

STREAM SURVEY RESULTS FOR THE
SLENDER MADTOM (*NOTURUS EXILIS*) ,
CRYSTAL DARTER (*AMMOCRYPTA ASPRELLA*) ,
AND BLUNTNOSE DARTER (*ETHEOSTOMA CHLOROSOMUM*)
IN SOUTHEASTERN MINNESOTA

By

Konrad P. Schmidt

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Abstract

The slender madtom (*Noturus exilis*), crystal darter (*Ammocrypta asprella*), and bluntnose darter (*Etheostoma chlorosomum*) have a very limited distribution and are extremely rare in Minnesota. Stream surveys conducted in 1990 failed to produce new records from Minnesota waters, however, the slender madtom was collected in Iowa near the state line.

Introduction

In 1984, the Minnesota Department of Natural Resources (MDNR) officially listed the slender madtom, crystal darter, and bluntnose darter as special concern species. All these species are on the periphery of their ranges in Minnesota and historic data is very limited. The only Minnesota record for the slender madtom is from Otter Creek (Mower County) on the Minnesota-Iowa border in 1954 (Eddy and Underhill 1973). A 1985 MDNR stream survey of Otter Creek did not collect the species (Haugstad 1985). In Iowa, Harlan and Speaker (1987) reported the slender madtom is not abundant anywhere in the state, but was found in the Cedar River prior to 1975 near the Minnesota border. In Wisconsin, the slender madtom is Endangered (Schmidt 1990).

The crystal darter has been found in the Mississippi River near Winona and the Zumbro River near Kellogg (Eddy and Underhill 1973). The U.S. Army Corps of Engineers collected 11 crystal darters an or near wing dams in Pool 5A of the Mississippi River in 1980 (Dennis

Anderson pers. comm.). The MDNR sampled a total of six specimens from the Zumbro River near Mazeppa and Millville in 1984 and 1985 (Larry Gates pers. comm.). The Wisconsin Department of Natural Resources surveyed a total of two specimens from the St. Croix River in 1978 and 1982 (Fago 1986). In Iowa, Harlan and Speaker (1987) reported the status of the crystal darter is undetermined, and in Wisconsin, it is Endangered (Schmidt 1990).

The only vouchered Minnesota record for the bluntnose darter is from an overflow pool of the Root River near its confluence with the Mississippi River (Houston County) in 1945 (Eddy and Underhill 1973). Dr. James Underhill, Curator of Fishes at the Bell Museum, believes there may have been another population in the Root River below the former site of the Rushford Dam (pers. comm.). In both Iowa and Wisconsin, the bluntnose darter is Endangered (Schmidt 1990).

Methods and Materials

Sampling stations were selected on a basis of historical records, recommendations provided in Minnesota's Endangered Flora and Fauna (Coffin and Pfannmuller 1988), and personal communication with Minnesota and Wisconsin fishery biologists.

The slender madtom surveys were conducted in the Cedar River system (including the Shell Rock and Little Cedar Rivers and Otter Creek) and the Wapsipinicon River of Freeborn and Mower Counties. Because many of these streams have their headwaters near the

FIGURE 1. SLENDER MADTOM COLLECTION SITE

MITCHELL CO., IOWA



Iowa-Minnesota border, several stations were sampled in northern Mitchell County, Iowa.

The crystal darter streams were the Whitewater (Beaver to Weaver), Zumbro (Millville to Kellogg), Cannon (near Red Wing), and St. Croix (Osceola to Stillwater) Rivers.

The bluntnose darter surveys were in the Root River, backwaters of the Mississippi River, and Pine, Wildcat, Crooked, and Winnebago Creeks of Houston County.

Collecting gear consisted of a Smith-Root backpack electroshocker, kick nets, seines, and minnow traps. Most sampling was done during the day, however, at least one nocturnal survey was conducted for each species.

The backpack shocker sampled habitats in conjunction with a kick net. In pools and backwaters, the kick net was used to dip fish. In riffles and rapids, the kick net was held on the bottom and stationary as the anode ring of the shocker was swept down toward the opening. A second and final pass kicked over rocks and "raked" any stunned fish toward the net. Pull seines (8-25 feet long, four feet deep, and one-eighth inch mesh) sampled sand bars and dune areas and dragged either down or up stream while raking the upper layer of substrate with the lead line. Minnow traps were baited with bread crumbs and set over night in side channels, pools, and eddies.

All fish sampled were identified and tallied. Voucher specimens of Special Concern and Element species were collected, photographed and deposited in the fish collection at the James Ford Bell Museum of Natural History. Field records were compiled on an IBM compatible

computer using Dbase 3 Plus which produced two reports indexed on taxonomy (Appendix I) and sample stations (Appendix II).

Results and Discussion

Heavy and prolonged rains greatly reduced the number of surveys initiated in the spring and cancelled all scheduled for the summer. Sampling could not be resumed until late September when most streams had returned to near normal flows. Furthermore, 1990 was preceded by three years of severe drought. These back to back events likely had a very significant and negative impact on resident fish communities and the habitats required to complete each species life cycle.

A total of 8665 fish were sampled from 61 stations. The catch was comprised of 78 species representing 17 families. Special Concern species included the American brook lamprey (*Lampetra appendix*) and pugnose minnow (*Notropis emiliae*). Element and species of limited distribution in Minnesota consisted of the redbreasted sunfish (*Clinostomus elongatus*), Ozark minnow (*Notropis nubilus*), pirate perch (*Aphredoderus sayanus*), warmouth (*Lepomis gulosus*), and gizzard shad (*Percina evides*). Survey efforts did not find any slender madtoms, crystal darters, or bluntnose darters in Minnesota. However, four slender madtoms were collected in Iowa approximately 2 miles from the Minnesota border.

Slender Madtom (*Noturus exilis*)

One adult (approx. 120 mm) and three young of the year (approx. 30 mm) slender madtoms were sampled on three occasions in Otter Creek of northern Mitchell County, Iowa. This site is located just above the confluence with the Cedar River in the Nelson Paradise Wildlife Area (T100N-R1BW-Sib) which is 3.9 stream miles from the Mower County (MN) line (Figure 1). Habitats and substrates in this reach are extremely diverse, riparian areas are fully intact, and the water is clear and colorless.

The backpack shocker and kick net collected the three young of the year. The adult, which was apparently injured or diseased, was taken by hand. One young of the year was found in a small side channel approximately 6 inches deep and 18 inches wide. Substrates consisted of mostly coarse gravel (1 to 2.5 inches in diameter) and small rubble (2.5 to 5 inches). The adult was found at the downstream end of a pool over a small boulder (10 inches to 3 feet) and large rubble (5 to 10 inches) substrate. Water depth was approximately two feet deep. The remaining two young of the year were sampled at night and the precise habitat is not known, however, the station contained riffles and runs, substrates of coarse gravel to large rubble, and water depth of six inches to two feet. Sampling effort for this collection was 258 seconds.

Seventeen fishes were taken in association with the one young of the year on 1 October 1990. The central stoneroller (*Campostoma anomalum*), hornyhead chub (*Nocomis biguttatus*), and fantail darter (*Etheostoma flabellare*) dominated the total catch of 257 fish. Fifteen species were found with the two young of the year on 3 October 1990.

Dominant species consisted of the central stoneroller and fantail darter in a total catch of 160 fish. Species association for the adult slender madtom has been omitted due to the collection method and lapse of time since the shocking run had been completed.

Eleven sites were sampled in Minnesota, however, only short reaches of three streams appeared to contain habitats marginally suitable for slender madtoms. Generally, this portion of the Cedar River watershed is highly degraded due to land uses of row crop and livestock production. The Shell Rock River is turbid and green from the outlet at Albert Lea Lake to the Iowa state line, substrates primarily consist of muck, and very tolerant species such as fathead minnows (*Pimephales promelas*) and green sunfish (*Lepomis cyanellus*) dominated the fish assemblages at the two stations surveyed. The Cedar River remained slightly high to sample and was also turbid, however, tributary streams such as the Otter, Rose, and Woodbury Creek were clear and lower reaches often contained extensive strips of riparian and a variety of habitats and substrates. Nevertheless, even these best sites exhibited impacts from repeated flooding and were no comparison to the Nelson Paradise site. Fresh sediments, primarily composed of sand, had completely inundated riffles and pools or greatly embedded the substrates at every station.

MDNR Fisheries personnel should be encouraged to preserve all madtoms (*Noturus* sp.) sampled from future surveys of the lower Cedar River watershed. Specimens should be deposited in the Bell Museum of Natural History's fish collection for verification. Riparian

protection should be implemented along the best remaining streams through easements or mitigating impacts from adverse land practices.

Crystal Darter (*Ammocrypta asprella*)

Twenty-one stations were surveyed for the crystal darter, but no specimens were found. Pull seines sampled expansive areas of shifting sand dunes and bars. The backpack shocker sampled areas around logs and root wads. These efforts did produce two species associated with shifting sand habitats (Becker 19B3). The western sand darter (*Ammocrypta clara*) was collected from the St. Croix and Zumbro Rivers and the speckled chub (*Hybopsis aestivalis*) from the Cannon River.

Generally, the substrate in the Whitewater River is almost exclusively composed of sand, but lacks the shifting almost flocculent dune habitats. The Zumbro has ample habitats, good substrates, and large woody structure is abundant, but at least four out of bank flooding events occurred in 1990. The lower Cannon has had two large fish kills in recent years. The St. Croix is in the best condition of all the streams surveyed and does receive protection from state and federal agencies as a wild and scenic river. However, this population of crystal darters is at the extreme northern edge of the species range and has probably never been abundant.

The Lake City MDNR Fisheries office has tentatively scheduled a crystal darter survey for the Zumbro River in 1991 (Larry Gates pers. comm.). Additional surveys should be conducted in the lower Mississippi to determine the species abundance, distribution, and

association with wing dams. Crystal darters may also exist in the lower Root River and future surveys should routinely sample the "barren" habitats where the species has been found in other streams. Finally, a comprehensive and ambitious program was implemented in 1990 to clean up the entire Cannon River watershed. If this goal is achieved, all aquatic organisms and habitats will benefit from the results.

Bluntnose Darter (*Etheostoma chlorosomum*)

Thirteen stations were sampled for the bluntnose darter. A few questionable specimens were forwarded to the Hell Museum, but all were confirmed to be the very abundant and widespread Johnny darter (*Etheostoma nigrum*). Large areas containing potential habitats for the bluntnose darter do exist in ponds, sloughs and backwaters of the lower Mississippi, however, most are difficult to sample due to soft substrates and often accessible only by hovercraft. If these obstacles can be surmounted, future surveys should be conducted in Reno Bottoms below U.S. Lock and Dam No. 8 to the Iowa border and lower reaches of the Root River and Pine Creek near La Crescent.

Special Concern Species

Seven American brook lampreys were shocked from sand substrates at two stations on the Whitewater River and one on the Zumbro. Sixty-one pugnose minnows were seined over muck substrates in dense

submergent aquatic vegetation at three backwater stations of the Mississippi River.

Element and Species of Limited Distribution

Twenty-four redbreasted dace were seined in a pool over a sandgravel substrate at one station on the Zumbro River. Nineteen Ozark minnows were shocked and 12 were minnow trapped at three stations on Otter Creek. Two pirate perch were kick netted from undercut banks at one station on the old channel of the Zumbro River. Six warmouth were shocked over muck substrates in dense vegetation at two backwater stations of the Mississippi River. In Minnesota, this species has previously been reported only from Lake Winona (Larry Gates pers. comm.). Five gill darters were shocked over predominately sand substrates at two stations on the St. Croix River.

Acknowledgments

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APPENDIX I

1990 STREAM SURVEY RECORDS

INDEXED ON FISH TAXONOMY

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APPENDIX I - 1990 SURVEY RESULTS FOR SPECIAL CONCERN FISHES
INDEXED ON TAXA - KONRAD SCHMIDT (612) 699-6832
1508 FAIRMOUNT AVE., ST. PAUL, MN 55105
FUNDING PROVIDED THROUGH THE MINNESOTA NONGAME PROGRAM

LOCATION/TWP-RGE-SEC	ROAD COUNTY-STATE	CATCH YR-MO-DA
** PETROMYZONTIDAE - LAMPREYS		
* SILVER LAMPREY (ICHTHYOMYZON UNICUSPIS)		
Mississippi R/101-04-23	N/A Houston-MN	1 90-09-20
Subsubtotal *		1
*AMERICAN BROOK LAMPREY (LAMPETRA APPENDIX)		
Zumbro R/110-11-31	4 Wabasha-MN	1 90-09-25
Whitewater R/108-10-i1	N/A Winona-MN	4 90-09-24
Whitewater R/108-10-15	30 Winona-MN	2 90-09-24
Subsubtotal *		7
Subtotal		8
** CLUPEIDAE - HERRINGS		
* GIZZARD SHAD (DOROSOMA CEPEDIANUM)		
Mississippi R/101-04-23	N/A Houston-MN	1 90-09-20
Zumbro R/109-12-18	N/A Wabasha-MN	3 90-09-25
Subsubtotal ~		4
Subtotal		4
** SALMONIDAE - TROUTS		
* RAINBOW TROUT (ONCORHYNCHUS MYKISS)		
Wapsipinicon R/100-15-17	N/A Mitchell-IA	13 90-09-12
Subsubtotal		13
* BROWN TROUT (SALMO TRUTTA)		
Root R-SB/102-12-13	12 Fillmore-MN	5 90-04-27
Whitewater R/108-10-11	N/A Winona-MN	9 90-09-24
Whitewater R/108-10-15	30 Winona-MN	10 90-09-24
Subsubtotal ~		24
* BROOK TROUT (SALVELINUS FONTINALIS)		
St.Croix R.trib/32-19-07	N/A Washington-MN	1 90-10-26
Subsubtotal ~		1
Subtotal		38

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LOCATION/TWP-RGE-SEC	ROAD	COUNTY-STATE	CATCH	YR-MO-DA
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** UMBRIDAE - MUDMINNOWS

* CENTRAL MUDMINNOW (UMBRA LIMI)

Otter	C/100-18-15	N/A Mitchell-IA	1	90-10-03
Otter	C/100-18-16	N/A Mitchell-IA	11	90-09-11
Otter	C/100-18-16	N/A Mitchell-IA	3	90-09-12
Otter	C/100-18-16	N/A Mitchell-IA	4	90-10-01
Otter	C/100-18-16	N/A Mitchell-IA	1	90-10-03
Shell	Rock R/101-20-Ob	13 Freeborn-MN	1	90-10-01
Shell	Rock R/101-20-17	65 Freeborn-MN	1	90-10-01
Crooked	C/102-04-35	26 Houston-MN	3	90-09-20
Mississippi	R/102-03-31:ponds	N/A Houston-MN	3	90-OS-OS
Winnebago	C/101-04-35	26 Houston-MN	1	90-09-19
Otter	C/101-17-21	5 Mower-MN	1	90-09-11
Otter	C/101-18-36	N/A Mower-MN	1	90-09-11
East Indian	C/109-09-19	61 Wabasha-MN	1	90-04-OS
Whitewater	R/109-09-29	61 Wabasha-MN	1	90-04-05
Zumbro	R/109-09-18:old channel	84 Wabasha-MN	8	90-09-24
Trout	C/106-05-07	61 Winona-MN	93	90-04-05

*Subsubtotal 134

Subtotal 134

**ESOCIDAE - PIKES

NORTHERN PIKE (ESOX LUCIUS)

Mississippi	R/102-04-36	N/A Houston-MN	1	90-09-19
Winnebago	C/101-04-35	26 Houston-MN	1	90-09-19
*Subsubtotal			2	

** Subtotal** 2

** CYPRINIDAE - MINNOWS

* CENTRAL STONEROLLER (CAMPOSTOMA ANOMALUM)

Cedar	R/100-18-21	A19 Mitchell-IA	2	90-10-02
Cedar	R/100-18-21	A19 Mitchell-IA	7	90-10-03
Otter	C/100-18-15	N/A Mitchell-IA	88	90-10-03
Otter	C/100-18-16	N/A Mitchell-IA	40	90-09-11
Otter	C/100-18-i6	N/A Mitchell-IA	58	90-10-01
Otter	C/100-18-16	N/A Mitchell-IA	36	90-10-03
Wapsipinicon	R/100-15-17	N/A Mitchell-IA	43	90-09-12
Root	R-SB/102-12-13	12 Fillmore-MN	2	90-04-27
Root	R-SB/102-12-19	N/A Fillmore-MN	4	90-04-27
Shell	Rock R/101-20-06	13 Freeborn-MN	1	90-10-01
Little Cedar	R/101-16-09	56 Mower-MN	15	90-09-i2

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LOCATION/TWP-RGE-SEC	ROAD COUNTY-STATE	CATCH	YR-MO-DA
Orchard C/102-18-32	N/A Mower-MN	16	90-09-11
Otter C/101-17-13	6 Mower-MN	3	90-10-02
Otter C/101-17-21	5 Mower-MN	38	90-09-11
Otter C/101-18-36	N/A Mower-MN	5	90-09-11
Otter C/101-18-36	N/A Mower-MN	11	90-10-02
Rose C/102-17-26	56 Mower-MN	1	90-10-02
Rose C/102-18-24	218 Mower-MN	68	90-09-11
Rose C/102-18-24	218 Mower-MN	32	90-10-02
Woodbury C/101-18-33	105 Mower-MN	22	90-09-11
* Subsubtotal		492	
*REDSIDE DACE (CLINOSTOMUS ELONGATUS)			
Zumbro R-NHMF/108-16-06	57 Dodge-MN	24	90-08-12
*Subsubtotal ~		24	
*COMMON CARP (CYPRINUS CARPIO)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-03
Otter C/100-18-16	N/A Mitchell-IA	2	90-09-11
Shell Rock R/101-20-Ob	13 Freeborn-MN	37	90-10-01
Shell Rock R/101-20-17	65 Freeborn-MN	6	90-10-01
Otter C/101-17-13	6 Mower-MN	1	90-10-02
Rose C/102-18-24	218 Mower-MN	3	90-09-11
*Subsubtotal ~		50	
*BRASSY MINNOW (HYBOGNATHUS HANKINSONI)			
Wapsipinicon R/100-15-17	N/A Mitchell-IA	4	90-09-12
Whitewater R/109-09-29	61 Wabasha-MN	1	90-04-'05
Whitewater R/109-10-24	N/A Wabasha-MN	1	90-09-24
Trout C/106-05-07	61 Winona-MN	4	90-04-05
*Subsubtotal ~		10	
* MISSISSIPPI SILVERY MINNOW (HYBOGNATHUS NUCHALIS)			
Trout C/106-05-07	61 Winona-MN	1	90-04-'05
*Subsubtotal ~		1	
* SPECKLED CHUB (HYBOPSIS AESTIVALIS)			
Cannon R/113-15-14	N/A Goodhue-MN	11	90-09-26
Cannon R/113-15-15	N/A Goodhue-MN	9	90-09-:Z6
Subsubtotal ~		20	
*HORNYHEAD CHUB (NOCOMIS BIGUTTATUS)			
Cedar R/100-18-21	A19 Mitchell-IA	8	90-10-03

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Otter C/100-18-15	N/A	Mitchell-IA	28	90-10-03
Otter C/100-iB-16	N/A	Mitchell-IA	29	90-09-11
Otter C/100-18-16	N/A	Mitchell-IA	12	90-09-12
Otter C/100-18-16	N/A	Mitchell-IA	35	90-10-01
Otter C/100-18-16	N/A	Mitchell-IA	23	90-10-03
Wapsipinicon R/100-15-17	N/A	Mitchell-IA	1	90-09-12
Root R-SH/102-12-19	N/A	Fillmore-MN	18	90-04-27
Deer C/101-19-33	N/A	Freeborn-MN	1	90-10-02
Little Cedar R/101-16-09	56	Mower-MN	22	90-09-12
Orchard C/102-18-32	N/A	Mower-MN	11	90-09-11
Otter C/101-17-13	6	Mower-MN	14	90-10-01
Otter C/101-17-13	6	Mower-MN	17	90-10-02
Otter C/101-17-21	5	Mower-MN	2	90-09-11
Otter C/101-17-21	5	Mower-MN	2	90-09-12
Otter C/101-18-36	N/A	Mower-MN	12	90-09-11
Otter C/101-18-36	N/A	Mower-MN	29	90-10-02
Rose C/102-17-26	56	Mower-MN	8	90-10-02
Rose C/102-18-24	218	Mower-MN	11	90-09-11
Rose C/102-18-24	218	Mower-MN	17	90-10-02
Woodbury C/101-18-33	105	Mower-MN	7	90-09-11
Woodbury C/101-18-33	105	Mower-MN	1	90-10-02
Apple R/31-19-29:mouth	N/A	St. Croix-WI	13	90-10-05
*Subsubtotal *			321	

*GOLDEN SHINER (NOTEMIGONUS CRYSOLEUCAS)

Mississippi R/101-04-26	N/A	Houston-MN	1	90-09-.19
Mississippi R/102-04-36:slough	N/A	Houston-MN	1	90-05-08
Mississippi R/109-09-19	N/A	Wabasha-MN	2	90-09-24
*Subsubtotal *			4	

EMERALD SHINER (NOTROPIS ATERINOIDES)

Cannon R/113-15-10	N/A	Goodhue-MN	79	90-05-02
Cannon R/113-15-14	N/A	Goodhue-MN	74	90-09-26
Cannon R/113-15-15	N/A	Goodhue-MN	142	90-09-26
Mississippi R/101-04-23	N/A	Houston-MN	34	90-05-08
Mississippi R/101-04-23	N/A	Houston-MN	16	90-09-20
Mississippi R/101-04-26	N/A	Houston-MN	79	90-05-08
Mississippi R/102-04-36	N/A	Houston-MN	6	90-09-19
Mississippi R/102-04-36:slough	N/A	Houston-MN	5	90-05-08
Root R/104-04-35	N/A	Houston-MN	182	90-09-20
Mississippi R/109-09-19	N/A	Wabasha-MN	4	90-09-:24
Whitewater R/109-09-29	N/A	Wabasha-MN	79	90-09-24
Whitewater R/109-10-24	N/A	Wabasha-MN	99	94-09-24
Zumbro R/109-12-18	N/A	Wabasha-MN	237	90-09-25
Zumbro R/110-10-22	61	Wabasha-MN	134	90-09-25
Zumbro R/110-11-13	N/A	Wabasha-MN	27	90-09-25

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Zumbro R/110-11-31	4	Wabasha-MN	360	90-09-25
Cedar C/106-06-01	61	Winona-MN	0	90-04-05
Trout C/106-05-07	61	Winona-MN	422	90-04-05
Whitewater R/108-10-11	N/A	Winona-MN	102	90-09-24
Whitewater R/108-10-15	30	Winona-MN	4	90-09-:24
* Subsubtotal				2085
*RIVER SHINER (NOTROPIS BLENNIUS)				
Cannon R/113-15-10	N/A	Goodhue-MN	2	90-05-02
Mississippi R/101-04-23	N/A	Houston-MN	2	90-05-OB
Mississippi R/101-04-26	N/A	Houston-MN	7	90-05-OB
Zumbro R/109-12-18	N/A	Wabasha-MN	1	90-09-25
Zumbro R/110-11-31	4	Wabasha-MN	1	90-09-:25
Whitewater R/108-10-11	N/A	Winona-MN	1	90-09-24
* Subsubtotal				14
* COMMON SHINER (NOTROPIS CORNUTUS)				
Cedar R/100-18-21	A19	Mitchell-IA	1	90-10-02
Cedar R/100-18-21	A19	Mitchell-IA	6	90-10-03
Otter C/100-18-16	N/A	Mitchell-IA	5	90-09-11
Otter C/100-18-16	N/A	Mitchell-IA	4	90-09-12
Otter C/100-18-16	N/A	Mitchell-IA	10	90-10-01
Wapsipinicon R/100-15-17	N/A	Mitchell-IA	10	90-09-12
Root R-SB/102-12-13	12	Fillmore-MN	1	90-04-27
Root R-SH/102-12-19	N/A	Fillmore-MN	89	90-04-27
Little Cedar R/101-ib-09	56	Mower-MN	11	90-09-12
Orchard C/102-18-32	N/A	Mower-MN	9	90-09-11
Otter C/101-17-13	6	Mower-MN	5	90-10-01
Otter C/101-17-13	6	Mower-MN	4	90-10-02
Otter C/101-17-21	5	Mower-MN	4	90-09-11
Otter C/101-18-36	N/A	Mower-MN	9	90-09-11
Otter C/101-18-36	N/A	Mower-MN	20	90-10-02
Rose C/102-17-26	56	Mower-MN	1	90-10-02
Rose C/102-18-24	218	Mower-MN	1	90-10-02
Woodbury C/101-18-33	105	Mower-MN	5	90-09-11
Woodbury C/101-18-33	105	Mower-MN	1	90-10-02
*Subsubtotal ~				196
*BIGMOUTH SHINER (NOTROPIS DORSALIS)				
Otter C/100-18-16	N/A	Mitchell-IA	2	90-09-11
Wapsipinicon R/100-15-17	N/A	Mitchell-IA	10	90-09-12
Shell Rock R/101-20-06	13	Freeborn-MN	3	90-10-01
Little Cedar R/101-16-09	56	Mower-MN	6	90-09-12
Otter C/101-17-21	5	Mower-MN	9	90-09-11
Otter C/101-18-36	N/A	Mower-MN	1	90-09-11

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LOCATION/TWP-RGE-SEC	ROAD	COUNTY-STATE	CATCH	YR-MO-DA
Otter C/101-18-36	N/A	Mower-MN	5	90-10-02
Rose C/102-17-26	56	Mower-MN	1	90-10-02
Rose C/102-18-24	218	Mower-MN	2	90-09-11
East Indian C/109-09-19	61	Wabasha-MN	32	90-04-05
Zumbro R/109-12-18	N/A	Wabasha-MN	1	90-09-25
Zumbro R/110-i1-31	4	Wabasha-MN	4	90-09-25
*Subsubtotal ~				76
*PUGNOSE MINNOW (NOTROPIS EMILIAE)				
Mississippi R/101-04-12	N/A	Houston-MN	5	90-09-19
Mississippi R/101-04-23	N/A	Houston-MN	4	90-09-20
Mississippi R/109-09-19	N/A	Wabasha-MN	52	90-09-24
*Subsubtotal ~				61
*BLACKCHIN SHINER (NOTROPIS HETERODON)				
Trout C/106-05-07	61	Winona-MN	1	90-04-05
*Subsubtotal ~				1
*SPOTTAIL SHINER (NOTROPIS HUDSONIUS)				
Crooked C/101-04-11	26	Houston-MN	1	90-05-05
Crooked C/101-04-11	26	Houston-MN	3	90-05-09
Mississippi R/101-04-23	N/A	Houston-MN	2	90-09-20
Mississippi R/102-04-36	N/A	Houston-MN	1	90-09-19
Trout C/106-05-07	61	Winona-MN	2	90-04-05
*Subsubtotal				9
*OZARK MINNOW (NOTROPIS NUBILUS)				
Otter C/101-17-13	6	Mower-MN	5	90-10-01
Otter C/101-17-13	6	Mower-MN	3	90-10-02
Otter C/101-17-21	5	Mower-MN	6	90-09-11
Otter C/101-18-36	N/A	Mower-MN	8	90-09-11
Otter C/101-18-36	N/A	Mower-MN	9	90-10-02
*Subsubtotal *				31
*ROSYFACE SHINER (NOTROPIS RUBELLUS)				
Cedar R/100-18-21	A19	Mitchell-IA	34	90-10-03
Otter C/100-18-16	N/A	Mitchell-IA	2	90-09-11
Otter C/100-18-16	N/A	Mitchell-IA	1	90-10-03
Orchard C/102-18-32	N/A	Mower-MN	2	90-09-11
Otter C/101-17-13	6	Mower-MN	2	90-10-01
Otter C/101-17-13	6	Mower-MN	1	90-10-02

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LOCATION/TWP-RGE-SEC	ROAD COUNTY-STATE	CATCH	YR-MO-DA
*Subsubtotal ~			42
SPOTFIN SHINER (NOTROPIS SPILOPTERUS)			
Wapsipinicon R/100-15-17	N/A Mitchell-IA	1	90-09-12
Cannon R/113-15-10	N/A Goodhue-MN	2	90-05-02
Cannon R/113-15-15	N/A Goodhue-MN	6	90-09-26
Mississippi R/101-04-23	N/A Houston-MN	11	90-05-08
Mississippi R/101-04-23	N/A Houston-MN	1	90-09-20
Mississippi R/101-04-26	N/A Houston-MN	93	90-05-08
Mississippi R/102-04-36	N/A Houston-MN	2	90-09-19
Mississippi R/102-04-36:slough	N/A Houston-MN	4	90-05-08
Root R/104-04-35	N/A Houston-MN	1	90-09-20
East Indian C/109-09-19	61 Wabasha-MN	2	90-04-05
Whitewater R/109-09-29	61 Wabasha-MN	1	90-04-05
Zumbro R/109-12-18	N/A Wabasha-MN	9	90-09-25
Zumbro R/110-10-22	61 Wabasha-MN	20	90-09-25
Zumbro R/110-11-31	4 Wabasha-MN	6	90-09-25
St.Croix R.trib/32-19-07	N/A Washington-MN	1	90-10-26
St.Croix R/31-19-07	N/A Washington-MN	2	90-09-13
St.Croix R/31-19-17	N/A Washington-MN	5	90-09-13
Cedar C/106-0b-01	61 Winona-MN	0	90-04-05
Trout C/106-05-07	61 Winona-MN	7	90-04-05
St.Croix R/31-19-07	N/A Polk-WI	27	90-09-13
St.Croix R/32-19-32	N/A Polk-WI	2	90-09-13
Apple R/31-19-29:mouth	N/A St. Croix-WI	5	90-10-05
St.Croix R/31-19-29	N/A St. Croix-WI	20	90-10-05
*Subsubtotal ~			228
*SAND SHINER (NOTROPIS STRAMINEUS)			
Cedar R/100-18-21	A19 Mitchell-IA	2	90-10-02
Cedar R/100-18-21	A19 Mitchell-IA	5	90-10-03
Shell Rock R/101-20-06	13 Freeborn-MN	49	90-10-01
Shell Rock R/101-20-17	65 Freeborn-MN	1	90-10-01
Cannon R/113-15-10	N/A Goodhue-MN	12	90-05-02
Cannon R/113-15-14	N/A Goodhue-MN	2	90-09-26
Mississippi R/102-04-36:slough	N/A Houston-MN	2	90-05-08
Zumbro R/109-12-18	N/A Wabasha-MN	1	90-09-25
Zumbro R/110-11-31	4 Wabasha-MN	12	90-09-25
Cedar C/106-06-01	61 Winona-MN	1	90-04-05
Trout C/106-05-07	61 Winona-MN	1	90-04-05
*Subsubtotal ~			88
*WEED SHINER (NOTROPIS TEXANUS)			
Mississippi R/101-04-12	N/A Houston-MN	1	90-09-19
Mississippi R/101-04-23	N/A Houston-MN	2	90-05-08

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*Subsubtotal ~				3
* REDFIN SHINER (NOTROPIS UMBRATILIS)				
Cedar R/100-18-21	A19	Mitchell-IA	1	90-10-03
*Subsubtotal				1
*MIMIC SHINER (NOTROPIS VOLUCELLUS)				
St.Croix R/31-19-07	N/A	Washington-MN	26	90-09-13
St.Croix R/31-19-17	N/A	Washington-MN	7	90-09-13
St.Croix R/31-19-07	N/A	Polk-WI	24	90-09-13
St.Croix R/33-19-22	N/A	Polk-WI	20	90-09-27
St.Croix R/33-19-27:Trout B.mo	243	Polk-WI	1	90-09-27
Apple R/31-19-29:mouth	N/A	St. Croix-WI	9	90-10-05
St.Croix R/31-19-29	N/A	St. Croix-WI	22	90-10-05
*Subsubtotal				109
*SOUTHERN REDBELLY DACE (PHOXINUS ERYTHROGASTER)				
Otter C/100-18-16	N/A	Mitchell-IA	32	90-09-11
Otter C/100-18-16	N/A	Mitchell-IA	130	90-09-12
Otter C/100-18-16	N/A	Mitchell-IA	25	90-10-01
Otter C/100-18-16	N/A	Mitchell-IA	7	90-10-03
Wapsipinicon R/100-15-17	N/A	Mitchell-IA	21	90-09-12
Zumbro R-NBMF/108-16-06	57	Dodge-MN	4	90-08-12
Root R-SB/102-12-19	N/A	Fillmore-MN	97	90-04-27
Zumbro R-NB trib/109-18-05	N/A	Goodhue-MN	18	90-08-12
Little Cedar R/101-ib-09	56	Mower-MN	13	90-09-12
Orchard C/102-18-32	N/A	Mower-MN	2	90-09-11
Otter C/101-17-21	5	Mower-MN	16	90-09-11
Otter C/101-17-21	5	Mower-MN	1	90-09-12
Otter C/101-18-36	N/A	Mower-MN	1	90-09-11
Otter C/101-18-36	N/A	Mower-MN	3	90-10-12
Rose C/102-17-26	56	Mower-MN	6	90-10-02
Rose C/102-18-24	218	Mower-MN	1	90-09-11
Rose C/102-18-24	218	Mower-MN	4	90-10-02
*Subsubtotal				381
*BLUNTNOSE MINNOW (PIMEPHALES NOTATUS)				
Cedar R/100-18-21	A19	Mitchell-IA	1	90-10-02
Cedar R/100-18-21	A19	Mitchell-IA	5	90-10-03
Otter C/100-18-15	N/A	Mitchell-IA	1	90-10-03
Otter C/100-18-16	N/A	Mitchell-IA	8	90-09-11
Otter C/100-18-ib	N/A	Mitchell-IA	4	90-10-01
Wapsipinicon R/100-15-17	N/A	Mitchell-IA	38	90-09-12
Root R-SB/102-12-19	N/A	Fillmore-MN	3	90-04-27

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LOCATION/TWP-RGE-SEC	ROAD COUNTY-STATE	CATCH YR-MO-DA
Shell Rock R/101-20-06	13 Freeborn-MN	1 90-04-23
Shell Rock R/101-20-06	13 Freeborn-MN	4 90-10-01
Pine C/104-04-22	N/A Houston-MN	11 90-06-09
Little Cedar R/101-ib-09	56 Mower-MN	1 90-09-12
Orchard C/102-18-32	N/A Mower-MN	6 90-09-11
Otter C/101-17-13	6 Mower-MN	4 90-10-01
Otter C/101-17-13	6 Mower-MN	5 90-10-02
Otter C/101-17-21	5 Mower-MN	13 90-09-12
Otter C/101-18-36	N/A Mower-MN	15 90-09-11
Otter C/101-18-36	N/A Mower-MN	11 90-10-02
Rose C/102-17-26	56 Mower-MN	2 90-10-02
Rose C/102-18-24	218 Mower-MN	2 90-09-11
Woodbury C/101-18-33	105 Mower-MN	6 90-09-11
Woodbury C/101-18-33	105 Mower-MN	1 90-10-02
St.Croix R/31-19-07	N/A Washington-MN	1 90-09-13
St.Croix R/31-19-17	N/A Washington-MN	1 90-09-13
St.Croix R/31-19-07	N/A Polk-WI	8 90-09-13
St.Croix R/33-19-27:Trout B.mo	243 Polk-WI	1 90-09-27
Apple R/31-19-29:mouth	N/A St. Croix-WI	9 90-10-05
*Subsubtotal ~		162
* FATHEAD MINNOW (PIMEPHALES PROMELAS)		
Otter C/100-18-16	N/A Mitchell-IA	3 90-09-11
Otter C/100-18-16	N/A Mitchell-IA	1 90-09-12
Wapsipinicon R/100-15-17	N/A Mitchell-IA	101 90-09-12
Shell Rock R/101-20-06	13 Freeborn-MN	3 90-04-23
Shell Rock R/101-20-06	13 Freeborn-MN	187 90-10-01
Shell Rock R/101-20-17	65 Freeborn-MN	22 90-10-01
Cannon R/113-15-10	N/A Goodhue-MN	1 90-05-02
Cannon R/113-15-15	N/A Goodhue-MN	1 90-09-26
Mississippi R/102-03-31:ponds	N/A Houston-MN	6 90-05-08
Pine C/104-04-22	N/A Houston-MN	3 90-06-09
Root R/104-04-35	N/A Houston-MN	15 90-09-20
Little Cedar R/101-16-09	56 Mower-MN	2 90-09-12
Woodbury C/101-18-33	105 Mower-MN	1 90-09-11
Whitewater R/109-09-29	N/A Wabasha-MN	1 90-09-24
Whitewater R/109-10-24	N/A Wabasha-MN	2 90-09-24
Zumbro R/110-11-31	4 Wabasha-MN	2 90-09-25
Cedar C/106-06-01	61 Winona-MN	1 90-04-05
Whitewater R/108-10-11	N/A Winona-MN	1 90-09-24
Whitewater R/108-10-15	30 Winona-MN	4 90-09-24
*Subsubtotal ~		357
*BULLHEAD MINNOW (PIMEPHALES VIGILAX)		
Mississippi R/101-04-12	N/A Houston-MN	2 90-09-19
Mississippi R/101-04-23	N/A Houston-MN	6 90-05-08

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Mississippi R/101-04-23	N/A	Houston-MN	2	90-09-20
Mississippi R/101-04-26	N/A	Houston-MN	4	90-09-08
Mississippi R/102-04-25	N/A	Houston-MN	9	90-09-19
Mississippi R/102-04-36	N/A	Houston-MN	7	90-09-19
Mississippi R/102-04-36:slough	N/A	Houston-MN	4	90-05-08
Mississippi R/109-09-19	N/A	Wabasha-MN	6	90-09-24
Whitewater R/109-10-24	N/A	Wabasha-MN	1	90-09-24
Trout C/106-05-07	61	Winona-MN	1	90-04-05
* Subsubtotal		42		
*BLACKNOSE DACE (RHINICHTHYS ATRATULUS)				
Otter C/100-18-16	N/A	Mitchell-IA	4	90-10-01
Otter C/100-18-16	N/A	Mitchell-IA	2	90-10-03
Root R-SB/102-12-13	12	Fillmore-MN	11	90-04-27
Root R-SH/102-12-19	N/A	Fillmore-MN	15	90-04-27
Wildcat C/103-04-26	26	Houston-MN	3	90-05-08
Wildcat C/103-04-26	26	Houston-MN	1	90-05-09
Orchard C/102-18-32	N/A	Mower-MN	4	90-09-11
Otter C/101-17-21	5	Mower-MN	33	90-09-11
Otter C/101-17-21	5	Mower-MN	4	90-09-12
Rose C/102-17-26	56	Mower-MN	3	90-10-02
Rose C/102-18-24	218	Mower-MN	3	90-09-11
Rose C/102-18-24	218	Mower-MN	5	90-10-02
Woodbury C/101-18-33	105	Mower-MN	1	90-09-11
East Indian C/109-09-19	61	Wabasha-MN	28	90-04-05
Whitewater R/109-09-29	61	Wabasha-MN	2	90-04-05
Cedar C/106-06-01	61	Winona-MN	61	90-04-05
Garvin B/107-08-02	61	Winona-MN	1	90-04-05
Trout C/106-05-07	61	Winona-MN	6	90-04-05
Whitewater R/108-10-11	N/A	Winona-MN	5	90-09-24
Whitewater R/108-10-15	30	Winona-MN	35	90-09-24
* Subsubtotal			227	
* LONGNOSE DACE (RHINICHTHYS CATARACTAE)				
Root R-SB/102-12-13	12	Fillmore-MN	2	90-04-27
Root R-SB/102-12-19	N/A	Fillmore-MN	1	90-04-27
Wildcat C/103-04-26	26	Houston-MN	1	90-05-08
Zumbro R/109-12-18	N/A	Wabasha-MN	2	90-09-25
Zumbro R/110-11-31	4	Wabasha-MN	6	90-09-25
Cedar C/106-06-01	61	Winona-MN	1	90-04-05
Garvin H/107-08-02	61	Winona-MN	15	90-04-05
Whitewater R/108-10-11	N/A	Winona-MN	35	90-09-24
Whitewater R/108-10-15	30	Winona-MN	13	90-09-24
*Subsubtotal			76	

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*CREEK CHUB (SEMOTILUS ATROMACULATUS)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-03
Otter C/100-18-15	N/A Mitchell-IA	5	90-10-03
Otter C/100-18-ib	N/A Mitchell-IA	15	90-09-11
Otter C/100-18-16	N/A Mitchell-IA	15	90-09-12
Otter C/100-18-16	N/A Mitchell-IA	21	90-10-01
Otter C/100-18-16	N/A Mitchell-IA	6	90-10-03
Wapsipinicon R/100-15-17	N/A Mitchell-IA	11	90-09-12
Root R-SH/102-12-13	12 Fillmore-MN	9	90-04-27
Root R-SB/102-i2-19	N/A Fillmore-MN	4	90-04-27
Shell Rock R/101-20-17	65 Freeborn-MN	1	90-10-01
Wildcat C/103-04-26	26 Houston-MN	2	90-05-09
Little Cedar R/101-ib-09	56 Mower-MN	43	90-09-12
Orchard C/102-18-32	N/A Mower-MN	4	90-09-i1
Otter C/101-17-13	6 Mower-MN	1	90-10-01
Otter C/101-17-13	6 Mower-MN	6	90-10-02
Otter C/101-17-21	5 Mower-MN	13	90-09-11
Otter C/101-17-21	5 Mower-MN	16	90-09-12
Otter C/101-18-36	N/A Mower-MN	6	90-09-11
Otter C/101-18-36	N/A Mower-MN	3	90-10-02
Rose C/102-17-26	56 Mower-MN	8	90-10-02
Rose C/102-18-24	218 Mower-MN	10	90-09-11
Rose C/102-18-24	218 Mower-MN	8	90-10-02
Woodbury C/101-18-33	105 Mower-MN	11	90-09-11
East Indian C/109-09-19	61 Wabasha-MN	245	90-04-05
Zumbro R/109-12-18	N/A Wabasha-MN	1	90-09-25
Zumbro R/110-10-22	61 Wabasha-MN	2	90-09-25
Cedar C/106-Ob-01	61 Winona-MN	1	90-04-05
Garvin B/107-08-02	61 Winona-MN	1	90-04-05
Whitewater R/108-10-15	30 Winona-MN	4	90-09-24
*Subsubtotal		473	
** Subtotal		5584	
** CATOSTOMIDAE - SUCKERS			
*WHITE SUCKER (CATOSTOMUS COMMERSONI)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-03
Otter C/100-18-15	N/A Mitchell-IA	2	90-10-03
Otter C/100-18-16	N/A Mitchell-IA	11	90-09-i1
Otter C/100-18-16	N/A Mitchell-IA	2	90-14-01
Wapsipinicon R/100-15-17	N/A Mitchell-IA	17	90-09-12
Root R-SH/102-12-13	12 Fillmore-MN	1	90-04-27
Wildcat C/103-04-26	26 Houston-MN	2	90-OS-08
Wildcat C/103-04-26	26 Houston-MN	2	90-05-09
Little Cedar R/101-16-09	56 Mower-MN	S	90-09-12
Orchard C/102-18-32	N/A Mower-MN	1	90-09-1i

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Otter C/101-17-13	6 Mower-MN	1	90-10-02
Otter C/101-17-21	5 Mower-MN	1	90-09-i1
Otter C/101-18-36	N/A Mower-MN	1	90-09-11
Otter C/101-i8-36	N/A Mower-MN	1	90-10-02
Rose C/102-18-24	218 Mower-MN	2	90-09-11
Rose C/102-18-24	218 Mower-MN	4	90-10-02
East Indian C/109-09-19	61 Wabash-MN	105	90-04-'05
Mississippi R/109-09-19	N/A Wabasha-MN	1	90-09-24
Cedar C/106-Ob-01	61 Winona-MN	2	90-04-05
Trout C/106-05-07	61 Winona-MN	7	90-04-05
Apple R/31-19-29:mouth	N/A St. Croix-WI	12	90-10-05
*Subsubtotal ~		181	
*NORTHERN HOG SUCKER (HYPENTELIUM NIGRICANS)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-03
Rose C/102-18-24	218 Mower-MN	1	90-09-11
Zumbro R/110-11-31	4 Wabasha-MN	2	90-09-25
St.Croix R/33-19-27:Trout B.mo	243 Polk-WI	1	90-09-:27
*Subsubtotal ~		5	
* SILVER REDHORSE (MOXOSTOMA ANISURUM)			
Mississippi R/101-04-23	N/A Houston-MN	1	90-09-:20
*Subsubtotal ~		1	
*GOLDEN REDHORSE (MOXOSTOMA ERYTHRURUM)			
Cedar R/100-18-21	A19 Mitchell-IA	3	90-10-03
Subsubtotal ~		3	
* SHORthead REDHORSE (MOXOSTOMA MACROLEPIDOTUM)			
St.Croix R/33-19-33	N/A Chisago-MN	1	90-09-:27
Apple R/31-19-29:mouth	N/A St. Croix-WI	1	90-10-05
*Subsubtotal		2	
**Subtotal		192	
**ICTALURIDAE - BULLHEAD CATFISHES			
*BLACK BULLHEAD (ICTALURUS MELAS)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-03
Wapsipinicon R/100-15-17	N/A Mitchell-IA	1	90-09-12
Shell Rock R/101-20-06	13 Freeborn-MN	6	90-10-01
Shell Rock R/101-20-17	65 Freeborn-MN	15	90-10-01
Mississippi R/104-04-22	N/A Houston-MN	1	90-06-09

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LOCATION/TWP-RGE-SEC	ROAD COUNTY-STATE	CATCH	YR-MO-DA
*Subsubtotal ~		24	
*YELLOW BULLHEAD (ICTALURUS NATALIS)			
Otter C/100-18-16	N/A Mitchell-IA	2	90-09-12
Shell Rock R/101-20-06	13 Freeborn-MN	1	90-04-23
Shell Rock R/101-20-06	13 Freeborn-MN	1	90-10-01
Shell Rock R/101-20-17	65 Freeborn-MN	26	90-10-01
Mississippi R/102-04-36:slough	N/A Houston-MN	1	90-05-08
Zumbro R/109-09-18:old channel	84 Wabasha-MN	1	90-09-24
*Subsubtotal		32	
* CHANNEL CATFISH (ICTALURUS PUNCTATUS)			
Root R/104-04-35	N/A Houston-MN	3	90-09-20
Zumbro R/110-11-13	N/A Wabasha-MN	2	90-09-25
*Subsubtotal ~		5	
* SLENDER MADTOM (NOTURUS EXILIS)			
Otter C/100-18-16	N/A Mitchell-IA	1	90-09-11
Otter C/100-18-16	N/A Mitchell-IA	1	90-10-01
Otter C/100-18-16	N/A Mitchell-IA	2	90-10-03
* Subsubtotal		4	
* STONECAT (NOTURUS FLAVUS)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-03
Otter C/100-18-ib	N/A Mitchell-IA	1	90-09-11
Otter C/100-18-ib	N/A Mitchell-IA	1	90-10-01
Otter C/100-18-16	N/A Mitchell-IA	2	90-10-03
Otter C/101-17-13	6 Mower-MN	1	90-10-01
Otter C/101-18-36	N/A Mower-MN	1	90-10-02
Zumbro R/110-11-13	N/A Wabasha-MN	1	90-09-25
* Subsubtotal		8	
*TADPOLE MADTOM (NOTURUS GYRINUS)			
Otter C/100-18-16	N/A Mitchell-IA	2	90-09-11
Otter C/100-18-16	N/A Mitchell-IA	1	90-10-03
Shell Rock R/101-20-17	65 Freeborn-MN	1	90-10-01
Mississippi R/102-04-36:slough	N/A Houston-MN	1	90-05-08
Root R/104-04-35	N/A Houston-MN	1	90-09-20
Otter C/101-17-21	5 Mower-MN	1	90-09-11
Otter C/101-18-36	N/A Mower-MN	1	90-09-11
Zumbro R/110-10-22	61 Wabasha-MN	2	90-09-25
Trout C/106-05-07	61 Winona-MN	4	90-04-05

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LOCATION/TWP-RGE-SEC	ROAD COUNTY-STATE	CATCH	YR-MO-DA
*Subsubtotal ~		14	
**Subtotal		87	
** APHREDODERIDAE - PIRATE PERCH			
* PIRATE PERCH (APHREDODERUS SAYANUS)			
Zumbro R/109-09-18:old channel	84 Wabasha-MN	2	90-09-24
* Subsubtotal		2	
**Subtotal		2	
**GADIDAE - CODFISHES			
* BURBOT (LOTA LOTA)			
St.Croix R/33-19-33	N/A Chisago-MN	1	90-09-27
St.Croix R.trib/32-19-07	N/A Washington-MN	1	90-10-26
*Subsubtotal ~		2	
**Subtotal		2	
**ATHERINIDAE - SILVERSIDES			
*BROOK SILVERSIDE (LABIDESTHES SICCOLUS)			
Mississippi R/101-04-23	N/A Houston-MN	7	90-09-20
Mississippi R/109-09-19	N/A Wabasha-MN	22	90-09-24
*Subsubtotal ~		29	
**Subtotal		29	
**GASTEROSTEIDAE - STICKLEBACKS			
*BROOK STICKLEBACK (CULAEA INCONSTANS)			
Otter C/100-18-16	N/A Mitchell-IA	5	90-09-11
Wapsipinicon R/100-15-17	N/A Mitchell-IA	8	90-09-12
Root R-SB/102-12-19	N/A Fillmore-MN	8	90-04-07
Mississippi R/102-03-31:ponds	N/A Houston-MN	1	90-05-08
Wildcat C/103-04-26	26 Houston-MN	3	90-05-09
Otter C/101-17-2i	5 Mower-MN	3	90-09-11
East Indian C/109-09-19	61 Wabasha-MN	8	90-04-05
Whitewater R/109-09-29	61 Wabasha-MN	1	90-04-05
St.Croix R.trib/32-19-07	N/A Washington-MN	1	90-10-06
Trout C/106-05-07	61 Winona-MN	83	90-04-05
Whitewater R/108-10-15	30 Winona-MN	1	90-09-04

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LOCATION/TWP-RGE-SEC	ROAD COUNTY-STATE	CATCH	YR-MO-DA
*Subsubtotal		122	
**Subtotal		122	
**PERCICHTHYIDAE - TEMPERATE BASSES			
*WHITE BASS (MORONE CHRYSOPS)			
Mississippi R/109-09-19	N/A Wabasha-MN	2	90-09-24
Whitewater R/109-10-24	N/A Wabasha-MN	3	90-09-24
Zumbro R/109-12-18	N/A Wabasha-MN	3	90-09-25
*Subsubtotal ~		8	
**Subtotal		8	
CENTRARCHIDAE - SUNFISHES			
* ROCK BASS (AMBLOPLITES RUPESTRIS)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-02
Cedar R/100-18-21	A19 Mitchell-IA	3	90-10-03
Otter C/100-18-15	N/A Mitchell-IA	3	90-10-03
Otter C/100-18-16	N/A Mitchell-IA	2	90-09-11
Otter C/100-18-16	N/A Mitchell-IA	1	90-09-12
Otter C/100-18-16	N/A Mitchell-IA	6	90-10-01
Otter C/100-18-16	N/A Mitchell-IA	2	90-10-03
St.Croix R/33-19-33	N/A Chisago-MN	2	90-09-27
Otter C/101-17-13	6 Mower-MN	10	90-10-01
Otter C/101-17-13	6 Mower-MN	21	90-10-02
Otter C/101-18-36	N/A Mower-MN	4	90-09-11
Otter C/101-18-36	N/A Mower-MN	9	90-10-02
Rose C/102-18-24	218 Mower-MN	1	90-09-11
Rose C/102-18-24	218 Mower-MN	2	90-10-02
Zumbro R/110-10-22	61 Wabasha-MN	1	90-09-05
Trout C/106-05-07	61 Winona-MN	4	90-04-05
St.Croix R/31-19-07	N/A Polk-WI	3	90-09-13
Apple R/31-19-29:mouth	N/A St. Croix-WI	5	90-10-05
*Subsubtotal ~		80	
* GREEN SUNFISH (LEPOMIS CYANELLUS)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-02
Cedar R/100-18-21	A19 Mitchell-IA	16	90-10-03
Otter C/100-18-15	N/A Mitchell-IA	3	90-10-03
Otter C/100-18-16	N/A Mitchell-IA	23	90-09-01
Otter C/100-18-16	N/A Mitchell-IA	71	90-09-12
Otter C/100-18-16	N/A Mitchell-IA	6	90-10-11
Otter C/100-18-16	N/A Mitchell-IA	5	90-10-03

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Wapsipinicon R/100-15-17	N/A Mitchell-IA	10	90-09-12
Shell Rock R/101-20-06	13 Freeborn-MN	19	90-04-23
Shell Rock R/101-20-06	13 Freeborn-MN	31	90-10-01
Shell Rock R/101-20-17	65 Freeborn-MN	144	90-10-01
Cannon R/113-15-15	N/A Goodhue-MN	18	90-09-26
Mississippi R/104-04-22	N/A Houston-MN	1	90-06-09
Root R/104-04-35	N/A Houston-MN	3	90-09-20
Little Cedar R/141-16-09	56 Mower-MN	5	90-09-12
Orchard C/102-18-32	N/A Mower-MN	2	90-09-11
Otter C/101-17-13	6 Mower-MN	3	90-10-01
Otter C/101-17-13	6 Mower-MN	6	90-10-02
Otter C/101-17-21	5 Mower-MN	3	90-09-11
Otter C/101-17-21	5 Mower-MN	1	90-09-12
Otter C/101-18-36	N/A Mower-MN	3	90-09-11
Otter C/101-18-36	N/A Mower-MN	2	90-10-02
Rose C/102-17-26	56 Mower-MN	2	90-10-02
Rose C/102-18-24	218 Mower-MN	10	90-09-11
Rose C/102-18-24	218 Mower-MN	10	90-10-02
Woodbury C/101-18-33	10` , i Mower-MN	3	90-09-11
Zumbro R/110-10-22	61 Wabasha-MN	1	90-09-25
St.Croix R/33-19-27:Trout B.mo	243 Polk-WI	1	90-09-27
*Subsubtotal ~		403	
*PUMPKINSEED (LEPOMIS GIBBOSUS)			
Crooked C/102-04-35	26 Houston-MN	9	90-09-20
Mississippi R/102-04-36	N/A Houston-MN	1	90-09-19
Mississippi R/104-04-22	N/A Houston-MN	1	90-06-09
Mississippi R/109-09-19	N/A Wabasha-MN	1	90-09-24
Subsubtotal		12	
*WARMOUTH (LEPOMIS GULOSUS)			
Mississippi R/101-04-23	N/A Houston-MN	1	90-09-20
Mississippi R/101-04-26	N/A Houston-MN	5	90-09-:L9
*Subsubtotal ~		6	
*ORANGESPOTTED SUNFISH (LEPOMIS HUMILIS)			
Shell Rock R/101-20-Ob	13 Freeborn-MN	10	90-10-01
Shell Rock R/101-20-17	65 Freeborn-MN	40	90-10-11
Mississippi R/101-04-23	N/AHouston-MN	1	90-05-08
Mississippi R/101-04-26	N/AHouston-MN	1	90-05-08
Rose C/102-17-26	56 Mower-MN	1	90-10-02
Rose C/102-18-24	218Mower-MN	10	90-09-11
Rose C/102-18-24	218Mower-MN	2	90-10-02

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LOCATION/TWP-RGE-SEC	ROAD COUNTY-STATE	CATCH	YR-MO-DA
*Subsubtotal ~		65	
* BLUEGILL (LEPOMIS MACROCHIRUS)			
Cedar R/100-18-21	A19 Mitchell-IA	5	90-10-03
Shell Rock R/101-20-17	65 Freeborn-MN	3	90-10-01
Crooked C/102-04-35	26 Houston-MN	17	90-09-:20
Mississippi R/101-04-12	N/A Houston-MN	39	90-09-:L9
Mississippi R/101-04-23	N/A Houston-MN	1	90-05-cJ8
Mississippi R/101-04-23	N/A Houston-MN	79	90-09-:20
Mississippi R/101-04-26	N/A Houston-MN	148	90-09-19
Mississippi R/102-04-36	N/A Houston-MN	59	90-09-:L9
Mississippi R/102-04-36:slough	N/A Houston-MN	6	90-05-OB
Mississippi R/109-09-19	N/A Wabasha-MN	171	90-09-24
Whitewater R/109-10-24	N/A Wabasha-MN	1	90-09-:24
Zumbro R/109-09-18:old channel	84 Wabasha-MN	20	90-09-24
St.Croix R/33-19-27:Trout B.mo	243 Polk-WI	2	90-09-:27
Apple R/31-19-29:mouth	N/A St. Croix-WI	1	90-10-05
*Subsubtotal		552	
*HYBRID SUNFISH (LEPOMIS SP.)			
Shell Rock R/101-20-17	65 Freeborn-MN	1	90-10-01
*Subsubtotal ~		1	
*SMALLMOUTH BASS (MICROPTERUS DOLOMIEUI)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-03
Otter C/100-18-16	N/A Mitchell-IA	1	90-10-01
Otter C/100-18-16	N/A Mitchell-IA	1	90-10-03
St.Croix R/33-19-33	N/A Chisago-MN	14	90-09-27
Mississippi R/102-04-25	N/A Houston-MN	2	90-09-19
Otter C/101-17-13	6 Mower-MN	1	90-10-01
Otter C/101-18-36	N/A Mower-MN	2	90-i0-02
Rose C/102-18-24	218 Mower-MN	4	90-09-11
Rose C/102-18-24	218 Mower-MN	5	90-10-02
St.Croix R/31-19-07	N/A Washington-MN	2	90-09-13
St.Croix R/31-19-17	N/A Washington-MN	3	90-09-13
St.Croix R/31-19-07	N/A Polk-WI	1	90-09-13
St.Croix R/33-19-22	N/A Polk-WI	7	90-09-27
St.Croix R/33-19-27:Trout B.mo	243 Polk-WI	2	90-09-27
Apple R/31-19-29:mouth	N/A St. Croix-WI	5	90-10-05
St.Croix R/31-19-29	N/A St. Croix-WI	1	90-10-05
*Subsubtotal ~		52	
* LARGEMOUTH BASS (MICROPTERUS SALMOIDES)			
Mississippi R/101-04-12	N/A Houston-MN	3	90-09-19

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Mississippi R/101-04-23	N/A Houston-MN	11	90-09-20
Mississippi R/101-04-26	N/A Houston-MN	1	90-05-08
Mississippi R/101-04-26	N/A Houston-MN	12	90-09-19
Mississippi R/102-04-36	N/A Houston-MN	3	90-09-19
Otter C/101-17-21	5 Mower-MN	6	90-09-11
St.Croix R/32-19-32	N/A Polk-WI	3	90-09-13
*Subsubtotal		39	
*WHITE CRAPPIE (POMOXIS ANNULARIS)			
Mississippi R/101-04-12	N/A Houston-MN	11	90-09-19
Mississippi R/101-04-23	N/A Houston-MN	13	90-09-20
Mississippi R/101-04-26	N/A Houston-MN	1	90-05-08
Mississippi R/102-04-36	N/A Houston-MN	18	90-09-19
Mississippi R/109-09-19	N/A Wabasha-MN,	7	90-09-24
*Subsubtotal		50	
*BLACK CRAPPIE (POMOXIS NIGROMACULATUS)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-03
Mississippi R/101-04-23	N/A Houston-MN	1	90-05-08
* Subsubtotal ~		2	
** Subtotal		1262	
**PERCIDAE - PERCHES			
*WESTERN SAND DARTER (AMMOCRYPTA CLARA)			
Zumbro R/110-10-22	61 Wabasha-MN	1	90-09-25
Zumbro R/110-11-31	4 Wabasha-MN	1	90-09-25
St.Croix R/31-19-Ob	N/A Washington-MN	23	90-09-13
St.Croix R/31-19-07	N/A Washington-MN	16	90-09-13
St.Croix R/32-19-32	N/A Polk-WI	1	90-09-13
St.Croix R/33-19-22	N/A Polk-WI	1	90-09-27
St.Croix R/31-19-29	N/A St. Croix-WI	16	90-10-05
*Subsubtotal *		59	
*MUD DARTER (ETHEOSTOMA ASPRIGENE)			
Crooked C/102-04-35	26 Houston-MN	2	90-09-20
Pine C/104-04-22	N/A Houston-MN	4	90-06-09
East Indian C/109-09-19	61 Wabasha-MN	4	90-04-05
Mississippi R/109-09-19	N/A Wabasha-MN	1	90-09-24
Whitewater R/109-09-29	61 Wabasha-MN	4	90-04-05
Whitewater R/109-10-24	N/A Wabasha-MN	2	90-09-24
Trout C/106-05-07	61 Winona-MN	21	90-04-05

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Subsubtotal *		38	
*RAINBOW DARTER (ETHEOSTOMA CAERULEUM)			
Cedar R/100-18-21	A19 Mitchell-IA	3	90-10-03
Otter C/100-18-15	N/A Mitchell-IA	7	90-10-03
Otter C/100-18-16	N/A Mitchell-IA	18	90-09-11
Otter C/100-18-ib	N/A Mitchell-IA	18	90-10-01
Otter C/100-18-16	N/A Mitchell-IA	24	90-10-03
St.Croix R/33-19-33	N/A Chisago-MN	19	90-09-27
Orchard C/102-18-32	N/A Mower-MN	4	90-09-11
Otter C/101-17-13	6 Mower-MN	21	90-10-01
Otter C/101-17-13	b Mower-MN	11	90-10-02
Otter C/101-18-36	N/A Mower-MN	9	90-09-11
Otter C/101-18-36	N/A Mower-MN	9	90-10-02
Rose C/102-18-24	218 Mower-MN	10	90-09-11
Rose C/102-18-24	218 Mower-MN	2	90-10-02
Woodbury C/101-18-33	145 Mower-MN	24	90-09-11
Woodbury C/101-18-33	105 Mower-MN	5	90-10-02
St.Croix R/31-19-07	N/A Polk-WI	1	90-09-a3
St.Croix R/33-19-27:Trout B.mo	243 Polk-WI	18	90-09-27
Apple R/31-19-29:mouth	N/A St. Croix-WI	88	90-10-05
* Subsubtotal		291	
*IOWA DARTER (ETHEOSTOMA EXILE)			
Crooked C/102-04-35	26 Houston-MN	12	90-09-20
Little Cedar R/101-ib-09	56 Mower-MN	3	90-09-12
Zumbro R/109-09-18:old channel	84 Wabasha-MN	3	90-09-24
Trout C/106-05-07	61 Winona-MN	1	90-04-05
Whitewater R/108-10-11	N/A Winona-MN	3	90-09-24
Whitewater R/108-10-15	30 Winona-MN	5	90-09-24
* Subsubtotal		27	
*FANTAIL DARTER (ETHEOSTOMA FLABELLARE)			
Cedar R/100-18-21	A19 Mitchell-IA	2	90-10-02
Cedar R/100-18-21	A19 Mitchell-IA	3	90-10-03
Otter C/100-18-i5	N/A Mitchell-IA	58	90-10-03
Otter C/100-18-16	N/A Mitchell-IA	26	90-09-11
Otter C/100-18-16	N/A Mitchell-IA	52	90-10-01
Otter C/100-18-16	N/A Mitchell-IA	45	90-10-03
Wapsipinicon R/100-15-17	N/A Mitchell-IA	10	90-09-12
Root R-SH/102-12-13	12 Fillmore-MN	8	90-04-27
Little Cedar R/101-16-09	56 Mower-MN	32	90-09-112
Orchard C/102-18-32	N/A Mower-MN	22	90-09-11
Otter C/101-17-13	6 Mower-MN	9	90-10-01
Otter C/101-17-13	6 Mower-MN	5	90-10-02

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Otter C/101-17-21	5 Mower-MN	20	90-09-i1
Otter C/101-18-36	N/A Mower-MN	21	90-09-i1
Otter C/101-18-36	N/A Mower-MN	15	90-10-02
Rose C/102-17-26	56 Mower-MN	2	90-10-02
Rose C/102-18-24	218 Mower-MN	47	90-09-11
Rose C/102-18-24	218 Mower-MN	44	90-10-02
Woodbury C/101-18-33	105 Mower-MN	61	90-09-11
Woodbury C/101-18-33	105 Mower-MN	9	90-10-02
Whitewater R/108-10-11	N/A Winona-MN	10	90-09-24
*Subsubtotal ~		501	
*JOHNNY DARTER (ETHEOSTOMA NIGRUM)			
Cedar R/100-18-21	A19 Mitchell-IA	1	90-10-02
Cedar R/100-18-21	A19 Mitchell-IA	4	90-10-03
Otter C/100-18-15	N/A Mitchell-IA	4	90-10-03
Otter C/100-18-16	N/A Mitchell-IA	22	90-09-11
Otter C/100-18-16	N/A Mitchell-IA	5	90-10-01
Otter C/100-18-16	N/A Mitchell-IA	2	90-10-03
Wapsipinicon R/100-15-17	N/A Mitchell-IA	57	90-09-12
Root R-SH/102-12-13	12 Fillmore-MN	6	90-04-27
Shell Rock R/101-20-06	13 Freeborn-MN	1	90-04-23
Shell Rock R/101-20-06	13 Freeborn-MN	1	90-10-01
Cannon R/113-15-15	N/A Goodhue-MN	1	90-09-26
Crooked C/102-04-35	26 Houston-MN	2	90-09-20
Mississippi R/102-04-36:slough	N/A Houston-MN	1	90-OS-08
Root R/104-04-35	N/A Houston-MN	3	90-09-20
Wildcat C/103-04-26	26 Houston-MN	12	90-05-08
Winnebago C/101-04-35	26 Houston-MN	1	90-OS-09
Little Cedar R/101-16-09	56 Mower-MN	8	90-09-12
Orchard C/102-18-32	N/A Mower-MN	3	90-09-11
Otter C/101-17-13	6 Mower-MN	4	90-10-01
Otter C/101-17-13	6 Mower-MN	2	90-10-02
Otter C/101-17-21	5 Mower-MN	11	90-09-11
Otter C/101-18-36	N/A Mower-MN	1	90-09-11
Otter C/101-18-36	N/A Mower-MN	2	90-10-02
Rose C/102-17-26	56 Mower-MN	4	90-10-02
Rose C/102-18-24	218 Mower-MN	2	90-09-11
Rose C/102-18-24	218 Mower-MN	3	90-10-02
Woodbury C/101-18-33	105 Mower-MN	6	90-09-11
Woodbury C/101-18-33	105 Mower-MN	1	90-10-02
Whitewater R/109-09-29	61 Wabasha-MN	9	90-04-05
Whitewater R/109-10-24	N/A Wabasha-MN	2	90-09-24
Zumbro R/110-10-22	61 Wabasha-MN	3	90-09-25
Garvin H/107-08-02	61 Winona-MN	13	90-04-05
Trout C/106-05-07	61 Winona-MN	5	90-04-05
Whitewater R/108-10-ii	N/A Winona-MN	8	90-09-24
Whitewater R/108-10-15	30 Winona-MN	2	90-09-24

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LOCATION/TWP-RGE-SEC	ROAD COUNTY-STATE	CATCH	YR-MO-DA
St.Croix R/31-19-07	N/A Polk-WI	1	90-09-13
Apple R/31-19-29:mouth	N/A St. Croix-WI	1	90-10-05
St.Croix R/31-19-29	N/A St. Croix-WI	1	90-10-05
*Subsubtotal ~		215	
* BANDED DARTER (ETHEOSTOMA ZONALE)			
Root R/104-04-35	N/A Houston-MN	1	90-09-20
Zumbro R/110-11-31	4 Wabash-MN	1	90-09-25
*Subsubtotal ~		2	
* YELLOW PERCH (PERCH FLAVESCENS)			
Shell Rock R/101-20-17	65 Freeborn-MN	1	90-10-01
Mississippi R/101-04-23	N/A Houston-MN	1	90-09-20
St.Croix R/33-19-27:Trout B.mo	243 Polk-WI	1	90-09-27
*Subsubtotal ~		3	
* LOGPERCH (PERCINA CAPRODES)			
Cannon R/113-15-10	N/A Goodhue-MN	1	90-05-02
Cannon R/113-15-15	N/A Goodhue-MN	2	90-09-26
Mississippi R/102-04-25	N/A Houston-MN	1	90-09-19
Mississippi R/102-04-36	N/A Houston-MN	1	90-09-19
Whitewater R/109-09-29	61 Wabasha-MN	2	90-04-05
St.Croix R/31-19-07	N/A Polk-WI	1	90-09-13
Apple R/31-19-29:mouth	N/A St. Croix-WI	14	90-10-05
*Subsubtotal ~		22	
* GILT DARTER (PERCINA EVIDES)			
St.Croix R/33-19-22	N/A Polk-WI	2	90-09-27
St.Croix R/33-19-27:Trout B.mo	243 Polk-WI	3	90-09-27
*Subsubtotal		5	
* BLACKSIDE DARTER (PERCINA MACULATA)			
Otter C/100-18-15	N/A Mitchell-IA	4	90-10-13
Otter C/100-18-16	N/A Mitchell-IA	7	90-09-11
Otter C/100-18-16	N/A Mitchell-IA	4	90-10-01
Cannon R/113-15-15	N/A Goodhue-MN	1	90-09-26
Otter C/101-18-36	N/A Mower-MN	1	90-09-11
Otter C/101-18-36	N/A Mower-MN	1	90-10-02
Woodbury C/101-18-33	105 Mower-MN	1	90-09-11
Whitewater R/108-10-1i	N/A Winona-MN	1	90-09-24
Subsubtotal		20	

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LOCATION/TWP-RGE-SEC	ROAD	COUNTY-STATE	CATCH	YR-MO-DA
*SLENDERHEAD DARTER (PERCINA PHOXOCEPHALA)				
Root R/104-04-35	N/A	Houston-MN	1	90-09-20
*Subsubtotal ~			1	
*RIVER DARTER (PERCINA SHUMARDI)				
Zumbro R/110-10-22	61	Wabasha-MN	1	90-09-25
*Subsubtotal ~			1	
**Subtotal			1185	
**SCIAENIDAE - DRUMS				
* FRESHWATER DRUM (APLODINOTUS GRUNNIENS)				
Mississippi R/102-04-36	N/A	Houston-MN	1	90-09-19
*Subsubtotal ~			1	
**Subtotal			1	
**COTTIDAE - SCULPINS				
*SLIMY SCULPIN (COTTUS COGNATUS)				
Root R-SB/102-12-13	12	Fillmore-MN	5	90-04-27
*Subsubtotal ~			5	
**Subtotal			5	
Total			8665	

APPENDIX II

1990 STREAM SURVEY RECORDS

INDEXED ON STATION AND DATE

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COMMON NAME	SCIENTIFIC NAME	CATCH
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**MITCHELL COUNTY, IA

* CEDAR R/100-18-21	ROAD: A19	DATE: 90-10-02
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central stoneroller	Campostoma anomalum	2
common shiner	Notropis cornutus	1
sand shiner	Notropis stramineus	2
bluntnose minnow	Pimephales notatus	1
rock bass	Ambloplites rupestris	1
green sunfish	Lepomis cyanellus	1
fantail darter	Etheostoma flabellare	2
Johnny darter	Etheostoma nigrum	1
Subsubtotal		11

CEDAR R/100-18-21	ROAD: A19	DATE: 90-10-03
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central stoneroller	Campostoma anomalum	7
common carp	Cyprinus carpio	1
hornyhead chub	Nocomis biguttatus	8
common shiner	Notropis cornutus	6
rosyface shiner	Notropis rubellus	34
sand shiner	Notropis stramineus	5
redfin shiner	Notropis umbratilis	1
bluntnose minnow	Pimephales notatus	5
creek chub	Semotilus atromaculatus	1
white sucker	Catostomus commersoni	1
northern hog sucker	Hypentelium nigricans	1
golden redhorse	Moxostoma erythrurum	3
black bullhead	Ictalurus melas	1
stonecat	Noturus flavus	1
rock bass	Ambloplites rupestris	3
green sunfish	Lepomis cyanellus	16
bluegill	Lepomis macrochirus	5
smallmouth bass	Micropterus dolomieu	1
black crappie	Pomoxis nigromaculatus	1
rainbow darter	Etheostoma caeruleum	3
fantail darter	Etheostoma flabellare	3
Johnny darter	Etheostoma nigrum	4
Subsubtotal		111

OTTER C/100-18-15	ROAD: N/A	DATE: 90-10-03
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central mudminnow	Umbra limi	1
central stoneroller	Campostoma anomalum	88
hornyhead chub	Nocomis biguttatus	28
bluntnose minnow	Pimephales notatus	1
creek chub	Semotilus atromaculatus	5
white sucker	Catostomus commersoni	2
rock bass	Ambloplites rupestris	3

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COMMON NAME	SCIENTIFIC NAME	CATCH
green sunfish	Lepomis cyanellus	3
rainbow darter	Etheostoma caeruleum	7
fantail darter	Etheostoma flabellare	58
Johnny darter	Etheostoma nigrum	4
blackside darter	Percina maculata	4
Subsubtotal		204

OTTER C/100-18-16 ROAD: N/A DATE: 90-Q9-11

central mudminnow	Umbra limi	11
central stoneroller	Campostoma anomalum	40
common carp	Cyprinus carpio	2
hornyhead chub	Nocomis biguttatus	29
common shiner	Notropis cornutus	5
bigmouth shiner	Notropis dorsalis	2
rosyface shiner	Notropis rubellus	2
southern redbelly dace	Phoxinus erythrogaster	32
bluntnose minnow	Pimephales notatus	8
fathead minnow	Pimephales promelas	3
creek chub	Semotilus atromaculatus	15
white sucker	Catostomus commersoni	11
slender madtom	Noturus exilis	1
stonecat	Noturus flavus	1
tadpole madtom	Noturus gyrinus	2
rock bass	Ambloplites rupestris	2
green sunfish	Lepomis cyanellus	23
rainbow darter	Etheostoma caeruleum	18
fantail darter	Etheostoma flabellare	26
Johnny darter	Etheostoma nigrum	22
blackside darter	Percina maculata	7
Subsubtotal		262

OTTER C/100-18-16 ROAD: N/A DATE: 90-09-12

central mudminnow	Umbra limi	3
hornyhead chub	Nocomis biguttatus	12
common shiner	Notropis cornutus	4
southern redbelly dace	Phoxinus erythrogaster	130
fathead minnow	Pimephales promelas	1
creek chub	Semotilus atromaculatus	15
yellow bullhead	Ictalurus natalis	2
brook stickleback	Culaea inconstans	5
rock bass	Ambloplites rupestris	1
green sunfish	Lepomis cyanellus	71
Subsubtotal		244

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COMMON NAME	SCIENTIFIC NAM	CATCH
OTTER C/100-18-16 ROAD: N/A DATE: 90-10-01		
central mudminnow	Umbra limi '	4
central stoneroller	Campostoma ano alum	58
hornyhead chub	Nocomis bigutt tus	35
common shiner	Notropis cornutus	10
southern redbelly dace	Phoxinus eryth ogaster	25
bluntnose minnow	Pimephale s not t us	4
blacknose dace	Rhinichthys at atulus	4
creek chub	Semotilus atro aculatus	21
white sucker	Catostomus commersoni	2
slender madtom	Noturus exilis~	1
stonecat	Noturus flavusi	i
rock bass	Ambloplites rupestris	6
green sunfish	Lepomis cyanel us	6
smallmouth bass	Micropterus do omieui	1
rainbow darter	Etheostoma cae uleum	18
fantail darter	Etheostoma fla ellare	52
Johnny darter	Etheostoma nig um	5
blackside darter	Percina maculata	4
Subsubtotal		257
OTTER C/100-18-16 ROAD: N/A DATE: 90-10-03		
central mudminnow	Umbra limi	11
central stoneroller	Campostoma anomalum	36
hornyhead chub	Nocomis bigutt tus	23
rosyface shiner	Notropis rebel us	1
southern redbelly dace	Phoxinus eryth ogaster	7
blacknose dace	Rhinichthys at atulus	2
creek chub	Semotilus atromaculatus	6
slender madtom	Noturus exilis	2
stonecat	Noturus flavus	2
tadpole madtom	Noturus gyrinus	1
rock bass	Ambloplites rupestris	2
green sunfish	Lepomis cyanellus	5
smallmouth bass	Micropterus do omieui	1
rainbow darter	Etheostoma cae uleum	24
fantail darter	Etheostoma fla ellare	45
Johnny darter	Etheostoma nigrum	2
Subsubtotal		160
WAPSIPINICON R/100-15-17 ROAD: N/A DATE: 90-09-12		
rainbow trout	Oncorhynchus mykiss	13
central stoneroller	Campostoma ano alum	43
brassy minnow	Hybognathus ha kinsoni	4
hornyhead chub.	Nocomis bigutt tus	1
common shiner	Notropis cornutus	10

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COMMON NAME	SCIENTIFIC NAM	CATCH
bigmouth shiner	Notropis dorsalis	10
spotfin shiner	Notropis spilopterus	1
southern redbelly dace	Phoxinus erythrogaster	21
bluntnose minnow	Pimephales notatus	38
fathead minnow	Pimephales promelas	101
creek chub	Semotilus atromaculatus	11
white sucker	Catostomus commersoni	17
black bullhead	Ictalurus melas	1
brook stickleback	Culaea inconstans	8
green sunfish	Lepomis cyanellus	10
fantail darter	Etheostoma flavellare	10
Johnny darter	Etheostoma nigrum	57
Subsubtotal		356
**Subtotal		1605

**CHISAGO COUNTY, MN

ST.CROIX R/33-19-33	ROAD: N/A	DATE: 90-09-27	
shorthead redhorse	Moxostoma macrolepidotum		1
burbot	Lota lota		1
rock bass	Ambloplites rupestris		2
smallmouth bass	Micropterus dolomieu		14
rainbow darter	Etheostoma caeruleum		19
Subsubtotal ~			37
**Subtotal ~~			37

**DODGE COUNTY, MN

ZUMBRO R-NBMF/108-16-06	ROAD: 57	DATE: 90-08-12	
redside dace	Clinostomus elongatus		24
southern redbelly dace	Phoxinus erythrogaster		4
Subsubtotal			28
**Subtotal			28

**FILLMORE COUNTY, MN

ROOT R-SB/102-12-13	ROAD: 12	DATE: 90-10-27	
brown trout	Salmo trutta		5
central stoneroller	Campestris anomalum		2
common shiner	Notropis cornutus		1
blacknose dace	Rhinichthys atratulus		11
longnose dace	Rhinichthys cataractae		2

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COMMON NAME	SCIENTIFIC NAM	CATCH
creek chub	Semotilus atromaculatus	9
white sucker	Catostomus com ersoni	1
fantail darter	Etheostoma fla ellare	8
Johnny darter	Etheostoma nigrum	b
slimy sculpin	Cottus cognatus	5
Subsubtotal		50
ROOT R-SB/102-12-19 ROAD: N/A	DATE: 90-04-27	
central stoneroller	Campostoma anomalum	4
hornyhead chub	Nocomis biguttatus	18
common shiner	Notropis cornutus	89
southern redbelly dace	Phoxinus erthrogaster	97
bluntnose minnow	Pimephales not tus	3
blacknose dace	Rhinichthys atratulus	15
longnose dace	Rhinichthys cataractae	1
creek chub	Semotilus atromaculatus	4
brook stickleback	Culaea inconstans	8
Subsubtotal		239
**Subtotal		289
**FREEBORN COUNTY, MN		
DEER C/101-19-33 ROAD: N/A	DATE: 90-111-02	
hornyhead chub	Nocomis biguttatus	1
Subsubtotal		1
SHELL ROCK R/101-20-06 ROAD: 13	DATE: 90-04-23	
bluntnose minnow	Pimephales notatus	1
fathead minnow	Pimephales promelas	3
yellow bullhead	Ictalurus natalis	1
green sunfish	Lepomis cyanellus	19
Johnny darter	Etheostoma nigrum	1
Subsubtotal		25
SHELL ROCK R/101-20-06 ROAD: 13	DATE: i,90-10-01	
central mudminnow	Umbra limi	1
central stoneroller	Campostoma anomalum	1
common carp	Cyprinus carpio	37
bigmouth shiner	Notropis dorsalis	3
sand shiner	Notropis stramineus	49
bluntnose minnow	Pimephales notatus	4
fathead minnow	Pimephales promelas	187
black bullhead	Ictalurus melas	6

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COMMON NAME	SCIENTIFIC NAM	CATCH
yellow bullhead	Ictalurus natalis	1
green sunfish	Lepomis cyanellus	31
orangespotted sunfish	Lepomis humilis	10
Johnny darter	Etheostoma nigrum	1
Subsubtotal		331
SHELL ROCK R/101-20-17	ROAD: 65 DATE: 90-10-01	
central mudminnow	Umbra limi	1
common carp	Cyprinus carpi	6
sand shiner	Notropis stramineus	1
fathead minnow	Pimephales promelas	22
creek chub	Semotilus atromaculatus	1
black bullhead	Ictalurus mela	15
yellow bullhead	Ictalurus natalis	26
tadpole madtom	Noturus gyrinus	1
green sunfish	Lepomis cyanellus	144
orangespotted sunfish	Lepomis humilis	40
bluegill	Lepomis macrochirus	3
hybrid sunfish	Lepomis sp.	1
yellow perch	Perca flavescens	1
Subsubtotal		262
**Subtotal ~~		619
** GOODHUE COUNTY, MN		
CANNON R/113-15-10	ROAD: N/A DATE: 90 05-02	
emerald shiner	Notropis atherinoides	79
river shiner	Notropis blennioides	2
spotfin shiner	Notropis spilopterus	2
sand shiner	Notropis stramineus	12
fathead minnow	Pimephales promelas	1
logperch	Percina caprodes	1
Subsubtotal		97
CANNON R/113-15-14	ROAD: N/A DATE: 9009-26	
speckled chub	Hybopsis aestivalis	11
emerald shiner	Notropis atherinoides	74
sand shiner	Notropis stramineus	2
Subsubtotal ~		87
CANNON R/113-15-15	ROAD: N/A DATE: 90109-26	
speckled chub	Hybopsis aestivalis	9
emerald shiner	Notropis atherinoides	142

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COMMON NAME	SCIENTIFIC NAME	CATCH
spotfin shiner	Notropis spilopterus	6
fathead minnow	Pimephales promelas	1
green sunfish	Lepomis cyanellus	18
Johnny darter	Etheostoma nigrum	1
logperch	Percina caprodes	2
blackside darter	Percina maculata	1
Subsubtotal ~		180
ZUMBRO R-NB TRIB/109-18-05	ROAD: N/A ATE: 90-08-12	
southern redbelly dace	Phoxinus erythrogaster	18
Subsubtotal		18
** Subtotal		382
**HOUSTON COUNTY, MN		
CROOKED C/101-04-11 ROAD: 26 DATE: 9005-08		
spottail shiner	Notropis hudsonius	1
Subsubtotal		1
CROOKED C/101-04-11 ROAD: 26 DATE: 9005-09		
spottail shiner	Notropis hudsonius	3
Subsubtotal		3
CROOKED C/102-04-35 ROAD: 26 DATE: 9009-20		
central mudminnow	Umbra limi	3
pumpkinseed	Lepomis gibbosus	9
bluegill	Lepomis macrochirus	17
mud darter	Etheostoma asprigene	2
Iowa darter	Etheostoma exile	12
Johnny darter	Etheostoma nigrum	2
Subsubtotal		45
MISSISSIPPI R/101-04-12 ROAD: N/A DATE: 90-09-19		
pugnose minnow	Notropis emiliae	5
weed shiner	Notropis texanus	1
bullhead minnow	Pimephales vigilax	2
bluegill	Lepomis macrochirus	39
largemouth bass	Micropterus salmoides	3
white crappie	Pomoxis annularis	11
Subsubtotal ~		61

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COMMON NAME	SCIENTIFIC NAME	CATCH
MISSISSIPPI R/101-04-23	ROAD: N/A DATE: 90-05-08	
emerald shiner	Notropis atherinoides	34
river shiner	Notropis blennius	2
spotfin shiner	Notropis spilopterus	11
weed shiner	Notropis texanus	2
bullhead minnow	Pimephales vigilax	b
orangespotted sunfish	Lepomis humilis	1
bluegill	Lepomis macrochirus	1
black crappie	Pomoxis nigromaculatus	1
Subsubtotal		58
MISSISSIPPI R/101-04-23	ROAD: N/A DATE: 90-09-20	
silver lamprey	Ichthyomyzon unicuspis	1
gizzard shad	Dorosoma cepedianum	1
emerald shiner	Notropis atherinoides	16
pugnose minnow	Notropis emiliae	4
spottail shiner	Notropis hudsonius	2
spotfin shiner	Notropis spilopterus	1
bullhead minnow	Pimephales vigilax	2
silver redhorse	Moxostoma anisurum	1
brook silverside	Labidesthes sicculus	7
warmouth	Lepomis gulosus	1
bluegill	Lepomis macrochirus	79
largemouth bass	Micropterus salmoides	11
white crappie	Pomoxis annularis	13
yellow perch	Perca flavescens	1
Subsubtotal		140
MISSISSIPPI R/101-04-26	ROAD: N/A DATE: 90-05-08	
emerald shiner	Notropis atherinoides	79
river shiner	Notropis blennius	7
spotfin shiner	Notropis spilopterus	93
bullhead minnow	Pimephales vigilax	4
orangespotted sunfish	Lepomis humilis	1
largemouth bass	Micropterus salmoides	1
white crappie	Pomoxis annularis	1
Subsubtotal		186
MISSISSIPPI R/101-04-26	ROAD: N/A DATE: 90-09-19	
golden shiner	Notemigonus crysoleucas	1
warmouth	Lepomis gulosus	5
bluegill	Lepomis macrochirus	148
largemouth bass	Micropterus salmoides	12

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COMMON NAME	SCIENTIFIC NAME	CATCH
Subsubtotal		166
MISSISSIPPI R/102-03-31:PONDS ROAD: N/A DATE: 90-05-08		
central mudminnow	Umbra limi	3
fathead minnow	Pimephales promelas	6
brook stickleback	Culaea inconstans	1
Subsubtotal		10
MISSISSIPPI R/102-04-25 ROAD: N/A DATE: 90-09-19		
bullhead minnow	Pimephales vigilax	9
smallmouth bass	Micropterus dolomieu	2
logperch	Percina caprodes	1
Subsubtotal		12
MISSISSIPPI R/102-04-36 ROAD: N/A DATE: 90-09-19		
northern pike	Esox lucius	1
emerald shiner	Notropis atherinoides	6
spottail shiner	Notropis hudsonius	1
spotfin shiner	Notropis spilopterus	2
bullhead minnow	Pimephales vigilax	7
pumpkinseed	Lepomis gibbosus	1
bluegill	Lepomis macrochirus	59
largemouth bass	Micropterus salmoides	3
white crappie	Pomoxis annularis	18
logperch	Percina caprodes	1
freshwater drum	Aplodinotus grunniens	1
Subsubtotal		100
MISSISSIPPI R/102-04-36:SLOUGH ROAD: N/A DATE: 90-05-08		
golden shiner	Notemigonus crysoleucas	1
emerald shiner	Notropis atherinoides	5
spotfin shiner	Notropis spilopterus	4
sand shiner	Notropis stramineus	2
bullhead minnow	Pimephales vigilax	4
yellow bullhead	Ictalurus natalis	1
tadpole madtom	Noturus gyrinus	1
bluegill	Lepomis macrochirus	6
Johnny darter	Etheostoma nigrum	1
Subsubtotal		25
MISSISSIPPI R/104-04-22 ROAD: N/A DATE: 90-06-09		
black bullhead	Ictalurus melas	1
green sunfish	Lepomis cyanellus	1

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COMMON NAME	SCIENTIFIC NAME	CATCH
pumpkinseed	Lepomis gibbosus	1
Subsubtotal		3
PINE C/104-04-22 ROAD: N/A DATE: 90-Ob-09		
bluntnose minnow	Pimephales notatus	11
fathead minnow	Pimephales promelas	3
mud darter	Etheostoma asprigene	4
Subsubtotal		18
ROOT R/104-04-35 ROAD: N/A DATE: 90-09-20		
emerald shiner	Notropis atherinoides	182
spotfin shiner	Notropis spilopterus	1
fathead minnow	Pimephales promelas	15
channel catfish	Ictalurus punctatus	3
tadpole madtom	Noturus gyrinus	1
green sunfish	Lepomis cyanellus	3
Johnny darter	Etheostoma nigrum	3
banded darter	Etheostoma zonale	1
slenderhead darter	Percina phoxocephala	1
Subsubtotal		210
WILDCAT C/103-04-26 ROAD: 26 DATE: 90-05-08		
blacknose dace	Rhinichthys atratulus	3
longnose dace	Rhinichthys cataractae	1
white sucker	Catostomus commersoni	2
Johnny darter	Etheostoma nigrum	12
Subsubtotal		18
WILDCAT C/103-04-26 ROAD: 26 DATE: 90-05-09		
blacknose dace	Rhinichthys atratulus	1
creek chub	Semotilus atromaculatus	2
white sucker	Catostomus commersoni	2
brook stickleback	Culaea inconstans	3
Subsubtotal		8
WINNEBAGO C/101-04-35 ROAD: 26 DATE: 90-05-09		
Johnny darter	Etheostoma nigrum	1
Subsubtotal		1
WINNEBAGO C/101-04-35 ROAD: 26 DATE: 90-09-19		
central mudminnow	Umbra limi	1
northern pike	Esox lucius	1

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COMMON NAME	SCIENTIFIC NAME	CATCH
Subsubtotal		2
**Subtotal		1067

**MOWER COUNTY, MN

	ROAD: 56	DATE: 90-09-12	
LITTLE CEDAR R/101-16-09			
central stoneroller	Campostoma anomalum		15
hornyhead chub	Nocomis biguttatus		22
common shiner	Notropis cornutus		11
bigmouth shiner	Notropis dorsalis		6
southern redbelly dace	Phoxinus erythrogaster		13
bluntnose minnow	Pimephales notatus		1
fathead minnow	Pimephales promelas		2
creek chub	Semotilus atromaculatus		43
white sucker	Catostomus commersoni		5
green sunfish	Lepomis cyanellus		5
Iowa darter	Etheostoma exile		3
fantail darter	Etheostoma flabellare		32
Johnny darter	Etheostoma nigrum		8
Subsubtotal			166

	ROAD: N/A	DATE: 90-09-11	
ORCHARD C/102-18-32			
central stoneroller	Campostoma anomalum		16
hornyhead chub	Nocomis biguttatus		11
common shiner	Notropis cornutus		9
rosyface shiner	Notropis rubellus		2
southern redbelly dace	Phoxinus erythrogaster		2
bluntnose minnow	Pimephales notatus		b
blacknose dace	Rhinichthys atratulus		4
creek chub	Semotilus atromaculatus		4
white sucker	Catostomus commersoni		1
green sunfish	Lepomis cyanellus		2
rainbow darter	Etheostoma caeruleum		4
fantail darter	Etheostoma flabellare		22
Johnny darter	Etheostoma nigrum		3
Subsubtotal			86

	ROAD: 6	DATE: 90-10-01	
OTTER C/101-17-13			
hornyhead chub	Nocomis biguttatus		14
common shiner	Notropis cornutus		5
Ozark minnow	Notropis nubilus		5
rosyface shiner	Notropis rubellus		2
bluntnose minnow	Pimephales notatus		4
creek chub	Semotilus atromaculatus		1

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COMMON NAME	SCIENTIFIC NAME	CATCH
stonecat	Noturus flavus	1
rock bass	Ambloplites rupestris	10
green sunfish	Lepomis cyanellus	3
smallmouth bass	Micropterus dolomieu	1
rainbow darter	Etheostoma caeruleum	21
fantail darter	Etheostoma flabellare	9
Johnny darter	Etheostoma nigrum	4
Subsubtotal		80

OTTER C/101-17-13 ROAD: 6 DATE: 90-10-02

central stoneroller	Campostoma anomalum	3
common carp	Cyprinus carpio	1
hornyhead chub	Nocomis biguttatus	17
common shiner	Notropis cornutus	4
Ozark minnow	Notropis nubilus	3
rosyface shiner	Notropis rubellus	1
bluntnose minnow	Pimephales notatus	5
creek chub	Semotilus atromaculatus	6
white sucker	Catostomus commersoni	1
rock bass	Ambloplites rupestris	21
green sunfish	Lepomis cyanellus	6
rainbow darter	Etheostoma caeruleum	11
fantail darter	Etheostoma flabellare	5
Johnny darter	Etheostoma nigrum	2
Subsubtotal		86

OTTER C/101-17-21 ROAD: 5 DATE: 90-09-11

central mudminnow	Umbra limi	1
central stoneroller	Campostoma anomalum	38
hornyhead chub	Nocomis biguttatus	2
common shiner	Notropis cornutus	4
bigmouth shiner	Notropis dorsalis	9
Ozark minnow	Notropis nubilus	6
southern redbelly dace	Phoxinus erythrogaster	16
blacknose dace	Rhinichthys atratulus	33
creek chub	Semotilus atromaculatus	13
white sucker	Catostomus commersoni	1
tadpole madtom	Noturus gyrinus	1
brook stickleback	Culaea inconstans	3
green sunfish	Lepomis cyanellus	3
largemouth bass	Micropterus salmoides	6
fantail darter	Etheostoma flabellare	20
Johnny darter	Etheostoma nigrum	11
Subsubtotal		167

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COMMON NAME	SCIENTIFIC NAME	CATCH
OTTER C/101-17-21 ROAD: 5 DATE: 90-09-12		
hornyhead chub	Nocomis biguttatus	2
southern redbelly dace	Phoxinus erythrogaster	1
bluntnose minnow	Pimephales notatus	13
blacknose dace	Rhinichthys atratulus	4
creek chub	Semotilus atromaculatus	16
green sunfish	Lepomis cyanellus	1
Subsubtotal		37
OTTER C/101-18-36 ROAD: N/A DATE: 90-09-11		
central mudminnow	Umbra limi	1
central stoneroller	Campostoma anomalum	5
hornyhead chub	Nocomis biguttatus	12
common shiner	Notropis cornutus	9
bigmouth shiner	Notropis dorsalis	1
Ozark minnow	Notropis nubilus	8
southern redbelly dace	Phoxinus erythrogaster	1
bluntnose minnow	Pimephales notatus	15
creek chub	Semotilus atromaculatus	6
white sucker	Catostomus commersoni	1
tadpole madtom	Noturus gyrinus	1
rack bass	Ambloplites rupestris	4
green sunfish	Lepomis cyanellus	3
rainbow darter	Etheostoma caeruleum	9
fantail darter	Etheostoma flabellare	21
Johnny darter	Etheostoma nigrum	1
blackside darter	Percina maculata	1
Subsubtotal		99
OTTER C/101-18-36 ROAD: N/A DATE: 90-10-02		
central stoneroller	Campostoma anomalum	11
hornyhead chub	Nocomis biguttatus	29
common shiner	Notropis cornutus	20
bigmouth shiner	Notropis dorsalis	5
Ozark minnow	Notropis nubilus	9
southern redbelly dace	Phoxinus erythrogaster	3
bluntnose minnow	Pimephales notatus	11
creek chub	Semotilus atromaculatus	3
white sucker	Catostomus commersoni	1
stonecat	Noturus flavus	1
rock bass	Ambloplites rupestris	9
green sunfish	Lepomis cyanellus	2
smallmouth bass	Micropterus dolomieu	2
rainbow darter	Etheostoma caeruleum	9
fantail darter	Etheostoma flabellare	15
Johnny darter	Etheostoma nigrum	2

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COMMON NAME	SCIENTIFIC NAME	CATCH
blackside darter	Percina maculata	1
Subsubtotal		133

ROSE C/102-17-26 ROAD: 56 DATE: 90-1002

central stoneroller	Campostoma anomalum	1
hornyhead chub	Nocomis biguttatus	8
common shiner	Notropis cornutus	1
bigmouth shiner	Notropis dorsalis	1
southern redbelly dace	Phoxinus erythrogaster	b
bluntnose minnow	Pimephales notatus	2
blacknose dace	Rhinichthys atratulus	3
creek chub	Semotilus atromaculatus	8
green sunfish	Lepomis cyanellus	2
orangespotted sunfish	Lepomis humilis	1
fantail darter	Etheostoma flabellare	2
Johnny darter	Etheostoma nigrum	4
Subsubtotal		39

ROSE C/102-18-24 ROAD: 218 DATE: 90-Og-11

central stoneroller	Campostoma anomalum	68
common carp	Cyprinus carpio	3
hornyhead chub	Nocomis biguttatus	11
bigmouth shiner	Notropis dorsalis	2
southern redbelly dace	Phoxinus erythrogaster	1
bluntnose minnow	Pimephales notatus	2
blacknose dace	Rhinichthys atratulus	3
creek chub	Semotilus atromaculatus	10
white sucker	Catostomus commersoni	2
northern hog sucker	Hypentelium nigricans	1
rock bass	Ambloplites rupestris	1
green sunfish	Lepomis cyanellus	10
orangespotted sunfish	Lepomis humilis,	10
smallmouth bass	Micropterus dolomieu	4
rainbow darter	Etheostoma caeruleum	10
fantail darter	Etheostoma flabellare	47
Johnny darter	Etheostoma nigrum	2
Subsubtotal		187

ROSE C/102-18-24 ROAD: 218 DATE: 90-10-02

central stoneroller	Campostoma anomalum	32
hornyhead chub	Nocomis biguttatus	17
common shiner	Notropis cornutus	1
southern redbelly dace	Phoxinus erythrogaster	4
blacknose dace	Rhinichthys atratulus	5
creek chub	Semotilus atromaculatus	8

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COMMON NAME	SCIENTIFIC NAME	CATCH
white sucker	Catostomus commersoni	4
rock bass	Ambloplites rupestris	2
green sunfish	Lepomis cyanellus	10
orangespotted sunfish	Lepomis humilis	2
smallmouth bass	Micropterus dolomieu	5
rainbow darter	Etheostoma caeruleum	2
fantail darter	Etheostoma flabellare	44
Johnny darter	Etheostoma nigrum	3
Subsubtotal		139
WOODBURY C/101-1B-33 ROAD: 105 DATE: 90-09-11		
central stoneroller	Camptostoma anomalum	22
hornyhead chub	Nocomis biguttatus	7
common shiner	Notropis cornutus	5
bluntnose minnow	Pimephales notatus	6
fathead minnow	Pimephales promelas	1
blacknose dace	Rhinichthys atratulus	1
creek chub	Semotilus atromaculatus	11
green sunfish	Lepomis cyanellus	3
rainbow darter	Etheostoma caeruleum	24
fantail darter	Etheostoma flabellare	61
Johnny darter	Etheostoma nigrum	6
blackside darter	Percina maculata	1
Subsubtotal		148
WOODBURY C/101-18-33 ROAD: 105 DATE: 40-10-02		
hornyhead chub	Nocomis biguttatus	1
common shiner	Notropis cornutus	1
bluntnose minnow	Pimephales notatus	1
rainbow darter	Etheostoma caeruleum	5
fantail darter	Etheostoma flabellare	9
Johnny darter	Etheostoma nigrum	1
Subsubtotal		18
**Subtotal		1385
**WABASHA COUNTY, MN		
EAST INDIAN C/109-09-19 ROAD: 61 DATE: 90-04-05		
central mudminnow	Umbra limi	1
bigmouth shiner	Notropis dorsalis	32
spotfin shiner	Notropis spilopterus	2
blacknose dace	Rhinichthys atratulus	28
creek chub	Semotilus atromaculatus	245
white sucker	Catostomus commersoni	105

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COMMON NAME	SCIENTIFIC NAME	CATCH
brook stickleback	Culaea inconstans	8
mud darter	Etheostoma asprigene	4
Subsubtotal		425
MISSISSIPPI R/109-09-19	ROAD: N/A DATA: 90-09-24	
golden shiner	Notemigonus crysoleucas	2
emerald shiner	Notropis atherinoides	4
pugnose minnow	Notropis emiliae	52
bullhead minnow	Pimephales vigilax	6
white sucker	Catostomus commersoni	1
brook silverside	Labidesthes sicculus	22
white bass	Morone chrysops	2
pumpkinseed	Lepomis gibbosus	1
bluegill	Lepomis macrochirus	171
white crappie	Pomoxis annularis	7
mud darter	Etheostoma asprigene	1
Subsubtotal		269
WHITEWATER R/109-09-29	ROAD: 61 DATE: 90-04-05	
central mudminnow	Umbra limi	1
brassy minnow	Hybognathus hankinsoni	1
spotfin shiner	Notropis spilopterus	1
blacknose dace	Rhinichthys atratulus	2
brook stickleback	Culaea inconstans	1
mud darter	Etheostoma asprigene	4
Johnny darter	Etheostoma nigrum	9
logperch	Percina caprodes	2
Subsubtotal		21
WHITEWATER R/109-09-29	ROAD: N/A DATE: 90-09-24	
emerald shiner	Notropis atherinoides	79
fathead minnow	Pimephales promelas	1
Subsubtotal		80
WHITEWATER R/109-10-24	ROAD: N/A DATE :190-09-24	
brassy minnow	Hybognathus hankinsoni	1
emerald shiner	Notropis atherinoides	99
fathead minnow	Pimephales promelas	2
bullhead minnow	Pimephales vigilax	1
white bass	Morone chrysops	3
bluegill	Lepomis macrochirus	1
mud darter	Etheostoma asprigene	2
Johnny darter	Etheostoma nigrum	2

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COMMON NAME	SCIENTIFIC NAME	CATCH
Subsubtotal		111
ZUMBRO R/109-09-18:OLD CHANNEL ROAD: 04 DATE: 90-09-24		
central mudminnow	Umbra limi	8
yellow bullhead	Ictalurus natalis	1
pirate perch	Aphredoderus sayanus	2
bluegill	Lepomis macrochirus	20
Iowa darter	Etheostoma exile	3
Subsubtotal		34
ZUMBROR/109-12-18 ROAD: N/A DATE: 90-09-25		
gizzard shad	Dorosoma cepedianum	3
emerald shiner	Notropis atherinoides	237
river shiner	Notropis blennius	1
bigmouth shiner	Notropis dorsalis	1
-spotfin shiner	Notropis spilopterus	9
sand shiner	Notropis stramineus	1
longnose dace	Rhinichthys cataractae	2
creek chub	Semotilus atromaculatus	1
white bass	Morone chrysops	3
Subsubtotal		258
ZUMBROR/110-10-22 ROAD: 61 DATE: 90-09-25		
emerald shiner	Notropis atherinoides	134
spotfin shiner	Notropis spilopterus	20
creek chub	Semotilus atromaculatus	2
tadpole madtom	Noturus gyrinus	2
rock bass	Ambloplites rupestris	1
green sunfish	Lepomis cyanellus	1
western sand darter	Ammocrypta clara	1
Johnny darter	Etheostoma nigrum	3
river darter	Percina shumardi	1
Subsubtotal		165
ZUMBROR/110-11-13 ROAD: N/A DATE: 90-09-25		
emerald shiner	Notropis atherinoides	27
channel catfish	Ictalurus punctatus	2
stonecat	Noturus flavus	1
Subsubtotal		30
ZUMBRO R/110-11-31 ROAD: 4 DATE: 90-01-25		
American brook lamprey	Lampetra appendix	1
emerald shiner	Notropis atherinoides	360

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COMMON NAME	SCIENTIFIC NAME	CATCH
river shiner	Notropis blennius	1
bigmouth shiner	Notropis dorsalis	4
spotfin shiner	Notropis spilopterus	6
sand shiner	Notropis stramineus	12
fathead minnow	Pimephales promelas	2
longnose dace	Rhinichthys cataractae	6
northern hog sucker	Hypentelium nigricans	2
western sand darter	Ammocrypta clara	1
banded darter	Etheostoma zonale	1
Subsubtotal		396
**Subtotal		1789
**WASHINGTON COUNTY, MN		
ST.CROIX R.TRIB/32-19-07	ROAD: N/A DATE: 90-10-26	
brook trout	Salvelinus fonlinalis	1
spotfin shiner	Notropis spilopterus	1
burbot	Lota lota	1
brook stickleback	Culaea inconstans	1
Subsubtotal		4
ST.CROIX R/31-19-06	ROAD: N/A DATE: 90-I-09-13	
western sand darter	Ammocrypta clara	23
Subsubtotal		23
ST.CROIX R/31-19-07	ROAD: N/A DATE: 90-09-13	
spotfin shiner	Notropis spilopterus	2
mimic shiner	Notropis volucellus	26
bluntnose minnow	Pimephales notatus	1
smallmouth bass	Micropterus dolomieu	2
western sand darter	Ammocrypta clara	16
Subsubtotal		47
ST.CROIX R/31-19-17	ROAD: N/A DATE: 90-09-13	
spotfin shiner	Notropis spilopterus	5
mimic shiner	Notropis volucellus	7
bluntnose minnow	Pimephales notatus	1
smallmouth bass	Micropterus dolomieu	3
Subsubtotal ~		16
**Subtotal		90

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COMMON NAME	SCIENTIFIC NAM	CATCH
**WINONA COUNTY, MN		
CEDAR C/106-Ob-01	ROAD: b1 DATE: 90-04-05	
emerald shiner	Notropis atherinoides	0
spotfin shiner	Notropis spilopterus	0
sand shiner	Notropis stramineus	1
fathead minnow	Pimephales promelas	1
blacknose dace	Rhinichthys atratulus	61
longnose dace	Rhinichthys cataractae	1
creek chub	Semotilus atroaculatus	1
white sucker	Catostomus commersoni	2
Subsubtotal		67
GARVIN B/107-08-02	ROAD: 61 DATE: 90-I4-05	
blacknose dace	Rhinichthys atratulus	1
longnose dace	Rhinichthys cataractae	15
creek chub	Semotilus atromaculatus	1
Johnny darter	Etheostoma nigrum	13
Subsubtotal		30
TROUT C/106-05-07	ROAD: 61 DATE: 90-0 -05	
central mudminnow	Umbra limi	93
brassy minnow	Hybognathus hankinsoni	4
Mississippi silvery minnow	Hybognathus nuchalis	1
emerald shiner	Notropis atherinoides	422
blackchin shiner	Notropis heterodon	1
Spottail shiner	Notropis hudsonius	2
spotfin shiner	Notropis spilopterus	7
sand shiner	Notropis stramineus	1
bullhead minnow	Pimephales vigilax	1
blacknose dace	Rhinichthys atratulus	6
white sucker	Catostomus commersoni	7
tadpole madtom	Noturus gyrinus	4
brook stickleback	Culaea inconstans	63
rock bass	Ambloplites rupestris	4
mud darter	Etheostoma asprigene	21
Iowa darter	Etheostoma exile	1
Johnny darter	Etheostoma nigrum	5
Subsubtotal		663
WHITEWATER R/108-10-11	ROAD: N/A DATE: 90-09-24	
American brook lamprey	Lampetra appendix	4
brown trout	Salmo trutta	9
emerald shiner	Notropis atherinoides	102
river shiner	Notropis blennius	1

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COMMON NAME	SCIENTIFIC NAME	CATCH
fathead minnow	Pimephales promelas	1
blacknose dace	Rhinichthys atratulus	5
longnose dace	Rhinichthys cataractae	35
Iowa darter	Etheostoma exile	3
fantail darter	Etheostoma flabellare	10
Johnny darter	Etheostoma nigrum	8
blackside darter	Percina maculata	1
Subsubtotal		179
WHITEWATER R/108-10-15	ROAD: 30 DATE: 90-09-24	
American brook lamprey	Lampetra appendix	
brown trout	Salmo trutta	10
emerald shiner	Notropis atherinoides	4
fathead minnow	Pimephales protelas	4
blacknose dace	Rhinichthys atratulus	35
longnose dace	Rhinichthys cataractae	13
creek chub	Semotilus atromaculatus	4
brook stickleback	Culaea inconstans	1
Iowa darter	Etheostoma exile	5
Johnny darter	Etheostoma nigrum	2
Subsubtotal		80
**Subtotal		1019
**POLK COUNTY, WI		
ST.CROIX R/31-19-07	ROAD: N/A DATE: 9 -09-13	
spotfin shiner	Notropis spilopterus	27
mimic shiner	Notropis volucellus	24
bluntnose minnow	Pimephales notatus	8
rock bass	Ambloplites rupestris	3
smallmouth bass	Micropterus dolomieu	1
rainbow darter	Etheostoma caeruleum	1
Johnny darter	Etheostoma nigrum	1
logperch	Percina caprodes	1
Subsubtotal		66
ST.CROIX R/32-19-32	ROAD: N/A DATE: 90-09-13	
spotfin shiner	Notropis spilopterus	2
largemouth bass	Micropterus salmoides	3
western sand darter	Ammocrypta clara	1
Subsubtotal		6

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COMMON NAME	SCIENTIFIC NAME	CATCH
ST.CROIX R/33-19-22	ROAD: N/A DATE: 90-09-27	
mimic shiner	Notropis vellus	20
smallmouth bass	Micropterus dolomieu	7
western sand darter	Ammocrypta clara	1
gilt darter	Percina evides	2
Subsubtotal		30
ST.CROIX R/33-19-27:TROUT	B.MO ROAD: 2 3 DATE: 90-09-27	
mimic shiner	Notropis volucellus	1
bluntnose minnow	Pimephales notatus	1
northern hog sucker	Hypentelium nigricans	1
green sunfish	Lepomis cyanellus	1
bluegill	Lepomis macrochirus	2
smallmouth bass	Micropterus dolomieu	2
rainbow darter	Etheostoma caeruleum	18
yellow perch	Perca flavescens	1
gilt darter	Percina evides	3
Subsubtotal		30
**Subtotal		132
**ST. CROIX COUNTY, WI		
APPLE R/31-19-29:MOUTH	ROAD: N/A DATE: 90-10-05	
hornyhead chub	Nocomis biguttatus	13
spotfin shiner	Notropis spilopterus	5
mimic shiner	Notropis volucellus	9
bluntnose minnow	Pimephales notatus	9
white sucker	Catostomus commersoni	12
shorthead redhorse	Moxostoma macrolepidotum	1
rock bass	Ambloplites rupestris	5
bluegill	Lepomis macrochirus	1
smallmouth bass	Micropterus dolomieu	5
rainbow darter	Etheostoma caeruleum	88
Johnny darter	Etheostoma nigrum	1
logperch	Percina caprodes	14
Subsubtotal		163
ST.CROIX R/31-19-29	ROAD: N/A DATE: 90-10-05	
spotfin shiner	Notropis spilopterus	20
mimic shiner	Notropis volucellus	22
smallmouth bass	Micropterus dolomieu	1
western sand darter	Ammocrypta clara	16
Johnny darter	Etheostoma nigrum	1

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APPENDIX II - 1990 SURVEY RESULTS F R SPECIAL CONCERN FISHES
INDEXED ON SITE - KONRAD SCHM DT (612) 699-6832
1508 FAIRMOUNT AVE., ST. AUL, MN 55105
FUNDING PROVIDED THROUGH THE MINNESOTA NONGAME PROGRAM

COMMON NAME	SCIENTIFIC NAME	CATCH
Subsubtotal		60
**Subtotal		223
***Total		8665