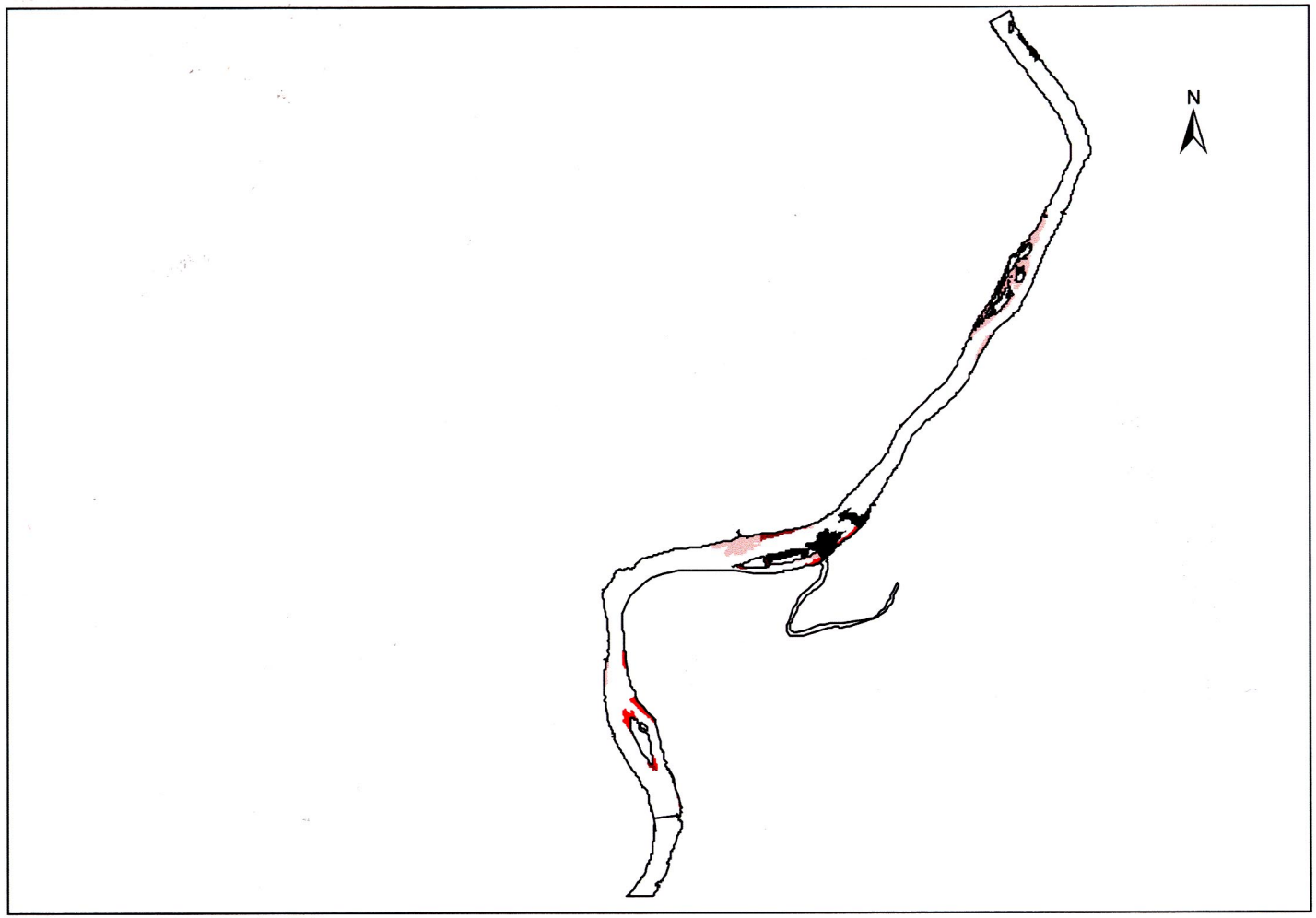
Appendix I
Flora and Fauna Information for the Study Area

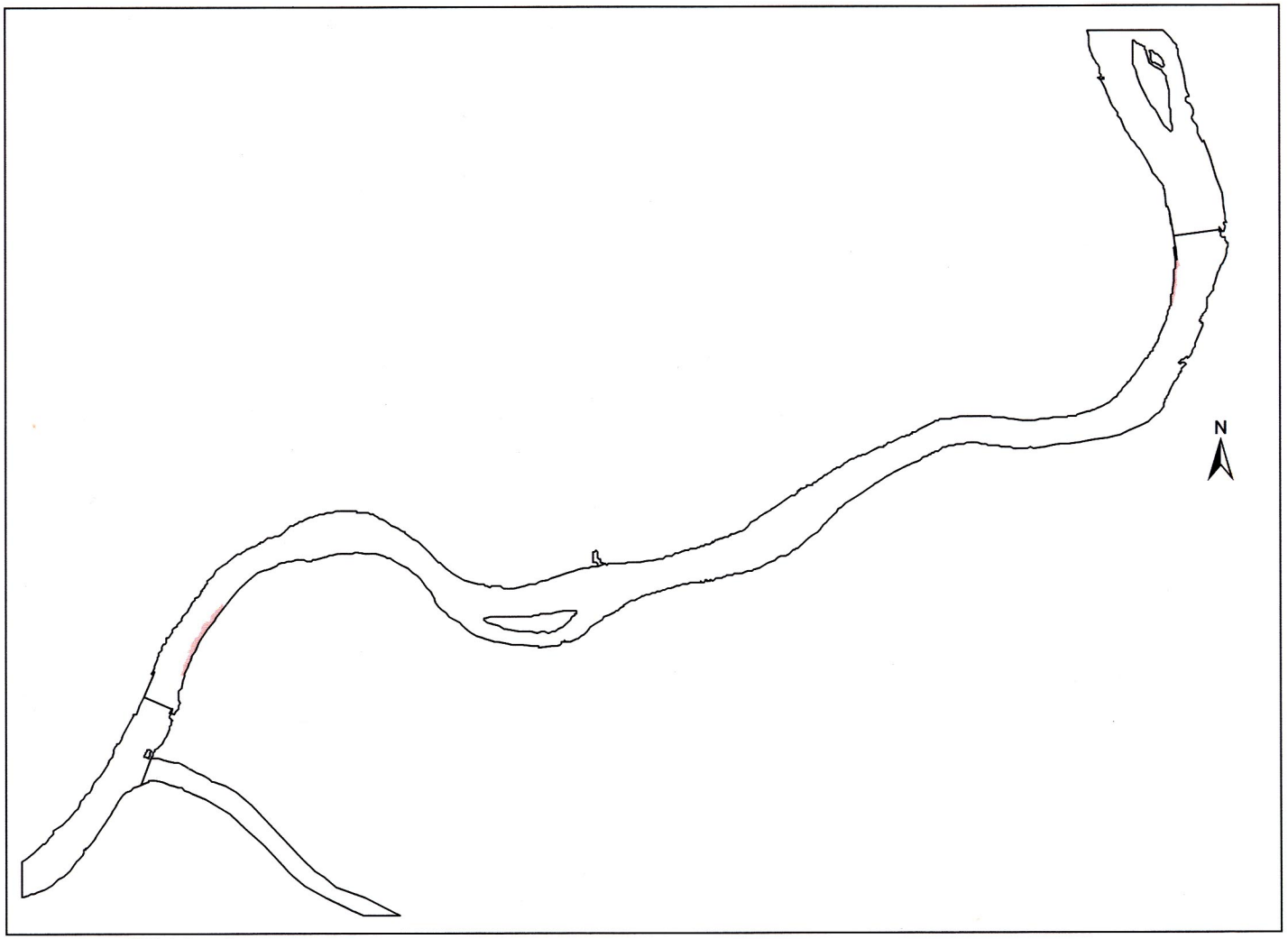


SAV density
SAVs absent
< 10%
10 - 30%
30 - 70%
>70%

SAV density	Acres	% of pool
< 10%	132.8	11.62%
10 - 30%	26.9	2.35%
30 - 70%	11.6	1.02%
>70%	63.7	5.57%

SAVs Pool 6

Figure I-1



SAV density

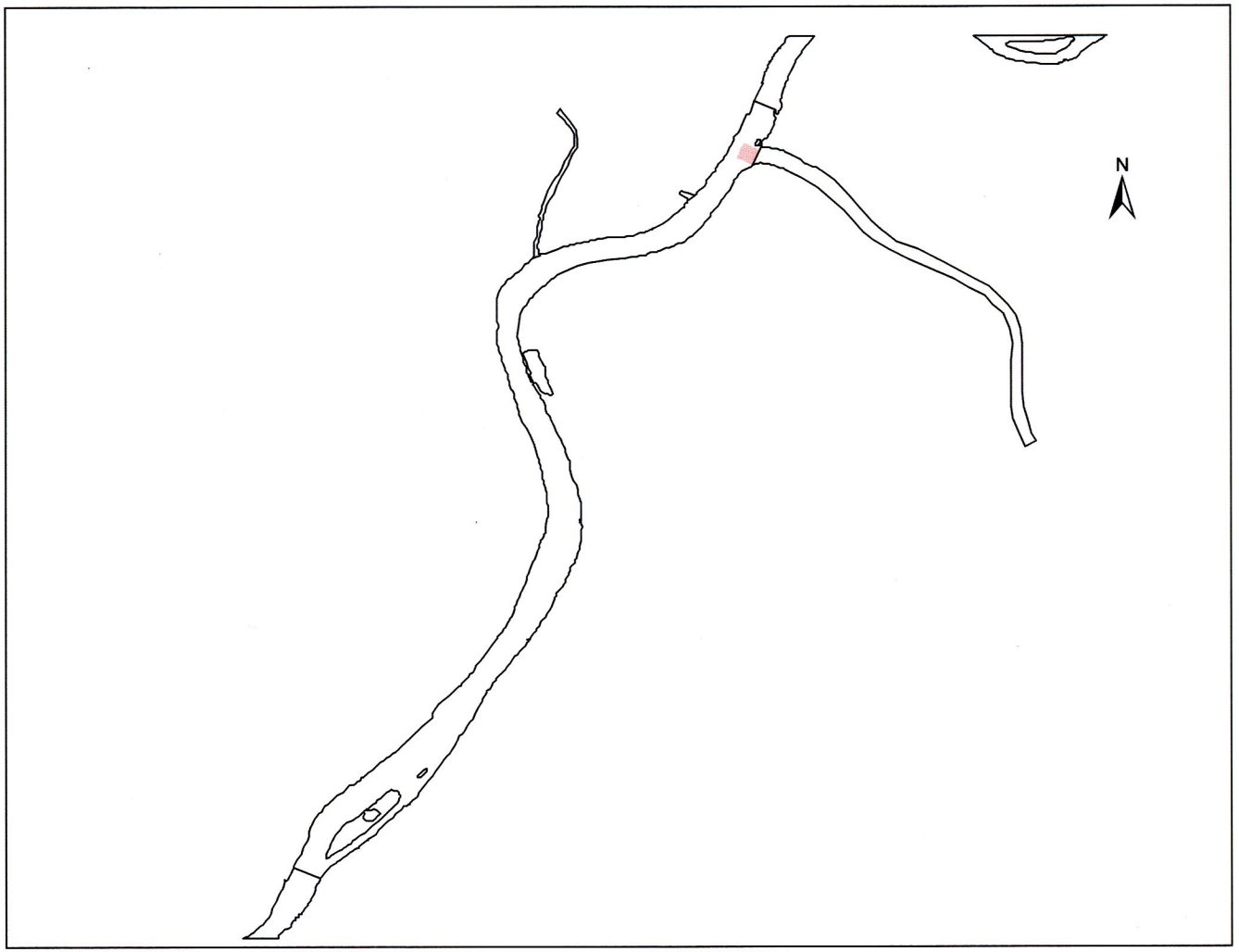
SAVs absent

< 10%

SAV density	Acres	% of pool
< 10%	7.2	1.16%

SAVs Pool 5

Figure I-2



SAV density

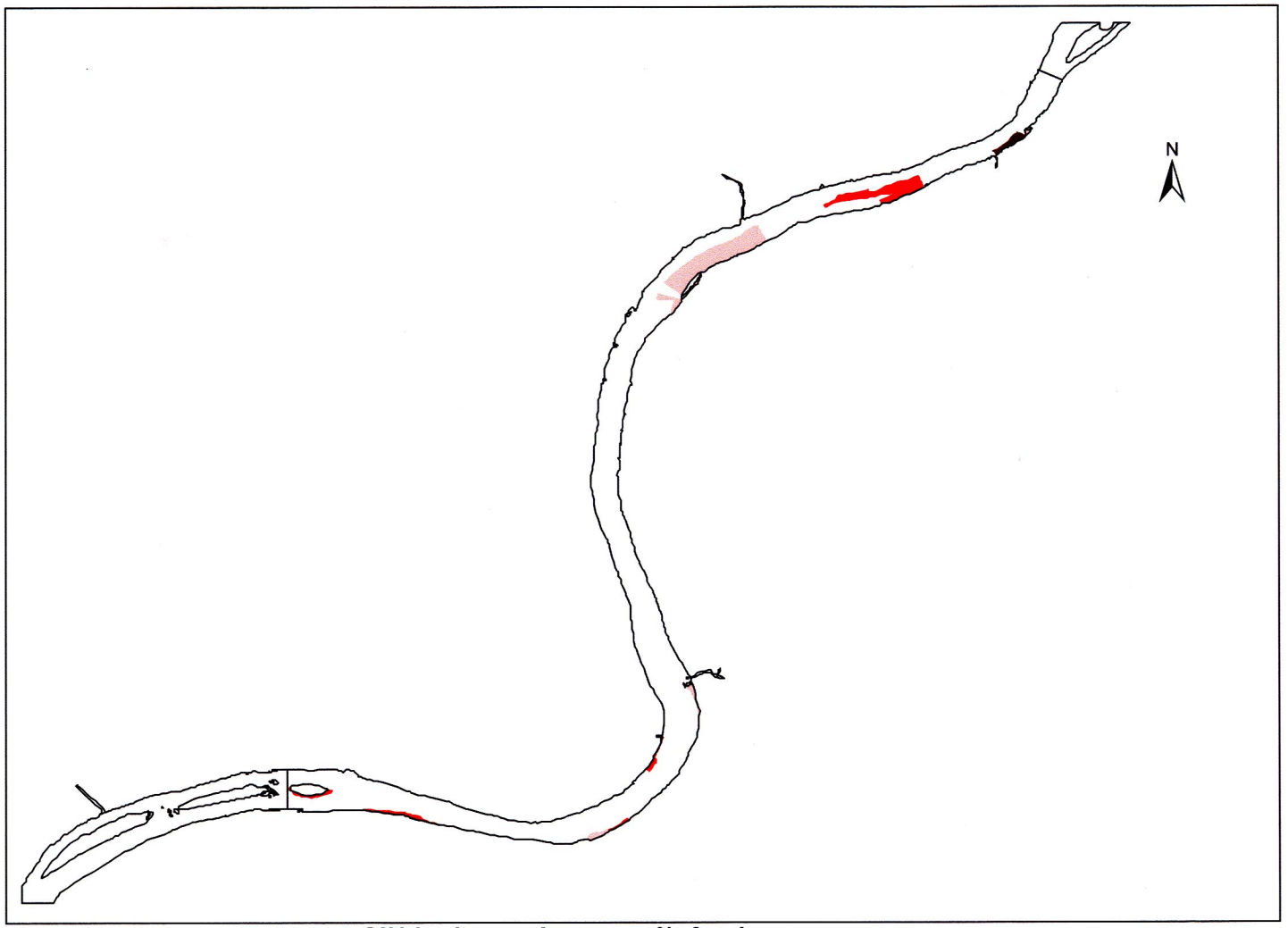
SAVs absent

< 10%

SAV density	Acres	% of pool
< 10%	7.1	1.00%

SAVs pool 4

Figure I-3



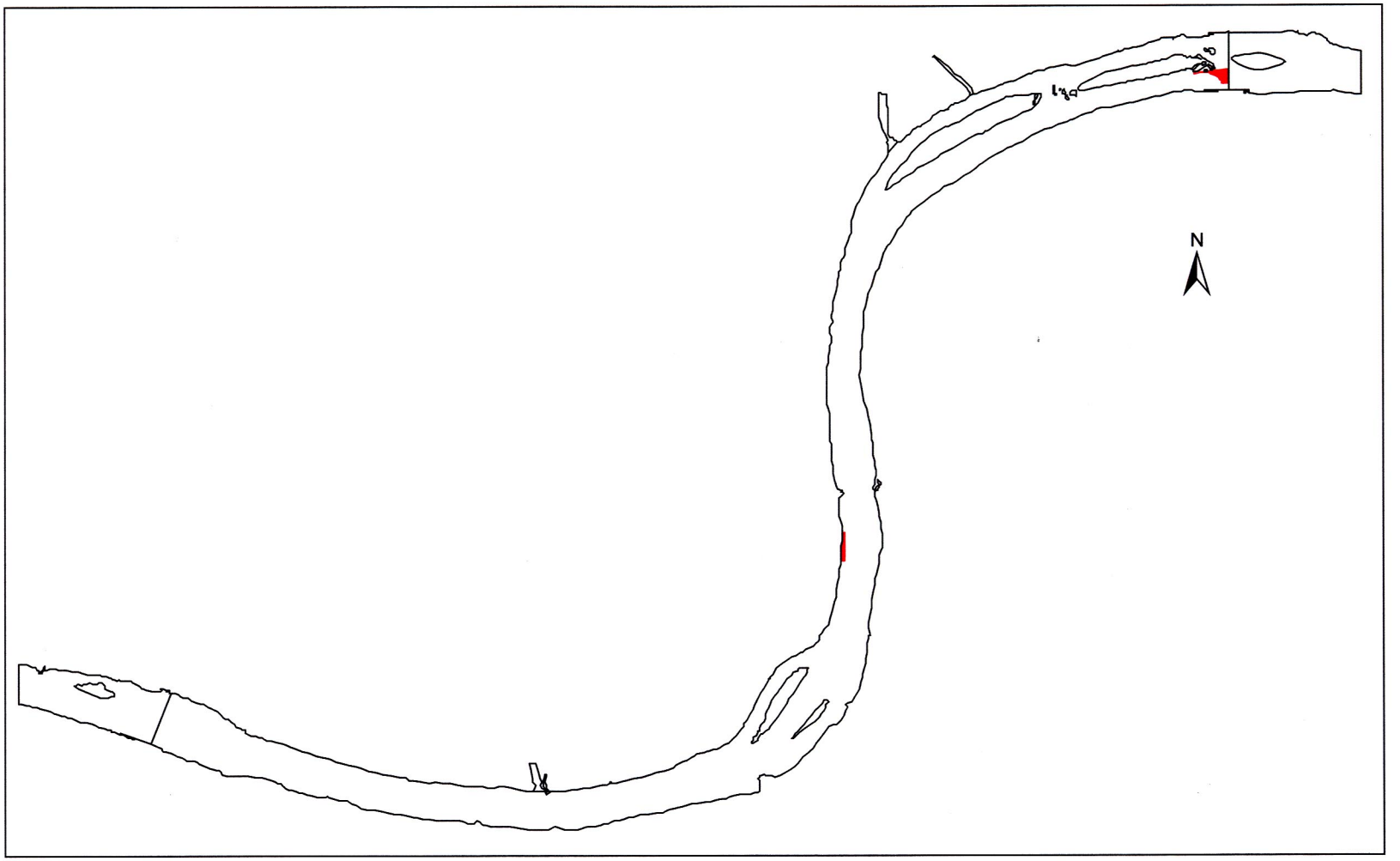
SAV density

- SAVs absent
- < 10%
- 10 - 30%
- 30 - 70%

SAV density	Acres	% of pool
< 10%	77.5	6.58%
10 - 30%	45.2	3.84%
30 - 70%	6.7	0.57%

SAVs pool 3

Figure I–4



SAV density

SAVs absent

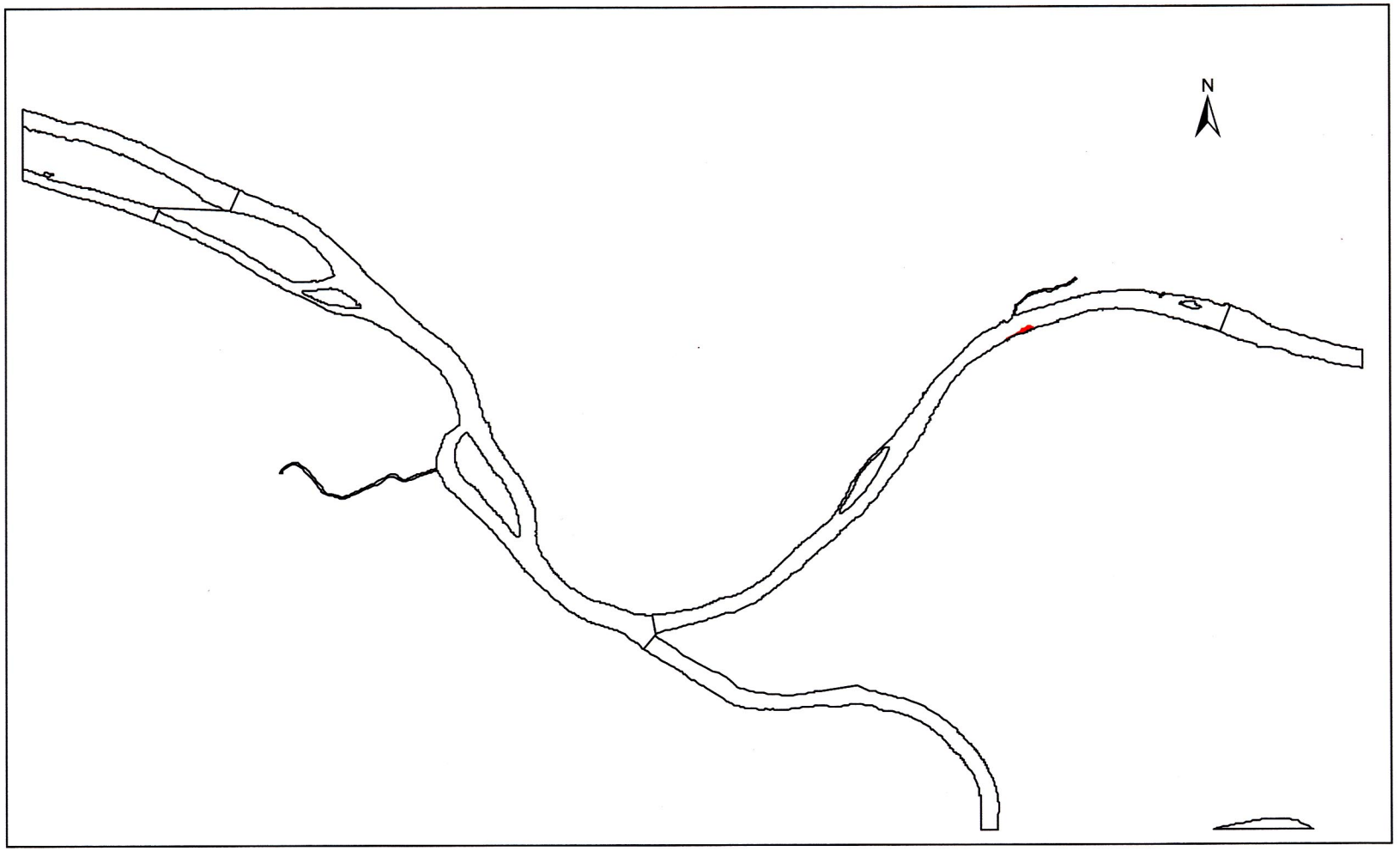
< 10%

10 - 30%

SAV density	Acres	% of pool
< 10%	0.2	0.02%
10 - 30%	5.3	0.49%

SAVs pool 2

Figure I-5



SAV density

SAVs absent

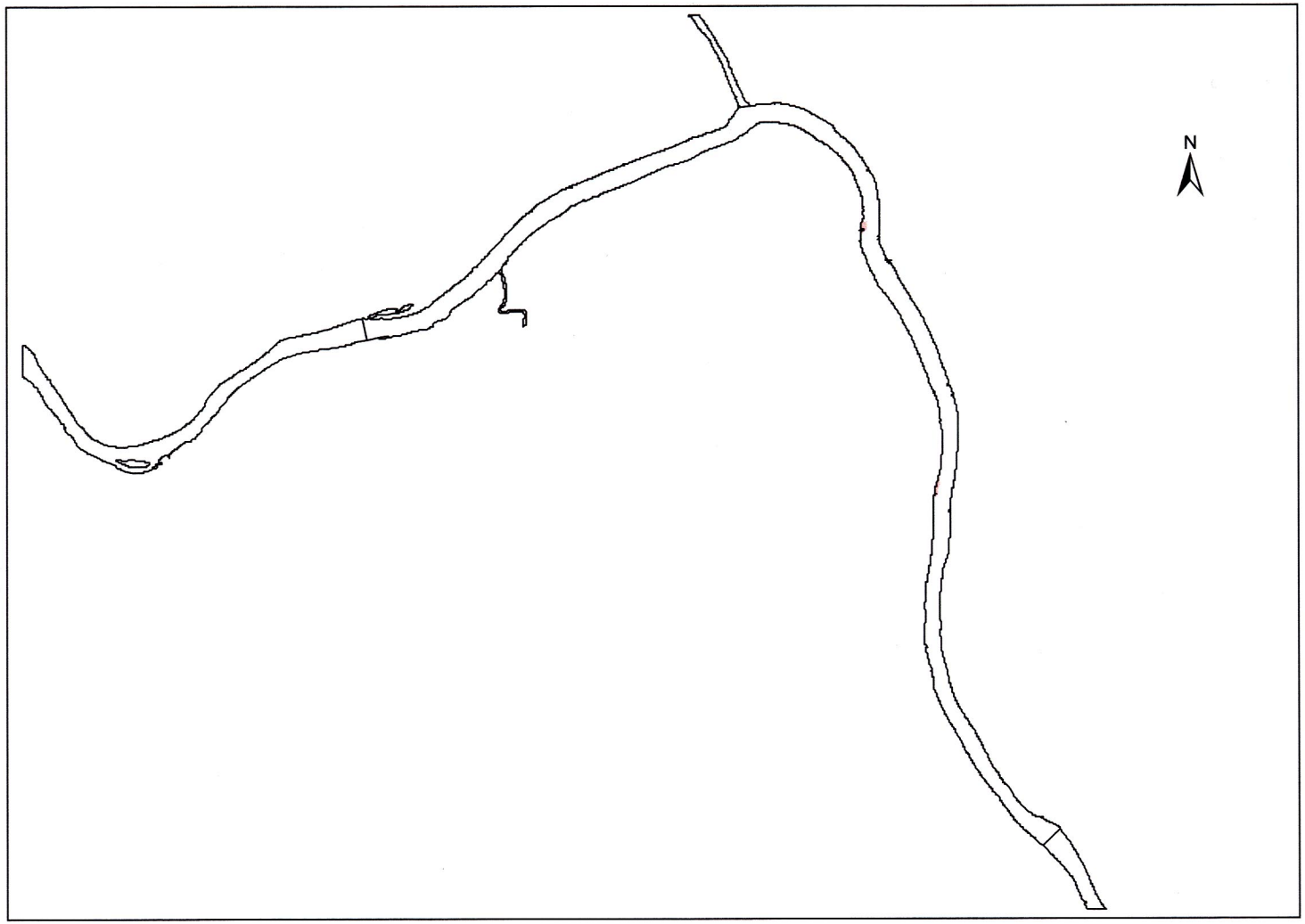
10 - 30%

SAV density	Acres	% of pool
10 - 30%	6.2	0.33%

SAVs Emsworth pool

Figure I-6

May 1999



SAV density

	SAVs absent	**SAV density**	**Acres**	**% of pool**
	< 10%	**< 10%**	**18.4**	**0.64%**

SAVs Montgomery pool

Figure I-7

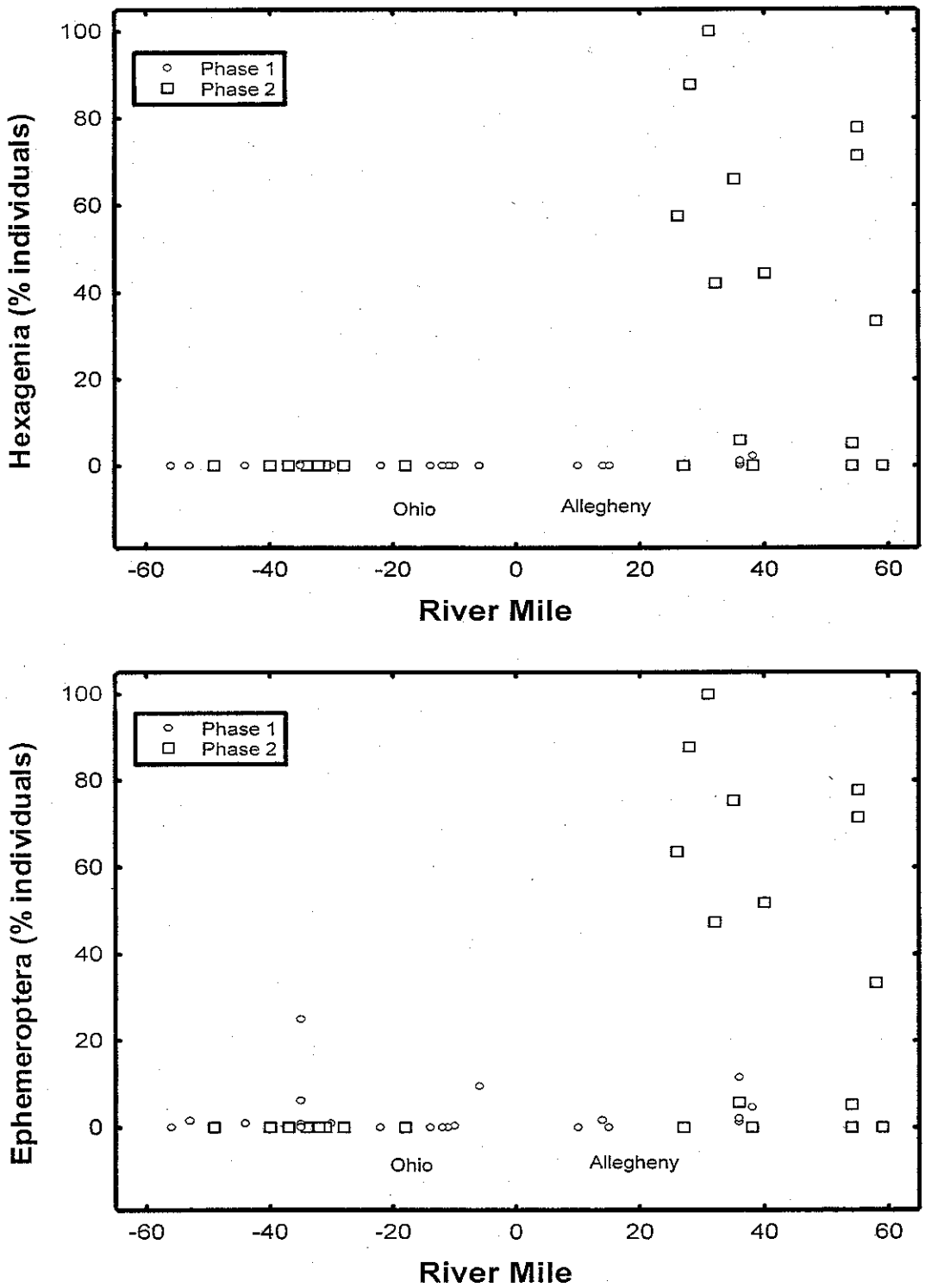


Figure I-8. Mayfly (order: Ephemeroptera) and burrowing mayfly (genus: *Hexagenia*) percent abundance by river mile

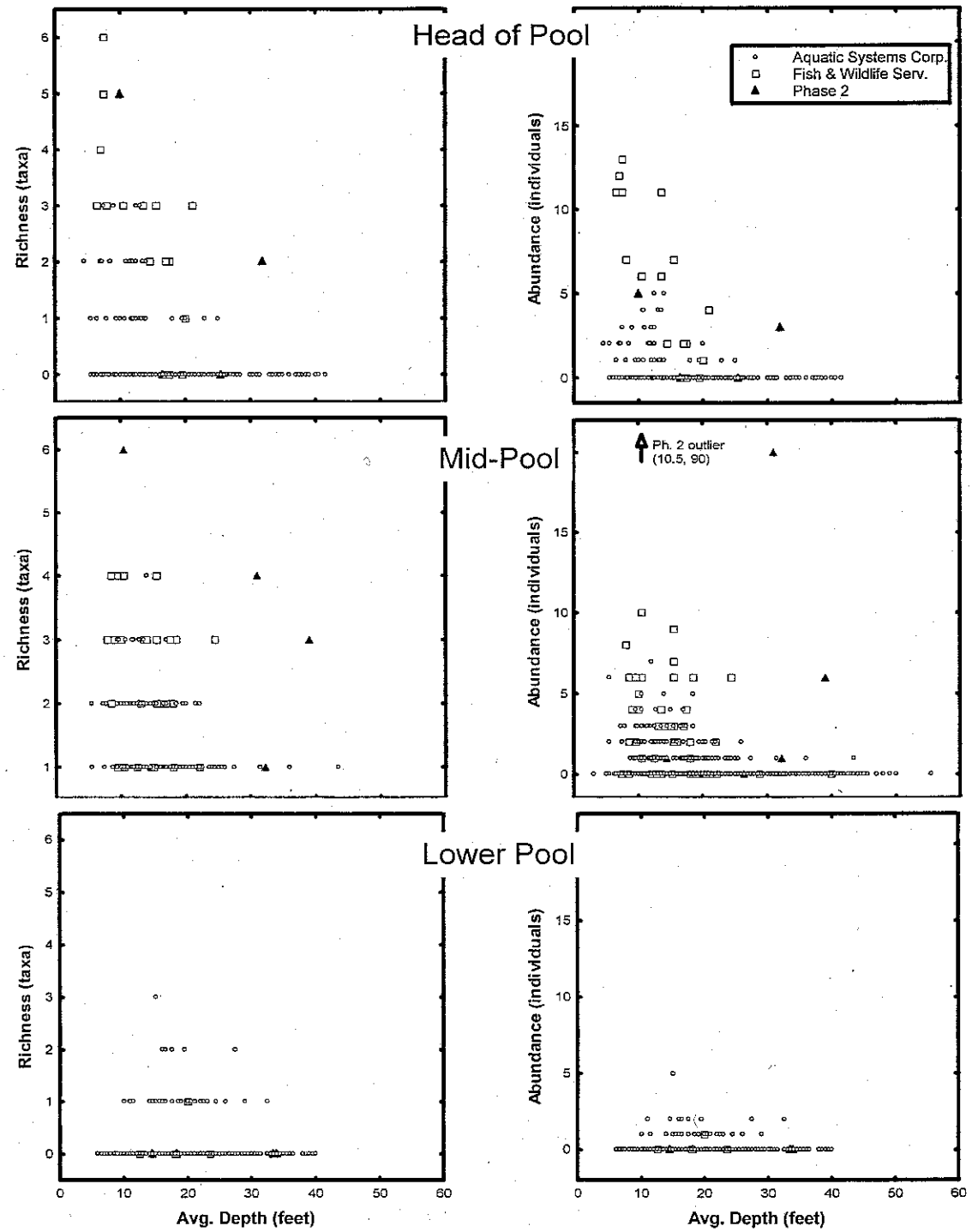


Figure I-9. Mussel taxa richness and abundance by depth within 200 ft transects, based on a compilation of data sources and characterized for upstream, mid-section, and downstream portions of pools within the study area.

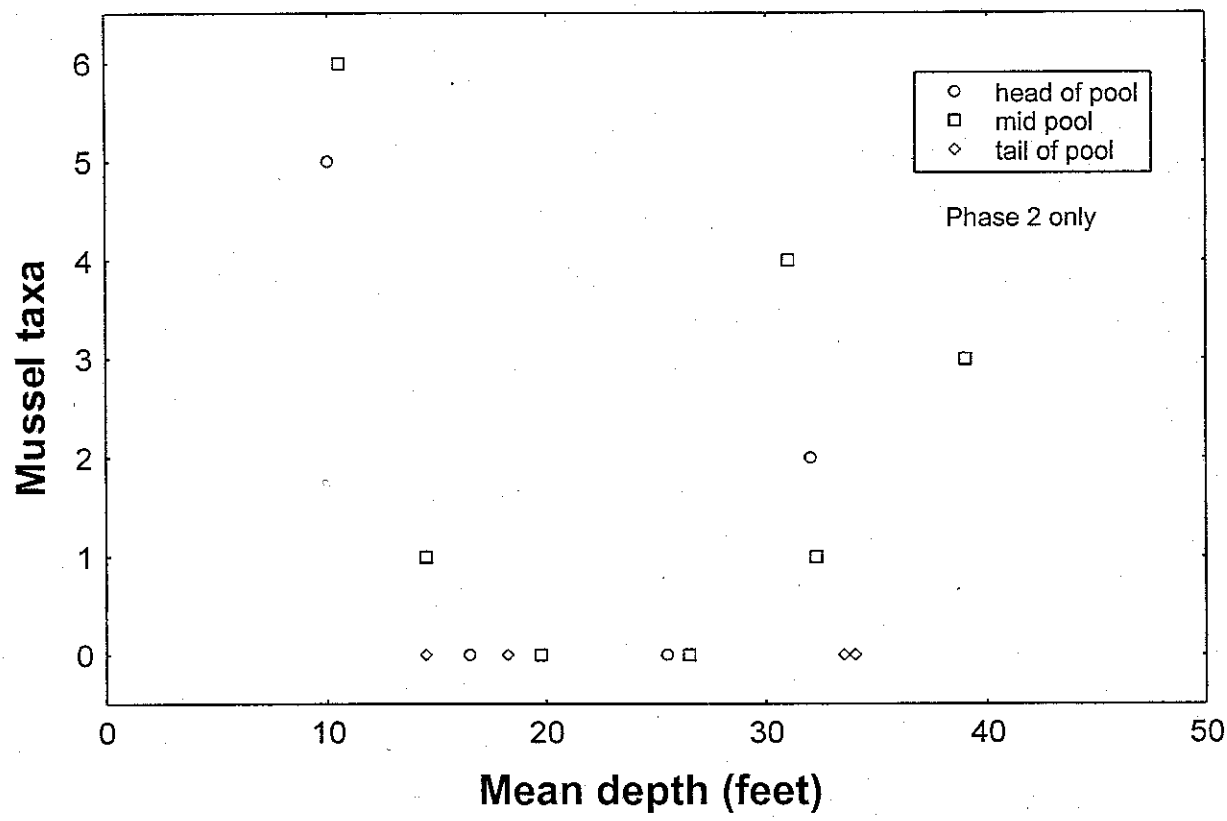


Figure I-10. Mussel taxa richness within a 300 ft transect by depth, characterized for three pool areas — upstream (head), mid-section (mid) and downstream (tail) portions of pools (Tetra Tech, 1999).

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
1	Monongahela	PFBC	1992,1994	3	11.2-17.6	All. / Wa. Cos.	fish	fish species survey, length and age
2	Youghiogheny River Lake	PFBC	1995			Somerset Co.	fish	walleye length, management recommendations
3	Youghiogheny River Lake	PFBC	1995			Westmoreland Co.	fish	fish species survey, length
4	Youghiogheny River Lake	PFBC	1995	1		Management Area 8	fish	walleye length
5	Youghiogheny River Lake	PFBC	1994	2	72.24	Somerset/Fayette Cos.	fish	occurrence, gamefish catch, trout stocks
6	Youghiogheny River Lake	D/R Hydro Co.	1992	2		D/R Hydroelectric Station	fish	fish mortality study
7	Beaver	PFBC	none	none		Townsend Dam	fish	comments on fish entrainment report
8	Beaver	PFBC	none	none		Beaver Falls Bridge	fish	spill report, fish kill
9	Beaver	PFBC	none	none		Slippery Rock Creek	fish	correspondence on trout stocking
10	Beaver	Kleinschmidt Assoc.	1992	1		Townsend Dam	fish	provisional data on Townsend Dam entrainment study
11	Beaver	PennState	1985	NI		1/4 m below Rt. 168 bridge	fish	fish species survey
12	Beaver, Shenango, Mahoning	NI	1984	4		New Castle Plant	fish	fish species survey , weight
13	Beaver	Edinboro State College	1979	15		various	fish	graduate fish species survey
14	Ohio	Duquensne Light Co.	1996	4	34.8	BVPS	fish, benthos, zebra mussel, asiatic clam	Beaver Valley Power Station fish, benthos, clam, mussel surveys
15	Ohio	USF&WS	1996	1	35.5	Phillis Island	mussels	mussel survey

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
16	Ohio	PFBC	1990-1993	4	0.00-40.03	All./Beaver Cos.	fish	fish species survey, length, mean catches (no total counts)
17	Ohio & Allegheny	PFBC	1991-1995	9	30.4-36.3	pool 5	fish	paddlefish assessment program
18	Ohio	ORSANCO	1995	1	31.7	PA portion	fish	fish species survey
19	Ohio	USF&WS	1994	1		Phillis Island	mussels	mussel survey
20	Ohio & Allegheny	ORSANCO	1993	3	10.2-10.5,21.6		fish	fish species survey, see article #90
21	Ohio	ORSANCO	1991	3	12.2,14.3,22.1	All./Beaver Cos.	benthos	benthic macroinvertebrate survey, taxa list; pilot study
22	Ohio & Allegheny	PFBC	none	none			fish	paddlefish restoration plan
23	Ohio	USEPA -3	1978	1		Dashields Locks & Dam	fish	fish species survey, weight, see article #125
24	Ohio trib-Lacock Run	Andrew Martin Assoc., Inc.	1995	1		Discharge end of stream between Railroad St. and Ohio River	benthos, periphyton	narrative benthic, periphyton survey
25	Allegheny	PA DEP	1976-1991	2	30.4-45.7	Pools 5&6	fish, benthos, water quality, substrate, wetlands, mussels	dredging report; comparisons/surveys of Pools 5&6, see article #181
26	Allegheny	PA DEP	1996	15		NW Counties	fish	fish collections
27	Allegheny	PFBC	1994	2	no	All./Westmoreland Cos.	fish	catch/harvest rates; lengths; "angler surveys"
28	Allegheny	PFBC	1995	10	no		fish	smallmouth bass survey
29	Allegheny	GAI Consultants	1994	5		Warren Generating Station	benthos	benthic macroinvertebrate survey

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
30	Allegheny	ORSANCO	1993	2	10.2-10.5		fish	fish species survey, see article #90
31	Allegheny	PennState	1993	2	no	Rt. 62; Rt. 655	fish	fish species survey, incomplete graduate survey
32	Allegheny	ORSANCO	1991	3	10.2,14.2,15.2	Allegheny Co.	benthos	benthic macroinvertebrate survey, taxa list; pilot study
33	Allegheny	USF&WS	1990	60	31.5-45.5	Pools 5&6	mussels	mussel survey
34	Allegheny	PennState	1985	13			fish	fish species survey
35	Allegheny	Aquatic Ecology Assoc., Inc.	1978	2		Warren/Blair Cos.	fish	fish species survey
36	Allegheny trib	USDA	1994	4		Blood, Bucklick, Slide, Meade Run	fish	fish species survey, biomass
37	Allegheny trib	PFBC	1995	2	0.0-4.14	Deer Creek	fish, water quality, substrate	fish species survey; trout management report
38	Allegheny trib	PFBC	1994	1	22.4-18.57	Mahoning Creek	fish, water quality	fish species survey; fingerling trout assessment
39	Allegheny trib	Frostburg State University	1995	6		Cussewago, French Creek	fish	fish species survey, graduate survey, species list (no total counts)
40	Allegheny trib	Andrew Martin Assoc., Inc.	1995	2		Pine Creek	benthos	benthic macroinvertebrate survey
41	Allegheny trib	PA DEP	1996	2		Oil Creek	fish	fish species survey
42	Allegheny trib	PFBC	1995	3		Clarion River	fish, water quality	assessment of impacts from Piney Run Dam releases; fish occurrence and length
43	Allegheny trib	USACE	1995	1		Horney Camp Creek	benthos	benthic macroinvertebrate survey

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
44	Allegheny trib	PennState	1995	1		East Fork Run	fish, benthos	fish species survey (incomplete), benthic macroinvertebrate survey
45	Allegheny trib	PFBC	1993	7	19.68-1.63	Tionesta Creek-W.Branch	fish, water quality	fish species survey, pop./biomass estimates of brown trout
46	Allegheny trib	PFBC	1993	6	10.68-0.10	Tionesta Creek-E.Branch	fish, water quality	fish species survey, pop./biomass estimates of brown trout
47	Allegheny trib	PFBC	1992	5	15.36-4.91	Pine Creek	fish, water quality	fish species survey, species list (no total counts)
48	Allegheny trib	PFBC	1993	3		Tionesta Creek-S.Branch	fish, water quality	fish species survey, pop./biomass estimates of brown trout
49	Allegheny trib	Pymatuning Lab of Ecology	1993	NI			fish	fish species survey - missing data sheets
50	Allegheny trib	NI	1994	NI		Bucks Co.	fish	fish species survey
51	Allegheny trib	PFBC	1990	5	1.67-22.38	Kiskiminetas River	fish, water quality	fish species survey, length
52	Allegheny trib	NI	1992	3		Pymatuning Reservoir, Connequt, Linesville Creek	fish	fish species survey
53	Allegheny trib	NI	1992	3		Church, Lick Run, Redbank Creek	fish	fish species survey
54	Allegheny trib	Cummins	1992	2		Linesvill Creek, Powdermill Run	benthos, fish	benthic macroinvertebrate taxa list, fish species survey
55	Allegheny trib	PA FC	1991	7		Buffalo Creek	fish, benthos	estimate of benthic/fish kills from train wreck
56	Allegheny trib	PA FC	1990	3	20.09-35.76	Buffalo Creek	fish, water quality	fish species survey, species list (no total counts) length

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
57	Allegheny trib	PA FC	1988	1		Tionesta Lake	fish	fish species survey, length and age, management report, historical stocking records
58	Allegheny trib	PennState	1986	9			fish	fish species survey, narrative (no total counts)
59	Allegheny trib	PennState	1985	19			fish	fish species survey, incomplete, raw data sheets
60	Allegheny trib	Univ. of Pitts. at Johnstown	1983	15		Susquehanna River, Crooked Creek	benthos	benthic macroinvertebrate survey
61	Allegheny trib	Clarion State College	1982	1		Linesville creek	fish	fish species survey, collections for class dissection
62	Allegheny trib	USF&WS	1981	4		Kinzua, Townline Creek, Lewis, Miam Run	fish	fish species survey, permit collections
63	Allegheny trib	NI	1980	6		Otter, E.Branch Muddy, Hunter, SalmonCreek, Navy, Upper Three Run	fish	fish species survey, species list (no total counts)
64	Allegheny trib	Edinboro State College	1979	21			fish	fish species survey, incomplete, raw data sheets
65	Allegheny	PFBC	1992	1	183.18	Subbasin 16-B	fish	smallmouth bass/walleye study, data input form
66	Allegheny	PFBC	1992	1	167.1	Subbasin 16-F	fish	smallmouth bass/walleye study, data input form
67	Allegheny	PFBC	1992	1	143	Subbasin 16-E	fish	smallmouth bass/walleye study, data input form

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
68	Allegheny	PFBC	1992	1	122.1	Subbasin 16-G	fish	smallmouth bass/walleye study, data input form
69	Allegheny	PFBC	1992	1	107.1	Subbasin 16-G	fish	smallmouth bass/walleye study, data input form
70	Allegheny	PFBC	1992	1	85.9	Subbasin 17-G	fish	smallmouth bass/walleye study, data input form
71	Allegheny	PFBC	1992	1	70.5	Subbasin 17-G	fish	smallmouth bass/walleye study, data input form
72	Allegheny	PFBC	1992	1	54.8	Subbasin 17-E	fish	smallmouth bass/walleye study, data input form
73	Allegheny	PFBC	1992	1	48.5	Subbasin 17-E	fish	smallmouth bass/walleye study, data input form
74	Allegheny	PFBC	1992	1	43.8	Subbasin 17-E	fish	smallmouth bass/walleye study, data input form
75	Allegheny	USACE	1977-1994	1		Kinzua Dam, Allegheny Reservoir	fish	progress report, annual fish loss from Kinzua Dam Sluice Gates
76	Allegheny	PFBC	none	1		Allegheny Reservoir	fish	stocking records 1984-1990
77	Allegheny	USACE	none	1		Allegheny Reservoir	fish	reservoir fishery management plan; stocking records; catch rates
79	Youghiogheny	PFBC	1992-1993	2	3.06, 22.12	Cedar Run, Boston Run confluences	fish	fish species survey, length and age
80	Youghiogheny	Bureau of Mining & Reclamation	1981	7		Major Watersheds	fish	fish occurrence check list for major watersheds

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
81	Youghiogheny	Bureau of Mining & Reclamation	1980	6		Major Watersheds	fish	fish occurrence check list for major watersheds
82	Beaver	Muddy Run Ecological Lab	1993	NI			fish	fish species survey
83	Beaver	Baker/TSA	1989	1		Townsend Dam Pool	fish	fish species survey, length
84	Beaver	Baker/TSA	1988	1		upstream of Townsend Dam	fish	fish species survey, length
85	Beaver	Bureau of Mining & Reclamation	1981	7		Major Watersheds	fish	fish occurrence check list for major watersheds
86	Beaver	Bureau of Mining & Reclamation	1980	6		Major Watersheds	fish	fish occurrence check list for major watersheds
87	Beaver	USEPA - 3	1977	12		Major Watersheds	fish	fish collections for PCB analysis; length and weight
88	Beaver	PA FC	1974	3		Hickory Run, Rt. 588, New Brighton	fish	fish species survey, incomplete
89	Ohio	USF&WS	1994	1		Beaver Co.	mussels	mussel survey
90	Ohio	ORSANCO	1993	1	21.6		fish	fish species survey
91	Ohio	Aquatic Systems Corp.	1993	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
92	Ohio	USF&WS	1993	1	34.9-35.5	Phillis Island	mussels	mussel survey

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
93	Ohio	ORSANCO	1992	6	5.6-43.8	All./Beaver/Hancock Cos.	benthos	benthic macroinvertebrate survey
94	Ohio	Aquatic Systems Corp.	1992	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
95	Ohio	ORSANCO	1991	5	12.2-55.5	All./Beaver/Jefferson/ Hancock Cos.	benthos	benthic macroinvertebrate survey
96	Ohio	Aquatic Systems Corp.	1991	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
97	Ohio	Aquatic Systems Corp.	1990	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
98	Ohio	Aquatic Systems Corp.	1989	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
99	Ohio	ENSR Consulting & Engineering	1988	8	3-31		fish	fish species survey, see article #174
100	Ohio	Aquatic Systems Corp.	1988	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
101	Ohio	Aquatic Systems Corp.	1987	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
102	Ohio	Aquatic Systems Corp.	1986	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
103	Ohio	NI	1985	4		Emsworth/Dashields/ Montgomery/New Cumberland Pools	fish	fish species survey
104	Ohio	USF&WS	1984	3	6.2-40	Montgomery/Dashiel ds/New Cumberland Pools	fish	fish species survey, stocking records, see article #144
105	Ohio	Aquatic Systems Corp.	1985	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
106	Ohio	NI	1984	1		Dashields Pool	fish	fish species survey, see article #104
107	Ohio	Aquatic Systems Corp.	1984	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
108	Ohio	USF&WS	1983	2		Phillis/Georgetown Islands	fish	fish species survey, weight, incomplete
109	Ohio	Chas.T.Main, Inc.	1983	3		Montgomery Dam	fish	fish species survey, relative abundance (no total counts), length
110	Ohio	Aquatic Systems Corp.	1983	2	34.8	BVPS discharge area	fish, water quality	fish kill report; radioactive analysis of gizzard shad
111	Ohio	Aquatic Systems Corp.	1983	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
112	Ohio	Aquatic Systems Corp.	1982	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
113	Ohio	Bureau of Mining & Reclamation	1981	7		Major Watersheds	fish	fish occurrence check list for major watersheds
114	Ohio	Aquatic Systems Corp.	1981	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
115	Ohio	USEPA - 3	1980	3		Dashields Locks & Dam	fish	fish species survey, weight, length
116	Ohio	Aquatic Systems Corp.	1980	4	34.8	BVPS; New Cumberland Pool	fish, benthos	annual report, benthic macroinvertebrate densities, fish species survey
117	Ohio	USEPA - 3	1979	1		Dashields Locks & Dam	fish	fish species survey
118	Ohio	Northern Environmental Services Division	1979	4	34.8	BVPS; New Cumberland Pool	fish, benthos	monitoring program data, benthic macroinvertebrate densities, fish species survey, length
119	Ohio	USEPA - 3	1977	7	1.5, 14.2	Major Watersheds	fish	fish collections for PCB analysis; length and weight
120	Ohio	NUS Corp.	1977	1	34.8	BVPS; New Cumberland Pool	fish	annual report, fish species survey, length
121	Ohio	PFBC	1990-1993	4	0-40.03	All./Beaver Cos.	fish, water quality	management report, fish species survey, mean catches (no total counts), length, stocking density and history
122	Ohio	ORSANCO	1991	6	9.8-15.6; 11.9-22.2	All #3, Dashields Lock & Dam	fish	fish species survey

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
123	Ohio	PFBC	1983-1984	10		New Cumberland, Montgomery, Dashields Pools, Dashields Lockchamber	fish	fishes of special concern report
124	Ohio	PA FC	1984	3	6.2-54.4	New Cumberland, Montgomery, Dashields Pools	fish	management report, fish species survey
125	Ohio	ORSANCO	1983	14	13.3-	Ohio River Locks & Dams	fish	cooperative study, fish species survey, length and weight
126	Ohio	ORSANCO/US EPA	1968-1976	20	13.3-918.5	Ohio River Locks & Dams	fish	fishery survey summary, fish species survey, relative abundance (no total counts), biomass
127	Ohio	USACE	none	NI		NI	water quality	evaluation of effects of navigation dams, data missing
128	Ohio	USEPA - 3	1967-1968	16	13.3-876.8	Dashields, Montgomery, New Cumberland, etc. Locks & Dams	fish, water quality	fishery composition studies in Ohio River Basin, fish species survey, weight
129	Ohio	PA FC	none	1		All./Beaver Cos.	fish	fish stocking records for 1974-1985
130	Ohio	PA FC	1978-1979	2		Montgomery Lock & Dam, New Cumberland Pool	fish	fish species survey
131	Ohio	PA FC	1979	1		Montgomery Lock & Dam	fish	fish species survey, incomplete (no total counts)

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
132	Ohio	NI	none	9		Ohio River Pools	fish	bass tournament fishing success
133	Ohio	PFBC	1994	1	1.48	Emsworth Pool, Subbasin 20G	fish	smallmouth bass study, data input form
134	Ohio	PFBC	1993	1	1	Emsworth Pool, Subbasin 20G	fish	smallmouth bass study, data input form
135	Ohio	PFBC	1982	1	1-1.5	Emsworth Pool, Subbasin 20G	fish	smallmouth bass study, data input form
136	Ohio	PFBC	1981	5	0-6.2	Emsworth Pool	fish	length frequencies
137	Ohio	PFBC	1994	6	14.11-15.38	Dashields, Montgomery Pools, Subbasin 20G	fish	young of year, forage study, data input form
138	Ohio	PFBC	1994	3	6.2-31.7	Dashields, Montgomery Pools, Subbasin 20G	fish	fish species survey, raw data sheets, incomplete
139	Ohio	PFBC	1991-1994	1	15	Dashields, Montgomery Pools, Subbasin 20G	fish	fish species survey, raw data sheets, incomplete
140	Ohio	PFBC	1991-1994	1	15	Dashields, Montgomery Pools, Subbasin 20G	fish	fish species survey, raw data sheets, incomplete
141	Ohio	PFBC	1991	1	24.0-27.0	Dashields, Montgomery Pools, Subbasin 20G	fish	fish species survey, raw data sheets, incomplete
142	Ohio	PFBC	1991	1	25.2	Dashields, Montgomery Pools, Subbasin 20G	fish	fish species survey, raw data sheets, incomplete
143	Ohio	PFBC	1991	1	31.7-54.4	New Cumberland Pool	fish	fish species survey, raw data sheets, incomplete

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
144a	Ohio	PFBC	1991	1	31.7-54.4	New Cumberland Pool	fish	fish species survey
144	Monongahela	USF&WS	1988	3	5.0-35.4	Lower Mon. Locks & Dams 2, 3 & 4	fish	report on impacts of proposed modifications, fish species surveys, length, weight, age, stocking records
145	Monongahela	USF&WS	1977-1978, 1981	3	5.0-35.4	Lower Mon. Locks & Dams 2, 3 & 4	fish	report on fishery resources; fish species survey, stocking records, see article #144
146	Monongahela	USF&WS	1967-1978	3	11.2-61.2	Lower Mon. Locks & Dams 2, 3 & 4	fish	preliminary report on fishery resources, fish species survey, (no total counts), stocking records
147	Monongahela	USEPA - 3	1967-1973	2	11.2-61.2	Lock #2, Maxwell Lock	fish	fish species survey
148	Monongahela	CA Univ. of PA	1985	1		Pool #2, Elizabeth to McKeesport	fish	
149	Monongahela	PA FC	none	5		All., Fayette, Greene, Wa., Westmoreland Cos.	fish	
150	Monongahela	USGS	none	NI	3.8-20.7	Braddock, McKeesport, Glassport, Donora	maps	
151	Monongahela	PFBC	NI	NI	0	Subbasin 19C	NI	
152	Monongahela	PFBC	1992	16	0.00-11.2	Emsworth Pool, Subbasin 19-A, 19C	fish	
153	Monongahela	PFBC	1992	NI	0.00-11.2	Emsworth Pool, Subbasin 19-A, 19C	fish	smallmouth bass study, data input form
154	Monongahela	PFBC	1991	1	0.00-11.2	Emsworth Pool	fish	fish species survey, data input form, incomplete

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
155	Monongahela	PFBC	1988	6	0.00-11.2	Emsworth Pool, Subbasin 19C	fish	fish species survey, weight and length, data input form
156	Monongahela	PFBC	1988	9	0.0-41.5	Emsworth Pool, Subbasin 19C	fish	fish species survey, weight and length, data input form
					RM	**Narrative**		
157	Monongahela	PFBC	1983	1	0.00-11.2	Emsworth Pool	fish	predicted lengths, data input forms
159	Monongahela	PFBC	1988	3	0.0-41.5	Pool 2	fish	fish species survey, length, data input forms, raw data sheets, incomplete
160	Allegheny	USACE	1976-1992	8-45	30.4-45.7	Pools 5&6	benthos, substrate, water quality	dredging report, benthic macroinvertebrate surveys, DO profiles
161	Allegheny	ORSANCO	1993	2	10.2-10.5		fish	fish species survey, see article #90
162	Allegheny	ORSANCO	1991	2	10.2, 15.2	All. Co.	benthos	benthic macroinvertebrate survey
163	Allegheny	Muddy Run Ecological Lab	1990	NI		Locks & Dams 5&6	fish	fish species survey
164	Allegheny	Muddy Run Ecological Lab	1989	NI			fish	fish species survey
165	Allegheny	NI	1981	4	35.9-37.9		benthos	benthic macroinvertebrate survey
166	Allegheny	Bureau of Mining & Reclamation	1981	7		Major Watersheds	fish	fish occurrence check list for major watersheds

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
167	Allegheny	Bureau of Mining & Reclamation	1980	6		Major Watersheds	fish	fish occurrence check list for major watersheds
168	Allegheny	USEPA - 3	1980	1		Lock & Dam 3	fish	fish species survey
169	Allegheny	ORSANCO	1980	3		All. Lock 3, Mon. Lock 2, Dashields Lock	fish	fish species survey, incomplete
170	Allegheny	USEPA - 3	1979	1		Lock & Dam 3	fish	fish species survey
171	Allegheny	Resource Consultants, Inc.	1978	2		New Kensington (Pool 3), Kittanning (Pool 7)	fish	fish species survey
172	Allegheny	USEPA - 3	1977	7	22.0,45.5	Major Watersheds	fish	fish collections for PCB analysis; length and weight, data missing, USEPA fish survey data mixed in
173	Monongahela	ORSANCO	1992	3	5.3,10.3,12.6	All. Co.	benthos	benthic macroinvertebrate survey
174	Monongahela	ENSR Consulting & Engineering	1988	8	1.5-42		fish	fish species survey
175	Monongahela	RMC	1984,1985	4		Pools 1-4	fish	fish species survey
176	Monongahela	USEPA - 3	1980	1		Lock & Dam 2	fish	fish species survey
177	Monongahela	ORSANCO	1980	3		All. Lock 3, Mon. Lock 2, Dashields Lock	fish	fish collections, see article #171
178	Monongahela	USEPA - 3	1978	1		Lock & Dam 2	fish	fish species survey

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
179	Monongahela	USEPA - 3	1977	7	15.8, 66.0	Major Watersheds	fish	fish collections for PCB analysis; length and weight, data missing
180	Allegheny	PFBC	1989-1991	6		Sections 17-22	fish, water quality	management report, fish species survey, length
181	Allegheny	PFBC	1989-1991	1	36.3-45.7; 30.4-36.3	Pool 5 (Sec. 28), Pool 6 (Sec. 17)	fish	dredging impacts study, fish species survey, length
182	Allegheny	Energy & Environmental Management, Inc.	1990	1	14.0-18.5	Cheswick Power Station; Pools 2&3	fish	316(a) variance supplement, fish spcies survey, weight, thermal tolerance limits
183	Allegheny	RMC Environmental Services, Inc.	1990	2		Locks & Dams 5&6	fish	progress report, fish species survey, weight
184	Allegheny	RMC Environmental Services, Inc.	1990	2		Locks & Dams 5&6	fish	progress report, fish species survey, weight
185	Allegheny	RMC Environmental Services, Inc.	1988	NI		Locks & Dams 5&6	fish	data missing
186	Allegheny	PA FC	none	none		Lock & Dam No. 6	wetlands	correspondence on wetland habitat protection plan
187	Allegheny	PA FC	none	none		Locks & Dams 5&6	wetlands	correspondence on wetland inventory
188	Allegheny	PA FC	none	none		Pool 6	none	correspondence on dredging
189	Allegheny	PA FC	none	none		Pool 6	none	correspondence on dredging
190	Allegheny	PA FC	none	none		Pool 6	none	correspondence on dredging
191	Allegheny	NI	1980	NI		NI	fish	walleye tagging

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
192	Allegheny	USACE	none	none		Westmoreland/All./Armstrong Cos.	none	maps
193	Allegheny	NI	none	none		All. Armstrong, Beaver Cos.	fish	fish stocking records 1971-1980
194	Allegheny	NI	none	none			fish	correspondence on parasitic lampreys
195	Allegheny	PFBC	1991	13	10.0-14.1	Pool 2, Subbasin 18A	fish	fish species survey, data input forms
196	Allegheny	PFBC	1990	5	10.2-14.23	Pool 2, Subbasin 18A	fish	fish species survey, data input forms
197	Allegheny	PFBC	1990	1	14.53	Pool 2, Subbasin 18A	fish	fish species survey, length, weight, age, data input forms
198	Allegheny	PFBC	1994	3	22.2-23.08	Pool 3, Subbasin 18A	fish	fish species survey, data input forms
199	Allegheny	PFBC	1990	13	14.5-24.2	Pool 3, Subbasin 18A	fish	fish species survey, data input forms
200	Allegheny	PFBC	1990	6	14.54-23.85	Pool 3, Subbasin 18A	fish	fish species survey, data input forms
201	Allegheny	PFBC	1990	1	17.87-24.0	Pool 3, Section 20	fish	length frequency, data input forms
202	Allegheny	PFBC	1994	1	24.15-30.23	Pool 4, Section 14	fish	length frequency, data input forms
203	Allegheny	PFBC	1991	6	24.15-30.34	Pool 4, Subbasin 18A	fish	fish species survey, data input forms
204	Allegheny	PFBC	1990	12	24.15-30.38	Pool 4, Subbasin 18A	fish	fish species survey, length, weight, age, data input forms

Table I-1. Compilation of recent aquatic resource information for the Allegheny/Ohio River study area (shaded references were used to define contemporary faunal resources) (cont'd).

Tt Cat. #	River	Researcher	Year(s) of Collection	No. of Sites	Exact Location		Data Type	Data Specifics
					RM	Narrative		
205	Allegheny	PFBC	1990	2	24.15	Pool 4, Sections 11&19	fish	fish species survey, length, weight, age, data input forms
206	Ohio	Aquatic Systems Corp.	1997	21	21.6-23.6	Montgomery Pool	mussels	mussel survey
207	Allegheny	Aquatic Systems Corp.	1997	11	16.0-17.0	Pool 3	mussels	mussel survey
208	Allegheny	Aquatic Systems Corp.	1997	14	11.3-11.9; 12.1-12.6	Pool 2	mussels	mussel survey
209	Allegheny	Aquatic Systems Corp.	1997	10	33.1-34.0	Pool 5	mussels	mussel survey
210	Allegheny	Aquatic Systems Corp.	1997	24	45.9-48.2	Pool 7	mussels	mussel survey
211	Ohio	Aquatic Systems Corp.	1994	33	150.3-150.8; 156-158	Willow Is. Pool	mussels	mussel survey
212	Ohio	Aquatic Systems Corp.	1997	4	32.0-32.3	New Cumberland Pool	mussels	mussel survey
213	Allegheny	USACE	1981	NI			fish, benthos, water quality, mussels	environmental statement on Allegheny River
214	Ohio	ORSANCO	1992-1993	NI			water quality	assessment of water quality conditions
215	Allegheny	USF&WS	1985	6	6.5, 13.7, 30.3, 33.6, 73.1-72.0	Allegheny & Little Beaver Rivers	mussels	planning aid report; mussel survey

Note:NI = not indicated
PFBC = PA Fish and Boat Commission

Table I-2. Phytoplankton taxa reported from the Allegheny and Ohio River study area.

Taxa	
Achnanthes minutissima	*Micractinium pusillum*
Actinastrum hantzschii	*Microcystis incerta*
Anabaena flos-aquae	*Monoraphidium circinale*
Ankistrodesmus convolutus	*Mougeotia* sp.
Ankistrodesmus falcatus	*Navicula cryptocephala*
Aphanizomenon flos-aquae	*Navicula viridula*
Aphanocapsa delicatissima	*Nitzschia palea*
Asterionella formosa	*Nitzschia holsetica*
Centrales g. sp.	*Nitzschia fonticola*
Chlamydomonas sp.	*Nitzschia acicularis*
Chlorogonium sp.	*Oscillatoria limnetica*
Closterium moniliferum	*Pediastrum duplex*
Coccoid cyanophyta	Pennales g. sp.
Coelastrum sp.	*Peridinium* sp.
Cosmarium botrytis	*Rhodomonas minuta*
Cryptomonas ovata	*Scenedesmus acuminatus*
Cryptomonas marisonii	*Scenedesmus bicellularis*
Cryptomonas erosa	*Scenedesmus bijuga*
Cyclotella meneghiniana	*Scenedesmus quadricauda*
Diatoma vulgare	*Schizothrix calcicola*
Dictyosphaerium pulchellum	*Selenastrum minutum*
Dinobryon sertularia	*Skeletonema potamos*
Euastrum sp.	*Spermatozoopsis exultans*
Gomphonema olivaceum	*Stephanodiscus niagarae*
Lagerheimia genevensis	*Stephanodiscus hantzschii*
Lyngbyalimnetica	*Synedra nana*
Mallomonas sp.	*Synedra rumpens*
Melosira varians	*Synura uvella*
Melosira distans	*Tetrastrum heteracanthum*
Melosira ambigua	
Melosira granulata	
Merismopedia elegans	
Merismopedia tenuissima	

Table I-3. Zooplankton taxa reported from the Ohio River (Shema et al. 1991).

Taxa	
PROTOZOA	CRUSTACEANS
Arcella sp.	Copepod nauplii
Codonella cratera	ROTIFERA
Cyphoderia ampulla	*Collotheca* sp.
Didinium sp.	*Conochilus unicornis*
Difflugia sp.	*Hexarthra mira*
Dileptus bivaculatus	*Keratella cochlearis*
Epistylis sp.	*Polyarthra dolichoptera*
Holophyrid ciliate	*Polyarthra vulgaris*
Nuclearia simplex	*Synchaeta* sp.
Opercularia sp.	
Paradileptus sp.	
Paramecium sp.	
Staurophrya elegans	
Strombidium sp.	
Strobilidium gyrans	
Tintinnidium fluvitale	
Tintinnopsis cylindrica	
Trachelius sp.	
Uronema sp.	
Urotricha sp.	
Vorticella sp.	
Trichocerca pusilla	

Table I-4. Ranked abundance (as percent occurrence) of benthic macroinvertebrate taxa reported from the Allegheny River study area.

River	Taxon	Percent Abundance
Allegheny	Dicrotendipes	37.7208
Allegheny	Oligochaeta	15.29915
Allegheny	Tricladida	14.64387
Allegheny	Cricotopus	5.897436
Allegheny	Hexagenia	5.470085
Allegheny	Ablabesmyia	4.472934
Allegheny	Polypedilum	4.245014
Allegheny	Chaoborus	2.193732
Allegheny	Chironomidae	2.136752
Allegheny	Naididae	1.367521
Allegheny	Cyrnellus	0.769231
Allegheny	Chironomus	0.740741
Allegheny	Corbicula fluminea	0.569801
Allegheny	Procladius	0.512821
Allegheny	Coelotanypus	0.37037
Allegheny	Cyclops	0.25641
Allegheny	Nanocladius	0.22792
Allegheny	Parachironomus	0.22792
Allegheny	Pseudochironomus	0.22792
Allegheny	Sphaerium	0.22792
Allegheny	Stenacron	0.22792
Allegheny	Stenonema	0.22792
Allegheny	Argia	0.19943
Allegheny	Ephemeridae	0.17094
Allegheny	Ephemeroptera	0.17094
Allegheny	Gammarus	0.11396
Allegheny	Pisidium	0.11396
Allegheny	Tanypodinae	0.11396
Allegheny	Bivalvia	0.08547
Allegheny	Coenagrionidae	0.05698

Table I-4. Ranked abundance (as percent occurrence) of benthic macroinvertebrate taxa reported from the Allegheny River study area (cont'd).

River	Taxon	Percent Abundance
Allegheny	Menetus	0.05698
Allegheny	Oecetis	0.05698
Allegheny	Stenochironomus	0.05698
Allegheny	Tanytarsus	0.05698
Allegheny	Asellus	0.02849
Allegheny	Caenis	0.02849
Allegheny	Ceraclea	0.02849
Allegheny	Cheumatopsyche	0.02849
Allegheny	Collembola	0.02849
Allegheny	Coptotomus	0.02849
Allegheny	Cryptochironomus	0.02849
Allegheny	Dermestidae?	0.02849
Allegheny	Diptera	0.02849
Allegheny	Dugesia	0.02849
Allegheny	Dytiscidae	0.02849
Allegheny	Ephemera	0.02849
Allegheny	Epiocladius	0.02849
Allegheny	Glyptotendipes	0.02849
Allegheny	Gomphus	0.02849
Allegheny	Hydra	0.02849
Allegheny	Hydracarina	0.02849
Allegheny	Isonychia	0.02849
Allegheny	Isoperla	0.02849
Allegheny	Nematoda	0.02849
Allegheny	Pyralidae	0.02849
Allegheny	Stilobezzia	0.02849
Allegheny	Tanytarsini	0.02849
Allegheny	Thysanoptera	0.02849
Allegheny	Tricorythodes	0.02849

Table I-5. Ranked abundance (as percent occurrence) of benthic macroinvertebrate taxa reported from the Ohio River study area.

River	Taxon	Percent Abundance
Ohio	Oligochaeta	51.57003
Ohio	Limnodrilus	11.71465
Ohio	Paranais	8.634112
Ohio	Polypedilum	4.54574
Ohio	Nais	3.319146
Ohio	Procladius	2.256748
Ohio	Corbicula	1.966222
Ohio	Pristina	1.915127
Ohio	Aulodrilus	1.368798
Ohio	Chironomus	1.245941
Ohio	Coelotanypus	1.080091
Ohio	Stylaria	0.977902
Ohio	Cryptochironomus	0.931107
Ohio	Vejdovskyella	0.873399
Ohio	Gammarus	0.841651
Ohio	Branchiura	0.715651
Ohio	Sphaerium	0.518384
Ohio	Peguettiella	0.503006
Ohio	Dicrotendipes	0.407597
Ohio	Dero	0.377833
Ohio	Sphaeriidae	0.333022
Ohio	Nematoda	0.314172
Ohio	Peloscolex	0.306401
Ohio	Cricotopus	0.199086
Ohio	Tricladida	0.17974
Ohio	Chironominae	0.178417
Ohio	Harnischia	0.177259
Ohio	Tanytarsus	0.159401
Ohio	Ilyodrilus	0.14733
Ohio	Nemertea	0.142866
Ohio	Glyptotendipes	0.138566

Table I-5. Ranked abundance (as percent occurrence) of benthic macroinvertebrate taxa reported from the Ohio River study area (cont'd).

River	Taxon	Percent Abundance
Ohio	Stephensoniana	0.138566
Ohio	Microchironomus	0.132614
Ohio	Enchytraeidae	0.118559
Ohio	Potamothrix	0.104173
Ohio	Hydra	0.100866
Ohio	Orthocladius	0.100039
Ohio	Ceratopogonidae	0.069283
Ohio	Oecetis	0.062834
Ohio	Axarus	0.061842
Ohio	Diptera	0.061842
Ohio	Arcteonais	0.05622
Ohio	Nanocladius	0.055724
Ohio	Cyrnellus	0.055559
Ohio	Tubificida	0.05126
Ohio	Ophidonais	0.049606
Ohio	Amphichaeta	0.049275
Ohio	Rheotanytarsus	0.043819
Ohio	Ablabesmyia	0.042496
Ohio	Acarina	0.037535
Ohio	Tubifex	0.035055
Ohio	Lumbriculidae	0.033071
Ohio	Pisidium	0.028937
Ohio	Chaetogaster	0.027779
Ohio	Chironomidae	0.02563
Ohio	Ripistes	0.025134
Ohio	Borthrioneurum	0.02315
Ohio	Chironominii	0.022157
Ohio	Cladopelma	0.022157
Ohio	Achaeta	0.019512
Ohio	Hexagenia	0.017858
Ohio	Tanypodinae	0.016866

Table I-5. Ranked abundance (as percent occurrence) of benthic macroinvertebrate taxa reported from the Ohio River study area (cont'd).

River	Taxon	Percent Abundance
Ohio	Xenochironomus	0.015543
Ohio	Microtendipes	0.015213
Ohio	Unionidae	0.012898
Ohio	Djalmabatista	0.010913
Ohio	Stratiomyidae	0.009921
Ohio	Tribelos	0.00926
Ohio	Ceraclea	0.008929
Ohio	Asellus	0.008764
Ohio	Slavina	0.008598
Ohio	Gomphus	0.008102
Ohio	Caenis	0.007937
Ohio	Chaborus	0.007606
Ohio	Naididae	0.007276
Ohio	Empididae	0.006614
Ohio	Polycentropus	0.006614
Ohio	Helobdella	0.005622
Ohio	Hyalella	0.005622
Ohio	Stenacron	0.005457
Ohio	Thienemannimyia	0.004299
Ohio	Physa	0.003968
Ohio	Dromogomphus	0.003803
Ohio	Hirudinea	0.003638
Ohio	Plecoptera	0.003638
Ohio	Baetidae	0.003307
Ohio	Elmidae	0.003307
Ohio	Ephydridae	0.003307
Ohio	Tanytarsinii	0.003307
Ohio	Parachironomus	0.002976
Ohio	Pelecypoda	0.002976
Ohio	Tricorythodes	0.002976
Ohio	Dubiraphia	0.002646

Table I-5. Ranked abundance (as percent occurrence) of benthic macroinvertebrate taxa reported from the Ohio River study area (cont'd).

River	Taxon	Percent Abundance
Ohio	Libellula	0.002646
Ohio	Argia	0.00248
Ohio	Allonais	0.002315
Ohio	Anadonta	0.002315
Ohio	Cladocera	0.002315
Ohio	Cordylophora	0.002315
Ohio	Cura	0.002315
Ohio	Glossiphoniidae	0.002315
Ohio	Isoperla	0.002315
Ohio	Paraphaenocladius	0.002315
Ohio	Phaenopsectra	0.002315
Ohio	Rhabdocoela	0.002315
Ohio	Smittia	0.002315
Ohio	Stenonema	0.002315
Ohio	Tanypus	0.002315
Ohio	Tipulidae	0.002315
Ohio	Hydropsychidae	0.00215
Ohio	Ferrissia	0.001984
Ohio	Lepidoptera	0.001984
Ohio	Menetus	0.001984
Ohio	Stenochironomus	0.001984
Ohio	Ephemera	0.001819
Ohio	Pseudochironomus	0.001323
Ohio	Aeolsomatidae	0.001157
Ohio	Chaoborus	0.001157
Ohio	Dermestidae?	0.001157
Ohio	Eukiefferiella	0.001157
Ohio	Gyraulus	0.001157
Ohio	Planariidae	0.001157
Ohio	Sialis	0.001157
Ohio	Cumberlandia	0.000992

Table I-5. Ranked abundance (as percent occurrence) of benthic macroinvertebrate taxa reported from the Ohio River study area (cont'd).

River	Taxon	Percent Abundance
Ohio	Ephoron	0.000992
Ohio	Gastropoda	0.000992
Ohio	Ancylidae	0.000827
Ohio	Ostracoda	0.000661
Ohio	Cheumatopsyche	0.000496
Ohio	Coleoptera	0.000331
Ohio	Corbicula fluminea	0.000331
Ohio	Gomphidae	0.000331
Ohio	Hydrobiidae	0.000331
Ohio	Serratella	0.000331
Ohio	Bivalvia	0.000165
Ohio	Chironomini	0.000165
Ohio	Hemerodromia	0.000165
Ohio	Stenelmis	0.000165

Table I-6. A list of mussel species reported from the Allegheny/Ohio River study area within the past 20 years.

Scientific Name	Common Name
Actinonaias ligamentina	Mucket
Actinonaias ligmentina carinata	Actinonaias ligmentina carinata
Alasmidonta marginata	Elktoe
Amblema plicata	Threeridge
Anodonta grandis	Giant floater
Anodonta grandis grandis	Anodonta grandis grandis
Anodonta imbecillus	Paper pondshell
Corbicula fluminea	Asiatic clam
Dreissena polymorpha	Zebra mussel
Elliptio dilatata	Spike
Epioblasma torulosa rangiana	Northern riffleshell
Fusconaia flava	Wabash pigtoe
Lampsilis cardium	Plain pocketbook
Lampsilis fasciola	Wavyrayed lampmussel
Lampsilis ovata	Pocketbook
Lampsilis radiata luteola	Lampsilis radiata luteola
Lampsilis siliquoidea	Fat mucket
Lampsilis ventricosa	Lampsilis ventricosa
Lasmigona complanata	White heelsplitter
Lasmigona costata	Fluted-shell
Leptodea fragilis	Fragile papershell
Ligumia recta	Black sandshell
Obliquaria reflexa	Threehorn wartyback
Potamilus alatus	Pink heelsplitter
Ptychobranchus fasciolaris	Kidney shell
Pyganodon grandis	Giant floater
Quadrula pustulosa	Pimpleback
Quadrula quadrula	Mapleleaf
Simpsonaias ambigua	Salamander mussel
Strophitus undulatus	Squawfoot
Toxolasma parvus	Lilliput
Tritogonia verrucosa	Pistolgrip
Truncilla donaciformis	Fawnsfoot
Villosa fabalis	Rayed bean

Table I-7. Ranked abundance (as percent occurrence) of mussel species reported from the Allegheny River study area.

River	Species	Percent Abundance
Allegheny	Fluted-shell	26.70227
Allegheny	Spike	24.56609
Allegheny	Fat mucket	18.02403
Allegheny	Actinonaias ligmentina carinata	12.55007
Allegheny	Wabash pigtoe	8.678238
Allegheny	Mucket	2.670227
Allegheny	Elktoe	1.602136
Allegheny	Lampsilis ventricosa	1.201602
Allegheny	Kidney shell	0.801068
Allegheny	Anodonta grandis grandis	0.534045
Allegheny	Pocketbook	0.534045
Allegheny	Giant floater	0.400534
Allegheny	Squawfoot	0.400534
Allegheny	Wavyrayed lampmussel	0.267023
Allegheny	Lampsilis radiata luteola	0.267023
Allegheny	Mapleleaf	0.267023
Allegheny	Black sandshell	0.133511
Allegheny	Paper pondshell	0.133511
Allegheny	Plain pocketbook	0.133511
Allegheny	Unidentified	0.133511

*Includes Northern riffleshell, Salamander mussel, Lilliput, and Rayed bean mussel.

Table I-8. Ranked abundance (as percent occurrence) of mussel species reported from the Ohio River study area.

River	Species	Percent Abundance
Ohio	Mapleleaf	46.38554
Ohio	Threeridge	18.37349
Ohio	Asiatic clam	12.04819
Ohio	Pimpleback	5.722892
Ohio	Threehorn wartyback	3.915663
Ohio	Wabash pigtoe	3.614458
Ohio	Fragile papershell	2.710843
Ohio	Pistolgrip	1.506024
Ohio	Zebra mussel	1.204819
Ohio	Fat mucket	0.903614
Ohio	Fluted-shell	0.60241
Ohio	Paper pondshell	0.60241
Ohio	Giant floater	0.60241
Ohio	Anodonta grandis grandis	0.301205
Ohio	Fawnsfoot	0.301205
Ohio	Lampsilis radiata luteola	0.301205
Ohio	Pink heelsplitter	0.301205
Ohio	Plain pocketbook	0.301205
Ohio	White heelsplitter	0.301205

Table I-9
Mussel Data in Areas Upstream of Study Area and Pool 6

Table I-9a.

SUMMARY OF PERCENTAGE ABUNDANCE AND FREQUENCY OF OCCURRENCE FOR FRESHWATER MUSSELS COLLECTED USING QUALITATIVE AND QUANTITATIVE METHODS, ALLEGHENY RIVER MILE POINT 107.4, KENNERDELL BRIDGE SITE, S.R. 3008, OCTOBER 3 THROUGH 12, 1995

	Qualitative Methods					Quantitative Method					
	Bucket Survey		Transects (Diving)			Quadrat (Shallow)			Quadrat (Diving)		
Species	Total	Abundance	Total	Abund.	Occur.	Total	Abund.	Occur.	Total	Abund.	Occur.
Actinonaias ligamentina	383	48.72	27	30.68	83.3	12	18.18	44.4	1	12.5	12.5
Elliptio dilatata	194	24.68	18	20.46	58.3	26	39.39	66.7	4	50.0	37.5
Lasmigona costata	127	16.16	17	19.32	58.3	4	6.06	14.8	0	0.0	0.0
Lampsilis fasciola	16	2.03	8	9.09	41.7	0	0.00	0.0	0	0.0	0.0
Lampsilis cardium	14	1.78	7	7.95	50.0	4	6.06	14.8	0	0.0	0.0
Villosa fabalis	12	1.53	4	4.55	16.7	17	25.76	40.7	3	37.5	25.0
Alasmidonta marginata	9	1.15	0	0.00	0.0	1	1.52	3.7	0	0.0	0.0
Ligumia recta	8	1.02	5	5.68	41.7	0	0.00	0.0	0	0.0	0.0
Lampsilis ovata	8	1.02	2	2.27	8.3	0	0.00	0.0	0	0.0	0.0
Epioblasma torulosa rangiana	6	0.76	0	0.00	0.0	0	0.00	0.0	0	0.0	0.0
Unionidae juvenile	3	0.38	0	0.00	0.0	1	1.52	3.7	0	0.0	0.0
Pleurobema sintoxia	2	0.25	0	0.00	0.0	0	0.00	0.0	0	0.0	0.0
Lampsilis siliquoidea	1	0.13	0	0.00	0.0	1	1.52	3.7	0	0.0	0.0
Pleurobema clava	1	0.13	0	0.00	0.0	0	0.00	0.0	0	0.0	0.0
Ptychobranchus fasciolaris	1	0.13	0	0.00	0.0	0	0.00	0.0	0	0.0	0.0
Pyganodon grandis	1	0.13	0	0.00	0.0	0	0.00	0.0	0	0.0	0.0
Total Number of Mussels	786		88			66			8		
Total Species	15		8			7			3		
Total Number of Samples	--		12			27			8		
Estimated Area Sampled (sq. m)	1385		800			6.75			2		
Estimated Average Density (Number of Mussels/sq. m)	0.57		0.11			9.78			4		

Table I-9a. Continued

RESULTS FOR QUANTITATIVE TOTAL SUBSTRATUM QUADRAT (0.25-sq. m) SAMPLES COLLECTED FROM SHALLOW AREAS OF THE ALLEGHENY RIVER FROM 120 FEET UPSTREAM TO 120 FEET DOWNSTREAM OF THE CENTERLINE OF THE KENNERDELL BRIDGE, S.R. 3008, VENANGO COUNTY, PA ON SAMPLING DATES OCTOBER 9-12, 1995

Quadrat Number	Distance Above/Below Bridge *	Distance from left shore	Mussel Species Collected: Scientific name	Mussel Species Collected: Common name	Condition	Shell Length (mm)	Water Depth (ft.)	Depth Excavated (inches)	Substrate Composit.	Live Mussels No./sq.m
1	120' upstr.	15'	*Villosa fabalis*	rayed bean	R	15	1.5	~5	C,G,SN,SI	0
2	120' upstr.	25'	*Actinonaias ligamentina*	mucket	L	89	1.5	~5	C,G,SN	12
			Villosa fabalis	rayed bean	L	26				
			Villosa fabalis	rayed bean	L	20				
			Elliptio dilatata	spike	R	85				
3	100' upstr.	12'	*Actinonaias ligamentina*	mucket	L	22	1.0	~5	C,G, SN	4
			Elliptio dilatata	spike	FD	82				
4	80' upstr.	25'	*Actinonaias ligamentina*	mucket	L	96	1.5	~5	C,G, SN	24
			Actinonaias ligamentina	mucket	L	32				
			Elliptio dilatata	spike	L	76				
			Villosa fabalis	rayed bean	L	26				
			Villosa fabalis	rayed bean	L	18				
			Villosa fabalis	rayed bean	L	17				
			Actinonaias ligamentina	mucket	R	58				
5	60' upstr.	15'	*Alasmidonta marginata*	elktoe	L	37	1.5	~5	C,G,SN,SI	12
			Elliptio dilatata	spike	L	29				
			Villosa fabalis	rayed bean	L	16				

Condition Categories
L - Live, FD = fresh dead, R = relict

Substrate Codes
C = cobble, G = gravel, SN = sand, SI = silt

* - Distance measured from centerline of bridge to sampling location upstream/downstream, respectively.

Table I-9a. Continued

Quadrat Number	Distance Above/Below Bridge *	Distance from left shore	Mussel Species Collected: Scientific name	Common name	Condition	Shell Length (mm)	Water Depth (ft.)	Depth Excavated (inches)	Substrate Composit.	Live Mussels No./sq.m
6	50′ upstr.	12′	Elliptio dilatata	spike	L	28	1.5	~5	C,G,SN,SI	8
			Unionidae juvenile	---	L	14				
			Elliptio dilatata	spike	FD	90				
			Villosa fabalis	rayed bean	FD	24				
7	50′ upstr.	50′	Elliptio dilatata	spike	L	93	1.5	~5	C,G,SN	8
			Villosa fabalis	rayed bean	L	26				
8	35′ upstr.	22′	Actinonaias ligamentina	mucket	L	76	1.5	~5	C,G,SN	8
			Villosa fabalis	rayed bean	L	18				
9	35′ upstr.	30′	Actinonaias ligamentina	mucket	L	97	1.5	~5	C,G,SN	24
			Elliptio dilatata	spike	L	66				
			Lampsilis cardium	plain pocketbook	L	41				
			Villosa fabalis	rayed bean	L	28				
			Villosa fabalis	rayed bean	L	27				
			Villosa fabalis	rayed bean	L	18				
10	30′ upstr.	25′	Elliptio dilatata	spike	L	84	1.5	~5	C,G,SN	12
			Lampsilis cardium	plain pocketbook	L	115				
			Lasmigona costata	fluted-shell	L	20				
			Villosa fabalis	rayed bean	R	13				
11	30′ upstr.	50′	Elliptio dilatata	spike	L	85	2.0	~5	C,G,SN	4
			Villosa fabalis	rayed bean	FD	25				
			Villosa fabalis	rayed bean	R	19				
12	10′ upstr. (under bridge)	25′	Actinonaias ligamentina	mucket	L	83	2.0	~5	C,G,SN	12
			Elliptio dilatata	spike	L	75				
			Lampsilis cardium	plain pocketbook	L	102				

Table I-9a. Continued

Quadrat Number	Distance Above/Below Bridge *	Distance from left shore	Mussel Species Collected: Scientific name	Common name	Condition	Shell Length (mm)	Water Depth (ft.)	Depth Excavated (inches)	Substrate Composit.	Live Mussels No./sq.m
13	10' down (under bridge)	40'	Elliptio dilatata	spike	L	94	2.0	~5	C,G,SN,SI	8
			Elliptio dilatata	spike	L	79				
			Villosa fabalis	rayed bean	FD	21				
			Villosa fabalis	rayed bean	FD	18				
14	10' down (under bridge)	100'	Elliptio dilatata	spike	L	88	2.0	~5	C,G,SN,SI	12
			Villosa fabalis	rayed bean	L	17				
			Villosa fabalis	rayed bean	L	15				
			Villosa fabalis	rayed bean	FD	19				
			Actinonaias ligamentina	mucket	R	Frag.				
15	20' down (under bridge downstream end)	50'	Elliptio dilatata	spike	L	57	2.5	~5	C,G,SN	8
			Villosa fabalis	rayed bean	L	20				
			Elliptio dilatata	spike	FD	100				
			Elliptio dilatata	spike	FD	35				
16	30' down	125'	None collected	---	--	--	1.0	~5	G,SN,SI	0
17	35' down	80'	Elliptio dilatata	spike	L	83	2.0	~5	C,G,SN,SI	4
			Villosa fabalis	rayed bean	FD	18				
			Villosa fabalis	rayed bean	R	29				
18	35' down	100'	Actinonaias ligamentina	mucket	R	121	1.5	~5	G,SN,SI	0
			Actinonaias ligamentina	mucket	R	77				
			Actinonaias ligamentina	mucket	R	75				
			Villosa fabalis	rayed bean	R	28				
			Villosa fabalis	rayed bean	R	14				

Condition Categories
L - Live, FD = fresh dead, R = relict

Substrate Codes
C = cobble, G = gravel, SN = sand, SI = silt

* - Distance measured from centerline of bridge to sampling location upstream/downstream, respectively.

Table I-9a. Continued

Quadrat Number	Distance Above/Below Bridge *	Distance from left shore	Mussel Species Collected: Scientific name	Common name	Condition	Shell Length (mm)	Water Depth (ft.)	Depth Excavated (inches)	Substrate Composit.	Live Mussels No./sq.m
19	40' down	12'	Elliptio dilatata	spike	L	82	2.0	~5	C,G,SN	12
			Elliptio dilatata	spike	L	72				
			Lasmigona costata	fluted-shell	L	104				
			Villosa fabalis	rayed bean	FD	23				
			Villosa fabalis	rayed bean	FD	19				
			Elliptio dilatata	spike	R	frag.				
20	50' down	75'	None collected	---	--	--	1.5	~5	C,G,SN,SI	0
21	50' down	100'	Villosa fabalis	rayed bean	L	28	1.0	~5	C,G,SN,SI	4
			Elliptio dilatata	spike	FD	83				
			Villosa fabalis	rayed bean	R	17				
22	60' down	15'	Villosa fabalis	rayed bean	FD	22	2.0	~5	G,SN,SI	0
			Villosa fabalis	rayed bean	FD	20				
23	70' down	75'	Elliptio dilatata	spike	L	94	1.5	~5	C,G,SN,SI	4
			Elliptio dilatata	spike	R	35				
24	90' down	12'	Actinonaias ligamentina	mucket	L	74	2.0	~5	C,G,SN,SI	20
			Elliptio dilatata	spike	L	78				
			Elliptio dilatata	spike	L	77				
			Elliptio dilatata	spike	L	75				
			Villosa fabalis	rayed bean	L	28				
			Actinonaias ligamentina	mucket	FD	101				
			Elliptio dilatata	spike	FD	63				
			Villosa fabalis	rayed bean	FD	30				
			Villosa fabalis	rayed bean	FD	19				

Condition Categories
L - Live, FD = fresh dead, R = relict

Substrate Codes
C = cobble, G = gravel, SN = sand, SI = silt

* - Distance measured from centerline of bridge to sampling location upstream/downstream, respectively.

Table I-9a. Continued

Quadrat Number	Distance Above/Below Bridge *	Distance from left shore	Mussel Species Collected: Scientific name	Common name	Condition	Shell Length (mm)	Water Depth (ft.)	Depth Excavated (inches)	Substrate Composit.	Live Mussels No./sq.m
25	100' down	12'	Actinonaias ligamentina	mucket	L	90	1.5	~5	C,G,SN,SI	24
			Actinonaias ligamentina	mucket	L	87				
			Elliptio dilatata	spike	L	71				
			Elliptio dilatata	spike	L	63				
			Lampsilis cardium	plain pocketbook	L	23				
			Villosa fabalis	rayed bean	L	17				
			Villosa fabalis	rayed bean	PD	15				
26	110' down	12'	Actinonaias ligamentina	mucket	L	103	1.5	~5	C,G,SN,SI	20
			Elliptio dilatata	spike	L	75				
			Elliptio dilatata	spike	L	67				
			Lampsilis siliquoidea	fatmucket	L	90				
			Lasmigona costata	fluted-shell	L	111				
			Villosa fabalis	rayed bean	PD	22				
27	120' down	10'	Actinonaias ligamentina	mucket	L	94	1.5	~5	C,G,SN,SI	20
			Elliptio dilatata	spike	L	71				
			Elliptio dilatata	spike	L	68				
			Elliptio dilatata	spike	L	67				
			Lasmigona costata	fluted-shell	L	94				
			Actinonaias ligamentina	mucket	R	73				

Condition Categories
L - Live, PD = fresh dead, R = relict

Substrate Codes
C = cobble, G = gravel, SN = sand, SI = silt

* - Distance measured from centerline of bridge to sampling location upstream/downstream, respectively.

Table I-9b.

RESULTS FOR QUANTITATIVE TOTAL SUBSTRATUM QUADRAT (0.25-sq. m) SAMPLES COLLECTED BY DIVERS WITHIN 120 FEET UPSTREAM TO 120 FEET DOWNSTREAM OF THE CENTERLINE OF THE KENNERDELL BRIDGE, S.R. 3008, VENANGO COUNTY, PA ON SAMPLING DATES OCTOBER 9 THROUGH 12, 1995

Quadrat Number	Distance Above/Below Bridge *	Distance from right shore	Mussel Species Collected: Scientific name	Common name	Condition	Shell Length (mm)	Water Depth (ft.)	Depth Excavated (inches)	Substrate Composit.	Live Mussels No./sq.m
D1	50' down	160'	None Collected	---	--	--	8.5	5	C, G	0
D2	60' upstr.	200'	Unionidae juvenile	---	L	18	7.0	5	C, G, SN	4
D3	10' upstr.	240'	None Collected	---	--	--	7.0	5	C, G, SN	0
D4	70' down	285'	None Collected	---	--	--	6.0	5	C, G, SN	0
D5	120' upstr.	330'	*Elliptio dilatata*	spike	L	77	5.0	5	C, G, SN	12
			Villosa fabalis	rayed bean	L	17				
			Villosa fabalis	rayed bean	L	16				
D6	10' down	415'	None Collected	---	--	--	4.0	5	C, G	0
D7	80' down	450'	*Elliptio dilatata*	spike	L	78	3.0	5	C, G, SN	12
			Elliptio dilatata	spike	L	66				
			Villosa fabalis	rayed bean	L	29				
			Villosa fabalis	rayed bean	FD	--				
			Villosa fabalis	rayed bean	FD	--				
D8	110' upstr.	500'	*Elliptio dilatata*	spike	L	52	2.5	5	C, G	4

Condition Categories
L - Live, FD = fresh dead, R = relict

Substrate Codes
C = cobble, G = gravel, SN = sand, SI = silt

* - Distance measured from centerline of bridge to sampling location upstream/downstream, respectively.

Table I-9c. Mussel species collected by sample site in Pool 8 of the Allegheny River – August 26-29, 1996

Site	#Drails	#Mussels	A	B	C	D	E	F	G	H	I	J	K
37	5	1						1					
38	4	2		1	1								
39	4	3		1		2							
40	4	3			1	2							
41	4	7	2	1		4							
42	4	6	2	1	1	2							
43	4	1				1							
44	4	5		1	1	3							
45	4	10	2		1	7							
46	5	6			3	3							
47	5	6	2			4							
48	5	10	4	1	3	2							
49	5	11	5	1	1	3						1	
50	5	24	7	5	8	3				1			
51	5	11	4		4	3							
52	5	5	4	1									
53	5	2	1		1								
54	5	3	1	1	1								
55	5	1			1								
56	5	3			3								
57	5	4		2		2							
58	5	6		1		3		2					
59	5	5	2		2							1	
60	5	0											
61	5	3		1	1	1							
62	5	5		1	3	1							
63	2	1			1								

Table I-9c. Continued

Site	#Trails	#Mussels	A	B	C	D	E	F	G	H	I	J	K
64	3	0											
65	3	1			1								
66	4	0											
67	4	0											
68	4	0											
69	4	0											
70	4	0											
71	4	0											
72	4	0											
Totals	158	145	36	19	38	46		3		1		2	

A = *Lampsilis siliquoidea*
B = *Actinonaias ligamentina*
C = *Elliptio dilatata*
D = *Lasmigona costata*
E = *Lampsilis ovata*
F = *Ligumia recta*
G = *Alasmidonta marginata*
H = *Lampsilis cardium*
I = *Toxolasma parvus*
J = *Strophitus undulatus*
K = *Villosa fabalis*

Table I-9d. Mussel species collected by sample site in Pool 9 of the Allegheny River – August 26-29, 1996

Site	#Trail	#Mussels	A	B	C	D	E	F	G	H	I	J	K
1	6	1		1									
2	6	1		1									
3	6	1		1									
4	6	5		2	2	1							
5	6	7		4	3								
6	6	4		2	2								
7	6	6		5			1						
8	6	8		6	2								
9	6	3		1	2								
10	6	2		1	1								
11	6	3		1	2								
12	6	25		14	10		1						
13	6	32		18	9	3		1	1				
14	6	39		20	16	1				1	1		
15	6	21		8	12						1		
16	6	30		11	16	2		1					
17	4	3		1	2								
18	4	0											
19	4	2			2								
20	4	5		1	2							1	1
21	4	2			2								
22	3	4	1		2								1
23	3	0											
24	4	0											
25	4	2		1	1								
26	4	1										1	
27	2	0											

Table I-9d. Continued

Site	#Drails	#Mussels	A	B	C	D	E	F	G	H	I	J	K
28	3	1				1							
29	3	2		1	1								
30	4	0											
31	4	1			1								
32	4	0											
33	4	2			1						1		
34	4	0											
35	4	0											
36	4	2			2								
Totals	170	215	1	100	93	8	2	3	1	2	2	2	2

A = *Lampsilis siliquoidea*
B = *Actinonaias ligamentina*
C = *Elliptio dilatata*
D = *Lasmigona costata*
E = *Lampsilis ovata*
F = *Ligumia recta*
G = *Alasmidonta marginata*
H = *Lampsilis cardium*
I = *Toxolasma parvus*
J = *Strophitus undulatus*
K = *Villosa fabalis*

Table I-9e. Description of sample sites in Pools 8 and 9 of the Allegheny River – August 26-29, 1996

Pool 9 - August 26 and 28, 1996

Site	River Mile	Depth (feet)	Description
1	72.2	8-13	RDB to LDB - equally spaced across the entire river - large rock on RDB
2	72.1	11-13	RDB to LDB -equally spaced across the river
3	72.0	10	Same as #2
4	71.9	10-14	Same as #2
5	71.8	10-14	Same as #2 - blue house with white railing
6	71.7	6-10	Same as #2
7	71.6	6-10	Same as #2
8	71.5	6-15	Same as #2
9	71.4	8-18	Same as #2
10	71.3	2-18	Same as #2
11	71.2	6-22	boats split along RDB and LDB - 30' deep hole toward middle of river
12	70.9	3-9	RDB - inside bend with shallow sandy bank
13	70.7	3-5	RDB - extensive shallow gravel bottom - stone A-frame house
14	70.5	3-7	RDB - extensive shallow gravel bottom
15	70.1	6-12	Same as #14
16	69.9	8-10	Same as #14
17	69.8	5-10	RDB to middle of channel - 300' upstream of East Brady Bridge
18	69.7	5-10	Split along RDB and LDB - 200' upstream of East Brady Bridge
19	69.5	3-10	Split RDB and LDB - at Butler Water Company intake
20	69.1	11-18	Split RDB and LDB - 2,000' downstream of East Brady Bridge

Table I-9e. Continued

Pool 9 - August 26 and 28, 1996			
Site	River Mile	Depth (feet)	Description
21	68.7	10	Split along RDB and LDB - 100' upstream of powerline crossing
22	68.5	10-12	Split RDB and LDB -under powerline crossing
23	68.3	10-12	LDB - 400' downstream of powerline crossing
24	68.1	10-15	LDB
25	67.9	10-15	LDB
26	67.8	10-15	LDB - upstream of pipeline crossing
27	67.5	10-20	RDB - 300' downstream of pipeline crossing
28	67.4	10-15	RDB - 600' downstream of pipeline crossing
29	67.2	14-18	RDB
30	67.1	10-20	LDB
31	66.7	10-15	RDB - upstream of Snyders Run
32	66.4	10-20	LDB - downstream of Butler Boat Club ramp
33	66.2	10-15	RDB
34	65.5	10-20	Mid-channel - 200' upstream of Huling Run
35	64.5	10-15	LDB
36	64.2	5-15	Mid-channel - 200' upstream of Redbank Creek

Table I-9e. Continued

Pool 8 - August 27 and 29, 1996			
Site	River Mile	Depth (feet)	
37	62.1	10-15	RDB - 300' downstream of Dam 9
38	62.0	10-15	RDB
39	61.8	9-20	RDB
40	61.7	10-20	RDB - pipeline crossing - 20' deep hole towards LDB
41	61.5	10-15	RDB - multiple pipeline crossings
42	61.4	8-15	RDB - 100' downstream of Mast Run
43	61.2	10-15	Split - one boat close to RDB other boats out from LDB
44	61.1	6-15	Same as #43
45	61.0	7-15	Same as #43
46	60.9	6-15	Same as #43
47	60.8	8-15	Same as #43
48	60.5	6-15	Same as #43
49	60.4	9-15	Same as #43
50	60.3	10-15	Same as #43
51	60.2	10-15	Same as #43
52	60.1	10-15	Two boats RDB and three out from LDB - downstream of private boat ramp
53	59.9	10-15	Two boats RDB and three out from LDB
54	59.7	10-15	Same as #53
55	59.5	15-20	Same as #53
56	59.4	10-15	Same as #53
57	59.2	10-25	Same as #53
58	59.0	10-15	LDB - powerline crossing
59	58.8	10-25	LDB
60	58.7	10-20	LDB

Table I-9e. Continued			
Pool 8 - August 27 and 29, 1996			
Site	River Mile	Depth (feet)	
61	58.6	10-15	LDB - 30'+ deep dredge hole
62	58.4	8-20	LDB
63	58.3	10-14	LDB above powerline
64	58.2	10-15	LDB under powerline
65	58.1	10-20	RDB
66	58.1	10-15	LDB
67	58.1	10-20	LDB to middle of the channel
68	58.0	10-15	LDB
69	57.9	10-15	LDB
70	57.6	10-20	RDB
71	57.4	10-15	LDB
72	55.4	10-20	LDB downstream of confluence with Mahoning Creek

Table I-9f. Qualitative dive mussel sample from Pool 8 RM 60.3
August 29, 1996

Species	A	F	W	S	Total	%
Lampsilis siliquoidea	13		1		14	11
Actinonaias ligamentina	49		5	2	57	46
Elliptio dilatata	20		2	1	23	19
Leptodea costata	23		2	1	26	21
Ligumia recta	1				1	
Alasmidonta marginata			1		1	
Lampsilis cardium				1	1	
Totals					123	

A = alive F = fresh dead W = weathered S = sub-fossil

Table I-9g. Quantitative dive mussel sample from Pool 9 RM 70.5
August 28, 1996

Species	A	F	W	S	Total	%	Remarks
Actinonaias ligamentina	111		44	2	157	47	2 half-shells for sub-fossil
Elliptio dilatata	69		58	2	129	39	
Lasmigona costata	3		3		6	2	
Lampsilis ovata	2		1		3	1	
Ligumia recta	13	1	1		15	5	9 male 4 female for alive
Lampsilis cardium	4		4		8	2	2 half-shells for weathered
Villosa fabalis	1	1	3		5	2	
Lampsilis fasciola	1				1		
Epioblasma triquetra			2		2		1 male 1 female
Ptychobranchus fasciolaris	1				1		
Sphaeridae			1		1		
Totals					331		

A = alive F = fresh dead W = weathered S = sub-fossil

Table I-9h. Quantitative dive mussel sample Pool 8 Transect 1 RM 60.3 (100 feet out and parallel to RDB) August 29, 1996

Quad.	Species	Cond.	Length (mm)	Weight (gm)
1	Actinonaias ligamentina	A	125	394
1	Corbicula fluminea (20 valves)	F	-	-
2	Elliptio dilatata	A	76	58
2	Actinonaias ligamentina	A	4	18
2	Corbicula fluminea (20 valves)	F	-	-
3	Corbicula fluminea (50 valves)	W	-	-
4	Actinonaias ligamentina	A	118	328
4	Elliptio dilatata	A	85	72
4	Corbicula fluminea (24 valves)	W	-	-
5	Corbicula fluminea (24 valves)	W	-	-
6	Corbicula fluminea (36 valves)	W	-	-
7	Corbicula fluminea (24 valves)	W	-	-
8	Elliptio dilatata	A	34	2
8	Corbicula fluminea	W	-	-
9	Corbicula fluminea (36 valves)	W	-	-
10	Actinonaias ligamentina	A	121	331
10	Lampsilis siliquoidea	A	105	225
10	Corbicula fluminea (15 valves)	F	-	-
11	Corbicula fluminea (36 valves)	W	-	-
12	Actinonaias ligamentina	A	120	366
12	Elliptio dilatata	W	-	-
12	Corbicula fluminea (24 valves)	W	-	-
13	Corbicula fluminea (24 valves)	W	-	-
14	Elliptio dilatata	W	-	-
14	Corbicula fluminea (24 valves)	W	-	-
15	Corbicula fluminea (24 valves)	W	-	-

Table I-9h. Continued

Quad.	Species	Cond.	Length (mm)	Weight (gm)
16	Actinonaias ligamentina	A	126	364
16	Lampsilis fasciola	W	77	-
16	Corbicula fluminea (24 valves)	W	-	-
17	Actinonaias ligamentina	A	130	429
17	Elliptio dilatata	A	128	216
17	Corbicula fluminea (24 valves)	W	-	-
18	Corbicula fluminea (24 valves)	W	-	-
Live density = 2.7 mussels/m^2		# of species = 4		

A = alive F = fresh dead W = weathered S = sub-fossil

Table I-9i. Quantitative dive mussel sample Pool 9 Transect 1 RM 70.5 (100 feet out and parallel to RDB) August 28, 1996

Quad.	Species	Cond.	Length (mm)	Weight (g)
1	Elliptio dilatata	A	99	102
1	E. dilatata	A	76	44
1	Villosa fabalis	F	18	-
2	Elliptio dilatata	A	83	60
2	Villosa fabalis	A	27	2
2	Corbicula fluminea	F	-	-
3	Elliptio dilatata	A	81	72
3	E. dilatata	A	104	102
3	E. dilatata	S	-	-
3	Sphaeridae	W	-	-
3	Corbicula fluminea	F	-	-
4	Elliptio dilatata	A	44	10
4	Lampsilis siliquoidea	A	83	92
4	Lampsilis ovata	A	112	220
4	Actinonaias ligamentina	A	75	62
5	Elliptio dilatata	A	68	32
5	E. dilatata	A	66	40
5	E. dilatata	A	47	12
5	E. dilatata	A	40	10
5	Actinonaias ligamentina	A	96	68
5	A. ligamentina	A	120	296
5	A. ligamentina	A	115	262
6	Elliptio dilatata	A	66	39
6	E. dilatata	A	47	14
6	Corbicula fluminea	W	-	-

Table I-9i. Continued

Quad.	Species	Cond.	Length (mm)	Weight (g)
7	Actinonaias ligamentina	A	124	344
7	A. ligamentina	A	103	178
7	Villosa fabalis	A	24	2
7	Corbicula fluminea	F	-	-
7	C. fluminea	W	-	-
8	Villosa fabalis	W	15	-
9	Lasmigona costata	A	166	145
9	Actinonaias ligamentina	W	63	-
9	Villosa fabalis	A	22	2
10	Elliptio dilatata	A	72	40
10	Lampsilis siliquoidea	F	18	-
10	Sphaeridae	S		
11	Elliptio dilatata	A	46	10
11	Actinonaias ligamentina	A	83	122
11	A. ligamentina	A	121	348
12	Actinonaias ligamentina	A	83	114
Live Density = 10.3 mussels/m^2		# of Species = 6		

A= alive F= fresh dead W= weathered S= sub-fossil

Table I-9j. Quantitative dive mussel sample Pool 9 Transect 2 RM 70.5 (200 feet out and parallel to RDB) August 28, 1996

Quad.	Species	Cond.	Length (mm)	Weight (gm)
1	Actinonaias ligamentina	A	70	59
1	A. ligamentina	A	56	33
1	Elliptio dilatata	A	74	48
2	Actinonaias ligamentina	A	32	4
3	Actinonaias ligamentina	W	98	-
3	A. ligamentina	A	98	205
3	Elliptio dilatata	A	64	29
3	E. dilatata	A	91	100
3	E. dilatata	A	66	39
3	E. dilatata	W	69	-
3	E. dilatata	W	38	-
4	Elliptio dilatata	A	69	41
5	Actinonaias ligamentina	A	98	184
5	Elliptio dilatata	W	59	-
6	Corbicula fluminea	S	-	-
7	No mussels			
8	Elliptio dilatata	A	64	41
8	E. dilatata	W	59	-
8	Actinonaias ligamentina	A	99	198
9	Actinonaias ligamentina	A	94	194
9	A. ligamentina	A	88	152
9	Elliptio dilatata	A	81	76
9	E. dilatata	A	63	40
9	E. dilatata	A	60	34
9	Villosa fabalis	A	25	2
10	No mussels			

Table I-9j. Continued

Quad.	Species	Cond.	Length (mm)	Weight (gm)
11	Elliptio dilatata	A	60	31
11	E. dilatata	W	41	-
11	E. dilatata	S	54	-
12	Actinonaias ligamentina	A	105	210
12	A. ligamentina	S	48	-
Live density = 6.7 mussels/m^2		# of species = 3		

A = live F = fresh dead W = weathered S = sub-fossil

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URBAN & REGIONAL PLANNING
rgdovic@usa.net

DATE:	December 18, 1996	TIME:	4:56 PM
TO:	Bob Sheema Aquatic Systems	PHONE: FAX:	367-1000 766-7060
RE:	Kittanning Mussel Survey		
CC:			

Table I-9k

Unionid community characteristics in the Allegheny River at Kittanning, October 1996.

Species	Qualitative				Quantitative			
	No. live	Ave. age (years)	Ave. length (mm)	Ave. weight (g)	No. live	Ave. age (years)	Ave. length (mm)	Ave. weight (g)
Actinonaias l. carinata	207	18.8	136.3	524.2	11	17.3	129.6	480.1
Alasmidonta marginata	2	9.0	74.5	39.0				
Elliptio dilatata	131	13.3	110.7	165.1	29	8.9	86.1	103.9
Fusconaia flava					1	7.0	44.0	38.0
Lampsilis ovata	26	18.1	127.5	457.9	2	9.0	96.0	335.0
Lampsilis siliquoidea	47	16.7	123.0	271.4	5	10.6	89.6	167.0
Lasmigona costata	70	13.0	119.2	170.7	5	7.6	74.6	84.2
Leptodea fragilis	1	9.0	86.0	72.0				
Ptychobranchus fasciolaris	4	12.8	106.8	156.5				
Strophitus undulatus	2	9.5	79.0	69.0				
Total	490	16.1	124.0	342.2	53	10.6	92.7	193.5
Ave. density (no./m2)					3.2			

Table I-91

Unionid community characteristics in Allegheny River quantitative samples near Kittanning, October 1996.

Species	Abundance				Age (years)			Length (mm)			Weight (g)		
	No.	%	No./m^2	2SE	Ave.	Min.	Max.	Ave.	Min.	Max.	Ave.	Min.	Max.
Actinonaias l. carinata	11	20.8	0.7	0.5	17.3	6	25	123.6	61	153	480.1	46	746
Elliptio dilatata	29	54.7	1.8	0.9	8.9	2	17	86.1	24	123	103.9	1	242
Fusconaia flava	1	1.9	0.1	0.1	7.0	7	7	44.0	44	44	38.0	38	38
Lampsilis ovata	2	3.8	0.1	0.2	9.0	3	15	96.0	46	146	335.0	20	650
Lampsilis siliquoidea	5	9.4	0.3	0.3	10.6	1	17	89.6	18	132	167.0	1	314
Lasmigona costata	5	9.4	0.3	0.3	7.6	1	13	74.6	15	118	84.2	1	150
Total	53		3.2	1.1	10.6	1	25	92.7	15	153	193.5	1	746
(n)	66												
No. species	6												
% ≤ 3 years	22.6												
% ≤ 5 years	22.6												

Table I-9m

Unionid community characteristics in Allegheny River quantitative and qualitative samples near Kittanning, October 1996.

Species	Abundance		Age (years)			Length (mm)			Weight (g)		
	No.	%	Ave.	Min.	Max.	Ave.	Min.	Max.	Ave.	Min.	Max.
Actinonaias l. carinata	218	40.1	18.7	6	30	134.7	61	280	522.0	46	980
Alasmidonta marginata	2	0.4	9.0	8	10	74.5	73	76	39.0	36	42
Elliptio dilatata	160	29.5	12.5	2	22	106.2	24	135	154.2	1	286
Fusconaia flava	1	0.2	7.0	7	7	44.0	44	44	38.0	38	38
Lampsilis ovata	28	5.2	17.4	3	30	125.3	46	148	449.1	20	830
Lampsilis siliquoidea	52	9.6	16.1	1	30	119.8	18	174	261.4	1	450
Lasmigona costata	75	13.8	12.6	1	21	116.2	15	143	164.9	1	284
Leptodea fragilis	1	0.2	9.0	9	9	86.0	86	86	72.0	72	72
Ptychobranchus fasciolaris	4	0.7	12.8	7	18	106.8	84	124	156.5	54	254
Strophitus undulatus	2	0.4	9.5	7	12	79.0	75	83	69.0	62	76
Total	543		15.6	1	30	120.9	15	280	327.7	1	980
No. species	10										
% ≤ 3 years	2.4										
% ≤ 5 years	2.6										

Table I-10. A checklist of fishes reported from the Allegheny/Ohio River study area.

Common Name	Scientific Name	Reported Present in Studies Prior to 1980/81	Reported Present During Recent Studies
Lampreys	**Petromyzontidae**		
Ohio lamprey	*Ichthyomyzon bdellium*		✓
Gars	**Lepisosteidae**		
Longnose gar	*Lepisosteus osseus*	✓	✓
Shortnose gar	*Lepisosteus platostomus*	✓	✓
Bowfins	**Amiidae**		
Bowfin	*Amia calva*		✓
Mooneyes	**Hiodontidae**		
Goldeye	*Hiodon alosoides*	✓	✓
Mooneye	*Hiodon tergisus*		✓
Freshwater eels	**Anguillidae**		
American eel	*Anguilla rostrata*	✓	✓
Herrings	**Clupeidae**		
Skipjack herring	*Alosa chrysochloris*	✓	✓
Alewife	*Alosa pseudoharengus*		✓
Gizzard shad	*Dorosoma cepedianum*	✓	✓
Threadfin shad	*Dorosoma petenense*		✓
Carps and Minnows	**Cyprinidae**		
Central stoneroller	*Campostoma anomalum*	✓	✓
Goldfish	*Carassius auratus*	✓	✓
Redside dace	*Clinostomus elongatus*		✓
Satinfin shiner	*Cyprinella analostana*		✓
Spotfin shiner	*Cyprinella spiloptera*	✓	✓
Steelcolor shiner	*Cyprinella whipplei*		✓
Common carp	*Cyprinus carpio*	✓	✓
Streamline chub	*Erimystax dissimilis*	✓	✓
Tonguetied minnow	*Exoglossum laurae*		✓
Striped shiner	*Luxilus chrysocephalus*	✓	✓
Common shiner	*Luxilus cornutus*	✓	✓

Table I-10. A checklist of fishes reported from the Allegheny/Ohio River study area (Cont'd).

Common Name	Scientific Name	Reported Present in Studies Prior to 1980/81	Reported Present During Recent Studies
Carps and Minnows	Cyprinidae (Cont'd)		
Silver chub	*Macrhybopsis storeriana*	✓	✓
River chub	*Nocomis micropogon*	✓	✓
Golden shiner	*Notemigonus crysoleucas*	✓	✓
Bigeye chub	*Notropis amblops*		✓
Comely shiner	*Notropis amoenus*		✓
Emerald shiner	*Notropis atherinoides*	✓	✓
River shiner	*Notropis blennius*	✓	✓
Bigeye shiner	*Notropis boops*		✓
Ghost shiner	*Notropis buchanani*		✓
Spottail shiner	*Notropis hudsonius*		✓
Silver shiner	*Notropis photogenis*	✓	✓
Rosyface shiner	*Notropis rubellus*	✓	✓
Sand shiner	*Notropis stramineus*	✓	✓
Mimic shiner	*Notropis volucellus*	✓	✓
Bluntnose minnow	*Pimephales notatus*	✓	✓
Fathead minnow	*Pimephales promelas*	✓	✓
Bullhead minnow	*Pimephales vigilax*	✓	
Blacknose dace	*Rhinichthys atratulus*		✓
Longnose dace	*Rhinichthys cataractae*		✓
Creek chub	*Semotilus atromaculatus*	✓	✓
Fallfish	*Semotilus corporalis*		✓
Suckers	Catostomidae		
River carpsucker	*Carpiodes carpio*	✓	✓
Quillback	*Carpiodes cyprinus*	✓	✓
Highfin carpsucker	*Carpiodes velifer*	✓	✓
White sucker	*Catostomus commersoni*	✓	✓
Northern hog sucker	*Hypentelium nigricans*	✓	✓
Smallmouth buffalo	*Ictiobus bubalus*	✓	✓

Table I-10. A checklist of fishes reported from the Allegheny/Ohio River study area (Cont'd).

Common Name	Scientific Name	Reported Present in Studies Prior to 1980/81	Reported Present During Recent Studies
Bigmouth buffalo	*Ictiobus cyprinellus*	✓	✓
Suckers	**Catostomidae (Cont'd)**		
Black buffalo	*Ictiobus niger*	✓	✓
Spotted sucker	*Minytrema melanops*	✓	✓
Silver redhorse	*Moxostoma anisurum*	✓	✓
River redhorse	*Moxostoma carinatum*	✓	✓
Black redhorse	*Moxostoma duquesnei*	✓	✓
Golden redhorse	*Moxostoma erythrurum*	✓	✓
Shorthead redhorse	*Moxostoma macrolepidotum*	✓	✓
Bullhead catfishes	**Ictaluridae**		
White catfish	*Ameiurus catus*	✓	✓
Black bullhead	*Ameiurus melas*		✓
Yellow bullhead	*Ameiurus natalis*	✓	✓
Brown bullhead	*Ameiurus nebulosus*	✓	✓
Blue catfish	*Ictalurus furcatus*	✓	✓
Channel catfish	*Ictalurus punctatus*	✓	✓
Stonecat	*Noturus flavus*		✓
Tadpole madtom	*Noturus gyrinus*		✓
Margined madtom	*Noturus insignis*		✓
Flathead catfish	*Pylodictis olivaris*	✓	✓
Pikes	**Esocidae**		
Redfin pickerel	*Esox americanus americanus*		✓
Grass pickerel	*Esox americanus vermiculatus*		✓
Northern pike	*Esox lucius*	✓	✓
Tiger muskellunge	*Esox lucius x E. masquinongy*		✓
Muskellunge	*Esox masquinongy*		✓
Mudminnows	**Umbridae**		
Central mudminnow	*Umbra limi*		✓

Table I-10. A checklist of fishes reported from the Allegheny/Ohio River study area (Cont'd).

Common Name	Scientific Name	Reported Present in Studies Prior to 1980/81	Reported Present During Recent Studies
Trouts	**Salmonidae**		
Rainbow trout	*Oncorhynchus mykiss*		✓
Brown trout	*Salmo trutta*		✓
Trouts	**Salmonidae (Cont'd)**		
Brook trout	*Salvelinus fontinalis*		✓
Trout - perches	**Percopsidae**		
Trout-perch	*Percopsis omiscomaycus*	✓	✓
Pirate perches	**Aphredoderidae**		
Pirate perch	*Aphredoderus sayanus*		✓
Killifishes	**Cyprinodontidae**		
Banded killifish	*Fundulus diaphanus*	✓	✓
Silversides	**Atherinidae**		
Brook silverside	*Labidesthes sicculus*		✓
Sculpins	**Cottidae**		
Mottled sculpin	*Cottus bairdi*	✓	✓
Temperate basses	**Percichthyidae**		
White perch	*Morone americana*		✓
White bass	*Morone chrysops*	✓	✓
Striped bass	*Morone saxatilis*		✓
Yellow bass	*Morone mississippiensis*		✓
Sunfishes	**Centrarchidae**		
Rock bass	*Ambloplites rupestris*	✓	✓
Green sunfish	*Lepomis cyanellus*	✓	✓
Pumpkinseed	*Lepomis gibbosus*	✓	✓
Warmouth	*Lepomis gulosus*	✓	✓
Orangespotted sunfish	*Lepomis humilis*	✓	✓
Bluegill	*Lepomis macrochirus*	✓	✓
Longear sunfish	*Lepomis megalotis*	✓	✓
Redear sunfish	*Lepomis microlophus*	✓	✓

Table I-10. A checklist of fishes reported from the Allegheny/Ohio River study area (Cont'd).

Common Name	Scientific Name	Reported Present in Studies Prior to 1980/81	Reported Present During Recent Studies
Smallmouth bass	*Micropterus dolomieu*	✓	✓
Spotted bass	*Micropterus punctulatus*	✓	✓
Largemouth bass	*Micropterus salmoides*	✓	✓
White crappie	*Pomoxis annularis*	✓	✓
Sunfishes	**Centrarchidae (Cont'd)**		
Black crappie	*Pomoxis nigromaculatus*	✓	✓
Perches	**Percidae**		
Greenside darter	*Etheostoma blennioides*		✓
Rainbow darter	*Etheostoma caeruleum*		✓
Fantail darter	*Etheostoma flabellare*	✓	✓
Johnny darter	*Etheostoma nigrum*	✓	✓
Variegate darter	*Etheostoma variatum*		✓
Banded darter	*Etheostoma zonale*	✓	✓
Yellow perch	*Perca flavescens*	✓	✓
Logperch	*Percina caprodes*	✓	✓
Channel darter	*Percina copelandi*		✓
Longhead darter	*Percina macrocephala*		✓
Blackside darter	*Percina maculata*		✓
River darter	*Percina shumardi*	✓	
Sauger	*Stizostedion canadense*	✓	✓
Saugeye	*Stizostedion canadense x S. vitreum*		✓
Walleye	*Stizostedion vitreum*	✓	✓
Drums	**Sciaenidae**		
Freshwater drum	*Aplodinotus grunniens*	✓	✓

Table I-11. Ranked abundance (as percent occurrence) of fishes reported from the Allegheny River study area.

River	Species	Percent Abundance
Allegheny	Emerald shiner	21.49673
Allegheny	Bluntnose minnow	15.13842
Allegheny	Carp	12.02345
Allegheny	Channel catfish	5.113174
Allegheny	Smallmouth bass	3.949339
Allegheny	Mimic shiner	3.380258
Allegheny	Spotfin shiner	3.346027
Allegheny	Golden redhorse	3.19199
Allegheny	Rosyface shiner	2.396132
Allegheny	Gizzard shad	2.379017
Allegheny	Sand shiner	2.070943
Allegheny	Rainbow darter	1.929742
Allegheny	Brown bullhead	1.912627
Allegheny	Walleye	1.805657
Allegheny	Sauger	1.484746
Allegheny	Shorthead redhorse	1.429122
Allegheny	Silver redhorse	1.313594
Allegheny	Quillback carpsucker	1.2922
Allegheny	Trout perch	1.21946
Allegheny	Northern hog sucker	1.129605
Allegheny	Mottled sculpin	1.061144
Allegheny	Central stoneroller	0.795858
Allegheny	White sucker	0.757349
Allegheny	Greenside darter	0.748791
Allegheny	Johnny darter	0.744512
Allegheny	Logperch	0.599033
Allegheny	River redhorse	0.526293
Allegheny	Bluegill	0.517736
Allegheny	Rock bass	0.436438
Allegheny	Black redhorse	0.419323
Allegheny	Striped shiner	0.363699

Table I-11. Ranked abundance (as percent occurrence) of fishes reported from the Allegheny River study area (cont'd).

River	Species	Percent Abundance
Allegheny	Freshwater drum	0.346583
Allegheny	Spotted bass	0.338026
Allegheny	White crappie	0.312353
Allegheny	River chub	0.308074
Allegheny	Banded darter	0.303795
Allegheny	Yellow bullhead	0.299516
Allegheny	Spottail shiner	0.278122
Allegheny	Bigeye chub	0.183989
Allegheny	Largemouth bass	0.183989
Allegheny	White bass	0.175431
Allegheny	Flathead catfish	0.171152
Allegheny	Brook silverside	0.158316
Allegheny	Pumpkinseed	0.158316
Allegheny	Bigeye shiner	0.149758
Allegheny	Shiner sp	0.141201
Allegheny	Streamline chub	0.141201
Allegheny	Yellow perch	0.119807
Allegheny	Black crappie	0.111249
Allegheny	Saugeye	0.098413
Allegheny	Fantail darter	0.094134
Allegheny	Silver shiner	0.081297
Allegheny	Brown trout	0.077019
Allegheny	Sucker sp	0.07274
Allegheny	White catfish	0.07274
Allegheny	Minnow sp	0.059903
Allegheny	Creek chub	0.055624
Allegheny	Golden shiner	0.055624
Allegheny	Channel darter	0.051346
Allegheny	Mooneye	0.047067
Allegheny	Variegated darter	0.047067
Allegheny	Blackside darter	0.038509

Table I-11. Ranked abundance (as percent occurrence) of fishes reported from the Allegheny River study area (cont'd).

Allegheny	Smallmouth buffalo	0.038509
Allegheny	Tiger muskellunge	0.038509
Allegheny	Comely shiner	0.03423
Allegheny	Muskellunge	0.03423
Allegheny	Stonecat	0.03423
Allegheny	Longhead darter	0.017115
Allegheny	Northern pike	0.012836
Allegheny	Tonguetied minnow	0.012836
Allegheny	Blacknose dace	0.008558
Allegheny	Common shiner	0.008558
Allegheny	Fathead minnow	0.008558
Allegheny	Goldfish	0.008558
Allegheny	Rainbow trout	0.008558
Allegheny	Redfin pickerel	0.008558
Allegheny	American eel	0.004279
Allegheny	Brook trout	0.004279
Allegheny	Grass pickerel	0.004279
Allegheny	Green sunfish	0.004279
Allegheny	White/striped bass	0.004279

Table I-12. Ranked abundance (as percent occurrence) of fishes reported from the Ohio River study area.

River	Taxon	Percent Abundance
Ohio	Gizzard shad	48.51795
Ohio	Emerald shiner	23.30544
Ohio	Channel catfish	5.096259
Ohio	Minnow sp	4.320666
Ohio	Carp	3.3013
Ohio	Mimic shiner	3.156128
Ohio	Sand shiner	2.145385
Ohio	Bluntnose minnow	2.017748
Ohio	Brown bullhead	1.556647
Ohio	Freshwater drum	1.452008
Ohio	Shiner sp	0.905816
Ohio	Skipjack herring	0.362786
Ohio	White bass	0.326565
Ohio	Spotted bass	0.250961
Ohio	Smallmouth bass	0.227101
Ohio	Yellow bullhead	0.216177
Ohio	Spotfin shiner	0.211865
Ohio	Sauger	0.211003
Ohio	Bluegill	0.207266
Ohio	White crappie	0.205828
Ohio	Black crappie	0.204966
Ohio	Walleye	0.194904
Ohio	Ghost shiner	0.173632
Ohio	Golden redhorse	0.104926
Ohio	Pumpkinseed	0.092278
Ohio	Flathead catfish	0.083941
Ohio	Rock bass	0.077617
Ohio	Shorthead redhorse	0.067268
Ohio	Silver redhorse	0.062381
Ohio	Green sunfish	0.062093
Ohio	Largemouth bass	0.061231

Table I-12. Ranked abundance (as percent occurrence) of fishes reported from the Ohio River study area (cont'd).

River	Taxon	Percent Abundance
Ohio	Silver chub	0.059506
Ohio	White catfish	0.054619
Ohio	Quillback carpsucker	0.05117
Ohio	Logperch	0.049445
Ohio	Smallmouth buffalo	0.049157
Ohio	Spottail shiner	0.04427
Ohio	Trout perch	0.033921
Ohio	Striped bass hybrid	0.028747
Ohio	Redhorse sp	0.028459
Ohio	Yellow perch	0.028459
Ohio	Tiger muskellunge	0.026735
Ohio	River carpsucker	0.021848
Ohio	Bass sp	0.02156
Ohio	Longnose gar	0.020123
Ohio	Mooneye	0.018111
Ohio	White sucker	0.018111
Ohio	Blue catfish	0.016098
Ohio	American eel	0.014373
Ohio	Warmouth	0.014373
Ohio	River shiner	0.014086
Ohio	Bigeye chub	0.013799
Ohio	Northern hog sucker	0.013799
Ohio	Bigmouth buffalo	0.010924
Ohio	Goldfish	0.010349
Ohio	River redhorse	0.009774
Ohio	White bass hybrid	0.009199
Ohio	Longear sunfish	0.008912
Ohio	Pirate perch	0.008912
Ohio	Black redhorse	0.008624
Ohio	Highfin carpsucker	0.008624
Ohio	Black bullhead	0.008337

Table I-12. Ranked abundance (as percent occurrence) of fishes reported from the Ohio River study area (cont'd).

River	Taxon	Percent Abundance
Ohio	Saugeye	0.008049
Ohio	Golden shiner	0.006899
Ohio	Johnny darter	0.006324
Ohio	Unidentified	0.006324
Ohio	Brook silverside	0.006037
Ohio	Muskellunge	0.005462
Ohio	Steelcolor shiner	0.005462
Ohio	Spotted sucker	0.005174
Ohio	Northern pike	0.0046
Ohio	Redear sunfish	0.004312
Ohio	Striped shiner	0.002875
Ohio	Black buffalo	0.002587
Ohio	Pike sp	0.002587
Ohio	Sunfish sp	0.0023
Ohio	White perch	0.0023
Ohio	Banded killifish	0.002012
Ohio	Goldeye	0.001725
Ohio	Central stoneroller	0.001437
Ohio	Orangespotted sunfish	0.001437
Ohio	River chub	0.001437
Ohio	Threadfin shad	0.001437
Ohio	Banded darter	0.00115
Ohio	Rosyface shiner	0.00115
Ohio	Striped bass	0.00115
Ohio	Yellow bass	0.00115
Ohio	Channel darter	0.000862
Ohio	Creek chub	0.000862
Ohio	Goldfish/carp hybrid	0.000862
Ohio	Northern pike/muskellunge hybrid	0.000862
Ohio	Shortnose gar	0.000862
Ohio	Blacknose dace	0.000575

Table I-12. Ranked abundance (as percent occurrence) of fishes reported from the Ohio River study area (cont'd).

River	Taxon	Percent Abundance
Ohio	Fantail darter	0.000575
Ohio	Greenside darter	0.000575
Ohio	Ohio river bullhead	0.000575
Ohio	Rainbow trout	0.000575
Ohio	Stonecat	0.000575
Ohio	Alewife	0.000287
Ohio	Bowfin	0.000287
Ohio	Catfish sp	0.000287
Ohio	Common shiner	0.000287
Ohio	Fathead minnow	0.000287
Ohio	Longhead darter	0.000287
Ohio	Ohio lamprey	0.000287
Ohio	Sucker sp	0.000287

Table I-13. List of bird species (common names) reported in the Study Area

American bittern	American goldfinch
Least bittern	Canada goose
Red-winged blackbird	Northern goshawk
Eastern bluebird	Common grackle
Bobolink	Pied-billed grebe
Common bobwhite	Northern harrier
Northern cardinal	Broad-winged hawk
Gray catbird	Cooper's hawk
Yellow-breasted chat	Red-shouldered hawk
Black-capped chickadee	Red-tailed hawk
Carolina	Rough-legged hawk
American coot	Sharp-shinned hawk
Brown-headed cowbird	Black-crowned night heron
Brown creeper	Great blue heron
American crow	Green heron
Black-billed cuckoo	Ruby-throated hummingbird
Yellow-billed cuckoo	Blue jay
Mourning dove	Northern junco
American black duck	American kestrel
Wood duck	Killdeer
House finch	Eastern kingbird
Purple finch	Belted kingfisher
Common flicker	Golden-crowned kinglet
Acadian flycatcher	Horned lark
Alder flycatcher	Lapland longspur
Great crested flycatcher	Mallard
Least flycatcher	Purple martin
Willow flycatcher	Eastern meadowlark
Common gallinule	Northern mockingbird
Blue-gray gnatcatcher	Common nighthawk

Table I-13. List of bird species (common names) reported in the Study Area (cont'd)

Red-breasted nuthatch	Barn swallow
White-breasted nuthatch	Cliff swallow
Baltimore oriole	Rough-winged swallow
Northern oriole	Tree swallow
Orchard oriole	Chimney swift
Ovenbird	Scarlet tanager
Barn owl	Summer tanager
Barred owl	Blue-winged teal
Common screech owl	Brown thrasher
Great horned owl	Hermit thrush
Long-eared owl	Wood thrush
Short-eared owl	Tufted titmouse
Eastern pewee	Veery
Eastern phoebe	Red-eyed vireo
King rail	Solitary vireo
Virginia rail	Warbling vireo
American robin	Yellow-throated vireo
Spotted sandpiper	Black vulture
Upland sandpiper	Turkey vulture
Yellow-bellied sapsucker	Black-and-white warbler
Sora	Blackburnian warbler
American tree sparrow	Black-throated blue warbler
Grasshopper sparrow	Black-throated green warbler
Henslow's sparrow	Blue-winged warbler
House sparrow	Canada warbler
Savannah sparrow	Cerulean warbler
Song sparrow	Chestnut-sided warbler
Vesper sparrow	Golden-winged warbler
European starling	Hooded warbler
Bank swallow	Kentucky warbler

Table I-13. List of bird species (common names) reported in the Study Area (cont'd)

Magnolia warbler	Cedar waxwing
Mourning warbler	Whip-poor-will
Nashville warbler	American woodcock
Northern parula warbler	Downy woodpecker
Pine warbler	Hairy woodpecker
Prairie warbler	Pileated woodpecker
Worm-eating warbler	Red-bellied woodpecker
Yellow warbler	Red-headed woodpecker
Yellow-throated warbler	Bewick's wren
Louisiana waterthrush	Carolina wren
Northern waterthrush	House wren
	Marsh wren
	Sedge wren
	Winter wren
	Common yellowthroat

Table I-14. Mammals with ranges including the Allegheny and Ohio River corridors (Burt and Grossenheider 1976).

Common Name	Scientific Name	Common Name	Scientific Name
Opossum	*Didelphus marsupialis*	Striped Skunk	*Mephitis mephitis*
Masked Shrew	*Sorex cinereus*	Coyote	*Canis latrans*
Smokey Shrew	*Sorex fumeus*	Red Fox	*Vulpes fulva*
Longtail Shrew	*Sorex dispar*	Gray Fox	*Urocyon cinereoargenteus*
Northern Water Shrew	*Sorex palustris*	Woodchuck	*Marmota monax*
Pygmy Shrew	*Microsorex hoyi*	Eastern Chipmunk	*Tamias striatus*
Least Shrew	*Cryptotis parva*	Eastern Gray Squirrel	*Sciurus carolinensis*
Shorttail Shrew	*Blarina brevicauda*	Eastern Fox Squirrel	*Sciurus niger*
Starnose Mole	*Condylura cristata*	Red Squirrel	*Tamiasciurus hudsonicus*
Eastern Mole	*Scalopus aquaticus*	Southern Flying Squirrel	*Glaucomys volans*
Hairytail Mole	*Parascalops breweri*	Northern Flying Squirrel	*Glaucomys sabrinus*
Keen Myotis	*Myotis keeni*	Beaver	*Castor canadensis*
Little Brown Myotis	*Myotis lucifugus*	White-footed Mouse	*Peromyscus leucopus*
Indiana Myotis	*Myotis sodalis*	Deer Mouse	*Peromyscus maniculatus*
Small-footed Myotis	*Myotis subulatus*	Eastern Woodrat	*Neotoma floridana*
Silver-haired Bat	*Lasionycteris noctivagans*	Southern Bog Lemming	*Synaptomys cooperi*
Eastern Pipistrel	*Pipistrellus subflavus*	Boreal Redback Vole	*Clethrionomys gapperi*
Red Bat	*Lasiuris borelis*	Meadow Vole	*Microtus pennsylvanicus*
Big Brown Bat	*Eptesicus fuscus*	Pine Vole	*Pitymys pinetorum*
Hoary Bat	*Lasiurus cinereus*	Muskrat	*Ondatra zibethica*
Evening Bat	*Nycticeius humeralis*	Meadow Jumping Mouse	*Zapus hudsonius*
Raccoon	*Procyon lotor*	Woodland Jumping Mouse	*Napaeozapus insignis*
Least Weasel	*Mustela rixosa*	Porcupine	*Erethizon dorsatum*
Shorttail Weasel	*Mustela erminea*	Snowshoe Hare	*Lepus americanus*
Longtail Weasel	*Mustela frenata*	Eastern Cottontail	*Sylvilagus floridanus*
Mink	*Mustela vison*	Whitetail Deer	*Odocoileus virginianus*
River Otter	*Lutra canadensis*		