the point of mainstem influence dropped further down the slough in the fall, the backwater area moved down about 1000 feet and remained stable for the rest of the sampling season. In early October, the mixing zone had shifted farther downstream

, to a point just above Slough 20, a shift of approximately 4,000 feet.

Other Habitat Characteristics

The substrate in the upper slough was rubble with boulders sparsely interspersed. The right fork formed a chain of isolated pools as the

4-F-113

Appendix Table 4-F-17. Hydraulic zones, mainstem discharges at the Gold Creek Station^a, and the status of the controlling streambed elevation at the upstream entrance (head) of Slough 21 at the Slough 21 site for sampling dates from June to September, 1982.

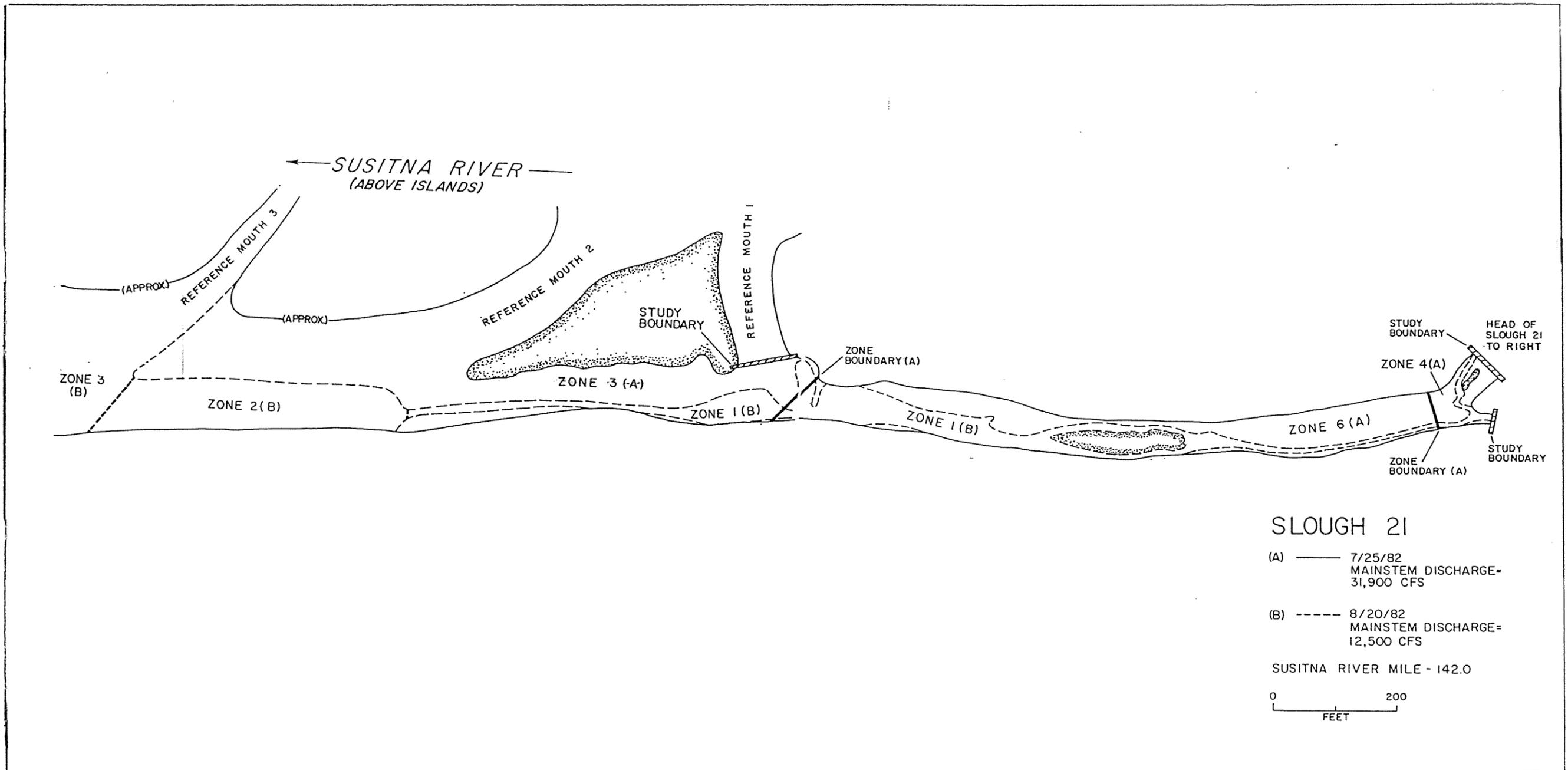
<u>Sampling Date</u>	<u>June 05</u>	<u>June 19</u>	<u>July 11</u>	<u>July 25</u>	<u>August 09</u>	<u>August 20</u>	<u>September 06</u>	<u>September 27</u>
Mainstem Discharge (cfs)	22,000	25,000	24,000	31,900	17,000	12,500	12,200	13,800
Status of Channel Head	Open	Open	Closed	Open	Closed	Closed	Closed	Closed
Hydraulic Zones								
1	0	0	+	0	+	+	+	+
2	0	0	0	0	+	+	+	+
3	+	+	+	+	+	+	+	+
4	+	+	0	+	0	0	0	0
5	0	0	0	0	0	0	0	0
6	+	+	0	+	0	0	0	0
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0

^aUSGS provisional data at Gold Creek 15292000.

+Zone present.

0Zone absent.

4-F-17



Appendix Figure 4-F-5. Map of surface areas and zone types at Slough 21 (RM 142.0) on two sampling dates. Discharges (CFS) at Gold Creek (USGS Provisional Data 1982, 15292000).

4-F-115

water level dropped. Turbidity (9-30 NTU) and submerged woody vegetation offered cover in both forks, when open to the mainstem. Later in the season, the free-flowing zone extended down to a barren area of sand and boulders. Depth increased to four to ten inches and turbidity remained low (1.1 - 3.6 NTU).

The long shelf-like channel had substrate of sand/cobble. The silt area in the lower portion had gravel below, but this was never exposed by river action this season. During moderate stage, depth in about 40% of the zone was one to three inches over bare sand with no cover. This area had extensive bank storage during high water, with large beds of seepage over sand following the decrease in Susitna stage.

No true aquatic vegetation was present in this zone, however, during the high water of late July, the riparian shrubs and Equisetum along the bank were submerged. Turbidity offered cover in this zone when head channels were receiving mainstem flow.

The mixing zone was mostly sand and gravel during high water. Turbidity and slight deadfall provided cover. No aquatic vegetation was present. As the zone migrated down the slough in mid-season, the substrate inundated was rubble and cobble. Turbidity offered cover; no deadfall or aquatic vegetation was noted.

4-F-116

Biological Summary

A few chinook and sockeye salmon juveniles were present at this site during the season. Chum juveniles were present in June.

Round whitefish were fairly common in July and September. Arctic grayling, humpback whitefish, and longnose suckers were also present in July.

4-F-117

17. Portage Creek Mouth

This tributary mouth site (Appendix Plate 4-F-18) is at RM 148.8. The channel as it approaches the mainstem Susitna is very straight and occasionally splits at a gravel bar located at its mouth. The major morphological change observed during 1982 occurred during late July, as noted in the hydraulic summary.

The sampling effort was conducted 500 feet up the tributary and approximately 2000 feet downriver. The velocity and volume of the creek discharge necessitated setting the mixing zone gear well below the initial point of confluence.

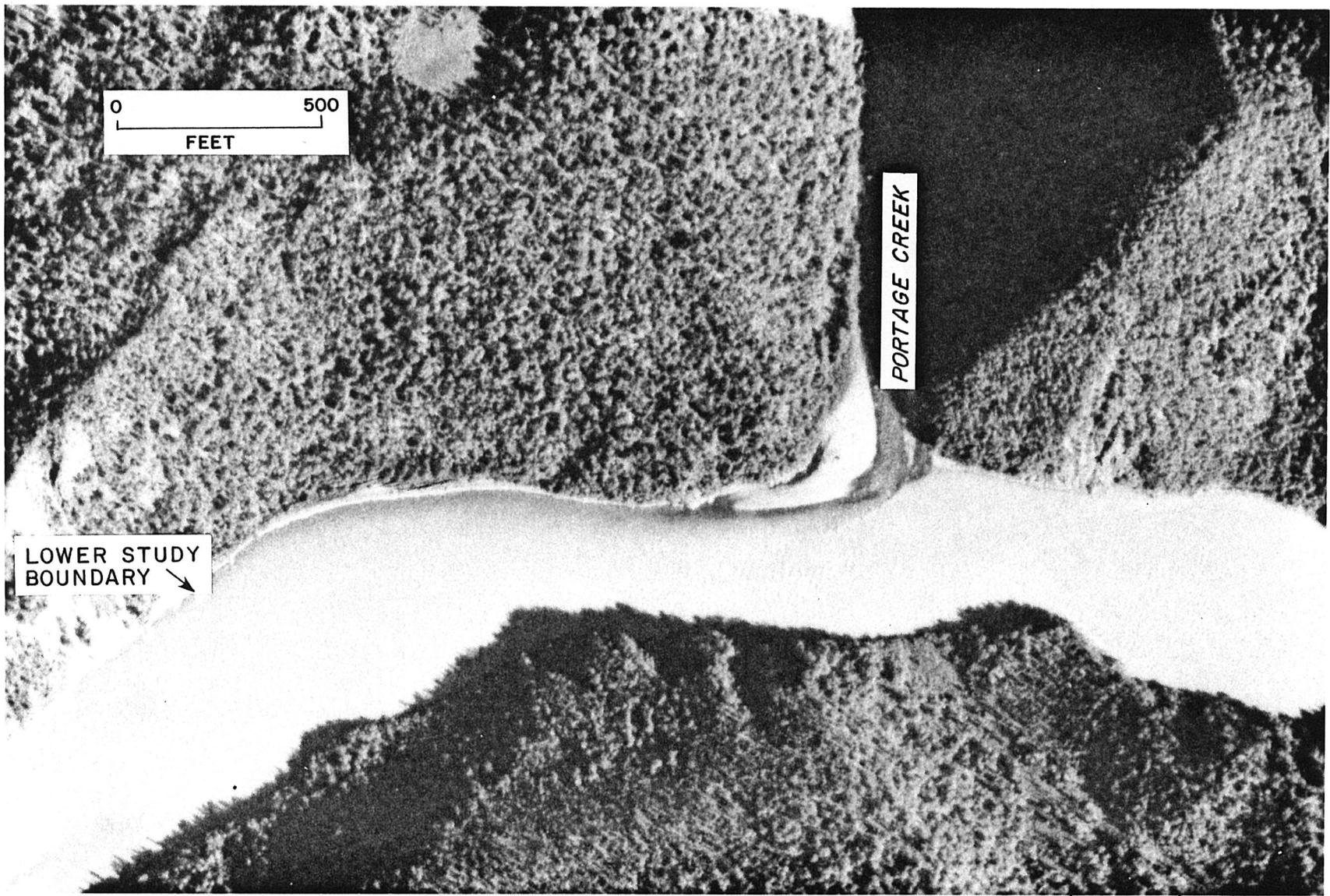
A helicopter survey of three sites on the upper reaches of the creek was conducted in June from TRM 4.5 to 15.5. The results and discussions of the sampling efforts at these selected fish habitat sites is presented in Appendix 3-B Report 3-D-1.

Hydraulic Conditions

Only zone 1 and zone 3 were present during the open water season (Appendix Table 4-F-18). The free-flowing zone underwent only one major change this season. In late July, high creek discharge extended the delta approximately 30 feet into the Susitna River, altering the mixing flow patterns. At high creek stage, a 15-30 foot wide channel flowed along at the base of the rock wall on the east side of the tributary.

4-F-118

4-F-119



Appendix Plate 4-F-18. August 1980 aerial photograph of the mouth of Portage Creek (RM 148.8) and the Susitna River. The Susitna River flows from right to left in this photo.

Appendix Table 4-F-18. Hydraulic zones and mainstem discharges at Gold Creek Station^a for the Portage Creek-mouth site for sampling dates from June to September, 1982.

<u>Sampling Date</u>	<u>June 06</u>	<u>June 16-30^b</u>	<u>July 10</u>	<u>July 26</u>	<u>August 08</u>	<u>August 16-30^b</u>	<u>September 05</u>	<u>September 28</u>
Mainstem Discharge (cfs)	23,000		23,000	31,800	16,600		13,600	12,900
Hydraulic Zones								
1	+		+	+	+		+	+
2	0		0	0	0		0	0
3	+		+	+	+		+	+
4	0		0	0	0		0	0
5	0		0	0	0		0	0
6	0		0	0	0		0	0
7	0		0	0	0		0	0
8	0		0	0	0		0	0
9	0		0	0	0		0	0

^aUSGS provisional data at Gold Creek 15292000.

^bSite not sampled.

+Zone present.

0Zone absent.

4-F-12D

The confluence of the secondary channel with the mainstem produced a delta of large gravel. As the tributary discharge lessened and the back channel dewatered, a slackwater area was created behind this submerged gravel spit.

The size of the mixing zone varied with the discharge of the creek. In general, the sampling effort occurred at a point where mixing was close enough to the shore for effective gear sets. Following the extension of the delta in late July, the lower boundary of the sampling area in the mixing zone moved downstream an additional 500 feet.

Other Habitat Characteristics

Cover for fry was scarce in the tributary, but boulders created slack water cover areas with small areas of gravel/cobble. Depth varied from one to five feet. Substrate was primarily large rubble and boulders. High water velocities prevented buildup of deadfall and aquatic vegetation. At the high water stage (31,800 cfs), the shoreline was briefly inundated providing a temporary increase in cover, including dark organic stain of the usually clear water. The mean seasonal turbidity was 3.9 NTU.

The mixing zone provided cover in turbidity in the early season (range 4.4-100 NTU). In late September and early October, however, turbidity (1.8 NTU) no longer provided cover in shallow water areas. Substrate varied with a large sand area and a gravel accumulation at the mouth of the secondary channel. The sand area was created by a strong eddy

4-F-121

initiated at the dewatering spit previously mentioned; the situation was very similar to areas at Indian River. At the base of this zone was a cobble area and increasing velocity.

Biological Summary

No juvenile salmon were captured at this site during the open water season.

Round whitefish and Arctic grayling were abundant. Humpback whitefish, burbot, and longnose suckers were common.

4-F-122

APPENDIX G

Catch Data for Designated Fish Habitat Sites, 1982

Catch data for the seventeen Designated Fish Habitat sites by two-week periods from early June to the end of September, 1982 are included in this appendix. Additionally, data are included for two sites (Slough 20 and Portage Creek Mouth), sampled in the early October period.

The data are presented by zone by gear type. Zone codes are defined in section 4II-2.2 and gear codes and species codes are defined in the following table.

STANDARD GEAR CODES

005 minnow trap
010 trotline

OPPORTUNISTIC GEAR CODES

000 smolt trap
001 set gillnet
01a drift gillnet
002 electroshock
003 beach seine
04d drift net
05a fish trap
05b hoop net
008 fishwheel
009 hook and line
011 dip net

RESIDENT SPECIES CODES

162 Slimy sculpin
500 Northern pike
530 Dolly Varden
541 Rainbow trout
550 Lake trout
582 Humpback whitefish
586 Round whitefish
590 Burbot
601 Arctic lamprey
610 Arctic grayling
640 Longnose sucker
660 Threespine stickleback
661 Ninespine stickleback

JUVENILE ANADROMOUS CODES

410 Chinook 0+
411 Chinook 1+
412 Chinook juvenile
415 Chinook smolt 0+
416 Chinook smolt 1+
417 Chinook smolt
420 Sockeye 0+
421 Sockeye 1+
422 Sockeye juvenile
425 Sockeye smolt 0+
426 Sockeye smolt 1+
427 Sockeye smolt
430 Coho 0+
431 Coho 1+
432 Coho 2+
433 Coho juvenile
435 Coho smolt 0+
436 Coho smolt 1+
437 Coho smolt 2+
438 Coho smolt
440 Pink 0+
441 Chum 0+

Appendix 4-C. Catch data for Designated Fish Habitat sites, 1982. Units for gear 002 are minutes shocked, for gear 009 are hours fished, and for all other gears are pieces of gear fished.

LOCATION: GOOSE CREEK 2 AND SIDE CHANNEL
RIVER MILE: 73.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
JUN 1 - 15	1	005	5.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	1	010	1.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	003	1.00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
JUN 1 - 15	4	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	7	003	1.00	0	2	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0
JUN 1 - 15	7	005	5.00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0
JUN 1 - 15	7	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	3	0	2	0	1	5	0	1	2	2	0	0	2	0	3	
JUN 16 - 30	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
JUN 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
JUN 16 - 30	1	010	1.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
JUN 16 - 30	6	002	5.00	0	0	0	0	0	7	0	0	0	14	0	1	0	0	0	0	0
JUN 16 - 30	6	005	7.00	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0
JUN 16 - 30	6	010	1.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	7	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
JUN 16 - 30	7	005	7.00	0	1	0	0	0	0	0	0	0	0	2	4	0	8	0	0	0
JUN 16 - 30	7	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	1	0	1	0	7	1	0	1	14	3	9	0	9	0	25	
JUL 1 - 15	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	005	7.00	0	1	0	0	0	0	0	0	0	0	0	39	0	0	0	0	0
JUL 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	6	003	1.00	0	1	0	0	0	0	0	0	0	3	0	0	1	0	0	0	0
JUL 1 - 15	6	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	6	010	1.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	7	003	1.00	0	1	0	0	0	22	0	0	0	0	0	6	2	0	0	0	0
JUL 1 - 15	7	005	7.00	0	0	0	0	0	0	0	0	0	0	0	91	0	1	0	0	0
JUL 1 - 15	7	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	3	0	0	0	22	1	0	0	3	0	136	3	1	0	0	0
JUL 16 - 31	1	003	1.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
JUL 16 - 31	1	005	5.00	0	2	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0
JUL 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4-G-3

Appendix 4-C. Cont.

LOCATION: GOOSE CREEK 2 AND SIDE CHANNEL
 RIVER MILE: 73.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUL 16 - 31	4	002	19.85	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
JUL 16 - 31	4	003	1.00	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
JUL 16 - 31	4	005	5.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
JUL 16 - 31	4	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
JUL 16 - 31	7	003	1.00	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
JUL 16 - 31	7	005	5.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
JUL 16 - 31	7	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
JUL 16 - 31	SAMPLING PERIOD TOTAL				0	4	0	0	0	1	2	0	0	1	0	26	0	0	0	0
AUG 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	6	003	1.00	0	0	0	0	0	4	0	0	0	1	0	0	3	0	0	0	
AUG 1 - 15	6	005	7.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
AUG 1 - 15	6	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	7	003	1.00	0	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	
AUG 1 - 15	7	005	7.00	0	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	
AUG 1 - 15	7	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	SAMPLING PERIOD TOTAL				0	0	0	0	0	8	2	0	0	2	0	16	3	1	0	0
AUG 16 - 31	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	6	003	1.00	0	1	0	0	0	8	0	0	0	0	0	0	6	0	0	0	
AUG 16 - 31	6	005	8.00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	
AUG 16 - 31	6	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	7	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	7	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	SAMPLING PERIOD TOTAL				0	1	0	0	0	8	2	0	0	2	0	6	0	0	0	0
SEP 1 - 15	1	002	3.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	1	003	1.00	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
SEP 1 - 15	1	005	10.00	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	3	002	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	

4-G-4

Appendix 4-C. Cont.

LOCATION: GOOSE CREEK 2 AND SILE CHANNEL
 RIVER MILE: 73.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 1 - 15	9	002	3.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	9	003	1.00	0	2	0	0	0	1	0	0	0	1	0	1	2	0	0	0
SEP 1 - 15	9	005	10.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
SEP 1 - 15	9	010	1.00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	5	0	0	0	1	5	0	1	1	1	3	4	2	0	0
SEP 16 - 30	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	005	7.00	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	9	003	1.00	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	9	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	9	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	2	0	0	0	2	1	0	0	0	1	1	0	2	0	0
TOTAL FOR LOCATION				0	19	0	3	0	50	19	0	3	25	7	191	16	17	0	28

Appendix 4-G. Cont.

LOCATION: WHITEFISH SLOUGH
RIVER MILE: 78.7

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 16 - 30	2	005	5.00	0	0	0	0	0	0	0	0	0	0	1	10	0	1	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	1	10	0	1	0	0
JUL 1 - 15	2	001	1.00	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0
JUL 1 - 15	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	2	05B	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0
JUL 16 - 31	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	6	003	1.00	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0
AUG 1 - 15	2	003	1.00	0	0	0	0	0	0	0	0	0	0	54	0	0	0	0	0
AUG 1 - 15	2	005	7.00	0	1	0	0	0	0	0	0	0	0	1	0	0	8	0	0
AUG 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	2	011	1.00	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0
AUG 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	1	0	0	0	0	0	0	0	0	65	0	0	8	0	0
AUG 16 - 31	2	003	1.00	0	0	0	0	0	0	0	0	0	7	2	1	0	0	0	0
AUG 16 - 31	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	7	C	U	0
AUG 16 - 31	2	010	1.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	011	1.00	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
AUG 16 - 31	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	0	0	5	0	0	0	13	2	1	7	0	0	0
SEP 1 - 15	2	002	-----	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	2	003	1.00	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
SEP 1 - 15	2	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0

4-G-6

Appendix 4-C. Cont.

LOCATION: WHITEFISH SLOUGH
 RIVER MILE: 78.7

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	1	3	0	0	0	0	0	1	2	0	0
SEP 16 - 30	2	003	1.00	0	2	0	0	0	0	0	0	0	2	0	0	3	0	0	0
SEP 16 - 30	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	2	0	0	0	0	0	0	0	2	0	0	3	0	0	0
TOTAL FOR LOCATION				0	4	0	0	0	3	8	0	0	4	80	13	5	18	0	0

4-G-7

Appendix 4-C. Cont.

LOCATION: RABIDEUX CREEK AND SLOUGH
 RIVER MILE: 83.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 16 - 30	1	003	1.00	0	6	0	0	0	0	0	0	0	0	0	11	0	37	0	0
JUN 16 - 30	1	005	7.00	0	4	0	0	0	0	0	0	0	0	0	13	0	62	0	0
JUN 16 - 30	1	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	2	005	7.00	0	2	0	0	0	0	0	0	0	0	1	26	0	22	0	0
JUN 16 - 30	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	8	003	1.00	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	8	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	8	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	12	0	1	0	8	0	0	0	0	1	50	0	121	0	0
JUL 16 - 31	1	005	7.00	0	2	0	0	0	0	0	0	0	0	48	0	179	0	0	
JUL 16 - 31	2	005	7.00	0	1	0	0	0	0	0	0	0	0	6	0	74	0	0	
JUL 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUL 16 - 31	7	002	2.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUL 16 - 31	7	005	7.00	0	0	0	0	0	0	0	0	0	0	3	0	2	0	0	
JUL 16 - 31	7	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	3	0	0	0	0	2	0	0	0	57	0	255	0	0	
AUG 1 - 15	1	005	5.00	0	1	0	0	0	0	0	0	0	0	1	0	52	0	0	
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	2	005	10.00	0	2	0	0	0	0	0	0	0	0	2	0	23	0	0	
AUG 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	2	011	1.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
AUG 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	3	0	0	0	0	2	0	0	0	4	0	75	0	0	
AUG 16 - 31	1	003	1.00	0	9	0	0	0	0	0	0	0	7	0	0	0	0	0	
AUG 16 - 31	1	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	
AUG 16 - 31	1	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	
AUG 16 - 31	2	005	8.00	0	0	0	0	0	0	0	0	0	1	0	2	0	0		
AUG 16 - 31	2	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
AUG 16 - 31	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	9	0	0	0	0	4	0	0	7	1	0	30	0	0	

4-G-8

Appendix 4-C. Cont.

LOCATION: RABIDEUX CREEK AND SLOUGH
 RIVER MILE: 83.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 1 - 15	1	005	10.00	0	12	0	0	0	0	0	0	0	0	1	0	0	23	0	0
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	2	003	1.00	0	1	0	0	0	0	0	0	3	0	4	0	13	0	0	0
SEP 1 - 15	2	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0
SEP 1 - 15	2	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
SEP 1 - 15	2	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	13	0	0	0	0	4	0	4	0	6	0	13	31	0	0
SEP 16 - 30	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	005	5.00	0	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	005	5.00	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0
SEP 16 - 30	2	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	2	0	0	0	0	2	0	0	0	0	1	0	3	0	0
TOTAL FOR LOCATION				0	42	0	1	0	8	14	0	4	0	14	113	13	515	0	0

4-G-9

Appendix 4-G. Cont.

LOCATION: SUNSHINE CREEK AND SIDE CHANNEL
 RIVER MILE: 85.7

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
JUN 1 - 15	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0
JUN 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	2	003	1.00	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	4
JUN 1 - 15	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	4	0	50	0	0
JUN 1 - 15	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
JUN 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	1	5	0	7	0	0
JUN 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	1	1	1	0	0	0	0	0	0	1	11	0	84	0	14
JUN 16 - 30	1	002	3.33	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
JUN 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	3	19	0	28	0	0
JUN 16 - 30	1	010	1.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	2	002	4.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	2	005	7.00	0	0	0	2	0	0	0	0	0	0	5	21	0	18	0	0
JUN 16 - 30	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	002	3.13	0	1	0	0	0	0	0	0	0	4	0	4	0	0	0	0
JUN 16 - 30	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
JUN 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	1	0	5	0	0	0	1	0	4	8	51	0	46	0	0
JUL 1 - 15	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	2	005	10.00	0	1	0	0	0	0	0	0	0	0	13	4	0	181	0	0
JUL 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	1	0	0	0	0	0	0	0	0	13	4	0	181	0	0
JUL 16 - 31	1	005	5.00	0	0	0	0	0	0	0	0	0	0	1	11	0	103	0	0
JUL 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	2	005	5.00	0	2	0	0	0	0	0	0	0	0	3	29	0	61	0	0
JUL 16 - 31	2	009	.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	2	0	0	0	0	0	0	0	0	4	40	0	164	0	0
AUG 1 - 15	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4-G-10

Appendix 4-G. Cont.

LOCATION: SUNSHINE CREEK AND SIDE CHANNEL
RIVER MILE: 85.7

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
AUG 1 - 15	1	005	5.00	0	2	0	0	0	0	0	0	0	0	0	1	10	0	58	0	0
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	005	5.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	3	0	0	0	0	0	0	0	0	0	1	10	0	58	0	0
AUG 16 - 31	1	003	1.00	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0
AUG 16 - 31	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	3	0	1	5	0	0
AUG 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	9	003	1.00	0	12	0	0	1	0	0	0	0	0	6	0	2	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	12	0	0	1	3	1	0	0	0	10	0	3	5	0	0	0
SEP 1 - 15	1	002	1.23	0	20	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
SEP 1 - 15	1	005	10.00	0	0	0	0	0	0	0	0	0	0	1	2	0	5	0	0	0
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	2	005	10.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
SEP 1 - 15	2	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	002	2.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	9	002	2.38	0	12	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	34	0	1	0	0	2	0	0	0	4	2	0	5	0	0	0
SEP 16 - 30	1	005	5.00	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
SEP 16 - 30	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	5.00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	2	0	0	0	3	0	0	3	0	0	0

4-G-11

Appendix 4-C. Cont.

LOCATION: SUNSHINE CREEK AND SIDE CHANNEL
 RIVER MILE: 85.7

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
TOTAL FOR LOCATION				0	54	1	7	1	3	5	1	0	4	44	118	3	546	0	14

Appendix 4-G. Cont.

LOCATION: BIRCH CREEK AND SLOUGH
RIVER MILE: 88.4

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	1	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUN 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	4	2	0	25	0	0	
JUN 1 - 15	4	002	10.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUN 1 - 15	4	005	10.00	0	2	0	0	0	0	0	0	0	0	1	0	1	0	0	28	
JUN 1 - 15	4	010	1.00	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	
JUN 1 - 15	7	002	2.77	0	0	0	0	0	2	0	6	0	0	0	0	0	0	0	0	
JUN 1 - 15	7	005	10.00	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	7	
JUN 1 - 15	7	010	1.00	0	0	0	1	0	0	0	1	0	0	2	0	0	6	0	0	
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	3	0	1	0	2	0	7	0	0	8	3	1	34	0	35	
JUN 16 - 30	1	003	1.00	0	0	0	0	0	0	0	0	0	0	3	0	0	16	0	0	
JUN 16 - 30	1	005	7.00	0	3	0	0	0	0	0	1	0	0	5	10	0	50	0	0	
JUN 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUN 16 - 30	4	002	18.92	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUN 16 - 30	6	002	5.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
JUN 16 - 30	6	003	1.00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	
JUN 16 - 30	6	005	7.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
JUN 16 - 30	6	010	1.00	0	0	0	0	0	0	0	0	0	2	5	0	4	0	0	0	
JUN 16 - 30	6	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUN 16 - 30	7	002	5.18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
JUN 16 - 30	7	003	1.00	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	
JUN 16 - 30	7	005	7.00	0	1	0	0	0	0	0	0	0	0	0	2	2	0	0	16	
JUN 16 - 30	7	010	1.00	0	0	0	0	0	0	0	0	0	1	5	0	12	0	0	0	
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	15	0	0	0	0	0	3	0	0	11	22	2	84	0	21	
JUL 1 - 15	1	003	1.00	0	2	0	0	0	0	0	0	0	0	0	0	0	19	0	0	
JUL 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUL 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	3	0	0	87	0	0	0	
JUL 1 - 15	6	003	1.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUL 1 - 15	6	005	7.00	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	14	
JUL 1 - 15	6	010	1.00	0	0	0	0	0	0	0	0	0	1	0	0	5	0	0	0	
JUL 1 - 15	7	003	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
JUL 1 - 15	7	005	7.00	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	2	
JUL 1 - 15	7	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	
JUL 1 - 15	7	05B	1.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	4	0	1	0	0	0	0	0	1	4	0	35	113	0	16	

4-G-13

Appendix 4-G. Cont.

LOCATION: BIRCH CREEK AND SLOUGH
RIVER MILE: 88.4

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUL 16 - 31	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	6	0	51	0	0
JUL 16 - 31	1	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	6	002	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	6	003	1.00	0	2	0	0	0	0	0	0	0	1	0	0	7	1	0	2
JUL 16 - 31	6	005	7.00	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
JUL 16 - 31	6	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	6	058	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	7	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
JUL 16 - 31	7	005	7.00	0	0	0	0	0	0	0	0	0	0	0	26	1	11	0	0
JUL 16 - 31	7	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	2	0	1	0	0	0	0	0	1	0	35	9	63	0	2
AUG 1 - 15	1	003	1.00	0	5	0	0	0	0	0	0	0	0	3	1	0	3	0	0
AUG 1 - 15	1	005	5.00	0	1	0	0	0	0	0	0	0	0	1	0	0	22	0	0
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	4	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	4	005	5.00	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
AUG 1 - 15	4	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	5	003	1.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
AUG 1 - 15	5	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0
AUG 1 - 15	5	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	7	0	0	0	0	0	0	0	0	5	1	0	35	0	1
AUG 16 - 31	1	005	16.00	0	4	0	0	0	0	0	0	0	0	11	1	0	7	0	0
AUG 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	005	10.00	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0
AUG 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	8	0	0	0	0	2	0	0	0	12	1	0	7	0	0
SEP 1 - 15	1	002	27.15	0	11	0	1	0	0	0	21	0	0	2	0	0	5	0	0
SEP 1 - 15	1	003	1.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	1	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0

4-G-14

Appendix 4-G. Cont.

LOCATION: BIRCH CREEK AND SLOUGH
RIVER MILE: 88.4

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 1 - 15	1	011	1.00	0	15	0	0	0	0	0	0	0	0	3	1	0	1	0	0
SEP 1 - 15	2	005	10.00	0	1	0	0	0	0	0	0	0	0	1	0	0	5	0	0
SEP 1 - 15	2	010	1.00	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	005	10.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
SEP 1 - 15	9	011	1.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	29	0	1	0	0	8	21	0	0	7	1	0	30	0	1
SEP 16 - 30	1	011	1.00	0	11	0	0	0	0	0	0	0	0	10	0	0	1	0	0
SEP 16 - 30	2	002	1.00	0	9	0	1	0	0	0	0	0	0	0	0	0	1	0	0
SEP 16 - 30	2	003	1.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	22	0	1	0	0	1	0	0	0	10	0	0	2	0	0
OCT 1 - 15	1	05B	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
OCT 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
TOTAL FOR LOCATION				0	90	0	5	0	2	12	31	0	2	57	63	47	368	0	76

Appendix 4-G. Cont.

LOCATION: WHISKERS CREEK AND SLOUGH
 RIVER MILE: 101.2

					CATCH - FOR SPECIES CODE														
SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	1	005	7.00	0	1	0	0	0	0	0	0	0	0	1	0	0	2	0	0
JUN 1 - 15	1	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
JUN 1 - 15	2	005	7.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	010	1.00	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
JUN 1 - 15	7	005	7.00	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
JUN 1 - 15	7	010	1.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL				0	3	1	4	0	2	0	0	0	1	1	0	2	0	7
JUN 16 - 30	1	005	10.00	0	1	0	0	0	0	0	1	0	0	0	4	0	8	0	0
JUN 16 - 30	1	010	1.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	7	005	10.00	0	2	0	0	0	0	0	1	0	0	0	39	0	1	0	0
JUN 16 - 30	7	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	9	005	10.00	0	3	0	0	0	0	0	1	0	0	0	1	0	19	0	0
JUN 16 - 30	9	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL				0	6	0	2	0	0	3	0	0	0	44	0	28	0	0
JUL 1 - 15	1	003	1.00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	005	7.00	0	1	0	0	0	0	0	0	0	0	0	5	0	8	0	0
JUL 1 - 15	1	010	1.00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	7	003	1.00	0	0	0	5	0	0	0	0	0	0	0	0	11	0	0	0
JUL 1 - 15	7	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	7	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	9	003	1.00	0	7	0	0	0	0	0	0	0	0	1	1	0	0	0	1
JUL 1 - 15	9	005	7.00	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0
JUL 1 - 15	9	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL				0	13	0	8	0	0	0	0	0	1	6	11	9	0	1
JUL 16 - 31	1	005	7.00	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
JUL 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	7	005	7.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	7	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
JUL 16 - 31	9	005	7.00	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0

4-G-16

Appendix 4-G. Cont.

LOCATION: WHISKERS CREEK AND SLOUGH
RIVER MILE: 101.2

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUL 16 - 31	9	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	2	0	0	0	0	1	0	0	0	0	4	0	0	0	0
AUG 1 - 15	1	003	1.00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	5	0	1	0	0	
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	2	003	1.00	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	2	005	7.00	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	
AUG 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
AUG 1 - 15	3	010	1.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	10	0	2	0	2	0	0	0	0	1	6	0	1	0	0
AUG 16 - 31	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	1	005	9.00	0	0	0	0	0	0	0	0	0	4	6	0	5	0	0	
AUG 16 - 31	1	010	1.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	2	005	9.00	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	
AUG 16 - 31	2	010	1.00	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	3	003	1.00	0	0	0	0	1	1	0	0	0	14	0	0	0	0	0	
AUG 16 - 31	3	005	9.00	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	9	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	9	005	9.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	9	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	1	0	6	1	1	0	0	0	14	5	7	1	7	0	0
SEP 1 - 15	1	002	5.50	0	7	0	0	0	0	0	5	0	0	0	0	0	0	0	
SEP 1 - 15	1	005	8.00	0	0	0	0	0	0	0	2	0	1	29	0	30	0	0	
SEP 1 - 15	1	010	2.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	2	002	1.65	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	2	005	8.00	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	
SEP 1 - 15	2	010	1.00	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	
SEP 1 - 15	3	002	6.47	0	4	0	0	0	1	0	0	4	0	0	0	0	0	0	
SEP 1 - 15	3	003	1.00	0	0	0	0	0	2	0	0	4	0	4	0	0	0	0	
SEP 1 - 15	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	

4-G-17

Appendix 4-G. Cont.

LOCATION: WHISKERS CREEK AND SLOUGH
 RIVER MILE: 101.2

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 1 - 15	9	011	1.00	0	0	0	0	0	0	0	0	3	0	6	0	0	5	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	13	0	2	0	3	2	0	19	0	7	34	0	35	0	0
SEP 16 - 30	1	002	10.00	0	48	0	0	0	0	0	0	2	0	1	1	0	0	0	0
SEP 16 - 30	1	003	1.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
SEP 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	009	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	009	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	002	1.00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	003	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	9	002	5.00	0	0	0	0	0	1	0	0	8	0	0	0	0	0	0	0
SEP 16 - 30	9	003	1.00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
SEP 16 - 30	9	005	7.00	0	0	0	0	0	0	0	0	3	0	1	2	0	1	0	0
SEP 16 - 30	9	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	9	011	1.00	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	53	0	4	0	1	0	0	21	1	3	3	0	1	0	0
TOTAL FOR LOCATION				0	101	1	28	1	7	5	3	40	15	18	105	12	83	0	8

4-G-18

Appendix 4-G. Cont.

LOCATION: SLOUGH 6A
RIVER MILE: 112.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	2	003	1.00	0	1	0	0	0	7	0	0	0	1	0	9	223	1	0	830
JUN 1 - 15	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
JUN 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	2	05A	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	005	5.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	05A	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	2	0	1	0	7	0	0	0	1	0	10	223	2	0	830
JUN 16 - 30	2	003	1.00	0	0	0	1	0	3	0	0	0	5	0	0	16	0	0	5
JUN 16 - 30	2	005	10.00	0	0	0	0	0	0	0	0	0	0	0	9	0	23	0	0
JUN 16 - 30	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	2	0	3	1	0	0	5	0	9	16	23	0	5
JUL 1 - 15	2	003	1.00	0	7	0	1	0	8	0	0	0	6	0	1	173	5	0	0
JUL 1 - 15	2	005	10.00	0	0	0	0	0	0	0	0	0	0	0	3	0	4	0	0
JUL 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	7	0	1	0	8	0	0	0	6	0	5	173	9	0	0
JUL 16 - 31	2	005	10.00	0	0	0	0	0	0	0	0	0	0	0	2	0	12	0	0
JUL 16 - 31	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	005	5.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
JUL 16 - 31	6	003	1.00	0	3	0	0	0	17	0	0	0	0	0	2	374	0	0	0
JUL 16 - 31	6	05B	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
JUL 16 - 31	8	003	1.00	0	0	0	0	0	4	0	0	0	2	0	4	1	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	3	1	1	0	21	3	0	0	2	0	8	375	17	0	0
AUG 1 - 15	2	005	8.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0

4-G-19

Appendix 4-C. Cont.

LOCATION: SLOUGH 6A
RIVER MILE: 112.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	1	0	0	0	0	3	0	0	0	0	0	1	0	0	0
AUG 16 - 31	2	003	1.00	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0
AUG 16 - 31	2	005	8.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	003	1.00	0	4	0	0	0	1	0	0	0	1	0	1	0	0	0	0
AUG 16 - 31	3	005	8.00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	6	0	1	0	4	1	0	0	1	0	1	1	1	0	0
SEP 1 - 15	2	002	6.22	0	0	0	0	0	2	0	0	0	0	0	2	3	6	0	0
SEP 1 - 15	2	003	1.00	0	1	0	0	0	13	0	0	0	0	0	3	17	3	0	0
SEP 1 - 15	2	005	8.00	0	0	0	0	0	0	0	0	0	0	1	0	20	0	0	0
SEP 1 - 15	2	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
SEP 1 - 15	2	011	1.00	0	0	0	0	0	0	0	0	0	0	1	3	6	0	0	0
SEP 1 - 15	3	002	5.22	0	5	0	0	0	1	0	0	3	0	0	1	0	0	0	0
SEP 1 - 15	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	6	0	0	0	16	3	0	3	0	0	8	23	35	0	0
SEP 16 - 30	2	003	1.00	0	1	0	0	0	0	0	0	0	0	0	6	1	0	0	0
SEP 16 - 30	2	005	5.00	0	0	0	0	0	2	0	0	0	0	0	0	43	0	0	0
SEP 16 - 30	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	003	1.00	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
SEP 16 - 30	3	005	5.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	3	0	1	0	0	5	0	0	0	0	3	6	44	0	0
TOTAL FOR LOCATION				0	28	1	7	0	59	16	0	3	15	0	44	818	131	0	835

4-G-20

Appendix 4-G. Cont.

LOCATION: LANE CREEK AND SLOUGH 8
RIVER MILE: 113.6

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	1	05A	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	05A	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	7	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	7	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	7	009	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	7	010	1.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	7	05A	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	0	005	5.00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
JUN 16 - 30	0	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
JUN 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
JUN 16 - 30	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
JUN 16 - 30	2	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55
JUN 16 - 30	2	010	2.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	1	1	0	0	0	0	0	0	0	0	0	2	2	0	58
JUL 1 - 15	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	002	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	003	1.00	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
JUL 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
JUL 1 - 15	3	010	1.00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	9	002	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	9	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	9	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	0	1	1	0	0	0	0	9	0	0	2	0	0	0	0
JUL 16 - 31	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
JUL 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4-G-21

Appendix 4-G. Cont.

LOCATION: LANE CREEK AND SLOUGH 8
RIVER MILE: 113.6

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUL 16 - 31	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	002	3.90	0	6	0	0	0	7	0	0	9	0	0	1	0	0	0	0
JUL 16 - 31	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	4	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	9	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	9	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	6	0	0	0	7	0	0	9	0	0	3	0	0	0	0
AUG 1 - 15	1	002	3.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	005	7.00	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	2	005	4.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	002	1.00	0	8	1	0	0	0	0	1	0	0	5	0	0	0	0	0
AUG 1 - 15	3	005	7.00	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0
AUG 1 - 15	9	005	3.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	8	2	0	0	1	2	0	2	0	0	8	0	0	0	0
AUG 16 - 31	0	011	1.00	0	0	0	0	0	1	0	0	0	0	0	16	3	0	0	0
AUG 16 - 31	1	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	003	1.00	0	0	0	0	0	3	1	0	3	1	0	3	0	0	0	0
AUG 16 - 31	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	0	0	4	1	0	3	1	0	9	16	3	0	0
SEP 1 - 15	0	002	5.73	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0
SEP 1 - 15	0	005	6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0
SEP 1 - 15	1	002	.50	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
SEP 1 - 15	1	005	6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0
SEP 1 - 15	1	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	2	005	6.00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
SEP 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4-G-22

Appendix 4-C. Cont.

LOCATION: LANE CREEK AND SLOUGH 8
RIVER MILE: 113.6

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 1 - 15	3	002	6.55	0	0	0	1	0	2	1	0	0	0	0	3	0	0	0	0
SEP 1 - 15	3	003	1.00	0	1	0	0	0	1	0	0	2	0	0	1	0	0	0	0
SEP 1 - 15	3	005	6.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
SEP 1 - 15	9	002	8.80	0	9	0	0	0	0	0	0	0	0	0	1	13	2	0	0
SEP 1 - 15	9	005	6.00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	14	1	2	0	3	3	0	2	0	0	9	13	40	0	0
SEP 16 - 30	0	005	5.00	0	0	0	0	0	0	0	0	0	0	0	1	3	34	0	0
SEP 16 - 30	1	002	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	002	2.20	0	1	0	1	0	3	0	0	1	0	0	2	0	0	0	0
SEP 16 - 30	3	003	1.00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	9	002	3.85	0	27	0	0	0	0	2	0	0	0	0	3	17	6	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	28	0	1	0	5	2	0	1	0	0	9	20	41	0	0
OCT 1 - 15	1	009	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	2	009	.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	3	009	.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL FOR LOCATION				0	57	7	4	0	20	8	0	26	1	0	40	51	86	0	58

4-G-23

Appendix 4-C. Cont.

LOCATION: SLOUGH 8A
RIVER MILE: 125.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	3	001	1.00	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	0
JUN 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	6	001	1.00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
JUN 1 - 15	6	003	1.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	40
JUN 1 - 15	6	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	6	010	1.00	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	1	0	2	2	0	2	3	0	0	1	0	0	40
JUN 16 - 30	1	003	1.00	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0
JUN 16 - 30	1	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	1	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	2	001	1.00	0	0	0	2	0	2	0	0	1	8	0	0	0	0	0	0
JUN 16 - 30	2	003	1.00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
JUN 16 - 30	2	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	2	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	001	1.00	0	0	0	10	0	15	0	0	1	4	0	0	0	0	0	0
JUN 16 - 30	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	2	0	13	0	17	3	0	2	13	0	1	2	0	0	0
JUL 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0
JUL 1 - 15	2	002	38.25	0	1	0	0	0	0	0	0	0	0	1	6	0	0	0	0
JUL 1 - 15	2	003	1.00	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0
JUL 1 - 15	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	2	011	1.00	0	0	0	0	0	1	0	0	0	0	0	0	4	0	0	0
JUL 1 - 15	3	003	1.00	0	2	0	0	0	6	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	4	0	0	0	8	0	0	0	0	0	1	19	0	0	0

Appendix 4-C. Cont.

LOCATION: SLOUGH 8A
RIVER MILE: 125.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUL 16 - 31	1	003	1.00	0	0	0	0	0	10	0	0	0	0	0	2	173	0	0	0
JUL 16 - 31	1	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	2	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0
JUL 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0
JUL 16 - 31				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	0	0	10	1	0	0	0	0	4	207	0	0	0
AUG 1 - 15	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
AUG 1 - 15	12	003	1.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	22	003	1.00	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	30	0	1	0	0	2	0	0	0	0	0	1	0	0	0
AUG 16 - 31	1	003	1.00	0	1	0	0	0	0	0	0	0	1	0	5	9	6	0	0
AUG 16 - 31	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	003	1.00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
AUG 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0
AUG 16 - 31	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	1	0	0	0	2	0	0	0	1	0	11	13	7	0	0
SEP 1 - 15	1	002	30.00	0	1	0	0	0	0	0	0	0	16	0	5	8	0	0	0
SEP 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	1	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	2	002	10.00	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0
SEP 1 - 15	2	005	7.00	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
SEP 1 - 15				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4-C. Cont.

LOCATION: SLOUGH 8A
RIVER MILE: 125.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
SEP 1 - 15	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	3	0	1	0	0	0	0	0	0	16	0	7	9	0	0	0
SEP 16 - 30		011	1.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	002	8.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	003	1.00	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
SEP 16 - 30	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	3	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0
TOTAL FOR LOCATION				0	43	0	18	0	39	8	0	4	34	0	24	252	7	0	40	

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Appendix 4-G. Cont.

LOCATION: SLOUGH 9
RIVER MILE: 129.2

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	6	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
JUN 1 - 15	6	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	6	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	2	0	0	0	0	4	0	0	0	0	5
JUN 16 - 30	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	4	003	1.00	0	0	0	0	0	18	0	0	0	2	0	2	2	0	0	0	0
JUN 16 - 30	4	005	5.00	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
JUN 16 - 30	4	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	6	003	1.00	0	2	0	0	0	0	18	0	0	7	0	5	0	0	0	0	13
JUN 16 - 30	6	005	5.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
JUN 16 - 30	6	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	4	0	0	0	18	20	0	0	9	0	4	7	0	0	0	13
JUL 1 - 15	3	002	5.15	0	5	0	0	0	4	0	0	0	0	0	1	2	0	0	0	0
JUL 1 - 15	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	4	002	2.23	0	1	0	0	0	13	0	0	1	4	0	0	4	0	0	0	2
JUL 1 - 15	4	003	1.00	0	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	4	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	4	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	6	0	0	0	54	0	0	1	4	0	1	6	0	0	0	2
JUL 16 - 31	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	4	003	1.00	0	0	0	0	0	17	0	0	1	0	0	2	0	0	0	0	0
JUL 16 - 31	4	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	0	0	17	0	0	1	0	0	2	0	0	0	0	0

Appendix 4-G. Cont.

LOCATION: SLOUGH 9
RIVER MILE: 129.2

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
AUG 1 - 15	1	002	1.25	0	4	0	0	0	0	0	0	0	0	0	1	0	0	0	0
AUG 1 - 15	1	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	2	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	2	010	1.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	002	1.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
AUG 1 - 15	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	4	0	2	0	0	0	0	0	0	0	2	0	0	0	0
AUG 16 - 31	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	003	1.00	0	0	0	0	2	0	0	1	0	0	5	0	0	0	0	0
AUG 16 - 31	3	005	5.00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	0	0	2	1	0	1	0	0	7	0	0	0	0
SEP 1 - 15	1	002	15.00	0	0	0	0	0	0	0	0	0	0	2	4	1	0	0	0
SEP 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	2	4	1	0	0
SEP 16 - 30	1	002	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	005	7.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
SEP 16 - 30	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	7.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	1	0	0	0	0	0	0	6	0	0	0	0	0

4-G-28

Appendix 4-G. Cont.

LOCATION: SLOUGH 9
RIVER MILE: 129.2

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
TOTAL FOR LOCATION				0	14	0	3	0	91	23	0	3	13	0	26	19	1	0	20

Appendix 4-G. Cont.

LOCATION: 4TH OF JULY CREEK-MOUTH
RIVER MILE: 131.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	1	009	1.00	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0
JUN 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0
JUN 16 - 30	1	005	10.00	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
JUN 16 - 30	1	010	1.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
JUN 16 - 30	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	010	1.00	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	1	0	7	0	0	0	0	0	0	0	1	0	0	0	8
JUL 1 - 15	1	005	8.00	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0
JUL 1 - 15	1	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	002	3.02	0	1	0	0	4	1	0	8	1	0	2	0	0	0	0	0
JUL 1 - 15	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	1	0	1	0	4	2	0	8	1	0	5	0	1	0	0
JUL 16 - 31	1	005	10.00	0	1	0	0	0	0	0	0	0	0	5	0	0	0	0	0
JUL 16 - 31	1	009	.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	003	1.00	0	0	0	0	0	13	0	6	0	5	1	0	0	0	0	0
JUL 16 - 31	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	009	.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	1	0	0	0	13	0	6	0	0	10	1	0	0	0	0
AUG 1 - 15	1	005	10.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
AUG 1 - 15	1	009	9.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	002	47.00	0	8	1	0	0	9	0	0	17	0	6	0	0	0	0	0
AUG 1 - 15	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4-G-30

Appendix 4-G. Cont.

LOCATION: 4TH OF JULY CREEK-MOUTH
RIVER MILE: 131.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	8	1	1	0	9	0	0	17	0	0	7	0	0	0	0
AUG 16 - 31	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	0
SEP 1 - 15	1	009	4.00	0	0	0	11	0	0	0	0	2	0	0	0	0	0	0	0
SEP 1 - 15	1	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	002	20.00	0	3	0	0	0	5	0	0	1	0	0	0	0	0	0	0
SEP 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	8	0	1	0	0
SEP 1 - 15	3	009	.15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	3	0	13	0	5	0	0	3	0	0	8	0	25	0	0
SEP 16 - 30	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	009	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL FOR LOCATION				0	14	1	24	0	31	2	0	36	1	0	31	1	26	0	8

4-G-31

Appendix 4-G. Cont.

LOCATION: SLOUGH 11
RIVER MILE: 135.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	1	05A	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	2	001	1.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
JUN 1 - 15	2	05A	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	001	1.00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0
JUN 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
JUN 1 - 15	3	05A	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	2	0	0	3	0	0	0	0	0	0	0
JUN 16 - 30	1	002	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2	0
JUN 16 - 30	1	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
JUN 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	2	002	1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
JUN 16 - 30	2	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	8	5	0	15
JUL 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	2	002	1.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	002	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
JUL 16 - 31	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0
JUL 16 - 31	1	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	2	003	1.00	0	0	0	1	0	0	0	0	0	0	0	2	1	0	0	0
JUL 16 - 31	2	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4-G-32

Appendix 4-G. Cont.

LOCATION: SLOUGH 11
RIVER MILE: 135.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUL 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUL 16 - 31	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	1	0	0	0	0	0	0	0	0	0	9	1	0	0
AUG 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	3	002	1.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
AUG 16 - 31	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	2	010	1.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
AUG 16 - 31	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	0
SEP 1 - 15	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	
SEP 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	
SEP 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	1	10	0	0	0	

Appendix 4-C. Cont.

LOCATION: SLOUGH 11
RIVER MILE: 135.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 16 - 30	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL FOR LOCATION				0	2	0	6	0	2	1	0	3	0	0	7	27	6	0	15

Appendix 4-G. Cont.

LOCATION: INDIAN RIVER-MOUTH
RIVER MILE: 138.6

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15		010	1.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	1	002	4.77	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	28
JUN 16 - 30	1	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	005	10.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	28
JUL 1 - 15	1	005	5.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	011	1.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	002	.87	0	3	0	0	0	1	0	0	2	0	0	1	0	0	0	0
JUL 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	5	0	0	0	1	0	0	2	0	0	1	0	0	0	0
JUL 16 - 31	1	005	10.00	0	2	0	0	0	0	0	0	0	0	0	1	1	1	0	0
JUL 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	2	0	0	0	0	0	0	0	0	0	1	1	1	0	0
AUG 1 - 15	1	005	8.00	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	003	1.00	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0
AUG 1 - 15	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
AUG 1 - 15	3	010	1.00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	1	2	0	0	0	5	2	0	0	0	0

4-G-35

Appendix 4-G. Cont.

LOCATION: INDIAN RIVER-MOUTH
RIVER MILE: 138.6

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
AUG 16 - 31	1	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	003	1.00	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0
AUG 16 - 31	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	0	0	1	0	0	0	0	0	8	0	0	0	0
SEP 1 - 15	1	005	7.00	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	003	1.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0
SEP 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	009	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	1	009	3.00	0	0	0	4	0	0	0	0	6	0	0	0	0	0	0	0
OCT 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	4	0	0	0	0	6	0	0	0	0	0	0	0
TOTAL FOR LOCATION				0	9	2	4	0	4	2	0	8	0	0	17	3	1	0	28

4-G-36

Appendix 4-G. Cont.

LOCATION: SLOUGH 19
RIVER MILE: 140.0

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
JUN 16 - 30	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	2	002	2.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	4
JUN 16 - 30	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	4
JUL 1 - 15	2	003	1.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	2	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	002	1.77	0	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	2	0	1	0	4	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	2	003	1.00	0	0	0	0	0	0	2	0	0	0	0	0	5	0	0	0
JUL 16 - 31	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	003	1.00	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	2	0	0	0	3	2	0	0	0	0	0	8	0	0	0
AUG 1 - 15	2	005	5.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
AUG 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	2	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	003	1.00	0	1	0	0	0	1	0	0	0	0	0	0	4	0	0	0
															19	0	0	0	0

4-G-37

Appendix 4-G. Cont.

LOCATION: SLOUGH 19
RIVER MILE: 140.0

				CATCH - FOR SPECIES CODE																
SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
AUG 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	1	0	0	0	1	1	0	0	1	0	0	23	0	0	0	0
AUG 16 - 31	1	002	.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	1	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
AUG 16 - 31	2	002	1.60	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	002	.80	0	0	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0
AUG 16 - 31	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	1	0	0	0	3	0	0	0	0	0	2	2	0	0	0	0
SEP 1 - 15	1	002	.50	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
SEP 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	1	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0
SEP 1 - 15	3	002	2.00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	2	0	0	0	0	0	3	10	0	0	0	0
SEP 16 - 30	1	005	6.00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	011	1.00	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0
SEP 16 - 30	3	003	1.00	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0
SEP 16 - 30	3	005	6.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	0	0	1	0	0	0	0	0	6	10	0	0	0	0

4-G-38

Appendix 4-G. Cont.

LOCATION: SLOUGH 19
 RIVER MILE: 140.0

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
TOTAL FOR LOCATION					0	6	0	2	0	14	4	0	0	1	0	11	93	0	0	4

Appendix 4-G. Cont.

LOCATION: SLOUGH 20
RIVER MILE: 140.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	9	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	4	002	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	4	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	5	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	5	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	7	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	9	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	9	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	9	010	1.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	002	1.60	0	3	0	0	0	0	0	0	7	0	0	1	0	0	0	0
JUL 1 - 15	3	005	10.00	0	1	0	0	0	0	0	0	0	0	4	0	0	0	1	
JUL 1 - 15	3	010	1.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
JUL 1 - 15	9	002	2.80	0	3	0	0	0	0	0	0	0	0	0	3	0	0	2	
JUL 1 - 15	9	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	7	0	0	0	0	1	0	7	0	0	5	3	0	0	3
JUL 16 - 31	3	003	1.00	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0
JUL 16 - 31	3	005	6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	4	003	1.00	0	12	0	0	0	6	0	0	1	0	0	2	1	3	0	0
JUL 16 - 31	4	005	6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	5	003	1.00	0	1	0	0	0	0	0	0	6	0	0	0	1	5	0	0

4-G-40

Appendix 4-G. Cont.

LOCATION: SLOUGH 20
RIVER MILE: 140.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUL 16 - 31	5	005	6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	5	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	15	0	0	0	6	0	0	8	0	0	2	2	8	0	0
AUG 1 - 15	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	002	1.25	0	2	0	0	0	2	1	0	1	0	0	2	1	0	0	0
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	9	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	2	0	1	0	2	1	0	1	0	0	2	1	0	0	0
AUG 16 - 31	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	003	1.00	0	0	0	1	0	1	0	0	1	0	0	2	0	0	0	0
AUG 16 - 31	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	1	0	1	0	0	1	0	0	2	0	0	0	0
SEP 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	002	4.00	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0
SEP 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0
SEP 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
OCT 1 - 15	1	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4-C. Cont.

LOCATION: SLOUGH 20
RIVER MILE: 140.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
OCT 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL FOR LOCATION				0	24	1	3	0	10	4	0	17	0	0	13	6	8	0	3

Appendix 4-C. Cont.

LOCATION: SLOUGH 21
RIVER MILE: 142.0

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	4	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	6	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	6	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	4	002	.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	4	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	4	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	6	002	1.08	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	22
JUN 16 - 30	6	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	6	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 16 - 30	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	22
JUL 1 - 15	1	002	3.77	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0
JUL 1 - 15	1	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	002	2.28	0	1	0	0	0	7	0	0	0	1	0	0	0	0	0	2
JUL 1 - 15	3	005	10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	6	0	0	0	7	0	0	0	1	0	0	1	0	0	2
JUL 16 - 31	3	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
JUL 16 - 31	4	003	1.00	0	0	0	0	0	2	0	0	1	0	0	1	0	0	0	0
JUL 16 - 31	4	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	4	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	6	005	8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	6	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	0	0	2	4	0	1	0	0	1	0	0	0	0

Appendix 4-G. Cont.

LOCATION: SLOUGH 21
RIVER MILE: 142.0

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
AUG 1 - 15	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	011	1.00	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0
AUG 1 - 15	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	11	7	0	0	0
AUG 1 - 15	2	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	1	6	0	0	0
AUG 1 - 15	3	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	1	0	0	0	0	12	20	0	0	0
AUG 16 - 31	1	002	1.87	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0
AUG 16 - 31	1	005	6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	002	.50	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	2	005	6.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
AUG 16 - 31	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	002	.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 16 - 31	3	005	6.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
AUG 16 - 31	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
AUG 16 - 31	SAMPLING PERIOD TOTAL			0	4	0	0	0	0	1	0	0	0	0	3	0	0	0	0
SEP 1 - 15	1	002	10.00	0	0	0	0	0	0	0	0	0	0	0	11	1	0	0	0
SEP 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	2	002	2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	2	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	002	10.00	0	0	0	0	0	8	0	0	1	0	0	11	1	0	0	0
SEP 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	8	0	0	1	0	0	22	2	0	0	0
SEP 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	2	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4-G-44

Appendix 4-G. Cont.

LOCATION: SLOUGH 21
RIVER MILE: 142.0

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 16 - 30	2	010	1.00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	003	1.00	0	0	0	0	0	5	0	0	0	0	0	0	5	0	0	0
SEP 16 - 30	3	005	7.00	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	1	0	1	0	5	3	0	0	0	0	0	6	0	0	0
TOTAL FOR LOCATION				0	11	0	2	0	22	11	0	2	1	0	44	25	1	0	24

4-G-45

Appendix 4-G. Cont.

LOCATION: PORTAGE CREEK-MOUTH
 RIVER MILE: 148.8

				CATCH - FOR SPECIES CODE																
SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	1	005	5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUN 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	3	009	3.00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
JUL 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	9	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	0	0
JUL 16 - 31	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	1	009	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	3	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUL 16 - 31	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	005	7.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	009	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
AUG 1 - 15	SAMPLING PERIOD TOTAL			0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	1	005	7.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	3	010	1.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
SEP 1 - 15	SAMPLING PERIOD TOTAL			0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4-G-46

Appendix 4-G. Cont.

LOCATION: PORTAGE CREEK-MOUTH
 RIVER MILE: 148.8

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 16 - 30	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	005	7.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP 16 - 30	3	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
SEP 16 - 30	SAMPLING PERIOD TOTAL			0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
OCT 1 - 15	1	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	1	010	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	3	003	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	3	005	7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCT 1 - 15	3	010	1.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
OCT 1 - 15	SAMPLING PERIOD TOTAL			0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
TOTAL FOR LOCATION				0	2	1	0	0	0	7	0	4	0	0	0	0	0	0	0

4-G-47

APPENDIX H

Catch Per Unit Effort Data for Designated Fish Habitat Sites, 1982

Catch per unit effort data for the seventeen Designated Fish Habitat sites by two-week periods from early June to the end of September, 1982, are included in this appendix. Additionally, data are included for two sites (Slough 20 and Portage Creek mouth), sampled in the early October period.

The data are presented by zone by gear type. Zone codes are defined in section 4II-2.2 and gear codes and species codes are defined in the following tables.

STANDARD GEAR CODES

005 minnow trap
010 trotline

RESIDENT SPECIES CODES

162 Slimy sculpin
500 Northern pike
530 Dolly Varden
541 Rainbow trout
550 Lake trout
582 Humpback whitefish
586 Round whitefish
590 Burbot
601 Arctic lamprey
610 Arctic grayling
640 Longnose sucker
660 Threespine stickleback
661 Ninespine stickleback

OPPORTUNISTIC GEAR CODES

000 smolt trap
001 set gillnet
01a drift gillnet
002 electroshock
003 beach seine
04d drift net
05a fish trap
05b hoop net
008 fishwheel
009 hook and line
011 dip net

JUVENILE ANADROMOUS CODES

410 Chinook 0+
411 Chinook 1+
412 Chinook juvenile
415 Chinook smolt 0+
416 Chinook smolt 1+
417 Chinook smolt
420 Sockeye 0+
421 Sockeye 1+
422 Sockeye juvenile
425 Sockeye smolt 0+
426 Sockeye smolt 1+
427 Sockeye smolt
430 Coho 0+
431 Coho 1+
432 Coho 2+
433 Coho juvenile
435 Coho smolt 0+
436 Coho smolt 1+
437 Coho smolt 2+
438 Coho smolt
440 Pink 0+
441 Chum 0+

Appendix 4-H. Catch per unit effort for Designated Fish Habitat sites, 1982. Units for gear 002 are minutes shocked, for gear 009 are hours fished, and for all other gears are pieces of gear fished.

LOCATION: GOOSE CREEK 2 AND SIDE CHANNEL
RIVER MILE: 73.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
JUN 1 - 15	1	005	5.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	1	010	1.00	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	003	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
JUN 1 - 15	4	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	003	1.00	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	.4	0.0	0.0	0.0
JUN 16 - 30	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0
JUN 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	.1	0.0	0.0	0.0	0.0
JUN 16 - 30	6	002	5.00	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	2.8	0.0	.2	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	6	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.3	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	7	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	7	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0
JUN 16 - 30	7	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	.6	0.0	1.1	0.0	0.0	0.0
JUL 1 - 15	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	6	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	6	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	7	003	1.00	0.0	1.0	0.0	0.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	7	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	2.0	0.0	0.0	0.0	0.0
JUL 1 - 15	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	.1	0.0	0.0	0.0
JUL 16 - 31	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	005	5.00	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	002	19.85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	7	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	7	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: GOOSE CREEK 2 AND SIDE CHANNEL
RIVER MILE: 73.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUL 16 - 31	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	6	003	1.00	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0
AUG 1 - 15	6	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0
AUG 1 - 15	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	7	003	1.00	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	7	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	.1	0.0	0.0
AUG 1 - 15	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	6	003	1.00	0.0	1.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0
AUG 16 - 31	6	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	7	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	002	3.00	0.0	.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	.2	0.0	0.0
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	002	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	9	002	3.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	9	003	1.00	0.0	2.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	2.0	0.0	0.0	0.0	0.0
SEP 1 - 15	9	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	9	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	.1	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	9	003	1.00	0.0	1.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	9	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4-H-4

Appendix 4-H. Cont.

LOCATION: GOOSE CREEK 2 AND SIDE CHANNEL
RIVER MILE: 73.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 16 - 30	9	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: WHITEFISH SLOUGH
RIVER MILE: 78.7

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 16 - 30	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	2.0	0.0	.2	0.0	0.0
JUL 1 - 15	2	001	1.00	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	05B	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	6	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	1.1	0.0	0.0
AUG 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	2.0	1.0	0.0	0.0	0.0
AUG 16 - 31	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
AUG 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	002	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	003	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
SEP 1 - 15	2	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0
SEP 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	003	1.00	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: RABIDEUX CREEK AND SLOUGH
 RIVER MILE: 83.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	5.00	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0
SEP 16 - 30	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SUNSHINE CREEK AND SIDE CHANNEL
 RIVER MILE: 85.7

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
JUN 1 - 15	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	003	1.00	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	002	3.33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	010	1.00	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	002	4.20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	005	7.00	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	002	3.13	0.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	1.3	0.0	0.0	0.0	0.0
JUN 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	005	10.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	.4	0.0	18.1	0.0	0.0
JUL 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	2.2	0.0	20.6	0.0	0.0
JUL 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	005	5.00	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	009	.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	5.00	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	2.0	0.0	11.6	0.0	0.0	0.0
AUG 1 - 15	3	005	5.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	003	1.00	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	.1	.7	0.0

4-H-9

Appendix 4-H. Cont.

LOCATION: SUNSHINE CREEK AND SIDE CHANNEL
 RIVER MILE: 85.7

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
AUG 16 - 31	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	9	003	1.00	0.0	12.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	2.0	0.0	0.0	0.0
SEP 1 - 15	1	002	1.23	0.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.2	0.0	.5	0.0	0.0
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	002	2.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	9	002	2.38	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	.2	0.0	0.0	.2	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0
SEP 16 - 30	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4-H-10

Appendix 4-H. Cont.

LOCATION: BIRCH CREEK AND SLOUGH
RIVER MILE: 88.4

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	1	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.2	0.0	2.5	0.0	0.0
JUN 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	002	10.07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	005	10.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	.1	0.0	0.0	2.8
JUN 1 - 15	4	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	002	2.77	0.0	0.0	0.0	0.0	0.0	.7	0.0	2.2	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	005	10.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	2.5
JUN 1 - 15	7	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	16.0	0.0	0.0	0.0
JUN 16 - 30	1	005	7.00	0.0	.4	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	.7	1.4	0.0	7.1	0.0	0.0	0.0
JUN 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	4	002	18.92	0.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1
JUN 16 - 30	6	002	5.00	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	6	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	6	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
JUN 16 - 30	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	.7	0.0	.6	0.0	0.0	0.0
JUN 16 - 30	6	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	7	002	5.18	0.0	.2	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	7	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	7	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	16.0
JUN 16 - 30	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.7	0.0	1.7	0.0	0.0	0.0
JUL 1 - 15	1	003	1.00	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	0.0	0.0	0.0
JUL 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	12.4	0.0	0.0	0.0
JUL 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	6	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	14.0
JUL 1 - 15	6	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	.7	0.0	0.0	0.0
JUL 1 - 15	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	7	003	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0	0.0	2.0
JUL 1 - 15	7	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0
JUL 1 - 15	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	7	05B	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.9	0.0	7.3	0.0	0.0	0.0
JUL 16 - 31	1	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	6	002	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	6	003	1.00	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7.0	1.0	0.0	0.0	2.0
JUL 16 - 31	6	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0

4-H-11

Appendix 4-H. Cont.

LOCATION: BIRCH CREEK AND SLOUGH
 RIVER MILE: 88.4

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 16 - 30	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCT 1 - 15	1	05B	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: WHISKERS CREEK AND SLOUGH
RIVER MILE: 101.2

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	1	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	.3	0.0	0.0
JUN 1 - 15	1	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
JUN 1 - 15	2	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	010	1.00	0.0	0.0	1.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	010	1.00	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	005	10.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	.4	0.0	.8	0.0	0.0	0.0
JUN 16 - 30	1	010	1.00	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	7	005	10.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	3.9	0.0	.1	0.0	0.0	0.0
JUN 16 - 30	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	9	005	10.00	0.0	.3	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	.1	0.0	1.9	0.0	0.0	0.0
JUN 16 - 30	9	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	003	1.00	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.7	0.0	1.1	0.0	0.0	0.0
JUL 1 - 15	1	010	1.00	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	7	003	1.00	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0
JUL 1 - 15	7	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	9	003	1.00	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0
JUL 1 - 15	9	005	7.00	0.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0
JUL 1 - 15	9	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	7	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	7	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	9	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	9	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	003	1.00	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.7	0.0	.1	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	003	1.00	0.0	4.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4-H-14

Appendix 4-H. Cont.

LOCATION: WHISKERS CREEK AND SLOUGH
RIVER MILE: 101.2

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
AUG 1 - 15	2	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	005	9.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	.7	0.0	.6	0.0	0.0
AUG 16 - 31	1	010	1.00	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	005	9.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	0.0	.1	0.0	0.0
AUG 16 - 31	2	010	1.00	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	003	1.00	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	9.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	0.0	0.0
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	9	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	9	005	9.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	9	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	002	5.50	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	.1	3.6	0.0	3.7	0.0	0.0	0.0
SEP 1 - 15	1	010	2.00	0.0	0.0	0.0	.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	002	1.65	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	002	6.47	0.0	.6	0.0	0.0	0.0	.2	0.0	0.0	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	003	1.00	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	9	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	6.0	0.0	0.0	5.0	0.0	0.0	0.0
SEP 16 - 30	1	002	10.00	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.1	.1	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	009	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	009	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	002	1.00	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	003	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: WHISKERS CREEK AND SLOUGH
 RIVER MILE: 101.2

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
SEP 16 - 30	9	002	5.00	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	9	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	9	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	.1	.3	0.0	.1	0.0	0.0	0.0
SEP 16 - 30	9	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	9	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4-H-16

Appendix 4-H. Cont.

LOCATION: SLOUGH 6A
RIVER MILE: 112.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	2	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	1.0	0.0	9.0	223.0	1.0	0.0	830.0
JUN 1 - 15	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2	0.0	0.0
JUN 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	05A	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	005	5.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	05A	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	003	1.00	0.0	0.0	0.0	1.0	0.0	3.0	0.0	0.0	0.0	5.0	0.0	0.0	16.0	0.0	0.0	5.0	
JUN 16 - 30	2	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.9	0.0	2.3	0.0	0.0	
JUN 16 - 30	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 1 - 15	2	003	1.00	0.0	7.0	0.0	1.0	0.0	8.0	0.0	0.0	0.0	6.0	0.0	1.0	173.0	5.0	0.0	0.0	
JUL 1 - 15	2	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	.4	0.0	0.0	
JUL 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	
JUL 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 16 - 31	2	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	1.2	0.0	0.0	
JUL 16 - 31	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 16 - 31	3	005	5.00	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 16 - 31	6	003	1.00	0.0	3.0	0.0	0.0	0.0	17.0	0.0	0.0	0.0	0.0	0.0	2.0	374.0	0.0	0.0	0.0	
JUL 16 - 31	6	05B	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	
JUL 16 - 31	8	003	1.00	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	2.0	0.0	4.0	1.0	0.0	0.0	0.0	0.0	
AUG 1 - 15	2	005	8.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 16 - 31	2	003	1.00	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	
AUG 16 - 31	2	005	8.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 16 - 31	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 16 - 31	3	003	1.00	0.0	4.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
AUG 16 - 31	3	005	8.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

4-H-17

Appendix 4-H. Cont.

LOCATION: SLOUGH 6A
RIVER MILE: 112.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 1 - 15	2	002	6.22	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0	0.0	.3	.5	1.0	0.0	0.0
SEP 1 - 15	2	003	1.00	0.0	1.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	3.0	17.0	3.0	0.0	0.0
SEP 1 - 15	2	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	2.5	0.0	0.0
SEP 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.0	6.0	0.0	0.0
SEP 1 - 15	3	002	5.22	0.0	1.0	0.0	0.0	0.0	.2	0.0	0.0	.6	0.0	0.0	.2	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	1.0	0.0	0.0
SEP 16 - 30	2	005	5.00	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	0.0
SEP 16 - 30	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	5.00	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: LANE CREEK AND SLOUGH 8
RIVER MILE: 113.6

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	1	05A	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	05A	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	009	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	010	1.00	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	7	05A	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	0	005	5.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	.2
JUN 16 - 30	0	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
JUN 16 - 30	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0
JUN 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	55.0
JUN 16 - 30	2	010	2.00	0.0	0.0	.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	002	2.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0
JUL 1 - 15	3	010	1.00	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	9	002	2.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	9	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	9	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0
JUL 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	002	3.90	0.0	1.5	0.0	0.0	0.0	1.8	0.0	0.0	2.3	0.0	0.0	.3	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4-H-19

Appendix 4-H. Cont.

LOCATION: LANE CREEK AND SLOUGH 8
RIVER MILE: 113.6

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUL 16 - 31	9	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	9	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	002	3.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	7.00	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	005	4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	002	1.00	0.0	8.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	9	005	3.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	0	011	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	16.0	3.0	0.0	0.0	0.0
AUG 16 - 31	1	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	003	1.00	0.0	0.0	0.0	0.0	0.0	3.0	1.0	0.0	3.0	1.0	0.0	3.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.0	0.0
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	0	002	5.73	0.0	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.5	0.0	0.0
SEP 1 - 15	0	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0
SEP 1 - 15	1	002	.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	005	6.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0
SEP 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	002	6.55	0.0	0.0	0.0	.2	0.0	.3	.2	0.0	0.0	0.0	0.0	.5	0.0	0.0	0.0	0.0
SEP 1 - 15	3	003	1.00	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	1.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	9	002	8.80	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	1.5	.2	0.0	0.0
SEP 1 - 15	9	005	6.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0
SEP 16 - 30	0	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.6	6.8	0.0	0.0
SEP 16 - 30	1	002	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	002	2.20	0.0	.5	0.0	.5	0.0	1.4	0.0	0.0	.5	0.0	0.0	.9	0.0	0.0	0.0	0.0

4-H-20

Appendix 4-H. Cont.

LOCATION: LANE CREEK AND SLOUGH 8
 RIVER MILE: 113.6

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
SEP 16 - 30	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	.2	0.0	0.0
SEP 16 - 30	9	002	3.85	0.0	7.0	0.0	0.0	0.0	0.0	.5	0.0	0.0	0.0	0.0	.8	4.4	1.6	0.0	0.0	0.0
OCT 1 - 15	1	009	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCT 1 - 15	2	009	.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCT 1 - 15	3	009	.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SLOUGH 8A
RIVER MILE: 125.3

CATCH PER UNIT EFFORT - FOR SPECIES CODE																				
SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	3	001	1.00	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 1 - 15	4	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 1 - 15	4	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 1 - 15	6	001	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 1 - 15	6	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	40.0	
JUN 1 - 15	6	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 1 - 15	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	1	003	1.00	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	
JUN 16 - 30	1	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	1	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	2	001	1.00	0.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	1.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	2	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	3	001	1.00	0.0	0.0	0.0	10.0	0.0	15.0	0.0	0.0	1.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	3	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 1 - 15	1	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	
JUL 1 - 15	2	002	38.25	0.0	.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.2	0.0	0.0	0.0	
JUL 1 - 15	2	003	1.00	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	
JUL 1 - 15	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 1 - 15	2	011	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	
JUL 1 - 15	3	003	1.00	0.0	2.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 16 - 31	1	003	1.00	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	2.0	173.0	0.0	0.0	0.0	
JUL 16 - 31	1	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 16 - 31	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.0	0.0	0.0	0.0	
JUL 16 - 31	2	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUL 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

4-H-22

Appendix 4-H. Cont.

LOCATION: SLOUGH 8A
RIVER MILE: 125.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUL 16 - 31	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	12	003	1.00	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	22	003	1.00	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
AUG 16 - 31	1	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	5.0	9.0	6.0	0.0	0.0	0.0
AUG 16 - 31	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	003	1.00	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.9	0.0	.1	0.0	0.0	0.0
AUG 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	002	30.00	0.0	.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.5	0.0	.2	.3	0.0	0.0	0.0	0.0
SEP 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	002	10.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	0.0	0.0	0.0	0.0
SEP 1 - 15	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30		011	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	002	8.33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	003	1.00	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SLOUGH 8A
 RIVER MILE: 125.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SLOUGH 9
RIVER MILE: 129.2

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	6	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
JUN 1 - 15	6	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	4	003	1.00	0.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0
JUN 16 - 30	4	005	5.00	0.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	4	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	6	003	1.00	0.0	2.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0	7.0	0.0	0.0	5.0	0.0	0.0	0.0	13.0
JUN 16 - 30	6	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	002	5.15	0.0	1.0	0.0	0.0	0.0	.8	0.0	0.0	0.0	0.0	0.0	.2	.4	0.0	0.0	0.0	0.0
JUL 1 - 15	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	4	002	2.23	0.0	.4	0.0	0.0	0.0	5.8	0.0	0.0	.4	1.8	0.0	0.0	1.8	0.0	0.0	0.0	.9
JUL 1 - 15	4	003	1.00	0.0	0.0	0.0	0.0	0.0	37.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	4	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	4	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	003	1.00	0.0	0.0	0.0	0.0	0.0	17.0	0.0	0.0	1.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	002	1.25	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	010	1.00	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	002	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SLOUGH 9
RIVER MILE: 129.2

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
AUG 16 - 31	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	003	1.00	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	002	15.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.3	.1	0.0	0.0	0.0
SEP 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	002	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4-H-26

Appendix 4-H. Cont.

LOCATION: 4TH OF JULY CREEK-MOUTH
RIVER MILE: 131.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	1	009	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	005	10.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0
JUN 16 - 30	1	010	1.00	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
JUN 16 - 30	3	010	1.00	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	.1	0.0	0.0
JUL 1 - 15	1	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	002	3.02	0.0	.3	0.0	0.0	0.0	1.3	.3	0.0	2.7	.3	0.0	.7	0.0	0.0	0.0	0.0
JUL 1 - 15	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	005	10.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.5	0.0	0.0	0.0	0.0
JUL 16 - 31	1	009	.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	003	1.00	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0	6.0	0.0	0.0	5.0	1.0	0.0	0.0	0.0
JUL 16 - 31	3	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	009	.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0
AUG 1 - 15	1	009	9.00	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	002	47.00	0.0	.2	.0	0.0	0.0	.2	0.0	0.0	.4	0.0	0.0	.1	0.0	0.0	0.0	0.0
AUG 1 - 15	3	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	009	4.00	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	.5	0.0	0.0	0.0	0.0	3.4	0.0	0.0

4-H-27

Appendix 4-H. Cont.

LOCATION: 4TH OF JULY CREEK-MOUTH
 RIVER MILE: 131.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	002	20.00	0.0	.1	0.0	0.0	0.0	.3	0.0	0.0	.0	0.0	0.0	.4	0.0	.0	0.0	0.0	0.0
SEP 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	009	.15	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	009	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SLOUGH 11
RIVER MILE: 135.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	1	05A	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	001	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	05A	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	001	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	05A	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	002	2.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	1.0	0.0	2.0
JUN 16 - 30	1	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0
JUN 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	002	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	7.3
JUN 16 - 30	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	002	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	002	1.20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0
JUL 16 - 31	1	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	003	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	0.0	0.0
JUL 16 - 31	2	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SLOUGH 11
RIVER MILE: 135.3

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN- TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
AUG 1 - 15	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	002	1.00	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	010	1.00	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0
SEP 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.0	0.0	0.0	0.0
SEP 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4-H-30

Appendix 4-H. Cont.

LOCATION: INDIAN RIVER-MOUTH
RIVER MILE: 138.6

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15		010	1.00	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	002	4.77	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0
JUN 16 - 30	1	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	005	10.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	005	5.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	011	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	002	.87	0.0	3.5	0.0	0.0	0.0	1.2	0.0	0.0	2.3	0.0	0.0	1.2	0.0	0.0	0.0	0.0
JUL 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	005	10.00	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	.1	0.0
JUL 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	003	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
AUG 1 - 15	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	003	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.0	0.0
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	003	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: INDIAN RIVER-MOUTH
RIVER MILE: 138.6

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
SEP 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	009	2.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCT 1 - 15	1	009	3.00	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SLOUGH 19
RIVER MILE: 140.0

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	URIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	002	2.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	4.0
JUN 16 - 30	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	003	1.00	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	2	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	002	1.77	0.0	0.0	0.0	.6	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
JUL 16 - 31	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	003	1.00	0.0	2.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0
JUL 16 - 31	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0
AUG 1 - 15	3	003	1.00	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0	0.0	0.0	0.0
AUG 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	002	.83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
AUG 16 - 31	2	002	1.60	0.0	.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SLOUGH 19
RIVER MILE: 140.0

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
AUG 16 - 31	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	002	.80	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	002	.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	002	2.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	003	1.00	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SLOUGH 20
RIVER MILE: 140.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE														
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	9	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	4	002	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	4	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	5	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	5	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	7	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	9	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	9	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	9	010	1.00	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	002	1.60	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0	.6	0.0	0.0	0.0	0.0
JUL 1 - 15	3	005	10.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	.1
JUL 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	9	002	2.80	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	.7
JUL 1 - 15	9	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	003	1.00	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	003	1.00	0.0	12.0	0.0	0.0	0.0	6.0	0.0	0.0	1.0	0.0	0.0	2.0	1.0	3.0	0.0	0.0
JUL 16 - 31	4	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	5	003	1.00	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	1.0	5.0	0.0	0.0
JUL 16 - 31	5	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	5	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	002	1.25	0.0	1.6	0.0	0.0	0.0	1.6	.8	0.0	.8	0.0	0.0	1.6	.8	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: SLOUGH 20
RIVER MILE: 140.1

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT -- FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 1 - 15	9	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 16 - 31	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 16 - 31	3	003	1.00	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	
AUG 16 - 31	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SEP 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SEP 1 - 15	3	002	4.00	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0	0.0	0.0	.5	0.0	0.0	0.0	0.0	
SEP 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SEP 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SEP 16 - 30	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SEP 16 - 30	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT 1 - 15	1	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

4-H-36

Appendix 4-H. Cont.

LOCATION: SLOUGH 21
RIVER MILE: 142.0

CATCH PER UNIT EFFORT - FOR SPECIES CODE																			
SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDENTIFIED	162	530	541	582	586	590	601	610	640	660	412	422	433	440	450
JUN 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	4	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	6	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	4	002	.83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	4	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	4	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	6	002	1.08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	.9	0.0	20.3	0.0
JUN 16 - 30	6	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 16 - 30	6	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	002	3.77	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.3	0.0	0.0	0.0
JUL 1 - 15	1	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	002	2.28	0.0	.4	0.0	0.0	0.0	3.1	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0	0.0	.9
JUL 1 - 15	3	005	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	003	1.00	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	4	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	6	005	8.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	6	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	011	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0
AUG 1 - 15	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	7.0	0.0	0.0	0.0
AUG 1 - 15	2	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6.0	0.0	0.0	0.0

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Appendix 4-H. Cont.

LOCATION: SLOUGH 21
RIVER MILE: 142.0

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
AUG 1 - 15	3	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	002	1.87	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.5	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	002	.50	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	002	.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	005	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0	0.0
AUG 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	002	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	.1	0.0	0.0	0.0	0.0
SEP 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	002	2.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	2	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	002	10.00	0.0	0.0	0.0	0.0	0.0	.8	0.0	0.0	.1	0.0	0.0	1.1	.1	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	2	010	1.00	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	003	1.00	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix 4-H. Cont.

LOCATION: PORTAGE CREEK-MOUTH
RIVER MILE: 148.8

SAMPLING PERIOD	ZONE	GEAR	UNITS FISHED	UNIDEN-TIFIED	CATCH PER UNIT EFFORT - FOR SPECIES CODE															
					162	530	541	582	586	590	601	610	640	660	412	422	433	440	450	
JUN 1 - 15	1	005	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	009	3.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 1 - 15	9	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	009	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL 16 - 31	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	009	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	005	7.00	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	005	7.00	0.0	0.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP 16 - 30	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCT 1 - 15	1	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCT 1 - 15	1	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCT 1 - 15	3	003	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCT 1 - 15	3	005	7.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCT 1 - 15	3	010	1.00	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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APPENDIX I

Habitat Data for Designated Fish Habitat Sites, June Through September, 1983

Habitat data for the 17 Designated Fish Habitat sites located between Goose Creek and Portage Creek are included in the following table. The methods describing how these data were obtained and an explanation of the Zone Code are in section 2.2 of Part II of this volume.

The data obtained from mixing zones, where tributary or slough or mainstem water mix (zone 3, zone 5, and zone 7), can vary widely, depending on exactly where in the zone the sample was taken.

These data are provisional at this time (January, 1983).

Appendix 4-I. Habitat data for Designated Fish Habitat sites, 1982.

LOCATION: GOOSE CREEK 2-SLOUGH
RIVER MILE: 73.1

4-I-2

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)	12.6	22.9	-----	19.2	21.6	15.2	8.4	-----
	WATER TEMPERATURE (C)	5.8	10.4	11.6	9.5	10.4	9.8	6.2	4.7
	DISSOLVED OXYGEN (mg/l)	-----	11.0	10.6	-----	10.6	-----	-----	-----
	pH	-----	7.1	6.8	-----	7.4	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	27	32	28	31	31	-----	30
	TURBIDITY (NTU)	3	6	14	18	< 1	6	4	14
	WATER VELOCITY (ft/s)	1.8	1.4	1.2	1.5	1.5	1.5	2.1	1.4
3	AIR TEMPERATURE (C)	-----	-----	-----	-----	-----	15.3	8.4	-----
	WATER TEMPERATURE (C)	-----	-----	-----	-----	-----	9.9	6.0	4.7
	DISSOLVED OXYGEN (mg/l)	-----	-----	-----	-----	-----	-----	-----	-----
	pH	-----	-----	-----	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	-----	-----	-----	91	71	68
	TURBIDITY (NTU)	-----	-----	-----	-----	-----	14	26	19
	WATER VELOCITY (ft/s)	-----	-----	-----	-----	-----	2.2	3.1	1.0
4	AIR TEMPERATURE (C)	12.6	-----	-----	19.2	-----	-----	-----	-----
	WATER TEMPERATURE (C)	8.0	-----	-----	10.2	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	-----	-----	-----	-----	-----	-----	-----	-----
	pH	-----	-----	-----	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	-----	86	-----	-----	-----	-----
	TURBIDITY (NTU)	49	-----	-----	110	-----	-----	-----	-----
	WATER VELOCITY (ft/s)	2.1	-----	-----	2.5	-----	-----	-----	-----
6	AIR TEMPERATURE (C)	-----	22.9	22.7	-----	21.6	15.0	-----	-----
	WATER TEMPERATURE (C)	-----	12.8	11.3	-----	9.7	10.5	-----	-----
	DISSOLVED OXYGEN (mg/l)	-----	10.3	10.6	-----	11.2	8.7	-----	-----
	pH	-----	7.4	7.6	-----	7.6	6.7	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	80	107	-----	111	113	-----	-----
	TURBIDITY (NTU)	-----	88	110	-----	85	98	-----	-----
	WATER VELOCITY (ft/s)	-----	.5	.5	-----	.3	0.0	-----	-----
7	AIR TEMPERATURE (C)	12.6	22.9	-----	19.2	21.6	15.2	-----	-----
	WATER TEMPERATURE (C)	7.0	12.3	11.1	10.2	11.7	10.1	-----	-----
	DISSOLVED OXYGEN (mg/l)	-----	10.7	10.6	-----	10.7	-----	-----	-----
	pH	-----	7.3	7.7	-----	7.4	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	73	107	76	38	33	-----	-----
	TURBIDITY (NTU)	45	95	100	120	11	5	-----	-----
	WATER VELOCITY (ft/s)	.3	.7	1.1	1.7	.7	0.0	-----	-----

Appendix 4-I. Cont.

LOCATION: GOOSE CREEK 2-SLOUGH
 RIVER MILE: 73.1

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
9	AIR TEMPERATURE (C)	----	----	----	----	----	----	8.4	----
	WATER TEMPERATURE (C)	----	----	----	----	----	----	7.4	5.5
	DISSOLVED OXYGEN (mg/l)	----	----	----	----	----	----	----	----
	pH	----	----	----	----	----	----	----	----
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	----	----	----	----	----	----	179
	TURBIDITY (NTU)	----	----	----	----	----	----	18	22
	WATER VELOCITY (ft/s)	----	----	----	----	----	----	0.0	0.0

Appendix 4-1. Cont.

LOCATION: WHITEFISH SLOUGH
 RIVER MILE: 78.7

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
2	AIR TEMPERATURE (C)	-----	-----	14.9	15.8	21.4	17.0	14.3	-----
	WATER TEMPERATURE (C)	-----	-----	16.3	16.4	15.9	14.3	9.2	6.1
	DISSOLVED OXYGEN (mg/l)	-----	-----	8.4	-----	10.7	8.3	-----	-----
	pH	-----	-----	6.8	-----	7.3	6.8	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	101	27	51	121	-----	44
	TURBIDITY (NTU)	-----	-----	46	18	-----	25	-----	23
	WATER VELOCITY (ft/s)	-----	-----	0.0	0.0	0.0	0.0	-----	0.0
3	AIR TEMPERATURE (C)	-----	-----	-----	15.8	21.4	17.0	14.3	-----
	WATER TEMPERATURE (C)	-----	-----	-----	10.2	9.5	9.7	7.6	4.5
	DISSOLVED OXYGEN (mg/l)	-----	-----	-----	-----	11.2	11.3	-----	12.5
	pH	-----	-----	-----	-----	7.6	6.5	-----	5.2
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	-----	91	89	-----	-----	109
	TURBIDITY (NTU)	-----	-----	-----	120	86	11	-----	55
	WATER VELOCITY (ft/s)	-----	-----	-----	.5	.4	.5	-----	.5

Appendix 4-1. Cont.

LOCATION: RABIDEUX CREEK-SLOUGH
RIVER MILE: 83.1

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)	----	21.7	----	13.5	----	19.8	8.7	----
	WATER TEMPERATURE (C)	----	16.6	----	13.1	----	14.2	----	6.0
	DISSOLVED OXYGEN (mg/l)	----	9.3	----	8.9	----	10.0	----	11.1
	pH	----	6.8	----	6.2	----	6.0	----	6.3
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	37	----	----	----	27	----	52
	TURBIDITY (NTU)	----	2	----	2	----	3	----	2
	WATER VELOCITY (ft/s)	----	.6	----	1.9	----	1.0	----	.6
2	AIR TEMPERATURE (C)	----	21.7	----	----	----	19.0	11.2	----
	WATER TEMPERATURE (C)	----	17.2	----	13.5	----	12.6	----	15.6
	DISSOLVED OXYGEN (mg/l)	----	9.1	----	9.3	----	10.0	----	9.2
	pH	----	7.1	----	6.6	----	6.4	----	7.2
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	44	----	----	----	29	----	69
	TURBIDITY (NTU)	----	3	----	4	----	----	----	9
	WATER VELOCITY (ft/s)	----	0.0	----	0.0	----	----	----	0.0
3	AIR TEMPERATURE (C)	----	----	----	----	----	19.0	9.4	----
	WATER TEMPERATURE (C)	----	----	----	----	----	9.8	12.2	6.5
	DISSOLVED OXYGEN (mg/l)	----	----	----	----	----	11.0	9.6	----
	pH	----	----	----	----	----	7.5	7.5	----
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	----	----	----	----	83	85	61
	TURBIDITY (NTU)	----	----	----	----	----	----	13	160
	WATER VELOCITY (ft/s)	----	----	----	----	----	2.5	.5	1.5
7	AIR TEMPERATURE (C)	----	----	----	----	----	----	----	----
	WATER TEMPERATURE (C)	----	----	----	13.0	----	----	----	----
	DISSOLVED OXYGEN (mg/l)	----	----	----	9.1	----	----	----	----
	pH	----	----	----	6.4	----	----	----	----
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	----	----	----	----	----	----	----
	TURBIDITY (NTU)	----	----	----	10	----	----	----	----
	WATER VELOCITY (ft/s)	----	----	----	0.0	----	----	----	----
8	AIR TEMPERATURE (C)	----	21.7	----	----	----	----	----	----
	WATER TEMPERATURE (C)	----	15.5	----	----	----	----	----	----
	DISSOLVED OXYGEN (mg/l)	----	9.1	----	----	----	----	----	----
	pH	----	7.4	----	----	----	----	----	----
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	82	----	----	----	----	----	----
	TURBIDITY (NTU)	----	85	----	----	----	----	----	----
	WATER VELOCITY (ft/s)	----	0.0	----	----	----	----	----	----

Appendix 4-I. Cont.

LOCATION: SUNSHINE CREEK-SIDE CHANNEL
 RIVER MILE: 85.7

ZONE	HABITAT PARAMETER	JUNE	JUNE	JULY	JULY	AUGUST	AUGUST	SEPTEMBER	SEPTEMBER
		1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30
1	AIR TEMPERATURE (C)	16.0	-----	-----	-----	14.0	14.0	9.4	-----
	WATER TEMPERATURE (C)	10.8	16.2	-----	13.0	11.8	12.8	7.8	6.0
	DISSOLVED OXYGEN (mg/l)	-----	9.7	-----	-----	10.5	10.7	13.4	11.2
	pH	-----	6.7	-----	-----	6.8	-----	7.2	5.6
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	50	-----	-----	43	55	27	45
	TURBIDITY (NTU)	1	1	-----	3	-----	-----	1	8
	WATER VELOCITY (ft/s)	.3	.7	-----	1.2	.7	.7	1.2	2.0
2	AIR TEMPERATURE (C)	16.0	27.1	21.4	15.2	-----	14.0	9.8	-----
	WATER TEMPERATURE (C)	11.5	16.4	14.0	12.4	-----	12.3	8.1	6.0
	DISSOLVED OXYGEN (mg/l)	-----	9.7	10.1	-----	-----	9.4	13.1	11.2
	pH	-----	6.8	6.7	-----	-----	6.7	7.3	5.6
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	55	59	-----	-----	63	47	45
	TURBIDITY (NTU)	2	2	3	3	-----	5	9	4
	WATER VELOCITY (ft/s)	.1	.2	.4	.6	-----	0.0	.3	0.0
3	AIR TEMPERATURE (C)	16.0	-----	-----	-----	-----	16.3	9.4	-----
	WATER TEMPERATURE (C)	7.2	12.1	-----	-----	10.5	12.5	7.4	6.2
	DISSOLVED OXYGEN (mg/l)	-----	10.8	-----	-----	10.7	-----	13.8	10.8
	pH	-----	7.4	-----	-----	7.2	6.7	7.3	6.3
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	74	-----	-----	81	-----	71	48
	TURBIDITY (NTU)	37	45	-----	-----	-----	-----	48	4
	WATER VELOCITY (ft/s)	1.6	2.0	-----	-----	1.2	.9	1.1	.9
4	AIR TEMPERATURE (C)	-----	-----	21.3	-----	-----	-----	-----	-----
	WATER TEMPERATURE (C)	-----	-----	11.3	-----	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	-----	-----	10.6	-----	-----	-----	-----	-----
	pH	-----	-----	7.1	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	93	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	-----	100	-----	-----	-----	-----	-----
6	AIR TEMPERATURE (C)	-----	-----	-----	-----	-----	-----	-----	-----
	WATER TEMPERATURE (C)	-----	-----	-----	-----	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	-----	-----	-----	-----	-----	-----	-----	-----
	pH	-----	-----	-----	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	-----	-----	-----	-----	-----	-----	-----
WATER VELOCITY (ft/s)	-----	-----	-----	-----	-----	-----	-----	-----	

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Appendix 4-1. Cont.

LOCATION: SUNSHINE CREEK-SIDE CHANNEL
 RIVER MILE: 85.7

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
9	AIR TEMPERATURE (C)	----	----	----	----	----	17.0	9.4	----
	WATER TEMPERATURE (C)	----	----	----	----	----	12.4	6.1	----
	DISSOLVED OXYGEN (mg/l)	----	----	----	----	----	5.9	6.6	----
	pH	----	----	----	----	----	6.7	6.9	----
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	----	----	----	----	125	138	----
	TURBIDITY (NTU)	----	----	----	----	----	67	1	----
	WATER VELOCITY (ft/s)	----	----	----	----	----	0.0	0.0	----

Appendix 4-I. Cont.

LOCATION: BIRCH CREEK-SLOUGH
RIVER MILE: 88.4

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)	----	18.9	15.9	19.0	17.8	18.0	8.8	4.4
	WATER TEMPERATURE (C)	13.1	15.3	16.0	14.9	15.0	14.5	9.7	5.2
	DISSOLVED OXYGEN (mg/l)	11.4	10.1	9.3	10.5	-----	9.6	13.4	10.9
	pH	7.0	6.9	6.8	6.7	7.1	6.8	7.1	5.5
	SPECIFIC CONDUCTANCE (micromhos/cm)	72	60	70	57	-----	85	81	77
	TURBIDITY (NTU)	1	2	38	3	4	1	2	7
	WATER VELOCITY (ft/s)	1.1	1.4	1.1	1.2	1.7	1.4	.8	1.2
2	AIR TEMPERATURE (C)	-----	-----	-----	-----	-----	17.8	8.9	4.4
	WATER TEMPERATURE (C)	-----	-----	-----	-----	-----	14.3	9.7	5.2
	DISSOLVED OXYGEN (mg/l)	-----	-----	-----	-----	-----	8.5	12.0	10.9
	pH	-----	-----	-----	-----	-----	6.7	7.4	5.5
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	-----	-----	-----	94	89	77
	TURBIDITY (NTU)	-----	-----	-----	-----	-----	2	2	7
	WATER VELOCITY (ft/s)	-----	-----	-----	-----	-----	.7	0.0	.6
3	AIR TEMPERATURE (C)	-----	-----	-----	-----	-----	17.8	8.9	4.4
	WATER TEMPERATURE (C)	-----	-----	-----	-----	-----	11.6	8.0	4.7
	DISSOLVED OXYGEN (mg/l)	-----	-----	-----	-----	-----	10.6	13.3	11.5
	pH	-----	-----	-----	-----	-----	7.3	7.4	6.7
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	-----	-----	-----	106	104	88
	TURBIDITY (NTU)	-----	-----	-----	-----	-----	82	32	21
	WATER VELOCITY (ft/s)	-----	-----	-----	-----	-----	2.0	.5	1.5
4	AIR TEMPERATURE (C)	13.8	-----	-----	-----	17.8	-----	-----	-----
	WATER TEMPERATURE (C)	9.2	-----	-----	-----	8.7	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	12.8	-----	-----	-----	-----	-----	-----	-----
	pH	7.2	-----	-----	-----	7.7	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	138	-----	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	5	-----	-----	-----	6	-----	-----	-----
	WATER VELOCITY (ft/s)	.3	-----	-----	-----	.3	-----	-----	-----
5	AIR TEMPERATURE (C)	-----	-----	-----	-----	17.8	-----	-----	-----
	WATER TEMPERATURE (C)	-----	-----	-----	-----	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	-----	-----	-----	-----	-----	-----	-----	-----
	pH	-----	-----	-----	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	-----	-----	-----	40	-----	-----	-----
	WATER VELOCITY (ft/s)	-----	-----	-----	-----	1.0	-----	-----	-----

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Appendix 4-I. Cont.

LOCATION: BIRCH CREEK-SLOUGH
RIVER MILE: 88.4

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
6	AIR TEMPERATURE (C)	---	18.9	15.9	18.7	---	---	---	---
	WATER TEMPERATURE (C)	---	9.3	9.8	8.7	---	---	---	---
	DISSOLVED OXYGEN (mg/l)	---	11.9	10.6	10.9	---	---	---	---
	pH	---	7.2	6.6	6.4	---	---	---	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	---	60	165	150	---	---	---	---
	TURBIDITY (NTU)	---	3	76	32	---	---	---	---
	WATER VELOCITY (ft/s)	---	.4	.6	0.0	---	---	---	---
7	AIR TEMPERATURE (C)	---	18.9	16.0	18.4	---	---	---	---
	WATER TEMPERATURE (C)	11.6	13.1	14.2	12.1	---	---	---	---
	DISSOLVED OXYGEN (mg/l)	11.6	11.1	10.0	10.1	---	---	---	---
	pH	7.0	7.0	6.6	6.4	---	---	---	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	95	101	104	70	---	---	---	---
	TURBIDITY (NTU)	6	2	60	22	---	---	---	---
	WATER VELOCITY (ft/s)	1.1	.3	.6	0.0	---	---	---	---
9	AIR TEMPERATURE (C)	---	---	---	---	---	---	8.8	---
	WATER TEMPERATURE (C)	---	---	---	---	---	---	---	---
	DISSOLVED OXYGEN (mg/l)	---	---	---	---	---	---	---	---
	pH	---	---	---	---	---	---	---	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	---	---	---	---	---	---	---	---
	TURBIDITY (NTU)	---	---	---	---	---	---	---	4
	WATER VELOCITY (ft/s)	---	---	---	---	---	---	0.0	---

Appendix 4-1. Cont.

LOCATION: WHISKERS CREEK-SLOUGH
RIVER MILE: 101.2

ZONE	HABITAT PARAMETER	JUNE	JUNE	JULY	JULY	AUGUST	AUGUST	SEPTEMBER	SEPTEMBER
		1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30
1	AIR TEMPERATURE (C)	16.0	15.8	16.1	18.2	14.4	17.0	13.0	4.4
	WATER TEMPERATURE (C)	10.0	11.4	12.2	11.2	12.2	10.7	9.3	4.5
	DISSOLVED OXYGEN (mg/l)	12.5	10.7	9.3	9.9	9.8	7.9	13.0	---
	pH	6.8	7.4	6.1	5.8	6.7	6.7	7.1	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	27	25	30	19	---	31	27	24
	TURBIDITY (NTU)	3	2	3	40	< 1	6	5	2
	WATER VELOCITY (ft/s)	.7	2.9	.4	3.2	4.0	.4	1.2	---
2	AIR TEMPERATURE (C)	16.0	---	---	---	14.4	16.0	13.0	---
	WATER TEMPERATURE (C)	9.7	---	---	---	12.2	11.8	9.8	---
	DISSOLVED OXYGEN (mg/l)	12.2	---	---	---	---	9.3	12.9	---
	pH	6.2	---	---	---	6.7	6.7	7.3	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	28	---	---	---	---	30	27	---
	TURBIDITY (NTU)	2	---	---	---	3	2	5	---
	WATER VELOCITY (ft/s)	0.0	---	---	---	0.0	.2	.3	---
3	AIR TEMPERATURE (C)	---	---	---	---	14.4	15.0	13.0	4.4
	WATER TEMPERATURE (C)	---	---	---	---	12.4	11.6	9.5	4.5
	DISSOLVED OXYGEN (mg/l)	---	---	---	---	10.0	10.9	13.3	---
	pH	---	---	---	---	6.8	6.8	7.0	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	---	---	---	---	---	46	49	24
	TURBIDITY (NTU)	---	---	---	---	5	31	21	2
	WATER VELOCITY (ft/s)	---	---	---	---	1.7	1.4	1.4	---
4	AIR TEMPERATURE (C)	16.0	---	---	---	---	---	---	---
	WATER TEMPERATURE (C)	6.9	9.4	---	---	---	---	---	---
	DISSOLVED OXYGEN (mg/l)	13.3	11.4	---	---	---	---	---	---
	pH	7.2	7.3	---	---	---	---	---	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	60	69	---	---	---	---	---	---
	TURBIDITY (NTU)	36	---	---	---	---	---	---	---
	WATER VELOCITY (ft/s)	.3	1.5	---	---	---	---	---	---
7	AIR TEMPERATURE (C)	14.8	15.8	16.1	18.2	---	---	---	---
	WATER TEMPERATURE (C)	9.0	9.7	12.4	11.1	---	---	---	---
	DISSOLVED OXYGEN (mg/l)	13.0	11.1	9.2	9.8	---	---	---	---
	pH	6.7	7.0	6.2	6.1	---	---	---	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	44	50	43	24	---	---	---	---
	TURBIDITY (NTU)	13	42	7	72	---	---	---	---
	WATER VELOCITY (ft/s)	---	.5	0.0	.3	---	---	---	---

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Appendix 4-I. Cont.

LOCATION: WHISKERS CREEK-SLOUCH
RIVER MILE: 101.2

ZONE	HABITAT PARAMETER	JUNE	JUNE	JULY	JULY	AUGUST	AUGUST	SEPTEMBER	SEPTEMBER
		1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30
9	AIR TEMPERATURE (C)	---	15.0	16.1	15.5	---	20.0	11.8	4.4
	WATER TEMPERATURE (C)	---	11.2	11.5	11.2	---	10.7	8.4	---
	DISSOLVED OXYGEN (mg/l)	---	10.9	8.8	9.9	---	8.6	6.4	---
	pH	---	6.6	6.5	5.8	---	6.6	7.1	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	---	26	93	19	---	64	68	---
	TURBIDITY (NTU)	---	3	41	42	---	3	---	2
	WATER VELOCITY (ft/s)	---	.5	0.0	1.2	---	0.0	0.0	---

Appendix 4-I. Cont.

LOCATION: SLOUGH 6A
RIVER MILE: 112.3

ZONE	HABITAT PARAMETER	JUNE		JULY		AUGUST		SEPTEMBER	
		1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30
2	AIR TEMPERATURE (C)	-----	10.0	19.0	11.4	-----	20.2	14.3	6.8
	WATER TEMPERATURE (C)	8.8	11.1	15.0	10.4	-----	11.7	8.1	4.9
	DISSOLVED OXYGEN (mg/l)	12.8	12.5	9.6	8.9	-----	8.9	11.9	-----
	pH	6.8	6.6	6.8	6.3	-----	6.7	7.8	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	66	60	82	50	-----	61	49	-----
	TURBIDITY (NTU)	4	4	40	-----	4	4	4	3
	WATER VELOCITY (ft/s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2
3	AIR TEMPERATURE (C)	-----	10.0	19.0	11.4	-----	19.8	14.3	6.8
	WATER TEMPERATURE (C)	7.6	8.2	13.7	10.9	-----	13.4	8.2	5.0
	DISSOLVED OXYGEN (mg/l)	13.9	11.2	9.8	10.7	-----	10.3	13.4	-----
	pH	7.2	7.3	6.7	6.8	-----	7.1	7.7	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	79	75	113	94	-----	135	116	-----
	TURBIDITY (NTU)	16	31	150	26	120	110	51	60
	WATER VELOCITY (ft/s)	.7	1.5	1.5	1.4	.7	5.0	1.3	1.3

Appendix 4-1. Cont.

LOCATION: LANE CREEK-SLOUGH
RIVER MILE: 113.6

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
0	AIR TEMPERATURE (C)	-----	-----	-----	-----	-----	-----	14.0	-----
	WATER TEMPERATURE (C)	-----	16.2	-----	-----	-----	-----	7.1	5.3
	DISSOLVED OXYGEN (mg/l)	-----	8.3	-----	-----	-----	-----	10.4	9.7
	pH	-----	6.7	-----	-----	-----	-----	6.7	6.4
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	48	-----	-----	-----	-----	74	47
	TURBIDITY (NTU)	-----	2	-----	-----	-----	-----	1	-----
	WATER VELOCITY (ft/s)	-----	.3	-----	-----	-----	-----	.2	1.1
1	AIR TEMPERATURE (C)	14.0	-----	-----	15.6	-----	22.2	14.0	9.2
	WATER TEMPERATURE (C)	4.4	8.9	-----	7.8	-----	8.3	7.3	4.0
	DISSOLVED OXYGEN (mg/l)	14.5	10.8	-----	12.6	-----	11.9	14.0	12.5
	pH	7.1	7.3	-----	6.9	-----	6.6	7.8	6.8
	SPECIFIC CONDUCTANCE (micromhos/cm)	26	51	-----	50	-----	50	52	50
	TURBIDITY (NTU)	3	1	-----	6	< 1	1	2	-----
	WATER VELOCITY (ft/s)	4.0	1.8	-----	3.6	2.1	1.3	2.1	3.7
2	AIR TEMPERATURE (C)	-----	20.5	21.5	15.6	-----	-----	14.0	-----
	WATER TEMPERATURE (C)	-----	11.0	9.5	7.6	-----	-----	7.0	-----
	DISSOLVED OXYGEN (mg/l)	-----	9.0	10.3	12.3	-----	-----	11.8	-----
	pH	-----	6.9	6.7	6.6	-----	-----	7.1	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	58	57	53	-----	-----	68	-----
	TURBIDITY (NTU)	-----	< 1	2	3	1	-----	2	-----
	WATER VELOCITY (ft/s)	-----	0.0	0.0	0.0	0.0	-----	.2	-----
3	AIR TEMPERATURE (C)	14.0	-----	21.5	15.6	-----	22.2	14.0	9.2
	WATER TEMPERATURE (C)	5.7	-----	11.8	10.5	-----	10.3	8.0	4.1
	DISSOLVED OXYGEN (mg/l)	14.1	-----	10.1	11.6	-----	11.0	13.1	12.2
	pH	7.1	-----	6.8	6.7	-----	6.8	7.8	6.7
	SPECIFIC CONDUCTANCE (micromhos/cm)	59	-----	76	83	-----	90	93	82
	TURBIDITY (NTU)	16	-----	73	170	110	-----	61	-----
	WATER VELOCITY (ft/s)	1.2	-----	1.0	1.8	1.7	.5	1.4	1.5
4	AIR TEMPERATURE (C)	-----	-----	-----	-----	-----	-----	-----	-----
	WATER TEMPERATURE (C)	-----	-----	-----	-----	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	-----	-----	-----	-----	-----	-----	-----	-----
	pH	-----	-----	-----	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	-----	-----	-----	-----	-----	-----	-----
WATER VELOCITY (ft/s)	-----	-----	-----	-----	-----	-----	-----	-----	

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Appendix 4-1. Cont.

LOCATION: LANE CREEK-SLOUGH
RIVER MILE: 113.6

ZONE	HABITAT PARAMETER	JUNE	JUNE	JULY	JULY	AUGUST	AUGUST	SEPTEMBER	SEPTEMBER
		1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30
6	AIR TEMPERATURE (C)	14.0	-----	-----	-----	-----	-----	-----	-----
	WATER TEMPERATURE (C)	6.5	-----	-----	-----	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	10.9	-----	-----	-----	-----	-----	-----	-----
	pH	6.9	-----	-----	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	67	-----	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	-----	-----	-----	-----	-----	-----	-----
	WATER VELOCITY (ft/s)	0.0	-----	-----	-----	-----	-----	-----	-----
7	AIR TEMPERATURE (C)	14.0	-----	-----	-----	-----	-----	-----	-----
	WATER TEMPERATURE (C)	4.6	-----	-----	-----	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	14.5	-----	-----	-----	-----	-----	-----	-----
	pH	7.1	-----	-----	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	26	-----	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	1	-----	-----	-----	-----	-----	-----	-----
	WATER VELOCITY (ft/s)	0.0	-----	-----	-----	-----	-----	-----	-----
9	AIR TEMPERATURE (C)	-----	-----	21.5	15.6	-----	23.0	14.0	9.8
	WATER TEMPERATURE (C)	-----	-----	7.0	5.8	-----	8.9	7.1	5.2
	DISSOLVED OXYGEN (mg/l)	-----	-----	9.0	9.3	-----	6.8	10.4	8.6
	pH	-----	-----	6.1	6.6	-----	6.2	6.7	6.5
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	62	70	-----	86	74	55
	TURBIDITY (NTU)	-----	-----	3	2	-----	< 1	< 1	-----
	WATER VELOCITY (ft/s)	-----	-----	0.0	0.0	-----	0.0	.2	.2

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	----	----	----	----	----	----	----	

Appendix 4-I. Cont.

LOCATION: SLOUGH 9
RIVER MILE: 129.2

ZONE	HABITAT PARAMETER	JUNE	JUNE	JULY	JULY	AUGUST	AUGUST	SEPTEMBER	SEPTEMBER
		1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30
1	AIR TEMPERATURE (C)	----	----	----	----	----	18.5	13.2	6.5
	WATER TEMPERATURE (C)	----	----	----	----	7.3	12.7	9.0	5.2
	DISSOLVED OXYGEN (mg/l)	----	----	----	----	----	9.8	10.8	11.2
	pH	----	----	----	----	----	7.7	7.0	7.0
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	----	----	----	----	----	----	----
	TURBIDITY (NTU)	----	----	----	----	4	2	4	5
	WATER VELOCITY (ft/s)	----	----	----	----	.4	.4	.2	.5
2	AIR TEMPERATURE (C)	----	----	----	----	10.2	----	----	6.5
	WATER TEMPERATURE (C)	----	----	----	----	7.4	----	----	4.9
	DISSOLVED OXYGEN (mg/l)	----	----	----	----	----	----	----	8.9
	pH	----	----	----	----	----	----	----	7.1
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	----	----	----	----	----	----	----
	TURBIDITY (NTU)	----	----	----	----	2	----	----	28
	WATER VELOCITY (ft/s)	----	----	----	----	0.0	----	----	0.0
3	AIR TEMPERATURE (C)	----	17.0	----	----	----	----	13.2	----
	WATER TEMPERATURE (C)	7.3	10.1	12.5	10.1	8.0	14.5	10.4	5.4
	DISSOLVED OXYGEN (mg/l)	10.9	12.2	10.7	9.6	----	9.5	10.3	11.6
	pH	6.8	7.4	7.7	7.4	----	7.8	7.9	7.0
	SPECIFIC CONDUCTANCE (micromhos/cm)	78	93	113	----	----	----	----	----
	TURBIDITY (NTU)	13	52	99	----	34	25	3	28
	WATER VELOCITY (ft/s)	2.4	2.0	.9	.7	1.4	.8	1.1	1.8
4	AIR TEMPERATURE (C)	12.1	14.8	17.4	20.2	----	----	----	----
	WATER TEMPERATURE (C)	7.1	9.0	11.9	10.7	----	----	----	----
	DISSOLVED OXYGEN (mg/l)	11.2	12.9	10.4	9.5	----	----	----	----
	pH	6.7	7.5	7.5	7.5	----	----	----	----
	SPECIFIC CONDUCTANCE (micromhos/cm)	81	87	122	----	----	----	----	----
	TURBIDITY (NTU)	47	33	43	----	----	----	----	----
	WATER VELOCITY (ft/s)	2.0	2.6	1.0	.6	----	----	----	----
6	AIR TEMPERATURE (C)	----	16.0	----	----	----	----	----	----
	WATER TEMPERATURE (C)	7.3	9.2	----	----	----	----	----	----
	DISSOLVED OXYGEN (mg/l)	10.9	13.4	----	----	----	----	----	----
	pH	6.8	7.3	----	----	----	----	----	----
	SPECIFIC CONDUCTANCE (micromhos/cm)	68	91	----	----	----	----	----	----
	TURBIDITY (NTU)	15	48	----	----	----	----	----	----
WATER VELOCITY (ft/s)	.2	1.3	----	----	----	----	----	----	

4-I-16

Appendix 4-I. Cont.

LOCATION: 4TH OF JULY CREEK-MOUTH
RIVER MILE: 131.1

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)	---	18.0	12.6	20.0	---	---	12.4	---
	WATER TEMPERATURE (C)	6.7	9.1	11.5	10.6	10.8	12.0	9.0	5.6
	DISSOLVED OXYGEN (mg/l)	11.4	12.5	9.9	10.0	---	10.2	10.9	12.2
	pH	6.2	7.2	7.1	7.3	---	6.8	6.7	6.7
	SPECIFIC CONDUCTANCE (micromhos/cm)	21	25	26	---	---	---	---	---
	TURBIDITY (NTU)	< 1	< 1	< 1	1	< 1	2	---	< 1
	WATER VELOCITY (ft/s)	2.5	3.8	.4	.6	3.3	1.8	2.1	4.3
3	AIR TEMPERATURE (C)	---	18.0	12.6	---	---	18.1	12.4	6.8
	WATER TEMPERATURE (C)	6.7	9.5	11.0	10.6	10.8	12.1	8.9	5.6
	DISSOLVED OXYGEN (mg/l)	11.3	11.9	9.9	10.0	---	7.2	11.2	12.0
	pH	6.3	7.0	7.1	6.4	---	6.3	6.7	6.8
	SPECIFIC CONDUCTANCE (micromhos/cm)	21	21	54	---	---	---	---	---
	TURBIDITY (NTU)	< 1	5	90	5	7	9	---	16
	WATER VELOCITY (ft/s)	1.3	1.1	.8	1.0	.4	2.0	1.4	1.5

Appendix 4-I. Cont.

LOCATION: SLOUGH 11
RIVER MILE: 135.3

ZONE	HABITAT PARAMETER	JUNE	JUNE	JULY	JULY	AUGUST	AUGUST	SEPTEMBER	SEPTEMBER
		1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30
1	AIR TEMPERATURE (C)	17.4	10.2	14.0	12.0	12.0	-----	12.8	7.1
	WATER TEMPERATURE (C)	7.2	6.3	5.6	11.6	5.6	8.2	6.2	4.5
	DISSOLVED OXYGEN (mg/l)	10.4	12.1	12.9	9.7	11.3	10.2	10.3	11.4
	pH	5.8	7.2	7.2	7.8	6.6	7.2	6.8	7.2
	SPECIFIC CONDUCTANCE (micromhos/cm)	208	222	230	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	< 1	-----	-----	3	< 1	2	1	3
	WATER VELOCITY (ft/s)	1.2	.5	.4	.6	.6	.5	.6	.7
2	AIR TEMPERATURE (C)	17.4	10.2	14.0	12.0	12.0	-----	12.8	7.1
	WATER TEMPERATURE (C)	5.3	6.0	6.0	6.1	4.6	8.4	6.1	4.3
	DISSOLVED OXYGEN (mg/l)	9.2	11.3	10.1	9.8	10.2	10.3	10.2	11.6
	pH	6.3	7.1	7.1	7.1	6.4	7.3	7.1	7.2
	SPECIFIC CONDUCTANCE (micromhos/cm)	211	224	230	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	< 1	2	-----	1	< 1	9	3	1
	WATER VELOCITY (ft/s)	0.0	-----	0.0	0.0	0.0	0.0	0.0	.6
3	AIR TEMPERATURE (C)	17.4	10.2	14.0	12.0	12.0	-----	12.8	-----
	WATER TEMPERATURE (C)	5.1	6.4	10.4	5.9	9.3	10.5	6.8	4.1
	DISSOLVED OXYGEN (mg/l)	10.0	12.5	11.4	9.6	10.6	10.4	10.8	12.2
	pH	6.7	6.9	7.6	7.2	7.4	7.5	7.2	6.9
	SPECIFIC CONDUCTANCE (micromhos/cm)	204	197	133	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	5	49	59	38	30	22	4
	WATER VELOCITY (ft/s)	-----	-----	1.5	1.2	1.6	.9	1.2	1.5

Appendix 4-1. Cont.

LOCATION: INDIAN RIVER-MOUTH
RIVER MILE: 138.6

ZONE	HABITAT PARAMETER	JUNE	JUNE	JULY	JULY	AUGUST	AUGUST	SEPTEMBER	SEPTEMBER
		1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30
1	AIR TEMPERATURE (C)	14.6	-----	23.0	-----	23.0	16.4	16.0	10.2
	WATER TEMPERATURE (C)	6.2	5.9	9.0	8.1	11.7	11.4	8.2	5.3
	DISSOLVED OXYGEN (mg/l)	10.3	14.2	11.3	10.5	11.0	10.7	11.0	12.6
	pH	6.0	6.4	5.8	6.7	6.6	7.1	6.8	6.8
	SPECIFIC CONDUCTANCE (micromhos/cm)	35	32	39	-----	36	-----	-----	-----
	TURBIDITY (NTU)	3	-----	7	85	< 1	2	2	< 1
	WATER VELOCITY (ft/s)	1.0	1.4	1.7	1.7	1.4	3.0	2.5	4.4
3	AIR TEMPERATURE (C)	14.5	-----	23.0	13.2	-----	-----	16.0	10.2
	WATER TEMPERATURE (C)	6.5	5.6	10.4	8.2	11.8	11.6	8.1	5.2
	DISSOLVED OXYGEN (mg/l)	11.1	13.9	11.3	10.3	11.2	9.7	11.1	12.3
	pH	6.2	6.6	6.2	6.7	6.7	6.9	6.9	6.9
	SPECIFIC CONDUCTANCE (micromhos/cm)	35	36	104	-----	47	-----	-----	-----
	TURBIDITY (NTU)	4	5	100	7	8	18	13	16
	WATER VELOCITY (ft/s)	.9	1.2	2.0	.6	.5	1.5	.5	1.8

Appendix 4-I. Cont.

LOCATION: SLOUGH 19
RIVER MILE: 140.0

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)	----	----	----	----	----	13.0	----	12.0
	WATER TEMPERATURE (C)	----	3.9	----	----	----	5.8	8.1	3.9
	DISSOLVED OXYGEN (mg/l)	----	10.6	----	----	----	9.3	10.1	9.5
	pH	----	6.6	----	----	----	7.0	6.7	6.8
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	107	----	----	----	----	----	----
	TURBIDITY (NTU)	----	3	----	----	1	3	< 1	< 1
	WATER VELOCITY (ft/s)	----	.1	----	----	----	.1	.1	.3
2	AIR TEMPERATURE (C)	10.8	----	23.5	----	----	13.0	----	----
	WATER TEMPERATURE (C)	4.8	5.9	10.5	5.3	8.6	6.2	----	----
	DISSOLVED OXYGEN (mg/l)	9.2	11.6	8.4	8.5	----	9.4	----	----
	pH	6.0	6.6	6.5	6.8	----	7.1	----	----
	SPECIFIC CONDUCTANCE (micromhos/cm)	139	128	134	----	128	----	----	----
	TURBIDITY (NTU)	< 1	< 1	2	2	2	6	----	----
	WATER VELOCITY (ft/s)	0.0	0.0	0.0	0.0	0.0	0.0	----	----
3	AIR TEMPERATURE (C)	7.9	----	23.5	13.4	21.6	13.0	----	12.0
	WATER TEMPERATURE (C)	5.3	8.6	13.9	9.8	12.6	11.4	8.7	4.3
	DISSOLVED OXYGEN (mg/l)	7.3	13.2	9.4	10.5	----	10.6	11.3	11.8
	pH	6.2	7.0	7.0	7.6	----	7.7	7.3	7.1
	SPECIFIC CONDUCTANCE (micromhos/cm)	93	84	113	----	119	----	----	----
	TURBIDITY (NTU)	22	16	130	29	45	150	56	61
	WATER VELOCITY (ft/s)	.4	1.0	.4	.8	.7	.8	1.0	.9

Appendix 4-1. Cont.

LOCATION: SLOUGH 20
RIVER MILE: 140.1

ZONE	HABITAT PARAMETER	JUNE	JUNE	JULY	JULY	AUGUST	AUGUST	SEPTEMBER	SEPTEMBER
		1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30
1	AIR TEMPERATURE (C)	---	---	17.1	---	12.2	20.8	12.4	7.9
	WATER TEMPERATURE (C)	---	---	8.6	---	9.2	10.0	6.3	4.1
	DISSOLVED OXYGEN (mg/l)	---	---	11.9	---	---	11.6	12.4	12.8
	pH	---	---	6.2	---	---	8.0	7.1	7.3
	SPECIFIC CONDUCTANCE (micromhos/cm)	---	---	90	---	84	---	---	---
	TURBIDITY (NTU)	---	---	< 1	---	< 1	< 1	5	1
	WATER VELOCITY (ft/s)	---	---	.5	---	1.2	.5	1.3	1.5
2	AIR TEMPERATURE (C)	---	---	---	---	---	---	---	---
	WATER TEMPERATURE (C)	---	---	---	---	---	---	---	---
	DISSOLVED OXYGEN (mg/l)	---	---	---	---	---	---	---	---
	pH	---	---	---	---	---	---	---	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	---	---	---	---	---	---	---	---
	TURBIDITY (NTU)	---	---	---	---	---	---	---	---
	WATER VELOCITY (ft/s)	---	---	---	---	---	---	---	---
3	AIR TEMPERATURE (C)	---	---	---	---	12.2	---	---	7.9
	WATER TEMPERATURE (C)	3.6	6.1	14.1	7.5	10.1	12.4	7.1	4.1
	DISSOLVED OXYGEN (mg/l)	10.5	---	9.8	10.2	---	10.4	12.1	12.7
	pH	6.4	7.0	7.3	7.1	---	7.8	7.4	6.7
	SPECIFIC CONDUCTANCE (micromhos/cm)	37	69	125	---	92	---	---	---
	TURBIDITY (NTU)	2	6	64	12	34	46	12	4
	WATER VELOCITY (ft/s)	.7	1.4	.9	.7	.5	1.0	1.2	1.8
4	AIR TEMPERATURE (C)	12.4	---	---	12.1	---	---	---	---
	WATER TEMPERATURE (C)	---	---	---	9.3	---	---	---	---
	DISSOLVED OXYGEN (mg/l)	---	---	---	10.6	---	---	---	---
	pH	---	---	---	7.4	---	---	---	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	---	---	---	---	---	---	---	---
	TURBIDITY (NTU)	6	9	---	50	---	---	---	---
	WATER VELOCITY (ft/s)	.6	---	---	.5	---	---	---	---
5	AIR TEMPERATURE (C)	---	---	---	---	---	---	---	---
	WATER TEMPERATURE (C)	---	5.6	---	7.6	---	---	---	---
	DISSOLVED OXYGEN (mg/l)	---	14.3	---	10.3	---	---	---	---
	pH	---	7.0	---	7.1	---	---	---	---
	SPECIFIC CONDUCTANCE (micromhos/cm)	---	67	---	---	---	---	---	---
	TURBIDITY (NTU)	---	4	---	7	---	---	---	---
	WATER VELOCITY (ft/s)	---	2.0	---	1.3	---	---	---	---

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Appendix 4-I. Cont.

LOCATION: SLOUGH 20
RIVER MILE: 140.1

ZONE	HABITAT PARAMETER	JUNE	JUNE	JULY	JULY	AUGUST	AUGUST	SEPTEMBER	SEPTEMBER
		1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-30
7	AIR TEMPERATURE (C)	----	----	----	----	----	----	----	----
	WATER TEMPERATURE (C)	----	6.2	----	----	----	----	----	----
	DISSOLVED OXYGEN (mg/l)	----	----	----	----	----	----	----	----
	pH	----	7.0	----	----	----	----	----	----
	SPECIFIC CONDUCTANCE (micromhos/cm)	----	69	----	----	----	----	----	----
	TURBIDITY (NTU)	----	10	----	----	----	----	----	----
	WATER VELOCITY (ft/s)	----	.8	----	----	----	----	----	----
9	AIR TEMPERATURE (C)	12.4	----	----	----	12.2	----	----	----
	WATER TEMPERATURE (C)	5.9	----	10.4	----	11.2	----	----	----
	DISSOLVED OXYGEN (mg/l)	10.0	----	11.6	----	----	----	----	----
	pH	6.2	----	6.8	----	----	----	----	----
	SPECIFIC CONDUCTANCE (micromhos/cm)	76	----	96	----	74	----	----	----
	TURBIDITY (NTU)	4	10	1	----	2	----	----	----
	WATER VELOCITY (ft/s)	.2	----	.1	----	0.0	----	----	----

Appendix 4-I. Cont.

LOCATION: SLOUGH 21
RIVER MILE: 142.0

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)	-----	-----	-----	-----	13.8	19.0	14.8	8.2
	WATER TEMPERATURE (C)	-----	-----	8.0	-----	6.7	9.3	5.2	4.7
	DISSOLVED OXYGEN (mg/l)	-----	-----	5.3	-----	9.8	9.6	10.2	10.7
	pH	-----	-----	7.2	-----	7.3	7.3	6.8	7.2
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	277	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	-----	2	-----	4	2	2	1
	WATER VELOCITY (ft/s)	-----	-----	.2	-----	.8	.3	.7	1.7
2	AIR TEMPERATURE (C)	-----	-----	-----	-----	13.8	-----	14.8	8.2
	WATER TEMPERATURE (C)	-----	-----	-----	-----	6.2	10.8	5.3	4.6
	DISSOLVED OXYGEN (mg/l)	-----	-----	-----	-----	10.9	9.8	10.3	11.2
	pH	-----	-----	-----	-----	7.3	7.4	6.7	7.1
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	-----	-----	-----	2	< 1	2	1
	WATER VELOCITY (ft/s)	-----	-----	-----	-----	.2	0.0	0.0	0.0
3	AIR TEMPERATURE (C)	11.8	-----	-----	12.4	13.8	-----	14.8	8.2
	WATER TEMPERATURE (C)	7.4	10.5	11.4	9.3	8.8	12.6	6.2	4.9
	DISSOLVED OXYGEN (mg/l)	5.9	10.8	4.8	10.9	10.9	10.3	10.6	12.8
	pH	6.4	6.8	7.5	7.4	7.4	7.8	7.2	7.5
	SPECIFIC CONDUCTANCE (micromhos/cm)	82	188	151	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	24	3	110	39	36	92	24	29
	WATER VELOCITY (ft/s)	1.5	1.1	.3	.7	.6	.3	.6	.6
4	AIR TEMPERATURE (C)	11.8	-----	-----	-----	-----	-----	-----	-----
	WATER TEMPERATURE (C)	7.3	10.0	-----	9.0	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	9.5	12.7	-----	10.2	-----	-----	-----	-----
	pH	6.0	7.1	-----	7.3	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	127	115	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	9	11	-----	30	-----	-----	-----	-----
	WATER VELOCITY (ft/s)	.5	.9	-----	1.1	-----	-----	-----	-----
6	AIR TEMPERATURE (C)	11.8	-----	-----	-----	-----	-----	-----	-----
	WATER TEMPERATURE (C)	7.2	9.9	-----	9.1	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	8.2	11.4	-----	10.2	-----	-----	-----	-----
	pH	6.4	7.2	-----	7.1	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	141	143	-----	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	2	4	-----	62	-----	-----	-----	-----
	WATER VELOCITY (ft/s)	.3	0.0	-----	.2	-----	-----	-----	-----

4-1-23

Appendix 4-1. Cont.

LOCATION: PORTAGE CREEK-MOUTH
RIVER MILE: 148.8

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)	-----	-----	-----	14.8	-----	-----	11.3	5.4
	WATER TEMPERATURE (C)	2.9	-----	7.6	6.4	9.7	-----	5.8	3.1
	DISSOLVED OXYGEN (mg/l)	11.7	-----	11.6	11.2	10.8	-----	12.3	12.7
	pH	6.2	-----	7.0	7.1	7.5	-----	6.7	7.1
	SPECIFIC CONDUCTANCE (micromhos/cm)	46	-----	66	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	8	-----	8	9	< 1	-----	< 1	< 1
	WATER VELOCITY (ft/s)	.4	-----	-----	1.0	1.3	-----	2.6	3.1
3	AIR TEMPERATURE (C)	-----	-----	-----	-----	19.9	-----	11.3	3.6
	WATER TEMPERATURE (C)	-----	-----	8.1	6.8	9.7	-----	5.9	2.5
	DISSOLVED OXYGEN (mg/l)	-----	-----	11.4	11.0	10.6	-----	12.1	13.4
	pH	-----	-----	7.0	7.1	7.4	-----	6.8	7.1
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	70	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	-----	44	100	14	-----	4	2
	WATER VELOCITY (ft/s)	-----	-----	-----	1.0	.8	-----	1.1	.9
9	AIR TEMPERATURE (C)	-----	-----	-----	-----	-----	-----	-----	-----
	WATER TEMPERATURE (C)	-----	-----	7.6	-----	-----	-----	-----	-----
	DISSOLVED OXYGEN (mg/l)	-----	-----	10.4	-----	-----	-----	-----	-----
	pH	-----	-----	7.0	-----	-----	-----	-----	-----
	SPECIFIC CONDUCTANCE (micromhos/cm)	-----	-----	84	-----	-----	-----	-----	-----
	TURBIDITY (NTU)	-----	-----	7	-----	-----	-----	-----	-----
WATER VELOCITY (ft/s)	-----	-----	-----	-----	-----	-----	-----	-----	

APPENDIX J

Winter Data 1981-82

Selected physicochemical parameters were measured from February to April, 1982, to describe the general habitat conditions in sampling areas between Mid Kroto Slough and Devil Canyon, and in the impoundment region.

Data were collected at sites sampled during the summer season and at selected sites in conjunction with radio telemetry studies.

Variables measured include air temperature, water temperature, pH, dissolved oxygen, specific conductance, turbidity, water depth, and ice thickness. Air temperature was measured with calibrated Brooklyn mercury thermometers. Water temperature, pH, dissolved oxygen, and specific conductance were measured with a Hydrolab Model 4041. Meters were calibrated before and after each field sampling period. Turbidity samples were collected in 250ml polyethylene bottles and stored in a cool, dark location until analyzed.

Analysis was done using a Hach laboratory Model 2100A turbidimeter. Water depth was measured from the bottom of the ice to the substrate. Ice thickness was measured from the top of the ice to the bottom. Data are presented in Table 4-J-1.

Surface and intragravel water temperature were monitored continuously at selected sites using Peabody-Ryan thermographs (Appendix Table 4-C-39 to 45).

Appendix Table 4-J-1. Selected physicochemical data collected during the ice covered study season, 1982.

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)			
36.3	Mid Kroto Slough	S18N06W16BBC	820207	1130	0.0	0.2	8.7	59	6.3	163	1	1.0	2.0
40.6	Deshka River - Confluence	S19N06W35BDA	820206	1130	-1.5	0.1	11.2	76	6.6	204	1	---	---
			820422	1220	---	0.0	12.9	88	6.7	194	1	6.2	2.7
40.6	Deshka River - Mouth	S19N06W35BDA	820206	1130	-1.5	0.0	8.0	54	6.3	81	2	---	---
			820422	1140	---	0.0	9.9	68	6.4	62	2	5.5	1.7
40.6	Deshka River - T.R.M. 1.0	S19N06W26BCB	820206	1200	2.0	0.0	7.9	54	5.8	86	1	---	---
			820422	1420	---	0.2	10.0	69	6.5	58	2	3.4	2.3
40.6	Deska River - T.R.M. 3.5	S19N06W14BCA	820206	1230	1.0	0.0	8.1	55	5.8	86	1	---	---
			820422	1620	---	0.2	10.1	69	6.5	55	3	3.5	2.5
50.5	Little Willow Creek	S20N05W27AAD	820221	1430	---	0.0	10.0	68	5.7	56	-	1.0	3.0
53.5	Susitna River - East Channel	S20N05W14BCA	820221	1330	---	0.3	7.9	54	5.7	134	-	1.0	1.0
53.5	Susitna River - West Channel	S20N05W14BCA	820221	1330	---	0.4	11.0	76	5.9	211	-	2.0	2.0
58.1	Susitna River - Rustic Wilderness	S21N05W25CBD	820224	1700	0.0	0.3	----	---	6.4	---	3	3.0	2.9
			820323	1100	4.6	0.4	11.0	76	7.2	57	4	1.4	0.0
			820406	1115	12.2	0.7	10.8	75	---	57	3	0.7	0.0
61.0	Kashwitna River - Mouth	S21N05W13AAA	820406	1145	13.3	0.4	12.6	87	---	62	1	1.9	0.0
61.0	Susitna River - West Bank	S21N05W13AAA	820304	1200	-8.9	0.0	11.6	79	7.3	247	-	5.8	3.8
61.5	Susitna River	S21N05W13BAA	820221	1630	---	-0.1	11.4	78	6.1	147	-	2.5	2.0
63.0	Caswell Creek	S21N04W06BDD	820304	1345	-6.7	0.2	9.1	63	6.7	58	1	---	3.5
66.1	Sheep Creek Slough - Mouth	S22N04W30BAB	820307	1400	-1.1	0.3	9.9	68	6.6	126	-	---	---
			820409	1145	4.4	0.2	11.1	76	---	114	3	2.0	5.0
67.5	Susitna River - East Bank	S22N05W24DAC	820304	1230	8.8	0.0	11.2	76	---	161	-	---	3.5
68.4	Susitna River	S22N05W13CCA	820307	1300	-1.1	1.8	9.0	64	6.9	253	-	0.8	0.0

4-J-2

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)			
68.5	Susitna River - West Bank	S22N05W14ADD	820305	1300	-1.1	0.6	13.0	90	6.9	224	1	6.6	4.1
72.0	Lower Goose Creek 1	S23N04W31BBC	820226	1130	-2.0	0.2	----	---	6.5	55	5	1.7	2.5
			820325	1200	2.2	0.4	12.4	85	7.3	56	1	1.9	1.8
			820408	1130	1.7	-0.1	14.1	95	---	56	1	1.8	1.5
74.4	Susitna River - West Bank	S23N05W13CCD	820308	1300	-1.1	0.3	12.5	86	7.2	225	-	5.0	4.0
77.0	Montana Creek	S23N04W07ABA	820212	1115	-5.2	0.0	13.7	93	6.4	54	1	---	2.5
			820325	1300	7.0	0.3	11.3	78	7.3	63	2	1.7	4.5
			820410	1030	-0.1	1.8	14.4	102	---	19	1	2.0	0.0
82.0	Susitna River	S24N05W22DAC	820308	1600	-1.1	0.0	13.4	91	7.1	216	-	7.5	4.0
84.0	Susitna River	S24N05W10DCC	820210	1600	-5.5	0.0	10.5	72	6.5	148	3	---	3.3
			820303	1200	-17.0	0.1	9.3	63	6.6	115	1	---	3.0
			820410	1345	2.2	0.3	12.5	86	---	160	1	3.0	4.0
85.7	Sunshine Creek - Upper Site	S24N05W14AAB	820210	1500	-4.0	0.0	12.7	86	6.7	59	1	1.5	2.5
			820318	1030	3.2	0.2	10.1	70	7.3	48	4	4.5	3.5
			820410	1300	1.6	0.6	12.7	88	---	66	2	2.0	2.0
85.7	Sunshine Creek - Lower Site	S24N05W14AAB	820303	1230	-17.0	0.0	11.2	76	6.0	60	1	1.1	2.6
88.4	Birch Creek Slough	S25N05W25DCC	820212	1030	-6.0	0.3	13.0	89	6.4	203	1	---	3.3
			820302	1500	-0.3	-0.1	11.4	87	6.8	102	1	2.3	2.0
			820310	1600	1.0	0.0	11.3	76	6.8	90	1	1.8	0.0
			820407	1015	8.0	0.5	11.6	80	---	91	1	2.9	0.0
89.2	Birch Creek - Mouth	S25N05W25ABD	820318	1530	1.0	0.0	10.1	56	7.3	69	2	---	---
			820407	1100	8.0	0.9	11.4	80	---	124	1	1.4	0.0
95.5	Cache Creek Slough	S26N05W35ADC	820202	1215	3.4	0.1	12.6	86	6.9	183	-	0.9	---
			820302	1115	0.0	0.1	11.4	78	7.1	194	1	1.1	0.0
			820411	1045	8.1	1.3	11.5	81	---	174	1	1.3	0.0
96.0	Cache Creek	S26N05W26DCB	820202	1015	3.7	1.2	9.0	64	6.4	191	-	0.8	---
			820302	1000	0.0	1.2	7.7	54	7.4	180	1	1.5	0.0
			820411	1130	7.8	3.3	8.1	55	---	227	1	1.0	0.0
101.2	Whisker Creek Slough	S26N05W03ADB	820204	1145	6.4	1.0	9.6	68	6.5	37	-	1.0	0.0
			820322	1100	0.0	1.2	10.7	76	7.1	40	1	0.6	0.0

4-J-3

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

4-5-6

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)			
138.6	Susitna River - near Indian River	S31N02W09CDA	820205	1255	-1.0	0.3	14.0	96	6.3	110	1	1.4	0.0
			820308	1300	0.2	0.6	11.8	82	6.7	185	1	2.1	0.0
138.6	Indian River - Mouth	S31N02W09CDA	820414	1357	4.2	0.7	----	---	6.6	173	1	1.0	0.0
140.1	Slough 20	S31N02W11BBC	820205	1145	3.8	2.7	12.3	90	6.4	88	1	0.9	0.0
			820308	1315	0.0	3.2	12.1	90	6.7	91	1	0.5	0.0
			820414	1335	4.6	0.8	14.5	101	6.6	87	1	1.3	0.2
142.0	Slough 21	S31N11W02AAA	820220	1200	12.0	0.6	9.2	64	7.0	214	1	---	0.0
			820308	1350	-1.2	1.6	6.8	49	6.8	218	3	0.8	0.0
			820414	1252	4.0	3.1	10.3	77	6.4	220	1	1.4	---
144.3	Slough 22	S32N01W32BBC	820220	1130	12.0	2.0	7.2	52	6.2	152	-	0.8	0.0
			820308	1515	-0.6	1.5	6.8	48	6.6	225	1	0.6	0.0
			820414	1200	4.5	1.8	9.4	68	6.3	189	1	0.9	---
148.8	Susitna River - near Portage Creek	S32N01W25CDB	820219	1130	-12.0	0.0	12.3	84	7.0	279	1	7.0	3.6
			820308	1435	-0.6	0.0	14.1	96	7.5	310	1	3.2	3.7
185.6	Susitna River	S32N06E31BAD	820324	1100	0.0	0.0	8.6	58	6.7	292	3	2.1	6.1
186.9	Susitna River	S32N05E26CDA	820324	1129	-4.0	0.0	10.9	75	6.9	257	-	---	---
187.9	Susitna River	S32N06E28DBA	820324	0950	-4.2	0.3	10.6	73	6.6	234	-	3.0	4.6
189.0	Susitna River	S32N06E31BAD	820324	1100	0.0	0.0	8.6	58	6.7	292	3	2.1	6.1
191.5	Susitna River	S32N06E28DBA	820324	0940	-4.2	0.3	10.6	73	6.6	234	-	3.0	4.6
193.5	Susitna River	S32N07E33CCA	820324	1406	----	1.7	10.3	74	---	228	1	---	---
193.6	Watana Slough	S32N06E26DBA	820324	1426	-0.6	2.1	10.9	79	---	373	2	---	---
196.1	Susitna River	S31N07E02DDB	820324	1254	3.0	-1.0	11.1	73	6.6	232	2	---	4.5
197.5	Susitna River	S32N07E33CCA	820324	1406	----	1.7	10.3	74	---	228	1	---	---
198.1	Susitna River	S31N08E07CDC	820324	1321	3.0	0.0	11.5	78	6.7	245	3	2.7	3.1
200.6	Susitna River	S31N07E02DDB	820324	1254	3.0	-1.0	11.1	73	6.6	232	2	---	4.5
202.8	Susitna River	S31N08E07CDC	820324	1321	3.0	0.0	11.5	78	6.7	245	3	2.7	3.1
233.4	Oshetna River - T.R.M. 2.0	S30N11E10CBD	820324	1524	0.4	0.0	13.6	92	---	230	1	1.2	2.7

4-J-5