BIOTIC COMMUNITY

Fish Community Information

Since the late 1930's, the fishes of the Black River basin have been sampled with seines and electrofishing equipment. Fish distribution data is available from 91 seine sites in the lower subbasin and 45 seine sites in the upper subbasin (Table 7). Seine samples provide the qualitative and quantitative indicators that can best define fish communities. Electrofishing has been used at ten sites in the lower subbasin and five sites in the upper subbasin (Table 7). Electrofishing emphasized the collection of "sport" fishes such as the black basses, suckers, and sunfishes, with little attempt to collect nektonic or benthic fish species. Locations of sample sites in Table 7 are identified by "river mile", which can be found at MDC Southeast Regional Office.

Combining all sampling methods, a total of 132 fish species representing 20 families have been collected in the Black River basin (Table 8). In the lower subbasin, 130 fish species have been collected. In the upper subbasin, 64 fish species have been collected. The difference in the number of species in each basin is due to physiographic location of the subbasins. The lower subbasin lies in both the Ozark and Lowland Faunal Regions, while the upper subbasin lies only in the Ozark Faunal Region. Both faunal regions have species unique to each region (Pflieger 1997).

Lower Subbasin

Seine Data

One hundred twenty eight species representing 20 families have been collected (Table 9). Blackspotted topminnow, green sunfish, and longear sunfish are the most widely distributed fish species (Table 9). They were collected at 80%, 74%, and 71% of the sites, respectively.

The cypress minnow and the pallid shiner haven't been collected since 1941and should be considered extirpated (Table 10). Both of these species are considered lowland species (Pflieger 1997) and their absence is probably due to habitat degradation associated with channelization of the lowland streams. The goldstripe darter should also be considered extirpated from the subbasin (personal communication, Matt Winston, MO Dept. of Conservation). Eight species collected earlier have not been collected since 1975 (Table 10). Of these eight, inadequate sampling is probably the explanation for the absence of the southern redbelly dace, Johnny darter, chestnut lamprey, American brook lamprey, and river darter. These species have sporadic distribution in Ozark streams or live in habitats difficult to seine (Pflieger 1997). The goldfish and fathead minnow are not native to this area and were probably introduced via bait bucket.

Electrofishing Data

From 1974 to 1996, 30 electrofishing surveys were conducted on the Black River, Cane Creek, and Tenmile Creek (Table 7). Overall, 45 species in 13 families have been collected by electrofishing (Table 11). Of these 45 species, only the flier hasn't been collected in Black River. In Cane and

Tenmile Creeks, 22 and 16 species were collected, respectively. Centrarchids (primarily longear sunfish) and catostomids (primarily golden redhorse) comprised the majority of the fish samples (Table 11). In the Black River and Cane Creek, spotted bass were the most abundant black bass. In Tenmile Creek, smallmouth bass were the dominant black bass.

Upper Subbasin

Seine Data

Sixty four fish species in 14 families have been collected (Table 9). Bleeding shiners and rainbow darter were the most widely distributed species (Table 9). They were collected at 73% and 69% of the sample sites, respectively. Eleven species were collected from at least 50% of the sites. Only two fish species (Ozark shiner and the least brook lamprey) were found exclusively in this subbasin. The southern redbelly dace is also found primarily in this subbasin.

The freckled madtom, brindled madtom, eastern redfin shiner, and speckled darter have not been collected since 1945 and should be considered extirpated (Table 10). The walleye and American eel should be considered extirpated because Clearwater Dam inhibits their access to these streams. An additional nine species have not been collected since 1976. Of these nine, the freshwater drum and chestnut lamprey probably were not captured due to sampling inefficiencies of seines. Pflieger (1997) lists the gilt darter and Ozark shiner rare, if not extirpated from the Black River basin. The bullhead minnow is a lowland species and prefers sluggish pools and low gradient streams - a rare habitat in this subbasin (Pflieger 1997). The absence of brook silverside and golden shiner from recent samples is puzzling because these species are relative common in Ozark streams.

Electrofishing Data

From 1988 to 1997, 10 electrofishing surveys were conducted on the Black River, East Fork of the Black River, Middle Fork of the Black River, and the West Fork of the Black River. Twenty-one species in six families have been collected (Table 12). In all rivers, centrarchids dominated the samples. The most abundant centrarchids were longear sunfish, shadow bass, and smallmouth bass (Table 12). Excluding the East Fork of the Black River, smallmouth bass were the most abundant black bass. The fish community in the East Fork may be influenced by Lower Taum Sauk Lake. Largemouth bass were the dominant black bass and bluegill were abundant in the East Fork.

Aquatic Invertebrates

Crayfish

As expected, due to the physiographic location of the subbasins, species richness is higher in the lower subbasin. In the lower subbasin, 12 crayfish species have been collected (Table 13). In the upper basin, only three species (woodland, Hubbs, and spothanded) have been collected. The woodland crayfish is the dominant crayfish in the basin (Pflieger 1996). The northern crayfish was probably introduced into the basin via bait bucket (Pflieger 1996). Habitat loss due to channelization in the in the lower subbasin is likely responsible for the decline of several lowland species, such as shield, cajun,

Shufeldt's dwarf, and vernal crayfish (Pflieger 1996).

Insects

The development of mines, mills, and smelters to process minerals in the New Viburnum trend impacted several streams in the upper subbasin. Benthic invertebrates are good indicators of water quality because most species, especially mayflies and stoneflies, cannot tolerate poor water quality. To document the changes in water quality, the benthic invertebrate communities in Strother Creek, Bee Fork, Neals Creek, Logan Creek, Bills Creek, Brushy Creek (control stream) and the West Fork of the Black River have been intensively sampled since the 1960s. As of 1981, aquatic invertebrate diversity and densities in Strother Creek, Bee Fork, and Neals Creek have improved, but not to premining levels (Trial 1983). In Bills Creek and the West Fork of the Black River, diverse benthos populations above and below the mines indicated good water quality.

Mussels

Mussels are excellent environmental indicators. Therefore, the presence of a diverse mussel community may indicate stable conditions, low siltation, and good water quality and habitat.

In the lower subbasin, a diverse mussel community exists (Table 14). Forty species of mussels have been found in the Black River. Mussel surveys have also been conducted in Cane Creek (23 species) and Tenmile Creek (3 species).

In the upper subbasin, only five species (giant floater, fatmucket, northern broken-ray, squawfoot, and Asiatic clam) have been collected (Buchanan 1996). Buchanan (1996) attributed the poor mussel diversity due to unstable substrate in these streams.

Federal and State Listed Species

Fish

No federally endangered fish are present in the basin (Table 15). Since the settlement of Missouri, many species have declined to levels of concern and some have disappeared entirely (Missouri Natural Heritage Program 2000). Twenty-six fish species found in the Black River basin are of particular concern due to population declines or apparent vulnerability from a statewide perspective (Table 15). The status of each of these species in the basin is discussed below. For additional information regarding Missouri animals of concern, go to http://www.mdc.state.mo.us/documents/nathis/endangered/animals_concern.pdf.

> cypress minnow: According to Pflieger (1997), historically this Lowland species was common in the lower Black River. However, according to MDC files only 28 individuals have ever been collected in the basin and these came from one site in 1941 (Table 8).
>
> Mississippi silvery minnow: This minnow is common throughout the lower Black River subbasin (Tables 8 and 9) and has been collected as recently as 1994.

pallid shiner: Once common in the Lowlands, this species has declined, and is probably extirpated from Missouri (Pflieger 1997). Increased siltation associated with land use practices is the suspected cause of its decline.

taillight shiner: Pflieger (1997) describes this minnow as one of the rarest Missouri minnows and may soon be extirpated in the state. In the lower Black River subbasin, this minnow was found at seven locations in the late 1990's (Table 8).

Ozark shiner: This species should be considered extirpated because no individuals have been captured in 40 years (Tables 6 and 8). Pflieger (1997) attributes the construction of large reservoirs, resulting in habitat loss and range fragmentation as the likely cause for the decline of the Ozark shiner.

sabine shiner: In Missouri, the sabine shiner has been collected only from the Black River in Butler County (Pflieger 1997). In the 1990's, this shiner was collected at 13 locations (Table 8).

pugnose minnow: Primarily a Lowland species, this minnow may have increased in numbers in recent decades (Pflieger 1997). Pugnose minnows are widely distributed in the lower subbasin (Table 8).

eastern slim minnow: This rare minnow has been recently collected from only the Black River and Castor River (Pflieger 1997). Reservoir construction is the suspected cause of the extirpation of this species from the St. Francis River and White River basins (Pflieger 1997). In 1999, this minnow was collected from three sites on the lower Black River (Table 8).

mountain madtom: This species is naturally rare in Missouri (Pflieger 1997), but in the 1990's it was collected at five locations in the lower Black River (Table 8)

western sand darter: Pflieger (1997) noted that this darter is common in the Lowland ditches, but not abundant anywhere in Missouri and may be declining in numbers. In 1999, 32 individuals were collected from nine sites in the lower Black River (Table 8).

scaly sand darter: The scaly sand darter is primarily a Lowland species, but exists in adjacent Ozark sections and has apparently declined in recent decades (Pflieger 1997). This species is relatively common in the lower subbasin (Table 9). It is primarily found in the Black River, but it has also been found in Cane Creek (1999) and Menorkenut Slough (1998) (Table 8).

crystal darter: Although never common, this Lowland darter has been collected during the 1990's at nine sites in the lower subbasin (Table 8).

swamp darter: According to Pflieger (1997), this Lowland darter exists in Missouri only in the lower Black River subbasin. During the 1990's, it was collected at seven locations (Table 8).

harlequin darter: This Lowland species is one of the rarest darters in Missouri (Pflieger 1997).

In 1999, this darter was collected at 12 sites on the lower Black River.

goldstripe darter: This rare darter has only been collected from Romine Spring (Pflieger 1997). Recent sampling of Romine Spring (1995), indicate that this darter is probably extirpated from Black River basin.

longnose darter: According to Pflieger (1997), this rare darter exists only in the White River and the upper St. Francis River subbasin. In 1999, Matt Winston (MDC Fisheries Research Biologist) collected a longnose darter in the lower Black River (Table 8).

river darter: Historically, this darter was common in large ditches and Lowland streams (Pflieger 1997). In the Black River basin, only one specimen has been collected in the lower subbasin (Table 8).

stargazing darter: This darter is one of the rarest fishes in Missouri, having been collected on a few occasions from the Current River and the lower Black River (Pflieger 1997). During the 1990's, this darter was collected at three locations on the lower Black River (Table 8).

blue sucker: This species is fairly common in the lower Black River as documented by electrofishing surveys.

flier: Fliers occur almost exclusively in the Lowlands and are naturally uncommon and sporadic in distribution (Pflieger 1997). However, this species was probably more common prior to the draining of the Lowlands. The most recent collection occurred in 1999 on Big Cane Creek, where 17 individuals were collected (Table 8).

dollar sunfish: This Lowland species is quite similar to longear sunfish and is probably overlooked during sampling (Pflieger 1997). In the late 1990's, dollar sunfish were collected at four sites in the lower subbasin (Table 8).

bantam sunfish: Pflieger (1997), found bantam sunfish only in the Mingo Swamp, which is in the St. Francis River basin. In 1999, Matt Winston (MDC Fisheries Research Biologist) collected 13 individuals in Big Cane Creek in the lower Black River subbasin (Table 8).

starhead topminnow: Pflieger (1997), only found this topminnow in the St. Francis River basin. In 1999, 20 starhead topminnows were collected in Big Cane Creek and 10 in Little Cane Creek (Table 8). Both of these streams are lowland streams located in the lower Black River subbasin.

American brook lamprey: This is the rarest of the brook lampreys found in Missouri (Pflieger 1997). In the Black River basin, only one specimen has ever been collected (Table 8).

mooneye: Mooneye have been collected in the lower Black River during electrofishing surveys (Tables 8 and 11). Pflieger (1997) noted that it has never been common in Missouri and may be declining.

paddlefish: This species is fairly common in the lower Black River as documented by MDC fish population surveys.

Crayfish

All of the listed crayfish (Table 15) are considered Lowland species and the probable cause for their decline is habitat degradation due to channelization and drainage of wetlands.

Mussels

The Curtis pearlymussel and pink mucket are Federally Endangered (Table 15). Because no fresh materials of the Curtis pearlymussel have been found since 1971, Buchanan (1996) considers this species extirpated from the Black River. Altered stream flows due to the construction of Clearwater Dam is a possible reason for this species decline. In 2000, Sue Bruenderman (MDC Fisheries Research Biologist) found two live pink muckets in the Black River near Poplar Bluff. The southern hickorynut is one of the rarest mussels in Missouri and has been collected in Cane Creek (Oesch 1984).

Angler Survey Data

The Missouri Statewide Angler Survey (Weithman 1991) is the main source of creel information for the basin streams (Table 16). Accurate estimates of angler pressure, catch, and harvest can not be made where the number of angler interviews is low. However, raw survey data which partitions angler species preference, effort, success, and satisfaction can help describe angler utilization.

During the period 1983 to 1988, 698 Black River basin anglers were surveyed. The most common angler preference was black bass, followed by "anything" and catfish. The fishing quality rating ranged from 2 to 8 with an average of 5 (10=best).

To determine angler harvest rates of Black River walleye, MDC personnel tagged 406 walleye with reward tags between 1995 and 1998. As of October 2000, 75 tags have been returned for payment. Several additional tags were reported, but not returned. Angler exploitation, assuming angler compliance and tag retention are 80%, was estimated to be 12% per year (range 4-17%).

Based upon angler tag returns, walleye are quite mobile. Only 50% of the walleye were caught at the original tagging site. Anglers reportedly caught three walleye in the Current River and one walleye in the Little Red River in Arkansas (100+ river miles). Based upon angler tag returns and MDC sampling, walleye densities appear to be the highest in a two mile section of river downstream of Clearwater Dam.

In 1996 and 1997, MDC personnel interviewed paddlefish snaggers on opening weekend of the snagging season. The survey was conducted on the Lower Black River, just downstream of Clearwater Dam. Catch rates in 1996 and 1997 were 0.4 and 0.1 paddlefish/hour, respectively.

Fish Introductions

From 1944 to 1948, a total of 112,312 largemouth bass, 35,590 smallmouth bass, 92,400 bluegill, 56,500 green sunfish, 24,000 rock bass, 2,750 black crappie, 38,000 channel catfish, 15,000 bullheads, and 17,000 minnows were stocked in basin streams (Funk 1953). The majority of these fish were fingerlings size. The goal of these stockings was to increase fish densities, thus increase angler catch rates. These stocking had little, if any effect upon the fish populations (Funk 1953). Since then, numerous private ponds throughout the basin have been stocked with largemouth bass, bluegill, grass carp, crappie, channel catfish, and other species.

In 1965 and 1967, an unknown number of striped bass fry and fingerlings were stocked into Lower Taum Sauk Lake, but a striped bass fishery did not develop there. Conservation agents documented anglers catching striped bass in the Clearwater Dam tailwater.

In 1998 and 2001, 200 muskellunge were stocked into Lower Taum Sauk Lake. This stocking program was cancelled in 2003 because an adequate muskellunge population did not develop. Between 1996 and 2000, 1.3 million walleye fry were stocked into the lower Black River just downstream from Clearwater Dam. These were surplus walleye fry from the St. Francis River and Eleven Point River walleye restoration projects. In 1999, a three year lower Black River walleye stocking program was initiated. The goal was to determine if supplemental stockings in a river system is a feasible method to increase walleye densities. A total of 30,000 walleye (2")

were to be released at six sites between Clearwater Dam and Poplar Bluff (~45RM). Due to production problems, walleye have only been stocked in 2000 (7,719 fingerlings) and in 2003 (41,490 fingerlings).

Between 1998 and 2000, 1,507 paddlefish (12-14") were stocked downstream of Clearwater Dam. All of these fish have a coded wire tag in their rostrum to determine movement, growth, and impact on the local fishery. Some of these paddlefish have been captured in subsequent years by MDC personnel and anglers below Clearwater Dam.

Present Regulations

Excluding Tenmile Creek, statewide fishing regulations apply to all streams in the basin. In Tenmile Creek, a Special Smallmouth Bass Management Area was established in 2000 from Highway B in Carter County downstream its confluence with Cane Creek in Butler County. In this section, all smallmouth bass less than fifteen inches (15") must be released immediately. The daily black bass limit is six (6), but only one (1) may be a smallmouth bass.

Table 7. Fish sampling sites and the number of species collected in the Black River basin.

Site #	Stream	County	River Mile	Stream Order	Year(s) Sampled	# of species collected per sample
seine sites in the lower subbasin						
1	Black River	Butler	172	6	1941	37
2	Black River	Butler	179	6	1964	22
3	Black River	Butler	198	6	1964,1970,1999	32[a],29
4	Black River	Butler	200	6	1999	32
5	Black River	Butler	203	6	1999	21
6	Black River	Butler	204	6	1999	23
7	Black River	Butler	206	6	1999	29
8	Black River	Butler	208	6	1999	28
9	Black River	Butler	210	6	1999	22
10	Black River	Butler	211	6	1999	22
11	Black River	Butler	213	6	1999	32
12	Black River	Butler	216	6	1941,1995	30,33
13	Black River	Butler	217	6	1999	32
14	Black River	Butler	218	6	1937,1999	15,41
15	Black River	Butler	219	6	1937,1957,1992,1999	40,77,23,28
16	Black River	Butler	220	6	1999	37
17	Black River	Butler	221	6	1937,1964,1999	29,33,48
18	Black River	Butler	225	6	1937,1992,1994	25,37,16
19	Black River	Butler	227	6	1937,1999	26,28
20	Black River	Butler	229	6	1937,1964,1999	26,36,36
21	Black River	Butler	230	6	1937,1999	26,38
22	Black River	Butler	232	6	1937,1941,1995	51[b],32
23	Black River	Wayne	233	6	1937	14
24	Black River	Wayne	234	6	1937	24
25	Black River	Wayne	236	6	1937,1964,1995	17,5,29
26	Black River	Wayne	238	6	1937	27
27	Black River	Wayne	241	6	1941,1984,1992	41,29,31

Table 7 continued

28	Black River	Wayne	242	6	1937	31
29	Black River	Wayne	243	6	1937	25
30	Black River	Wayne	244	6	1937	26
31	Black River	Wayne	247	6	1937,1992	26,5
32	Black River	Wayne	254	6	1964,1992	29,19
33	Cane Creek	Butler	13	5	1941,1986	33,8
34	Cane Creek	Butler	14	5	1999	25
35	Cane Creek	Butler	17	5	1992	17
36	Cane Creek	Butler	19	5	1999	27
37	Cane Creek	Butler	20	5	1999	26
38	Cane Creek	Butler	22	5	1999	21
39	Cane Creek	Butler	23	5	1999	27
40	Cane Creek	Butler	27	4	1941,1992	27,22
41	Cane Creek	Butler	29	4	1932	14
42	Little Cane Creek	Butler	0	1	1999	16
43	Little Cane Creek	Butler	3	1	1999	17
44	Little Cane Creek	Butler	4	1	1999	4
45	Big Cane Creek	Butler	2	3	1999	15
46	Big Cane Creek	Butler	3	3	1999	13
47	Big Cane Creek	Butler	4	3	1999	7
48	Big Cane Creek	Butler	5	3	1999	17
49	Big Cane Creek	Butler	7	3	1999	19
50	Big Cane Creek	Butler	10	1	1999	18
51	Big Cane Creek	Butler	12	1	1999	10
52	Big Cane Oxbow	Butler	N/A	N/A	1999	7
53	Fletcher Branch	Butler	1	3	1999	12
54	Tenmile Creek	Butler	3	4	1960	9
55	Tenmile Creek	Carter	14	4	1960	6
56	Hickory Creek	Butler	2	2	1986,1995	8,19
57	Brush Creek	Wayne	1	3	1937,1964	22,8
58	McKenzie Creek	Wayne	1	3	1941,1992	22,19
59	McKenzie Creek	Wayne	3	3	1960, 2000	6,12

Table 7 continued

60	Indian Creek	Butler	1	4	1998	16
61	Happy Hollow	Butler	0	2	2000	14
62	Hockinberry Hollow	Butler	0	2	2000	5
63	Knox Branch	Wayne	1	2	1999	11
64	Ligett Creek	Butler	0	3	1999	15
65	Mill Creek	Wayne	1	2	1999	8
66	Blue Spring	Butler	0	1	1998	9
67	Blue Spring	Butler	1	1	1998	4
68	Caney Creek	Butler	0	2	1998	11
69	Cattail Creek	Butler	0	2	1998	12
70	Cattail Creek	Butler	1	2	1998	7
71	Dooley Creek	Butler	1	2	1998	12
72	Hoffman Hollow	Butler	0	2	1998	10
73	Stephenson Creek	Butler	0	2	1998	10
74	Un-named Tributary	Butler	0	2	1998	7
75	Un-named Tributary	Butler	1	1	1998	5
76	Black River Ditch	Butler	7	3	1986	11
77	Big Hunting Slough	Butler	3	3	1999	14
78	Big Hunting Slough	Butler	8	2	1999	7
79	Big Hunting Sl Tributary	Butler	1	1	1999	7
80	Aldred Lake	Butler	1	2	1981,1982	20[c]
81	Stillcamp Ditch	Butler	14[d]	1	1963	6
82	Caney Creek Ditch	Butler	8	5	1964, 1992	17,27
83	Romine Spring	Butler	1	1	1971,1995	8,10
84	Menorkenut Slough	Butler	2	5	1998	22
85	Ditch #21	Butler	5	3	1998	12
86	Ditch #22	Butler	4	3	1998	16
87	Blue Spr Slough Trib.	Butler	5	3	1998	12
88	Snyder Ditch	Butler	6	2	1998	14
89	Swan Pond Ditch	Butler	2	2	1998	9
90	East Ditch	Butler	11	4	1999	15

Table 7 continued

91	East Ditch Tributary	Butler	3	3	1999	13
seine sites in the upper subbasin						
92	Black River	Reynolds	Lake[e]	6	1941	27
93	Black River	Reynolds	273	6	1941,1992	27,20
94	Black River	Reynolds	275	6	1941,1992	14,31
95	Black River	Reynolds	288	6	1957,1960,1992	52[f],21
96	Hyatts Creek	Reynolds	2	3	2000	6
97	West Fork Black River	Reynolds	300	4	1941	11
98	West Fork Black River	Reynolds	301	4	1992	13
99	West Fork Black River	Reynolds	312	4	1941,1992	17,12
100	West Fork Black River	Reynolds	319	4	1968,1995	12,20
101	Bills Creek	Reynolds	1	3	2000	6
102	Cave Spring	Reynolds	N/A	N/A	2000	3
103	Cooks Creek	Reynolds	0	2	1999	2
104	Cooks Spring	Reynolds	N/A	N/A	1999	1
105	Crossville Branch	Reynolds	2	3	2000	12
106	Ellington Hollow	Reynolds	0	2	2000	3
107	Henpeck Creek	Reynolds	0	3	2000	9
108	Reeds Spring	Reynolds	N/A	N/A	1999	3
109	Middle Fork Black River	Reynolds	1	5	1941	15
110	Middle Fork Black River	Reynolds	9	5	1941,1992	15,12
111	Middle Fork Black River	Iron	18	4	1978	16
112	Webb Creek	Reynolds	4	4	1941,1963	16,11
113	NF Webb Creek	Reynolds	2	4	1984,1999	17,13
114	NF Webb Creek	Reynolds	3	4	2000	10
115	Doe Run Crk	Reynolds	2	3	1941,1992	18,14
116	Logan Creek	Reynolds	lake[e]	5	1941	22
117	Logan Creek	Reynolds	15	5	1941,1992	16,13
118	Logan Creek	Reynolds	33	4	1967	15
119	Adair Creek	Reynolds	0	3	2000	9
120	Mill Creek	Reynolds	1	3	1933	12

Table 7 continued

121	Paynes Branch	Reynolds	1	2	1999	10
122	Pyrtle Spring	Reynolds	N/A	N/A	1999	7
123	Cape Hollow	Reynolds	1	3	1964,1995	8,9
124	Taum Sauk Crk	Iron	7	2	1991	8
125	Ottery Creek	Iron	5	4	1981	16
126	Strothers Creek	Reynolds	6	4	1967,1978	12,17
127	Neals Creek	Iron	3	3	1967	12
128	Clayton Creek	Iron	3	3	1981,1999	8,5
129	Clayton Creek	Iron	5	1	1981	6
130	Un-named	Reynolds	0.1	1	1941	15
131	Bee Fork Creek	Reynolds	1	4	1941	15
132	Bee Fork Creek	Reynolds	7	4	1967	7
133	Bee Fork Creek	Reynolds	9	4	1963	8
134	Jayhawker Hollow	Reynolds	1	1	1999	1
135	Grasshopper Creek	Reynolds	1	2	1986,2000	5,8
136	Grasshopper Creek	Reynolds	2	1	1999	1
electrofishing sites in the lower subbasin						
A	Black River	Butler	186	6	1974,1982,1983,1989,1991, 1994	20,25,21,27, 28,30
B	Black River	Butler	220	6	1974,1982,1983,1989, 1991,1994, 1995	18,24,24,21,27,26,25
C	Black River	Wayne	229	6	1994	28
D	Black River	Wayne	240	6	1974,1982,1983,1989,1991 1994,1995	20,26,27,28,25,31,32[g]
E	Black River	Wayne	257	6	1994,1995	28,29
F	Cane Creek	Butler	23	5	1993	22
G	Cane Creek	Butler	30	4	1992,1994	12,15
H	Cane Creek	Butler	37	4	1994	14
I	Tenmile Creek	Butler	3	4	1994,1996	13,13
J	Tenmile Creek	Butler	6	4	1992	9
electrofishing sites in the upper subbasin						
K	Black River	Reynolds	275	6	1988,1989	17,15
L	Black River	Reynolds	286	6	1986,1988,1989 1997	13,19,13,16

Table 7 continued

M	West Fork Black River	Reynolds	298	6	1989,1997	15,11
N	East Fork Black River	Reynolds	1	5	1997	15
O	Middle Fork Black River	Reynolds	9	5	1997	9

[a] :1964 and 1970 seine data combined [b] :1937 and 1941 seine data combined

[c] :1981 and 1982 seine data combined [d] :in old river channel

[e] :pre-Clearwater Lake impoundment [f] :1957 and 1960 seine data combined

[g] :during the 1974, 1982, and 1983 electrofishing surveys, redhorse suckers were not identified to species

Table 8. Distribution of fishes in the Black River basin.

CYPRINIDAE (MINNOWS)		**Capture Location (Site Number from Table 7)**
Campostoma oligolepis	Largescale stoneroller	3,8,9,11-32,34,36-40,54,55,57-59,61-64,92-95, 99,100,110-113,115-120,122,123,125-128,131,133
C. pullum	Central stoneroller	12,15,17-22,24-30, 41,53,55,57-59,63,6595,97-102, 105-107,109,110, 112-115,117,118,121,123, 124,126, 127,129,130,133
Carassius auratus	Goldfish	15
Ctenopharyngodon idella	Grass carp	42
Cyprinella galactura	Whitetail shiner	3,7,9,11-32,57,58,61,92-95,97,99,109,110,116
C. venusta	Blacktail shiner	1-22,24,25,27-29,31,39,40,58,72,82,84,90
Cyprinus carpio	Common carp	15,32,56,94,126,A-F,K-O
Erimystax harryi	Ozark chub	16,17,19,20,22,27,3093-95,100
Hybognathus hayi	Cypress minnow	1
H. nuchalis	Mississippi silvery minnow	1-4,6,7,9-22,24,25,27-29,31,39,40,58,60,72,82, 84,90
Luxilus chrysocephalus	Striped shiner	15,17-19,21-29,32-34,36-40,53,57,58,64,94,95, 99,110,112,115-118,130,131
L. zonatus	Bleeding shiner	13-17,19-29,31,32,36-39,41,57-59,64,92-101,105,107,125-128,131-133,135
Lythrurus u.cyanocephalus	Eastern redfin shiner	12,14,15,17,18,20-22,28,36-38,40,53,57,58,60, 61,68-70,72,80,87,88,130
L. fumeus	Ribbon shiner	1-3,12,15,20,34,82
Nocomis biguttatus	Hornyhead chub	27,40,54,58,64,93-95,97-100,110-113,115-120, 125-127,130-132
Notemigonus crysoleucas	Golden shiner	1,4,21-23,28,33,42,43,46,48-52,59,61,68,69,73, 74,77,78,81,85-88, 91,95,126,130
Notropis amblops	Bigeye chub	12,15,17-22,26-33,40,41,54,58,93-95,116

Table 8 continued

N. amnis	Pallid shiner	1,33
N. atherinoides	Emerald shiner	2,3,5,6,10,12,14-20,22,25-29,31,33,38
N. boops	Bigeye shiner	12,15-33,35-37,39-41,55,58,60,61,64,93-95,116,130
N. greenei	Wedgespot shiner	15,17-22,27,92-95,97,99,100,109
N. maculatus	Taillight shiner	1,4,42,45,48,56,77,84
N. nubilus	Ozark minnow	15,17,22,27,37,39-41,54,55,57-60,63,64,92-95, 98-100,110-113,115-118,120,125,130,131
Notropis ozarcanus	Ozark shiner	93,95
N. rubellus	Rosyface shiner	8,12,14-16,18-22,25,27,28,30,32,92-95,99,109, 110,116
N. sabinae	Sabine shiner	3-7,9,11-15,17,18
N. telescopus	Telescope shiner	12,15,18,22-28,30,32,34,36-40,57,58,92-95,97-100,109-111,117,120, 123,125,126
N. texanus	Weed shiner	1-9,11-15,18,20,33,34,56,60,76,82,84,86,88,90, 91
N. volucellus	Mimic shiner	3,8,10,12,14,15,17-20,22,26,28-31,82,84,86
Opsopoedus emiliae	Pugnose minnow	3,4,15,22,31,33-37,42,43,45,48,49,51,76,77,82, 86
Phoxinus erythrogaster	Southern redbelly dace	57,99,100,102,105,107,110,113-115,121,123,124,126,128,129,131,134, 135
Pimephales notatus	Bluntnose minnow	1,4,6,7,9-23,25-34,36-41,57,58,60,61,76,82,90-95, 113,115-117,120,130
P. promelas	Fathead minnow	15
P. tenellus parviceps	E. slim minnow	4,7,8,12,14,15,17-20,24,31
P. vigilax	Bullhead minnow	2-20,31,33,34,76,82,83,95
Semotilus atromaculatus	Creek chub	16,17,22,25,36,39-41,53,57-59,63-65,68,70-73,80,83,100,105,107,113, 115,121,123,124,126, 128,129,135,136
ICTALURIDAE (CATFISHES)		
Ameiurus melas	Black bullhead	1,15,26,46,47,50,66,70,74,79,81,83,85,86,95,A,D,K-M
A. natalis	Yellow bullhead	13,17,18,21,22,27,31,37,39,48,49,58,73,75,79, 80,84,86,91-93,95,109, 111,112,115,118,124, 126, D,F-O
Ictalurus punctatus	Channel catfish	4,8,10,13-15,32,82,90,95, A-G,K,L,N
Noturus albater	Ozark madtom	17,18,21-22,25,27,32,93,94,99-101,105,110, 117,125-127,132,133
N. eleutherus	Mountain madtom	3,8,12,14,17
N. gyrinus	Tadpole madtom	1,3,43,49,76,89
N. miurus	Brindled madtom	3,5-9,11,13-18,20,22,27,36,39,55,92
N. nocturnus	Freckled madtom	3,5-8,12,14,16,17,27,33,34,36,82,93,116
Pylodictis olivaris	Flathead catfish	1,15,32,33,A-F

Table 8 continued

PERCIDAE (PERCHES)		
Ammocrypta clara	Western sand darter	3-5,7-11,17
A. vivax	Scaly sand darter	1,3-5,7,8,10-15,17,21,22,27,34,82
Crystallaria asprella	Crystal darter	2,6,7,11,12,15,17,18,20,22
Etheostoma asprigene	Mud darter	2,3,7,8,56,76,82
E. blennioides	Greenside darter	8,12-17,19-22,24-30,33,34,36-40,54,57,58,60, 65,92-95,116
E. burri	Brook darter	17,22,23,31,59,62-65,95,96,102,105-107,112-115, 119,121-125,129,131,135
E. caeruleum	Rainbow darter	12,14,16-22,25,27,32,34,36,38-41,53-55,57-59, 61,64,92-96,98-101, 105,107,109-114,117,119-123, 125-128,131-133,135
E. chlorosomum	Bluntnose darter	1,2,10,12,14,15,17,35,45,46,56,69,73,76,77,82, 84,86-88
E. f. flabellare	Barred fantail darter	24,53,57,59,63,65,95,96,99-101,105,107,112-115,117-119,122,123,125-129,133,135
E. fusiforme	Swamp darter	35,42-45,50,56
E. f. lineolatum	Striped fantail darter	36,39,40,54
E. gracile	Slough darter	14,16,35,37,40,42,43,46,47,56,71,72,79,80,84-86
E. histrio	Harlequin darter	1-9,13,14,16,17,19,33
E. nigrum	Johnny darter	33,40,54
E. parvipinne	Goldstripe darter	83
E. proeliare	Cypress darter	2,4,11,12,15-17,20,33-38,40,60,61,66-68,71-73, 75,76,80,82,83
E. stigmaeum	Speckled darter	2-20,22-24,26,27,30,32-34,36-40,92
E. uniporum	Current River Orangethroat	27,41,53
E. zonale	Banded darter	12-22,25,27,29,32,92,93,95,116
Percina c. caprodes	Ohio logperch	1-5,12,14,15,17,18,20-22,25-27,32,33,38,40,57, 82, 93-95,116
P. c. fulvitaenia	Ozark logperch	3,7,9,10,17,19,20
P. evides	Gilt darter	3,11,13,14,16,17,19-22,25,27,32,92,95
P. maculata	Blackside darter	1,4,5,7-9,11,12,15,16,19,20,33,36,39,40,60,82
Percina nasuta	Longnose darter	13
P. sciera	Dusky darter	1-8,11-19,22,27,33,34,36,37,40
P. shumardi	River darter	15
P. uranidea	Stargazing darter	15-18
P. vigil	Saddleback darter	1-3,5,6,10-18,22,34,40
Stizostedion canadense	Sauger	12,15,B,D

Table 8 continued

S. vitreum	Walleye	15,22,32,95,A-E
CATOSTOMIDAE (SUCKERS)		
Carpiodes carpio	River carpsucker	9,12,15,A,B
Cycleptus elongatus	Blue sucker	15,B,D,E
Erimyzon oblongus	Creek chubsucker	15,20-23,25,26,28,31,39,40,53,57,62,63,65,70,71,73,80,83,95,112,113, 115,124,126,130,131,135
Hypentelium nigricans	Northern hogsucker	3,5,7,8,13-22,24,25,27-30,37,39-41,54,57,58,92-95, 97,100,101,111-113, 115,117,118,121,125, 127, B-O
Ictiobus bubalus	Smallmouth buffalo	1,49,84-86,A-E
I. cyprinellus	Bigmouth buffalo	1,15,A-E
I. niger	Black buffalo	15,20,82,A-E
Minytrema melanops	Spotted sucker	1,4,15,17,43,45,49,69,80,87,A-F,I,J
Moxostoma anisurum	Silver redhorse	3,15,B,D
M. carinatum	River redhorse	3,12,15,20,22,33,40,A-F
M. duquesnei	Black redhorse	3,6-8,12,14,15,17-22,24-30,38,39,41,57,58,64,92,95,115-117,A-F,H,I,L,M
M. erythrurum	Golden redhorse	2,9-17,19-22,24-31,37,40,95,116,A-F,H-O
M. macrolepidotum	Shorthead redhorse	3,15,20,A,B,D,E
CENTRARCHIDAE (SUNFISHES)		
Ambloplites ariommus	Shadow bass	12,15,17,21,22,27,31,33,36,37,39,40,58,92-95,97,99,100,109,111,126, 132,A-O
Centrarchus macropterus	Flier	33,47,F
Elassoma zonatum	Banded pygmy sunfish	10,14,37,42,43,46,48-50,56,66,67,71,75,80,81, 83,84
Lepomis cyanellus	Green sunfish	1,3,4,6-9,11,13-17,19-22,25,26,28,30-34,36,37, 39,40,42,43,46-48,50-52, 56-58,60,61,65-76,79-93,95,98,99,109,111-113,115,116,118-120, 124,126,130,131,135, A-O
L. gulosus	Warmouth	1,4,13,15,17,18,21,26,27,31-36,42-46,48-50,52,56,61,68,69,77,78,80, 82-87,89,93-95, A,B,D,F-H,M
L. humilis	Orangespotted sunfish	4,11,15,20,33,45,48-51,56,77,85, A,D
L. macrochirus	Bluegill	1-4,6,10-12,15,17,18,20-22,24,25,27-30,32,33 35,37,42-46,48-52,56, 57,69,71,74,77,78,80,82-84,86-95,97,100,121,125,126,130, A-O
L. marginatus	Dollar sunfish	50-52,66
L. megalotis	Longear sunfish	1-22,24-41,45,50-53,57-61,63,64,68,69,71,78-80,82,84,85,87,88,90,91-95,97-100,109,111-113,115-118,120,124-127,130,131,A-O
L. microlophus	Redear sunfish	4,6,11,15,20,33,48-50,78,95,A,C,D,E,M-O

Table 8 continued

L. miniatus	Red spotted sunfish	1,3,15,17,20,21,26,27,29,31,34,36,38,42,45,48,68,69,72,80,87,88,91, 92,94,95,97,98,114,126 A-G,I,K-O
L. symmetricus	Bantam sunfish	46
Micropterus dolomieu	Smallmouth bass	15,17-22,24-30,32,40,58,92-95,97-100,109-112,116-118,125-127,131, A,B,D-O
M. punctulatus	Spotted bass	1-25,27,30-34,37-40,82,95,130,A-J
M. salmoides	Largemouth bass	1,4,11-13,15-22,25,27-32,35,38,40,43,48-50,56-58,60,63,66,74,77,80, 82,84,88-91,93-95,100, 117,A-N
Pomoxis annularis	White crappie	1,4,15,18,20,22,27,32,35,45,48-50,56,77,78,84, 86, 89,95, A,B,D,E,K,L
P. nigromaculatus	Black crappie	1,15,33,35,45,49,50,56,78,82,88,A-F
CYPRINODONTIDAE (KILLFISHES)		
Fundulus catenatus	Northern studfish	12,155-21,22,24-32,57-59,93-95,98-100,105, 107,109-115,117-120,122, 123,125,126,130-133
F. dispar	Starhead topminnow	42,43,46-48,81
F. notatus	Blackstripe topminnow	56,82,84,85,90
F. olivaceus	Blackspotted topminnow	1-43,45,48-51,53,56-58,60-65,68-74,77,79,80, 82-85, 87,88,90-95,98-100, 109-113,115-117, 119-121,125, 126,130,131,135
PETROMYZONTIDAE (LAMPREYS)		
Ichthyomyzon castaneus	Chestnut lamprey	15,95
Lampetra appendix	American brook lamprey	15
L. aepyptera	Least brook lamprey	96,105,113,135
LEPISOSTEIDAE (GARS)		
Lepisosteus oculatus	Spotted gar	15,18,35,49,82,89,A-E
L. osseus	Longnose gar	1,3,11,12,15,20,27,28,82,90,94, A-E
L. platostomus	Shortnose gar	A,B,D
CLUPEIDAE (HERRINGS)		
Alosa chrysochloris	Skipjack herring	A,B,D
Dorosoma cepedianum	Gizzard shad	1-3,5,7,12,15-17,20-22,25,32,42,74,77,82,84-86, 89,94,95,A-F,K-N
PERCICHTHYIDAE (SEA BASSES)		
Morone chrysops	White bass	18,32,A-E
M. saxatilis	Striped bass	63
COTTIDAE (SCULPINS)		
Cottus carolinae	Banded sculpin	12-14,17-22,27,32,57-59,64,92-95,99,103,108-112,115,116,121,127,128, 131,132,135

Table 8 continued

C. hypselurus	Ozark sculpin	22,27,93,95,96,99,100,103-108,110,112-114,116,117,120-122,125,127-129,133
POECILIDAE (LIVE BEARERS)		
Gambusia affinis	Western mosquitofish	1,3,4,6-21,25,27,31,32,34,36-40,42,43,46-48,50-52,56,58,59,64,66-72,75, 77,79-91
ATHERINIDAE (SILVERSIDES)		
Labidesthes sicculus	Brook silversides	1,3,5-22,24,25,27-40,42-45,48-51,53,56-58,60, 66,69,73,77,80,82,87,88, 90 ,91,93,95
ESOCIDAE (PIKES)		
Esox americanus	Grass pickerel	1,15,20,21,23-25,28,30,31,33,43,46,47,56-58,60,71,80,83,95,108,111, 117,B,D,E-I,K-M,O
E. niger	Chain pickerel	27,31,57,94,95,118,A-D
APHRIDODERIDAE (PIRATE PERCHES)		
Aphredoderus sayanus	Pirate perch	2,3,11,14,15,17,22,26,27,33,40,41,43,50,61,62, 71,73,76,80,83,84
AMIDAE (BOWFINS)		
Amia calva	Bowfin	15,32,45,56,A,B,E
ANGUILLIDAE (EELS)		
Anguilla rostrata	American eel	15,93,95
SCIAENIDAE (DRUMS)		
Aplodinotus grunniens	Freshwater drum	7,15,27,32,82,84,126,A-E
HIODONTIDAE (MOONEYES)		
Hiodon alosoides	Goldeye	15
H. tergisus	Mooneye	3,15,A-E
POLYODONTIDAE (PADDLEFISHES)		
Polydon spathula	Paddlefish	32,E

Table 9. Fish species frequency of occurrence in seine samples from the Black River basin. (Percent of sites in each subbasin where a species was collected).

Common Name	Lower Subbasin	Upper Subbasin
CYPRINIDAE (MINNOWS)		
Largescale stoneroller	44	53
Central stoneroller	44	58

Table 9 continued

Goldfish	1	0
Grass carp	1	0
Whitetail shiner	31	20
Blacktail shiner	43	0
Common carp	3	4
Ozark chub	8	9
Cypress minnow	1	0
Mississippi silvery minnow	37	0
Striped shiner	23	27
Bleeding shiner	30	73
E. redfin shiner	27	2
Ribbon shiner	9	0
Hornyhead chub	5	51
Golden shiner	34	7
Bigeye chub	22	9
Pallid shiner	2	0
Emerald shiner	24	0
Bigeye shiner	34	11
Wedgespot shiner	9	18
Taillight shiner	10	0
Ozark minnow	18	58
Ozark shiner	0	4
Rosyface shiner	16	18
Sabine shiner	14	0
Telescope shiner	23	36
Weed shiner	30	0
Mimic shiner	21	0
Pugnose minnow	22	0
S. redbelly dace	1	40
Bluntnose minnow	47	22
Fathead minnow	1	0
E. slim minnow	13	0

Table 9 continued

Bullhead minnow	27	2
Creek chub	24	31
ICTALURIDAE (CATFISHES)		
Black bullhead	15	2
Yellow bullhead	21	22
Channel catfish	10	2
Ozark madtom	9	29
Mountain madtom	5	0
Tadpole madtom	7	0
Brindled madtom	21	2
Freckled madtom	15	4
Flathead catfish	4	0
PERCIDAE (PERCHES)		
Western sand darter	10	0
Scaly sand darter	20	0
Crystal darter	12	0
Mud darter	8	0
Greenside darter	33	11
Brook darter	11	42
Rainbow darter	29	69
Bluntnose darter	23	0
Barred fantail darter	7	51
Swamp darter	8	0
Striped fantail darter	4	0
Slough darter	21	0
Harlequin darter	16	0
Johnny darter	3	0
Goldstripe darter	1	0
Cypress darter	32	0
Speckled darter	36	2
Current River darter	3	0
Banded darter	16	9

Table 9 continued

Ohio logperch	24	9
Ozark logperch	8	0
Gilt darter	14	4
Blackside darter	20	0
Longnose darter	1	0
Dusky darter	26	0
River darter	1	0
Stargazing darter	4	0
Saddleback darter	19	0
Sauger	2	0
Walleye	3	2
CATOSTOMIDAE (SUCKERS)		
River carpsucker	3	0
Blue sucker	1	0
Creek chubsucker	23	20
N. hogsucker	30	36
Smallmouth buffalo	5	0
Bigmouth buffalo	2	0
Black buffalo	3	0
Spotted sucker	11	0
Silver redhorse	2	0
River redhorse	8	0
Black redhorse	30	11
Golden redhorse	26	4
Shorthead redhorse	3	0
CENTRARCHIDAE (SUNFISHES)		
Shadow bass	14	24
Flier	2	0
Banded pygmy sunfish	21	0
Green sunfish	74	42
Warmouth	42	7
Orangespotted sunfish	14	0

Table 9 continued

Blugill	56	22
Dollar sunfish	4	0
Longear sunfish	71	51
Redear sunfish	11	2
Red spotted sunfish	25	16
Bantam sunfish	1	0
Smallmouth bass	19	42
Spotted bass	40	4
Largemouth	46	11
White crappie	22	2
Black crappie	12	0
CYPRINODONTIDAE (KILLFISHES)		
Northern studfish	23	60
Starhead topminnow	7	0
Blackstripe topminnow	5	0
Blackspotted topminnow	80	51
PETROMYZONTIDAE (LAMPREYS)		
Chestnut lamprey	1	2
American brook lamprey	1	0
Least brook lamprey	0	9
LEPISOSTEIDAE (GARS)		
Spotted gar	7	0
Longnose gar	11	2
CLUPEIDAE (HERRINGS)		
Gizzard shad	24	4
MORONIDAE (SEA BASSES)		
White bass	2	0
Striped bass	1	0
COTTIDAE (SCULPINS)		
Banded sculpin	16	42
Ozark sculpin	2	56
POECILIIDAE (LIVE BEARERS)		

Table 9 continued

Mosquitofish	69	0
ATHERINIDAE (SILVERSIDES)		
Brook silversides	66	4
ESOCIDAE (PIKES)		
Grass pickerel	23	9
Chain pickerel	3	7
APHREDODERIDAE (PIRATE PERCHES)		
Pirate perch	24	0
AMIIDAE (BOWFINS)		
Bowfin	4	0
ANGUILLIDAE (EELS)		
American eel	1	4
SCIAENIDAE (DRUMS)		
Freshwater drum	7	2
HIODONTIDAE (MOONEYES)		
Goldeye	1	0
Mooneye	2	0
POLYODONTIDAE (PADDLEFISHES)		
Paddlefish	1	0

Table 10. Fish species collected by seining in three time periods in the Black River Basin (x species collected; - species not collected).

Common Name	Lower subbasin			Upper subbasin		
	Prior to 1945	1945-1975	1976-2000	Prior to 1945	1945-1975	1976-2000
CYPRINIDAE (MINNOWS)						
Largescale stoneroller	x	x	x	x	x	x
Central stoneroller	x	x	x	x	x	x
Goldfish	-	x	-	-	-	-
Grass carp	-	-	x	-	-	-
Whitetail shiner	x	x	x	x	x	x

Table 10 continued

Blacktail shiner	x	x	x	-	-	-
Common carp	-	x	x	-	-	x
Ozark chub	x	x	x	-	x	x
Cypress minnow	x	-	-	-	-	-
Mississippi silvery minnow	x	x	x	-	-	-
Striped shiner	x	-	x	x	x	x
Bleeding shiner	x	x	x	x	x	x
Eastern redfin shiner	x	x	x	x	-	-
Ribbon shiner	x	x	x	-	-	-
Hornyhead chub	x	x	x	x	x	x
Golden shiner	x	x	x	x	x	-
Bigeye chub	x	x	x	x	x	x
Pallid shiner	x	-	-	-	-	-
Emerald shiner	x	x	x	-	-	-
Bigeye shiner	x	x	x	x	x	x
Wedgespot shiner	x	x	x	x	x	x
Taillight shiner	x	-	x	-	-	-
Ozark minnow	x	x	x	x	x	x
Ozark shiner	-	-	-	x	x	-
Rosyface shiner	x	x	x	x	x	x
Sabine shiner	-	x	x	-	-	-
Telescope shiner	-	-	x	x	x	x
Weed shiner	x	x	x	-	-	-
Mimic shiner	x	x	x	-	-	-
Pugnose minnow	x	x	x	-	-	-
Sourthern redbelly dace	-	x	-	x	x	x
Bluntnose minnow	x	x	x	x	x	x
Fathead minnow	-	x	-	-	-	-
Eastern slim minnow	x	x	x	-	-	-
Bullhead minnow	x	x	x	-	x	-
Creek chub	x	x	x	x	x	x
ICTALURIDAE (CATFISHES)						

Table 10 continued

Black bullhead	x	x	x	-	x	x
Yellow bullhead	x	-	x	x	x	x
Channel catfish	-	x	x	-	x	x
Ozark madtom	x	x	x	x	x	x
Mountain madtom	-	x	x	-	-	-
Tadpole madtom	x	x	x	-	-	-
Brindled madtom	x	x	x	x	-	-
Freckled madtom	x	x	x	x	-	-
Flathead catfish	x	x	x	-	-	-
PERCIDAE (PERCHES)						
Western sand darter	-	x	x	-	-	-
Scaly sand darter	x	x	x	-	-	-
Crystal darter	-	x	x	-	-	-
Mud darter	-	x	x	-	-	-
Greenside darter	x	x	x	x	x	x
Brook darter	-	-	x	x	x	x
Rainbow darter	x	x	x	x	x	x
Bluntnose darter	x	x	x	-	-	-
Barred fantail darter	x	x	x	x	x	x
Swamp darter	-	-	x	-	-	-
Striped fantail darter	x	x	x	-	-	-
Slough darter	-	-	x	-	-	-
Harlequin darter	x	x	x	-	-	-
Johnny darter	x	x	-	-	-	-
Goldstripe darter	-	x	-	-	-	-
Cypress darter	x	x	x	-	-	-
Speckled darter	x	x	x	x	-	-
Current River Orangethroat	x	x	x	-	-	-
Banded darter	x	x	x	x	x	x
Ohio logperch	x	x	x	x	x	x
Ozark logperch	-	-	x	-	-	-
Gilt darter	x	x	x	x	x	-

Table 10 continued

Blackside darter	x	x	x	-	-	-
Longnose darter	-	-	x	-	-	-
Dusky darter	x	x	x	-	-	-
River darter	-	x	-	-	-	-
Stargazing darter	-	x	x	-	-	-
Saddleback darter	x	x	x	-	-	-
Sauger	x	x	x	-	-	-
Walleye	x	x	x	-	x	-
CATOSTOMIDAE (SUCKERS)						
River carpsucker	-	x	x	-	-	-
Blue sucker	-	x	x	-	-	-
Creek chubsucker	x	x	x	x	x	x
Northern hogsucker	x	x	x	x	x	x
Smallmouth buffalo	x	x	x	-	-	-
Bigmough buffalo	x	x	x	-	-	-
Black buffalo	-	x	x	-	-	-
Spotted sucker	x	x	x	-	-	-
Silver redhorse	x	x	x	-	-	-
River redhorse	x	x	x	-	-	-
Black redhorse	x	x	x	x	x	x
Golden redhorse	x	x	x	x	x	x
Shorthead redhorse	-	x	x	-	-	-
CENTRARCHIDAE (SUNFISHES)						
Shadow bass	x	x	x	x	x	x
Flier	x	-	x	-	-	-
Banded pygmy sunfish	-	x	x	-	-	-
Green sunfish	x	x	x	x	x	x
Warmouth	x	x	x	x	x	x
Orangespotted sunfish	x	x	x	-	-	-
Bluegill	x	x	x	x	x	x
Dollar sunfish	-	-	x	-	-	-
Longear sunfish	x	x	x	x	x	x

Table 10 continued

Redear sunfish	-	x	x	-	x	x
Red spotted sunfish	x	x	x	x	x	x
Bantam sunfish	-	-	x	-	-	-
Smallmouth bass	x	x	x	x	x	x
Spotted bass	x	x	x	x	x	x
Largemouth bass	x	x	x	-	x	x
White crappie	x	x	x	-	x	x
Black crappie	x	x	x	-	-	-
CYPRINODONTIDAE (KILLFISHES)						
Northern studfish	x	x	x	x	x	x
Starhead topminnow	-	x	x	-	-	-
Blackstripe topminnow	-	x	x	-	-	-
Blackspotted topminnow	x	x	x	x	x	x
PETROMYZONTIDAE (LAMPREYS)						
Chestnut lamprey	-	x	-	-	x	-
American brook lamprey	-	x	-	-	-	-
Least brook lamprey	-	-	-	-	-	x
LEPISOSTEIDAE (GARS)						
Spotted gar	-	x	x	-	-	-
Longnose gar	x	x	x	-	-	x
Shortnose gar	-	x	x	-	-	-
CLUPEIDAE (HERRINGS)						
Skipjack herring	-	-	x	-	-	-
Gizzard shad	x	x	x	-	x	x
PERCICHTHYIDAE (SEA BASSES)						
White bass	-	x	x	-	-	-
Striped bass	-	-	x	-	-	-
COTTIDAE (SCULPINS)						
Banded sculpin	x	x	x	x	x	x
Ozark sculpin	x	-	x	x	x	x
POECILIDAE (LIVE BEARERS)						
Mosquitofish	x	x	x	-	-	-

Table 10 continued

ATHERINIDAE (SILVERSIDES)						
Brook silversides	x	x	x	x	x	-
ESOCIDAE (PIKES)						
Grass pickerel	x	x	x	x	x	x
Chain pickerel	x	x	x	-	-	x
APHRIDODERIDAE (PIRATE PERCHES)						
Pirate perch	x	x	x	-	-	-
AMIIDAE (BOWFINS)						
Bowfin	-	x	x	-	-	-
ANGULLIDAE (EELS)						
American eel	-	x	x	x	x	-
SCIAENIDAE (DRUMS)						
Freshwater drum	-	x	x	-	x	-
HIODONTIDAE (MOONEYES)						
Goldeye	-	-	x	-	-	-
Mooneye	-	x	x	-	-	-
POLYODONTIDAE (PADDLEFISHES)						
Paddlefish	-	x	x	-	-	-

Table 11. Electrofishing summary for the lower Black River subasin.

	Number Captured (Catch Rate (No./hr))		
Fish Species	**Black River Mainstem**	**Cane Creek**	**Tenmile Creek**
Centrachidae (Sunfishes)			
Longear sunfish	1,977 (31)	1,106 (221)	1,110 (218)
Bluegill sunfish	1,447 (23)	87 (17)	37 (7)
Redear sunfish	23 (<1)	0 (0)	0 (0)
Warmouth Sunfish	118 (2)	30 (6)	0 (0)
Green Sunfish	41 (1)	99 (20)	32 (6)
Spotted Sunfish	39 (1)	20 (4)	20 (4)
Flier	0 (0)	1 (<1)	0 (0)

Table 11 continued

Orange Spotted Sunfish	23 (<1)	0 (0)	7 (1)
Shadow Bass	177 (3)	68 (14)	209 (41)
White Crappie	143 (2)	0 (0)	0 (0)
Black Crappie	112 (2)	8 (2)	0 (0)
Spotted Bass	1,070(17)	52 (10)	10 (2)
Largemouth Bass	281 (4)	22 (4)	32 (6)
Smallmouth Bass	70 (1)	10 (2)	119 (23)
Ictaluridae (Catfishes)			
Channel Catfish	328 (5)	2 (<1)	0 (0)
Flathead Catfish	30 (<1)	1 (<1)	0 (0)
Black Bullhead	12 (<1)	0 (0)	0 (0)
Yellow Bullhead	2 (<1)	23 (5)	71 (14)
Catostomidae (Suckers)			
Spotted Sucker	108 (2)	24 (5)	26 (5)
Northern Hogsucker	777 (12)	53 (11)	77 (14)
Blue Sucker	20 (<1)	0 (0)	0 (0)
Black Redhorse	131(2)	22(4)	6(1)
Golden Redhorse	1091(17)	228(46)	388(76)
River Redhorse	543 (9)	4 (1)	0 (0)
Shorthead Redhorse	100(2)	0(0)	0(0)
Silver Redhorse	17 (<1)	0 (0)	0 (0)
Redhorse spp.[a]	1,930 (30)	0 (0)	0 (0)
Smallmouth Buffalo	398 (6)	0 (0)	0 (0)
Bigmouth Buffalo	94 (1)	0 (0)	0 (0)
Black Buffalo	62 (1)	0 (0)	0 (0)
River Carpsucker	10 (<1)	0 (0)	0 (0)
Lepisosteidae (Gars)			
Spotted Gar	147 (2)	0 (0)	0 (0)
Shortnose Gar	89 (1)	0 (0)	0 (0)
Longnose Gar	57 (1)	0 (0)	0 (0)
Sciaenidae (Drums)			

Table 11 continued

Freshwater Drum	245 (4)	0 (0)	0 (0)
Cyprinidae (Minnows)			
Carp	426 (7)	3 (1)	0 (0)
Subtotal	426 (7)	3 (1)	0 (0)
Percidae (Perches)			
Walleye	71 (1)	0 (0)	0 (0)
Sauger	11 (<1)	0 (0)	0 (0)
Subtotal	82 (1)	0 (0)	0 (0)
Percichthyidae (Sea Basses)			
White Bass	16 (<1)	0 (0)	0 (0)
Subtotal	16 (<1)	0 (0)	0 (0)
Esocidae(Pikes)			
Chain Pickerel	14 (<1)	0 (0)	2 (<1)
Grass Pickerel	2 (<1)	7 (1)	3 (1)
Subtotal	16 (<1)	7 (1)	5 (1)
Amiidae (Bowfins)			
Bowfins	38 (1)	0 (0)	0 (0)
Subtotal	38 (1)	0 (0)	0 (0)
Anguillidae (Eels)			
American Eel	3 (<1)	0 (0)	0 (0)
Hiodontidae (Mooneyes)			
Mooneye	75 (1)	0 (0)	0 (0)
Clupeidae (Herrings)			
Skipjack	14 (<1)	0 (0)	0 (0)
Gizzard Shad	2,896 (46)	1 (<1)	0 (0)
Total	15,278(241)	1,871(374)	2,149(421)
Effort (hrs)	63.5	5.0	5.1
#EF Samples	23	4	3

[a]: In 1974, 1982, and 1983, redhorse suckers were not separated to species level.

Table 12. Electrofishing summary for the upper Black River subbasin.

	Number Captured (Catch Rate)			
Fish Species	**Black River Mainstem**	**East Fork Black River**	**Middle Fork Black River**	**West Fork Black River**
Centrachidae (Sunfishes)				
Longear sunfish	633 (35)	248 (207)	26 (20)	298 (53)
Bluegill sunfish	126 (7)	157 (131)	6 (5)	15 (3)
Redear sunfish	4 (<1)	2 (2)	0 (0)	0 (0)
Warmouth sunfish	0 (0)	0 (0)	0 (0)	2 (<1)
Green Sunfish	9 (1)	75 (63)	12 (9)	29(5)
Red Spotted Sunfish	20 (1)	1 (1)	1 (1)	10(tr)
Shadow Bass	545 (30)	27 (23)	73 (23)	378 (68)
White Crappie	6 (<1)	0 (0)	0 (0)	0 (0)
Spotted Bass	89 (5)	0 (0)	0 (0)	0 (0)
Largemouth Bass	160 (9)	18 (15)	0 (0)	5 (1)
Smallmouth Bass	438 (24)	5 (4)	65 (50)	329 (59)
Ictaluridae (Catfishes)				
Channel Catfish	13 (1)	1 (1)	0 (0)	0 (0)
Black Bullhead	60 (<1)	0 (0)	0 (0)	1 (<1)
Yellow Bullhead	31 (2)	1 (1)	3 (2)	24 (24)
Catostomidae (Suckers)				
Northern Hogsucker	232 (13)	3 (3)	49 (38)	95 (17)
Golden Redhorse	117 (7)	1 (1)	0 (0)	18 (3)
Black Redhorse	210 (12)	3 (3)	0 (0)	10 (2)
Cyprinidae (Minnows)				
Carp	81 (5)	2 (2)	0 (0)	16 (3)
Esocidae (Pikes)				
Chain Pickerel	1 (<1)	0 (0)	0 (0)	0 (0)
Grass Pickerel	5 (<1)	0 (0)	3 (2)	4 (1)
Clupeidae (Herrings)				
Gizzard Shad	259 (14)	16 (13)	0 (0)	0(0)

Table 12 continued

Total	2,985 (166)	560 (467)	238 (183)	1,234 (220)
Effort (hrs)	18.0	1.2	1.3	5.6
#EF Samples	7	1	1	2

Table 13. Crayfish distribution in the Black River basin (X species collected, - not collected).

Scientific Name	Common Name	Upper Subbasin	Lower Subbasin
Cambarellus puer	cajun dwarf crawfish	-	X
C. shufeldtii	Shufeldt's dwarf crawfish	-	X
Cambarus diogenes	cevil crawfish	-	X
C. hubbsi	Hubb's crawfish	X	X
Faxonella clypeata	shield crayfish crawfish	-	X
Orconectes hylas	woodland crawfish	X	X
O. palmeri	gray-speckled crawfish	-	X
O. punctimanus	spothanded crawfish	X	X
O. virilis	northern crawfish	-	X
Procambarus acutus	White River crawfish	-	X
P. clarkii	red swamp crawfish	-	X
P. viaeveridus	vernal crawfish	-	X

Table 14. Freshwater mussel species found in the lower Black River subbasin. Data obtained from Buchanan (1996) = 1, Oesch (1984) = 2, and Bernard Sietman (personal communication) = 3.

Scientific Name	Common Name	Cane Creek	Tenmile Creek	Black River Mainstem
Actinonaias ligamentina	Mucket	1,2,3	-	1,2
Alasmidonta marginata	Elktoe	-	-	1,2
A. viridis	Slippershell mussel	-	-	2

Table 14 continued

Amblema plicata plicata	Threeridge	1,2,3	-	1,2
Anodonta grandis	Giant floater	1,3	-	1
A. imbecillis	Paper pondshell	3	-	1
Cyclonaias tuberculata	Purple wartyback	1	-	1,2
Cyprogenia aberti	Western fanshell	1,2,3	-	1,2
E. dilatata	Spike	1,2,3	-	1,2
Epioblasma f. curtisi	Curtis pearlymussel	-	-	1,2
Fusconaia flava	Wabash pigtoe	1,2,3	-	1,2
F. ozarkensis	Ozark pigtoe	-	-	2
Lampsilis abrupta	Pink mucket	-	-	1,2
L. cardium	Plain pocketbook	3	-	-
L. ovata	Pocketbook	1,2	-	1,2
L. reeviana brevicula	Ozark broken-ray	3	3	1
L. siliquoidea	Fatmucket	1,2,3	-	1,2
L. reeviana brittsi	Northern broken-ray	1,2	1	1,2
L. teres	Yellow sandshell	-	-	2
Lasmigona c. complanata	White heelsplitter	-	-	1,2
L. costata	Fluted-shell	1,2,3	-	1,2
Leptodea fragilis	Fragile papershell	-	-	1,2
Ligumi recta	Black sandshell	1,3	-	1,2
L. subrostrata	Pondmussel	1,3	-	1
Obliquaria reflexa	Threehorn wartyback	-	-	1,2
Obovaria jacksoniana	Southern hickorynut	2	-	-
Plectomerus dombeyanus	Bankclimber	-	-	1
Pluerobema coccineum	Round pigtoe	1,2,3	-	1,2
Potamilus purpuratus	Bleufer	1	-	1,2
Ptychobranchus occidentalis	Ouachita kidneyshell	-	-	2
Quadrula cylindrica cylindrica	Rabbitsfoot	-	-	2
Quadrula metanevra	Monkeyface	-	-	1,2
Q. pustulosa pustulosa	Pimpleback	-	-	1,2
Strophitus undulatus	Squawfoot	1,3	-	1,2

Table 14 continued

Toxolasma parvus	Lilliput	-	-	1
Toxolasma lividus glans	Little purple	-	-	2
Tritogonia verrucosa	Pistolgrip	1	-	1,2
Truncilla donaciformis	Fawnsfoot	-	-	1,2
T. truncata	Deertoe	-	-	1,2
Venustaconcha e. pleasi	Pleas mussel	-	-	2
Villosa iris	Rainbow	-	-	1,2
V. lienosa	Little spectaclecase	1,2	-	1,2
Corbicula fluminea	Aisatic clam	1,2,3	1	1,2
Number of Species		**23**	**3**	**40**

Table 15. Threatened and endangered aquatic species in the Black River basin.

Common Name	Federal Status	State Status	Global Rank	State Rank
Fishes				
Cypress minnow		E	G5	S1
Mississippi silvery minnow			G5	S3 S4
Pallid shiner			G4	SX
Taillight shiner		E	G5	S1
Ozark shiner			G3	S2
Sabine shiner		E	G2 G3	S1
Pugnose minnow			G5	S4
E. slim minnow			G5 T4	S2 S3
Mountain madtom		E	G4	S1 S2
Western sand darter			G3	S2 S3
Scaly sand darter			G5	S3
Crystal darter		E	G3	S1
Swamp darter		E	G5	S1
Harlequin darter		E	G5	S2
Goldstripe darter		E	G4 G5	S1
Longnose darter		E	G3	S1

Table 15 continued

River darter			G5	S3
Stargazing darter			G3	S2
Blue sucker			G4	S3
Flier			G5	S3
Dollar sunfish			G5	SU
Bantam sunfish			G5	S2
Starhead topminnow			G4	S2
American brook lamprey			G4	S2
Mooneye			G5	S3
Paddlefish			G4	S3
Crayfish				
Cajun dwarf crayfish			S3?	G4 G5
Shufeldt's dwarf crayfish			S3?	G5
Shield crayfis h			S2 S3	G5
Vernal crayfish			S3?	G5
Mussels				
Elktoe			S2?	G4
Western fanshell			S1 S2	G2
Curtis pearlymussel	E	E	S1	G1 T1
Pink mucket	E	E	S2	G2
Black sandshell			S1 S2	G5
Southern hickorynut			S1	G2 G3
Bankclimber			S3	G4 G5
Ouachita kidneyshell			S2 S3	G3 G4
Rabbitsfoot			S1	G3 T3

Federal Status: E = endangered

State Status: Rule 3CSR10-4.111 of the *Wildlife Code of Missouri* and certain state statutes apply to state Code listed species. The state status "Endangered" is determined by the Department of Conservation under constitutional authority.

Global Rank: G1= Critically imperiled globally, G2 = Imperiled globally, G3 = Either very rare or in a restricted range, G4 = Widespread, abundant, and apparently secure globally, though it may be quite rare in parts of its range. Thus the element is of long-term concern. G5 = demonstrably widespread, abundant, and secure globally, though it may be quire rare in parts of its range, especially at the periphery.

Table 15 continued

State Rank: S1 = Critically imperiled in the state because of rarity or because some factor (s) making it very vulnerable to extirpation, S2 - Imperiled in the state because of rarity or because some factor (s) making it very vulnerable to extirpation, S3 = Rare and uncommon in the state, S4 = Widespread, abundant, and apparently secure in state, but the species is of long-term concern, SU = unrankable. Possibly in peril in the state, but status uncertain. Need more information, SX = Extirpated.

Table 16. Summary of select creel parameters reported in the Missouri Statewide Angler Survey (1983-1988) for the Black River. Because of limited angler contacts (698 anglers surveyed during the 6-year period), all data for all years were combined.

Species Preference	No. Anglers	% of Anglers	% of Hours	Catch Rate (No./hr)	Harvest Rate (No./hr)	Fishing Quality Rating 10=Best	Ave. Trip Length (hrs)
Black Bass	197	28	23	0.9	0.2	3.6	5.4
Anything	172	25	25	1.0	0.5	3.8	4.7
Catfishes	161	23	21	0.4	0.2	5.0	5.5
Sunfishes	96	14	26	2.2	1.0	2.8	4.8
Shadow Bass	30	4	2	0.8	0.5	3.7	6.8
Crappies	21	3	2	0.7	0.6	4.4	4.8
Walleye	14	2	1	0.3	0.2	5.8	4.1
Buffalo	4	1	<1	0.4	0.4	8.0	10.0
Carp	3	<1	<1	0.3	0.3	8.0	12.0
Drum	-	-	-	-	-	-	-
Gars	-	-	-	-	-	-	-
Pickerel	-	-	-	-	-	-	-
Trout	-	-	-	-	-	-	-
Suckers	-	-	-	-	-	-	-
Shad	-	-	-	-	-	-	-
Average				1.1	0.5	5.1	3.9