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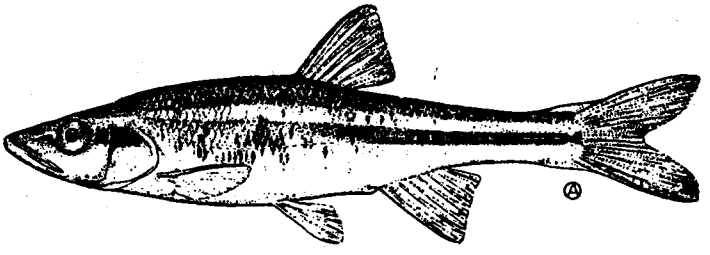
Illinois status survey of the redside dace, *Clinostomus elongatus*: the newest addition to the state's native fauna



Submitted by:

Mark H. Sabaj
Principal Investigator
2000

Abstract

Fish surveys of 18 sites in Winnebago County, Illinois, and Rock County, Wisconsin, conducted from 1997–2000 discovered the redside dace, *Clinostomus elongatus*, at a single site in Illinois in East Fork Raccoon Creek (Raccoon–Pecatonica–Rock R. Dr.). This is the first documented record of this species in Illinois and raises the known total of state native fishes to 189. Resident populations of the redside dace occur in the Wisconsin headwaters of East Fork Raccoon Creek and Raccoon Creek; however, it remains uncertain whether resident populations are established in Illinois waters. Based on the current survey the redside dace is expected to periodically occur in the Illinois portion of the Raccoon Creek System as a peripheral state species. Because its distribution in Illinois is limited to this small watershed, the redside dace is recommended for listing as a state endangered species. The Illinois portion of the Raccoon Creek System supports a rich diversity of regional fishes (47 native species) including 12 species newly reported in the current study.

Introduction

This study documented for the first time in Illinois the presence of the redside dace, *Clinostomus elongatus,* a non-game species of minnow in the Family Cyprinidae (Fig. 1). This discovery raises to 189 the total number of fish species reported as native to Illinois waters (see Burr et al., 1996 for prior enumeration). Only two other state native fishes, the taillight shiner (*Notropis maculatus*) (Burr et al., 1988) and fringed darter, (*Etheostoma crossopterum*) (Poly and Wilson, 1998), have been discovered in the last 20 years since Smith's (1979) comprehensive summary of the state's ichthyofauna. These recent additions to the biodiversity of Illinois provide a refreshing, albeit fleeting departure from more common state-wide trends such as species extirpations and invasions of exotics.

Methods

Surveys for the redside dace were conducted from November 1997 to April 2000 at a total of 18 sites (Map 1) distributed in the Raccoon Creek Drainage in Illinois (8 sites) and Wisconsin (2 sites), and in nearby streams (Pecatonica and Rock River drainages) in Illinois (8 sites). Each site was visited 1–5 times for 2–4 hours in Spring-Summer and/or Fall-Winter. Fishes were sampled using 8 ft. minnow seines and a Smith-Root backpack electrofisher powered by a 24 volt, 12Ah battery (model 12-B). Collecting equipment was provided by the Illinois Natural History Survey and a personal vehicle was used for all travel. During each site-visit, all fishes collected were identified to species in the field. A subsample of fishes representing the total diversity collected at each site was vouchered in the Fish Collection of the Illinois Natural History Survey. Voucher specimens were

anesthetized in MS-222 (100 mg/L water), killed and preserved in 10% formalin, and transferred to 70% ethanol for permanent storage. Fishes collected but not vouchered were returned without harm to their native habitat. Nomenclature follows Page and Burr (1991).

In addition, large collections of North American freshwater fishes housed at the Field Museum of Natural History (Chicago), United States National Museum – Smithsonian Institution (Washington D.C.), and Academy of Natural Sciences (Philadelphia) were searched for voucher specimens of *Clinostomus elongatus* collected from Illinois.

Results

Despite 25 visits to 18 sites in Illinois and Wisconsin, the redside dace was collected on only one occasion. A total of eight juvenile redside dace were taken on 31 May 1998 in East Fork Raccoon Creek (Raccoon – Pecatonica – Rock R. Dr.), Winnebago County, Illinois, 6.2 km NW Rockton, T46N, R1E, Sec. 5, SE/4, 089° 08.201' W, 42° 29.081' N (Map 1). Seven specimens were vouchered (INHS 46430) and one was returned live to the river at the place of capture. All specimens were collected in a relatively deep (ca. 3-3.5 ft.) and partially shaded pool (side pocket of the main channel) with a thick silt and mud substrate (Figs. 2 and 3). In the previous year, a beaver dam stretched across the channel just below the mouth of the pocket, causing this area to become inundated with water. The beaver dam had been removed prior the 1998 visit; however, the pool retained water and provided refuge for the redside dace and many other juvenile minnows including: bigmouth shiners (*Notropis dorsalis*), southern redbelly dace (*Phoxinus erythrogaster*), fathead minnows (*Pimephales promelas*), creek chubs (*Semotilus atromaculatus*) and brassy minnows (*Hybognathus hankinsoni*).

This East Fork site (no. 5) was sampled on 4 other occasions, once before collecting the redside dace (2 November 1997), and three times after (28 May 1999, 5 October 1999 and 22 April 2000). Although the beaver dam observed in 1997 was removed by the land-owner sometime prior to subsequent visits, the pool where the redside dace were collected remained. During the last three visits the pool retained little water (depth less than 2 ft.) and contained few if any fish.

I surveyed almost the entire Illinois portion of East Fork Raccoon Creek. Over this stretch the stream is a 10 to 20 ft. wide channel with depth varying from a few inches to about 5 ft. The substrate is largely sand with scattered patches of gravel and small cobble. The current is moderate for most of its course to Raccoon Creek with the occasional shallow riffle and many short swift runs caused by fallen-tree snags and a few semi-permanent beaver dams. The habitat occupied by the redside dace (small, deep backwater pools with mud and silt substrate) is rather uncommon in the Illinois portion of East Fork

Raccoon Creek. Upstream in the Wisconsin portion, this type of habitat appears to be more common, especially in the vicinity of site no. 17. Although no redsides were found at this site during the current study, Ralph Steinberg et al. collected 24 adult specimens (INHS 46977) at this site on 8 June 1998. In addition, Fago (1982) reported redside dace from another locality in the upper East Fork and 3 separate localities in upper Raccoon Creek, Wisconsin (Map 1).

This study recorded a total of 42 species (40 native and 2 introduced) from all Illinois sites combined. A total of 34 species (all native) were found in the Raccoon Creek System (Table 1) with 31 species in East Fork Raccoon Creek. Twelve species (American brook lamprey, 7 minnow species, 2 suckers, brook stickleback, and fantail darter) were newly recorded for the Raccoon Creek System in Illinois. All twelve species are typically found in small rivers and headwater creeks, habitats that were not thoroughly sampled in this system prior to the current study. Furthermore, the collection of the spotted sucker (*Minytrema melanops*) represents a new record for Winnebago County. The closest Illinois record for this species in the Rock River System is in Lee County and was last collected in 1964. The state endangered Iowa darter (*Etheostoma exile*) was newly recorded from two separate sites in Winnebago County, both in small tributaries of Raccoon Creek. Collections made during this survey raised the total known diversity of the Illinois portion of the Raccoon Creek System to 48 species (47 native and 1 introduced, see Table 1).

Apart from the current survey, collections have been made at five separate sites in Raccoon Creek (4 sites, 5 visits) and East Fork Raccoon Creek (1, 1) from 1963 to 1998 based on INHS collection records (Table 1). These surveys recorded a total of 36 species (35 native, 1 introduced), of which 11 species (10 native, 1 introduced) were not encountered in my surveys. These 11 species are typically found in large rivers where redside dace are not expected to occur. The most recent (August, 1998) and extensive survey by Doug Carney and the IDNR Streams Crew collected 21 species and two hybrids from Raccoon Creek at Yale Bridge Road. As one might guess, none of the aforementioned collections yielded specimens of the redside dace. Likewise, visits to the Field Museum of Natural History, Smithsonian Institution and Academy of Natural Sciences of Philadelphia did not uncover any specimens of the redside dace collected from Illinois.

Discussion

The redside dace, *Clinostomus elongatus*, commonly inhabits small streams with moderate to high gradients, clear and cool water, and substrates of clean gravel, sand, or bedrock (Trautman, 1981; Becker 1983). It is distributed across once glaciated regions of the northeastern United States and southern Ontario in watersheds draining into the Mississippi River, Ohio River, Great Lakes and Atlantic Ocean (Map 2 from Gilbert, 1980).

The western-most populations occur in a few disjunct tributaries of the Upper Mississippi and Wisconsin Rivers in Minnesota, Wisconsin and Iowa. Several isolated populations are also known from the Pecatonica–Sugar River System (Rock R. Dr.) in Wisconsin and now Illinois, and from a number of small tributaries to Lake Michigan in eastern Wisconsin from Green Bay to Racine. To the east, the redside dace occurs in Great Lakes tributaries in Michigan, Ohio, New York and southern Ontario. It also inhabits scattered tributaries to the Upper Ohio River in Ohio, Kentucky, West Virginia, Pennsylvania and New York. The eastern-most populations occur in two Atlantic Coast Drainages, the Upper Susquehanna and some northern tributaries of the Mohawk in the southern Adirondacks, New York (Smith, 1985).

Multiple authors have noted a decrease in the overall range and abundance of the redside dace and a few isolated populations in Iowa and Wisconsin are considered extirpated (Harlan and Speaker, 1951; Trautman, 1981; Becker, 1983; Lyons et al., 2000). The decline of redside dace populations is thought to be the result of poor agricultural practices and related activities that increase turbidity, silt deposition, and mean water temperature in small streams (Trautman, 1981; Phillips et al., 1982; Becker, 1983). Extirpation of redside dace populations also has been associated with introductions and population expansions of the piscivorous brown trout (*Salmo trutta*) into headwater habitats used by the dace (Lyons et al., 2000). Because of these threats and its limited distribution the redside dace is listed as a species of special concern in Wisconsin (Lyons et al., 2000).

The redside dace is evidently a peripheral species in Illinois. Although its occurrence in the state has been confirmed, it remains undetermined whether this species reproduces in Illinois and maintains a resident population. Redside dace typically reproduce over the pebble-nests of other minnows in small headwater streams dominated by gravel substrates (Greeley 1938, Koster 1939, Johnston and Page 1992, pers. obs.). Two pebble nest-building species (creek chub and hornyhead chub) were newly recorded from throughout the Raccoon River System in Illinois. However, habitat suitable for pebble-nests (e.g., gravel substrates) was rather uncommon in the Illinois portion of this system which is dominated by sand. Two small tributaries to Raccoon Creek (see site nos. 3 and 9) afford the best habitat for pebble-nests and are thereby the best candidates for supporting viable populations of redside dace; however, collections in these tributaries yielded no specimens. It is possible that the specimens collected in East Fork Raccoon Creek (all juveniles) had been washed downstream from source populations in Wisconsin headwaters. Based on my experience collecting redside dace in Ohio and New York, finding this species is usually an all-or-none phenomenon. That is, redside dace are extremely patchy, often occurring in widely separated schools that are easily missed even during extensive sampling.

In Illinois, the redside dace was collected on private land in a small family-owned nature park and tree farm (Williams Tree Farm, see Appendix 2 for brochure). Upon speaking to the land-owners, I learned that in the early 1940's there was a strong movement to buy up, channelize and drain the area for large-scale soybean agriculture. Carlton Williams, the father of the current owner, realized that the land (mostly sand prairie) was unsuitable for soybean crops. He joined the Conservation Department and was one of a few locals who refused to sell or significantly alter their land. Carlton even vowed to take to court anyone who threatened to take over his property. According to his son, Wayne (pers. comm.): "he was bluffing of course". The strategy worked because the movement towards large-scale agriculture was largely abandoned. As a result, the area has retained much of its original hydrology and supports an impressive diversity of regional fishes (47 native species).

The continued occurrence of the redside dace in Illinois is largely dependent upon the integrity of the headwater habitats in Wisconsin that support reproductively viable populations. If the Wisconsin populations remain intact, one might expect the redside dace to periodically appear in Illinois waters. Based on my surveys and the propensity of this species to occur in isolated populations, the redside dace is not expected to occur in Illinois outside of the Raccoon Creek System. Because of its rarity and limited distribution, the redside dace, *Clinostomus elongatus*, is hereby recommended for listing as a state endangered species in Illinois.

Fortunately, the present status of aquatic habitats in the lower East Fork Raccoon Creek appears secure due to the responsible stewardship of the current land owners (Williams Tree Farm). The property managed by the Williams Tree Farm appears to retain many of its natural qualities. It may be interesting to survey this area for other native species considered rare in Illinois.

Acknowledgements

I owe a great deal of thanks to the Williams Family of 4661 Yale Bridge Road, Rockton, IL 61072 for their kindness and permission to sample the waterways on their property. I also wish to thank my parents, Henry and Mary Diana Sabaj, for their excellent assistance in the field. Special thanks to Christine Mayer, INHS database manager, for help compiling records of vouchered specimens. This study was supported by funds provided by the Illinois Wildlife Preservation Fund and administered by the Illinois Department of Natural Resources, Division of Natural Heritage, Springfield; additional support provided by the Illinois Natural History Survey, Center for Biodiversity. Permission to collect in Wisconsin was kindly granted by Alan Crossley, WI DNR (permit no. SCP-SCR-005-9900).

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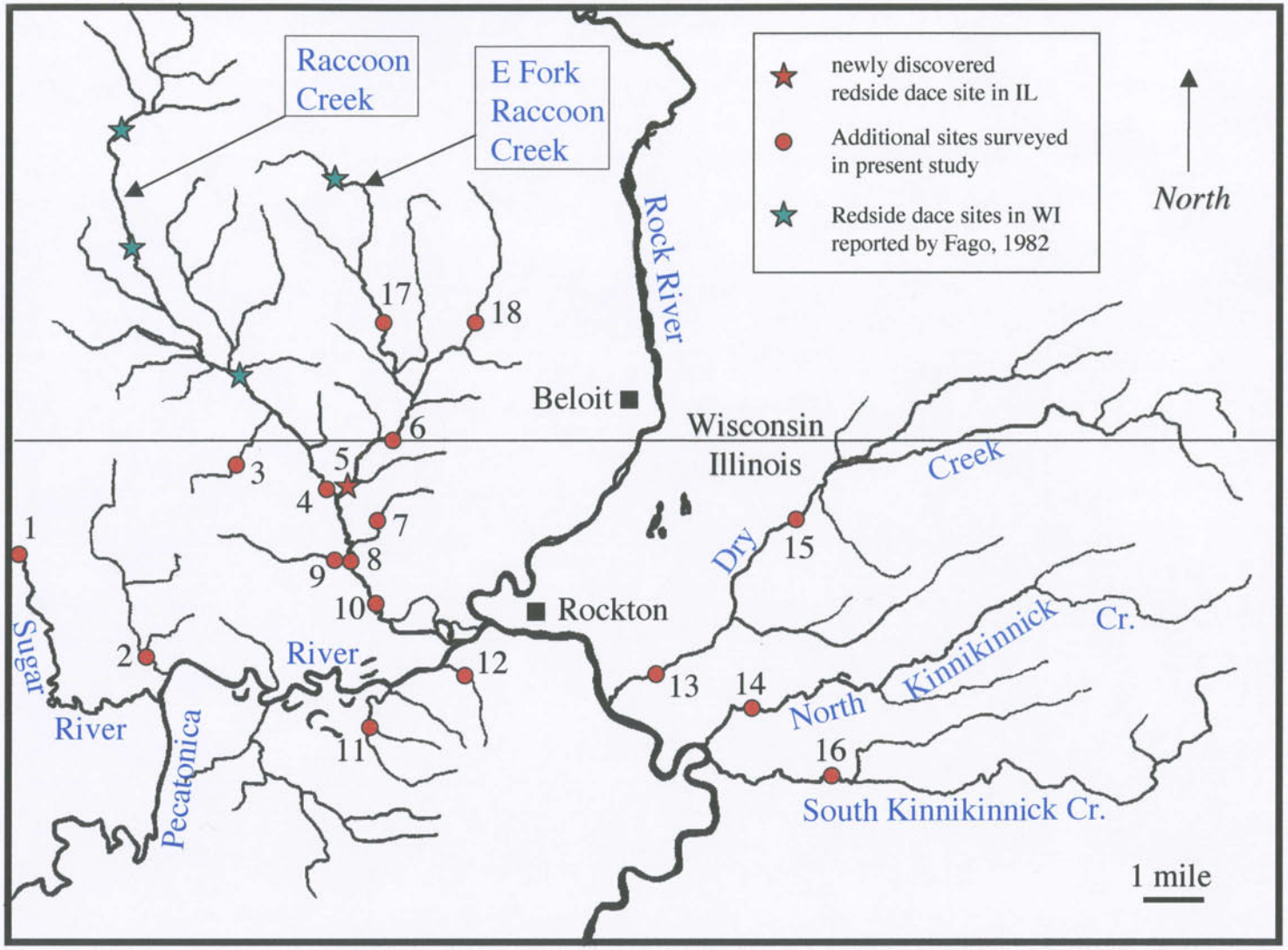
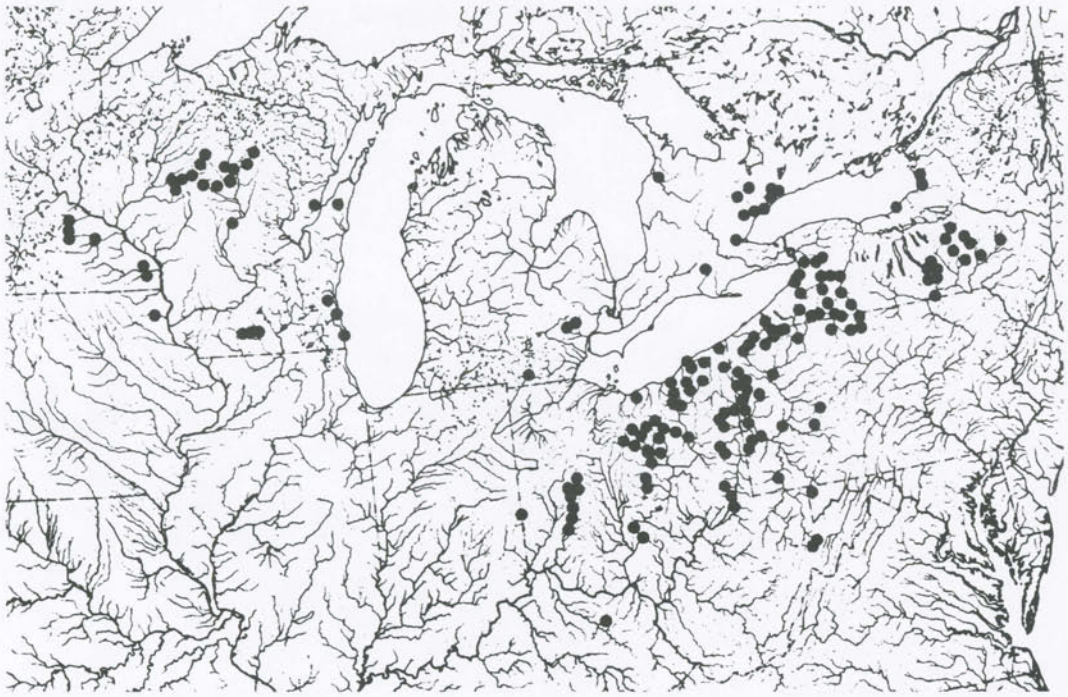


Map 1: Sites surveyed for redside dace in current study (numbered 1-18).



Map 2: Total distribution of redside dace, *Clinostomus elongatus*, based on Gilbert, 1980.

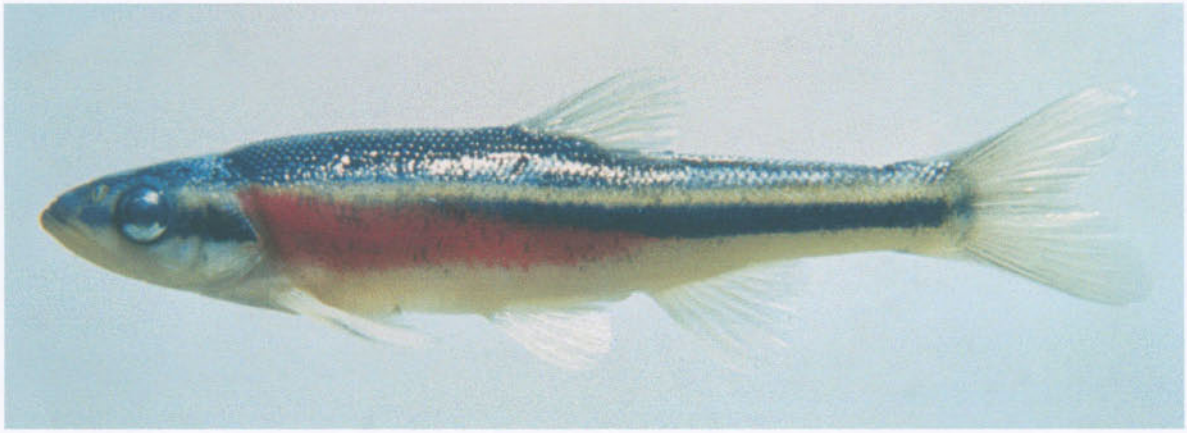


Fig. 1: Adult redside dace, *Clinostomus elongatus* (72 mm SL). Photo by Lawrence M. Page.

Fig. 2: East Fork Raccoon Creek, site no. 5, on Williams Tree Farm, 4.2 mi. NE Shirland, Winnebago Co., Illinois (31 May 1998). In 1997 a beaver dam spanned the channel in the vicinity of electroshocker. Electroshocker is located near mouth of pool where redside dace were collected (see below).

Fig. 3: Pool where redside dace were collected (31 May 1998).

Table 1: Species list of fishes collected in the Illinois portion of the Raccoon Creek River System.

Family	*Species* (* = newly reported) (I = introduced, SE = state endangered)	current study 1997-2000	other collections 1963-1976		1990-1998
Petromyzontidae	*Lampetra appendix* *	X			
Clupeidae	*Dorosoma cepedianum*				X
Cyprinidae	*Campostoma anomalum* *	X			
	Clinostomus elongatus *	X			
	Cyprinella spiloptera	X	X		X
	Cyprinus carpio (I)		X		
	Hybognathus hankinsoni *	X			
	Luxilus cornutus *	X			
	Lythrurus umbratilis				X
	Nocomis biguttatus *	X			
	Notemigonus crysoleucas	X			X
	Notropis atherinoides		X		
	Notropis dorsalis	X	X		
	Notropis hudsonius		X		
	Notropis ludibundus	X	X		X
	Notropis rubellus				X
	Phenacobius mirabilis		X		
	Phoxinus erythrogaster *	X			
	Pimephales notatus	X	X		X
	Pimephales promelas	X	X		
	Rhinichthys atratulus	X	X		
	Semotilus atromaculatus *	X			
	Carassius auratus x Cyprinus carpio (I)				X
Catostomidae	*Carpiodes cyprinus*		X		
	Catostomus commersoni	X	X		X
	Hypentelium nigricans *	X			
	Ictiobus cyprinellus				X
	Minytrema melanops *	X			
	Moxostoma anisurum				X
	Moxostoma erythrurum				X
	Moxostoma macrolepidotum	X			X
Ictaluridae	*Ameiurus melas*	X			X
Esocidae	*Esox americanus*	X	X		X
Umbridae	*Umbra limi*	X	X		X
Fundulidae	*Fundulus dispar*	X			X
	Fundulus notatus	X	X		X
Gasterosteidae	*Culaea inconstans* *	X			
Centrarchidae	*Lepomis cyanellus*	X	X		X
	Lepomis gibbosus		X		
	Lepomis macrochirus	X	X		X
	Micropterus salmoides	X			X
	Pomoxis nigromaculatus				X
	Lepomis cyanellus x L. gibbosus	X			
	Lepomis cyanellus x L. macrochirus				X
	Lepomis gibbosus x L. macrochirus	X			
Percidae	*Etheostoma exile* (SE)	X	X		X
	Etheostoma flabellare *	X			
	Etheostoma microperca	X			X
	Etheostoma nigrum	X	X		X
	Etheostoma zonale	X	X		
	Percina maculata	X	X		X
	Stizostedion vitreum				X
total species	48	34	22	–37–	26
hybrids	4	2	0	—2—	2

INHS Fish Collection Records

Appendix 1: Specimens collected & vouchered from 1997-2000

Site 01

Sugar River (Pecatonica River- Rock River Dr.)
rm Site 01
3.3 mi NW Shirland, Yale Bridge Rd. bridge
Winnebago County, Illinois USA

T29N, R11E, sec. 32, NE

5 October 1999

M.H. Sabaj, M.D. Sabaj & H.J. Sabaj

Cat. #	Species	No. of Specimens
INHS	*Cyprinella spiloptera*	17 (discarded)
INHS	*Cyprinus carpio*	1 (discarded)
INHS 52692	*Notropis dorsalis*	1
INHS	*Notropis ludibundus*	7 (discarded)
INHS	*Pimephales notatus*	47 (discarded)
INHS	*Ameiurus melas*	2 (discarded)
INHS 52693	*Ameiurus natalis*	1
INHS	*Ictalurus punctatus*	4 (discarded)
INHS 52694	*Noturus flavus*	1
INHS	*Esox americanus*	2 (discarded)
INHS 52695	*Labidesthes sicculus*	1
INHS	*Lepomis cyanellus*	5 (discarded)
INHS	*Lepomis macrochirus*	1 (discarded)
INHS	*Micropterus salmoides*	4 (discarded)
INHS	*Etheostoma flabellare*	3 (discarded)
INHS	*Etheostoma nigrum*	3 (discarded)

Site 02

trib. Pecatonica River (Rock River Dr.)
rm Site 02
Shirland, Mitchell/Harrison Rd. bridge
Winnebago County, Illinois USA

T28N, R11E, sec. 11, SW

5 October 1999

M.H. Sabaj, M.D. Sabaj & H.J. Sabaj

Cat. #	Species	No. of Specimens
INHS 53022	*Luxilus cornutus*	1
INHS 53023	*Pimephales notatus*	4
INHS 53024	*Pimephales promelas*	14
INHS 53025	*Semotilus atromaculatus*	23
INHS 53026	*Minytrema melanops*	1
INHS 53027	*Ameiurus melas*	2
INHS 53021	*Esox americanus*	2
INHS 53028	*Lepomis cyanellus*	6
INHS 53029	*Lepomis macrochirus*	2
INHS 53030	*Micropterus salmoides*	4
INHS 53031	*Etheostoma nigrum*	12

Site 03

trib. Raccoon Creek (Pecatonica River Dr.)
rm Site 03
3.5 mi NNE Shirland, Pomeroy Rd.
Winnebago County, Illinois USA

T46N, R1E, sec. 6, NW

31 May 1998

M.H. Sabaj

Cat. #	Species	No. of Specimens	
INHS 46384	*Campostoma anomalum*	38	
INHS 46385	*Phoxinus erythrogaster*	23	
INHS 46386	*Pimephales promelas*	20	
INHS 46387	*Rhinichthys atratulus*	3	
INHS 46388	*Semotilus atromaculatus*	16	
INHS 46389	*Catostomus commersoni*	3	
INHS 46390	*Culaea inconstans*	7	
INHS 46391	*Lepomis cyanellus*	2	
INHS 46394	*Lepomis cyanellus x L. gibbosus*	3	
INHS 46392	*Lepomis macrochirus*	4	
INHS 46393	*Etheostoma exile*	3	SE

Site 04

Raccoon Creek (Pecatonica River- Rock River Dr.)
rm Site 04
4.1 mi NE Shirland, upstream from confluence with East Fork Raccoon Creek
Winnebago County, Illinois USA

T46N, R1E, sec. 8, NE

31 May 1998

M.H. Sabaj

Cat. #	Species	No. of Specimens
INHS 46369	*Pimephales notatus*	1
INHS 46370	*Catostomus commersoni*	1
INHS 46371	*Moxostoma macrolepidotum*	1
INHS 46368	*Esox americanus*	1
INHS 46367	*Umbra limi*	16
INHS 46372	*Fundulus dispar*	1
INHS 46373	*Fundulus notatus*	1
INHS 46374	*Lepomis cyanellus*	6
INHS 46375	*Etheostoma microperca*	2

Site 05

East Fork Raccoon Creek (Pecatonica River- Rock River Dr.)
rm Site 05
4.2 mi NE Shirland
Winnebago County, Illinois USA

T46N, R1E, sec. 5, SE

2 November 1997

M.H. Sabaj

Cat. #	Species	No. of Specimens
INHS 43388	*Campostoma anomalum*	11
INHS 43389	*Cyprinella spiloptera*	16
INHS 43390	*Hybognathus hankinsoni*	1
INHS 43391	*Luxilus cornutus*	4
INHS 43392	*Notemigonus crysoleucas*	1
INHS 43393	*Notropis dorsalis*	30
INHS 43394	*Notropis ludibundus*	3

INHS 43395	*Phoxinus erythrogaster*	8
INHS 43396	*Pimephales notatus*	36
INHS 43397	*Pimephales promelas*	3
INHS 43398	*Rhinichthys atratulus*	1
INHS 43399	*Semotilus atromaculatus*	11
INHS 43400	*Catostomus commersoni*	11
INHS 43401	*Minytrema melanops*	1
INHS 43402	*Ameiurus melas*	1
INHS 43387	*Esox americanus*	3
INHS 43386	*Umbra limi*	3
INHS 43403	*Lepomis cyanellus*	5
INHS 43404	*Lepomis gibbosus x L. macrochirus*	1
INHS 43405	*Etheostoma flabellare*	4
INHS 43406	*Etheostoma nigrum*	27
INHS 43407	*Etheostoma zonale*	11
INHS 43408	*Percina maculata*	8

31 May 1998

M.H. Sabaj

Cat. #	Species	No. of Specimens
INHS 46415	*Campostoma anomalum*	4
INHS 46430	*Clinostomus elongatus*	7
INHS 46416	*Hybognathus hankinsoni*	5
INHS 46417	*Luxilus cornutus*	6
INHS 46418	*Nocomis biguttatus*	3
INHS 46419	*Notropis dorsalis*	44
INHS 46420	*Phoxinus erythrogaster*	23
INHS 46421	*Pimephales notatus*	11
INHS 46422	*Pimephales promelas*	4
INHS 46423	*Semotilus atromaculatus*	95
INHS 46424	*Catostomus commersoni*	18
INHS 46425	*Ameiurus melas*	1
INHS 46414	*Umbra limi*	2
INHS 46426	*Lepomis cyanellus*	3
INHS 46427	*Etheostoma nigrum*	10
INHS 46428	*Etheostoma zonale*	3
INHS 46429	*Percina maculata*	1

5 October 1999

M.H. Sabaj, M.D. Sabaj & H.J. Sabaj

Cat. #	Species	No. of Specimens	
INHS 53143	*Cyprinella spiloptera*	11	
INHS 53144	*Notemigonus crysoleucas*	2	
INHS	*Pimephales notatus*	1	(discarded)
INHS 53145	*Pimephales promelas*	1	
INHS	*Semotilus atromaculatus*	2	(discarded)
INHS	*Catostomus commersoni*	2	(discarded)
INHS 53146	*Hypentelium nigricans*	1	
INHS	*Ameiurus melas*	1	(discarded)
INHS	*Esox americanus*	1	(discarded)
INHS	*Umbra limi*	3	(discarded)
INHS 53147	*Lepomis macrochirus*	2	
INHS 53148	*Micropterus salmoides*	2	
INHS	*Etheostoma nigrum*	3	(discarded)
INHS 53149	*Etheostoma zonale*	2	
INHS 53150	*Percina maculata*	4	

Site 06

East Fork Raccoon Creek (Pecatonica River- Rock River Dr.)
rm Site 06
4.6 mi W South Beloit, IL/WI border
Winnebago County, Illinois USA

T46N, R1E, sec. 4, NE

23 April 2000

M.H. Sabaj

Cat. #	Species	No. of Specimens
INHS 55628	*Lampetra appendix*	1
INHS 55629	*Campostoma anomalum*	7
INHS 55630	*Hybognathus hankinsoni*	7
INHS 55631	*Notropis dorsalis*	1
INHS 55632	*Pimephales notatus*	1
INHS 55633	*Rhinichthys atratulus*	3
INHS 55634	*Semotilus atromaculatus*	5
INHS 55635	*Catostomus commersoni*	4
INHS 55636	*Culaea inconstans*	1
INHS 55637	*Lepomis cyanellus*	1
INHS 55638	*Lepomis macrochirus*	1
INHS 55639	*Etheostoma flabellare*	2
INHS 55640	*Etheostoma nigrum*	7
INHS 55641	*Etheostoma zonale*	1
INHS 55642	*Percina maculata*	1

Site 07

trib. Raccoon Creek (Pecatonica River- Rock River Dr.)
rm Site 07
5 mi WSW South Beloit, Yale Bridge Rd.
Winnebago County, Illinois USA

T46N, R1E, sec. 9, NE

5 October 1999

M.H. Sabaj, M.D. Sabaj & H.J. Sabaj

Cat. #	Species	No. of Specimens	
INHS 53081	*Umbra limi*	1	
INHS 53082	*Lepomis cyanellus*	2	
INHS 53083	*Lepomis macrochirus*	1	
INHS 53084	*Micropterus salmoides*	1	
INHS 53085	*Etheostoma exile*	3	SE

Site 08

Raccoon Creek & trib. (Pecatonica River- Rock River Dr.)
rm Site 08
2.5 mi W Rockton, off Clover Rd.
Winnebago County, Illinois USA

T46N, R1E, sec. 16, NW

11 December 1999

M.H. Sabaj & C.A. Laird

Cat. #	Species	No. of Specimens
INHS 53938	*Semotilus atromaculatus*	1
INHS 53937	*Esox americanus*	1
INHS 53939	*Lepomis cyanellus*	1
INHS 53940	*Lepomis macrochirus*	1
INHS 53941	*Etheostoma nigrum*	3
INHS 53942	*Percina maculata*	1

Site 09

trib. Raccoon Creek (Pecatonica River- Rock River Dr.)
rm Site 09
3.5 mi WNW Rockton, Clover Rd.
Winnebago County, Illinois USA

T46N, R1E, sec. 17, NE

22 April 2000

M.H. Sabaj

Cat. #	Species	No. of Specimens
INHS 56281	*Hybognathus hankinsoni*	37
INHS 56282	*Notemigonus crysoleucas*	1
INHS 56283	*Pimephales promelas*	2
INHS	*Semotilus atromaculatus*	10 (discarded)
INHS	*Catostomus commersoni*	2 (discarded)
INHS 56284	*Ameiurus melas*	1
INHS	*Culaea inconstans*	4 (discarded)
INHS	*Lepomis cyanellus*	1 (discarded)
INHS	*Lepomis macrochirus*	1 (discarded)
INHS	*Etheostoma flabellare*	1 (discarded)
INHS	*Etheostoma nigrum*	6 (discarded)

Site 10

Raccoon Creek (Pecatonica River- Rock River Dr.)
rm Site 10
2.8 mi W Rockton, Blodgett Rd.
Winnebago County, Illinois USA

T46N, R1E, sec. 21, NE

22 April 2000

M.H. Sabaj

Cat. #	Species	No. of Specimens
INHS 55685	*Lampetra appendix*	1
INHS 55687	*Cyprinella spiloptera*	4
INHS 55688	*Hybognathus hankinsoni*	10
INHS 55689	*Notropis ludibundus*	1
INHS 55690	*Pimephales notatus*	1
INHS 55691	*Catostomus commersoni*	1
INHS 55686	*Esox americanus*	1
INHS 55692	*Culaea inconstans*	2
INHS 55693	*Lepomis cyanellus*	1
INHS 55694	*Lepomis macrochirus*	1
INHS 55695	*Etheostoma nigrum*	2
INHS 55696	*Etheostoma zonale*	1

Site 11

trib. Pecatonica River (Rock River Dr.)
rm Site 11
3.4 mi E Harrison, S.R. 75
Winnebago County, Illinois USA

T46N, R1E, sec. 28, SE

22 April 2000

M.H. Sabaj

Cat. #	Species	No. of Specimens
INHS 55697	*Campostoma anomalum*	1
INHS 55698	*Pimephales promelas*	8
INHS 55699	*Semotilus atromaculatus*	7
INHS 55700	*Culaea inconstans*	10

Site 12

trib. Pecatonica River (Rock River Dr.)
rm Site 12
1.8 mi SW Rockton, jct. S.R. 75 & Rockton Ave.
Winnebago County, Illinois USA

T46N, R1E, sec. 27, NE

22 April 2000

M.H. Sabaj

Cat. #	Species	No. of Specimens
INHS 55702	*Semotilus atromaculatus*	1
INHS 55701	*Umbra limi*	1
INHS 55703	*Culaea inconstans*	4

Site 13

Dry Creek (Rock River Dr.)
rm Site 13
2 mi SE Rockton, Hononegah Rd.
Winnebago County, Illinois USA

T46N, R2E, sec. 29, NW

4 October 1999

M.H. Sabaj & H.J. Sabaj

Cat. #	Species	No. of Specimens
INHS 53158	*Campostoma anomalum*	11
INHS 53159	*Hybognathus hankinsoni*	1
INHS 53160	*Luxilus cornutus*	2
INHS 53161	*Nocomis biguttatus*	9
INHS 53162	*Notropis ludibundus*	4
INHS 53163	*Phenacobius mirabilis*	3
INHS 53164	*Pimephales notatus*	3
INHS 53165	*Semotilus atromaculatus*	15
INHS 53166	*Catostomus commersoni*	2
INHS 54595	*Hypentelium nigricans*	1
INHS 53168	*Minytrema melanops*	1
INHS 53169	*Noturus flavus*	1
INHS 53170	*Micropterus salmoides*	1
INHS 53171	*Etheostoma nigrum*	8
INHS 53172	*Percina maculata*	1

Site 14

North Kinnikinnick Creek (Rock River Dr.)
rm Site 14
1 mi N Roscoe, Willowbrook Rd.
Winnebago County, Illinois USA

T46N, R2E, sec. 28, SE

4 October 1999

M.H. Sabaj & H.J. Sabaj

Cat. #	Species	No. of Specimens	
INHS 53041	*Campostoma anomalum*	34	
INHS 53042	*Luxilus cornutus*	17	
INHS 53043	*Nocomis biguttatus*	18	
INHS 53044	*Notropis nubilus*	1	WL
INHS 53045	*Phenacobius mirabilis*	1	
INHS 53046	*Pimephales notatus*	24	
INHS 53047	*Pimephales promelas*	5	
INHS 53048	*Rhinichthys atratulus*	5	
INHS 53049	*Semotilus atromaculatus*	26	

INHS 53050	*Catostomus commersoni*	4
INHS 53051	*Hypentelium nigricans*	2
INHS 53052	*Noturus flavus*	2
INHS 53055	*Lepomis cyanellus x L. macrochirus*	1
INHS 53053	*Etheostoma flabellare*	2
INHS 53054	*Etheostoma nigrum*	4

Site 15

Dry Creek (Rock River Dr.)
rm Site 15
2 mi ESE South Beliot, Manchester Rd.
Winnebago County, Illinois USA

T46N, R2E, sec. 10

4 October 1999

M.H. Sabaj & H.J. Sabaj

Cat. #	Species	No. of Specimens
INHS 52755	*Campostoma anomalum*	1
INHS 52756	*Luxilus cornutus*	114
INHS 52757	*Nocomis biguttatus*	35
INHS 52758	*Notropis dorsalis*	3
INHS 52759	*Phenacobius mirabilis*	2
INHS 52760	*Phoxinus erythrogaster*	22
INHS 52761	*Pimephales notatus*	112
INHS 52762	*Rhinichthys atratulus*	2
INHS 52763	*Semotilus atromaculatus*	34
INHS 52764	*Catostomus commersoni*	9
INHS 52765	*Etheostoma nigrum*	15

Site 16

South Kinnikinnick Creek (Rock River Dr.)
rm Site 16
1.5 mi E Roscoe, Hamborg Rd.
Winnebago County, Illinois USA

T46N, R2E, sec. 35, SW

4 October 1999

M.H. Sabaj & H.J. Sabaj

Cat. #	Species	No. of Specimens	
INHS 53057	*Campostoma anomalum*	18	
INHS 53058	*Luxilus cornutus*	1	
INHS 53059	*Nocomis biguttatus*	1	
INHS 53060	*Notropis dorsalis*	4	
INHS 53061	*Phoxinus erythrogaster*	8	
INHS 53062	*Pimephales promelas*	1	
INHS 53063	*Rhinichthys atratulus*	45	
INHS 53064	*Semotilus atromaculatus*	17	
INHS 53065	*Catostomus commersoni*	20	
INHS 53056	*Salmo trutta*	3	II
INHS 53066	*Culaea inconstans*	1	
INHS 53067	*Micropterus salmoides*	1	
INHS 53068	*Etheostoma flabellare*	4	
INHS 53069	*Etheostoma nigrum*	30	

Site 17

East Fork Raccoon Creek (Pecatonica River- Rock River Dr.)
rm Site 17
4 mi WNW Beloit, Spring Creek Rd.
Rock County, Wisconsin USA

23 April 2000

M.H. Sabaj

Cat. #	Species	No. of Specimens
INHS 55670	*Campostoma anomalum*	6
INHS 55671	*Hybognathus hankinsoni*	35
INHS 55672	*Notemigonus crysoleucas*	1
INHS 55673	*Phoxinus erythrogaster*	8
INHS 55674	*Pimephales promelas*	7
INHS 55675	*Semotilus atromaculatus*	1
INHS 55676	*Catostomus commersoni*	7
INHS 55677	*Ameiurus melas*	6
INHS 55669	*Umbra limi*	16
INHS 55678	*Culaea inconstans*	5
INHS 55679	*Lepomis cyanellus*	1
INHS 55680	*Lepomis macrochirus*	1
INHS 55681	*Etheostoma exile*	1
INHS 55682	*Etheostoma flabellare*	1
INHS 55683	*Etheostoma microperca*	43
INHS 55684	*Etheostoma nigrum*	5

Site 18

trib. East Fork Raccoon Creek (Pecatonica River- Rock River Dr.)
rm Site 18
1 mi W Christilla Heights, Spring Creek Rd.
Rock County, Wisconsin USA

23 April 2000
M.H. Sabaj

Cat. #	Species	No. of Specimens
INHS 56297	*Lampetra appendix*	3
INHS 56298	*Campostoma anomalum*	6
INHS 56299	*Hybognathus hankinsoni*	1
INHS 56300	*Phoxinus erythrogaster*	20
INHS 56301	*Rhinichthys atratulus*	27
INHS 56302	*Semotilus atromaculatus*	42
INHS 56303	*Culaea inconstans*	6
INHS 56304	*Etheostoma flabellare*	1
INHS 56305	*Etheostoma nigrum*	3

Williams Tree Farm

Reminiscence

By Wayne Williams

The story begins in 1911-1914 when Carlton Williams and Amelia Clarke attended the Il. Wesleyan University at Bloomington, IL, where they met and fell in love.

Carlton was from a very poor Kansas preacher family, Amelia grew up as part of a well to do farm family five miles west of Sycamore, IL.

Both graduated in 1914 and they were married in 1915. From this union seven children were born; Elaine, Wayne, Ella Mae, Irene, Leona, Jim and Carol.

In the '30's Amelia's father was killed in a tree cutting accident the day before Christmas. As a result, despite the depression, Amelia inherited a small amount of money.

Carlton quit preaching to pursue his writing career. He also was an outdoorsman and liked to fish and take his family camping. Somehow, he talked mother into letting him buy 1/2 interest in a property to build a resort, 1935-1940. The property called Diamond Willow Lodge was located on Seagull Lake, Gunflint Trail, Grand Marais, Minnesota, just a few miles from Canada. "That country made a man out of you in a hurry. That's where I met Bernie Dahl. His uncle owned and operated Chick Walk Lodge on Saganaga Lake, two miles down the road from our place. It was quite a coincidence that about 25 years later we'd be neighbor tree farmers. The late Bernie Dahl owned Blackhawk Tree Farm."

"Grand Marais was a great place for a wild preachers son to grow up and work. We built cabins, toilets, docks, a shop, ice house and a road. Spent 5 summers peeling logs and helping build the resort. We also had a little saw mill."

"In 1938 when mother saw her inheritance disappearing very fast, she wanted to buy a farm as a way to keep something."

"September 1940 we signed the papers to purchase the Yale Bridge farm (the only place we could afford) making 1990 our 50th Anniversary.

"We took possession January 1941. I left the resort to help the family. The cows ate everything we could grow. Our biggest milk check was $45.00 per month. The yearly payment on the farm was $2,100.00 a year."

"I suggested to Dad that we buy a saw mill. The reason I said that was, up north if you wanted money, you got a saw mill. We sold a few cows and bought the mill. We owned it a few days when Andy Funk approached us to saw for Walt Williamson's Wagon Wheel. We sawed old poles, bridge poles and timbers. In a week to ten days we made $680.00. Alot of money in those days."

"Every morning Dad and I drove the tractor to work at the Wagon Wheel with our pet dog following along dipping in stock tanks and rivers along the way, only to rest under a tree awaiting the trip home. Walt Williamson had a reputation for being careful with his money but everyday Dad and I watched him bring out a wonderful smelling steak sandwich for the dog. Dad never got over that."

"The following spring Walt offered $2,800.00 to saw for the Wagon Wheel hotel. That was a big job, but Dad and I turned it down in favor of farming."

Farming soon taught us our property was indeed Sand Prairie.

"When it rained it was very wet and turned to quick sand. When the wind blew, the sand raised up like an atomic cloud, so much so the roads were cleared with snow plough and road graters."

"The only hill on the farm was Dune Sand Ridge and that's where we put the saw mill. It was wartime, and we were busy sawing down all useable timber and sold it for $100 per 1,000 foot. We also did alot of custom sawing at $20.00 per 1000."

"Dad began to get conservation minded and joined the Conservation Department. He was very active in the organization and planted our first trees in 1945. We planted 1000 trees for every one we cut. We had a hard time covering the blow holes. We had to put down straw and cover that with hog fence. We planted trees in the holes of the hog fence."

"Dad didn't want to sell trees even tho by 1953 the trees were big enough. That's the year Dad, Mother, Jim and Carol went to California on a trip. Due to a storm up north there was a shortage of Christmas trees available in this area. I cut a few trees and put them in the yard. All at once I was doing business, cutting more and more."

"Dads half came to $1,100. Now, how do I tell Dad? I gave him the money, mostly all $1.00 bills crumpled up and stuffed in a paper bag. I guess I shouldn't have worried. Dad saw it as an opportunity for a profitable business."

"The next year we planted 60,000 trees, most of which died. The year after that we planted 50,000 some of which lived."

Today Williams Tree Farm raises Christmas trees, soybeans and corn. It is operated by the children of Wayne and Ora Mae. They are as follows:

Sons:
- Ron and wife Margaret
- Don, wife Karen and their sons Bradley, Cory, Tyler and Joshua

Daughter:
- Laura Bode and husband Gerry

State of Wisconsin
Department of Natural Resources

SCIENTIFIC COLLECTORS PERMIT
Form 9400-380 4-88

The below named person is authorized by the Wisconsin Department of Natural Resources, pursuant to section 29.17, Wis. Stats., and section NR 19.11, Wis. Adm. Code, to collect for scientific purposes only. The permit authority may cover migratory birds, but may not be exercised without an appropriate federal permit issued by the U.S. Fish and Wildlife Service.

Permittee's Name Mark Henry Sabaj			**Agency or Organization** Illinois Natural History Survey, Center for Biodiversity		
Street or Route 607 E. Peabody Dr.			**Federal Permit No. (if any)** - NA -	**Date Federal Permit Expires** - NA -	
City, State, Zip Code Champaign, IL 61820			**Telephone Number (include area code)** **Business** 217-244-4494	**Home** 217-352-6535	
Date of Birth (M-D-Y) 02-11-69	**Color Eyes** Hazel	**Color Hair** Brown	**Weight** 165 lbs.	**Height** 5'11"	**Sex** [X] Male [] Female

Species, Age or Size Class*, and Number of Specimens or Description of Items to be Collected: Fishes – NO STATE THREATENED OR ENDANGERED SPECIES.
Nongame species of fishes (e.g. minnows, darters, etc) – up to 20 specimens per species per site

Game species (e.g. Centrarchids) – up to 3 specimens per species per site

*For game fish and panfish species list young-of-year separately from larger length range

Purpose for Collecting Status survey of redside dace *Clinostomus elongatus*, and obtaining distribution records for fishes for publication of the Fishes of Illinois	**Where Specimens or Items Will be Kept for Study** Illinois Natural History Survey Fish Collection (permanent collection)
Method(s) of Collecting 8-10 ft. minnow seine, 30 ft. long seine, DC Backpack electroshocker	**Collection Period** April 20, 1999 through July 1, 2000

Location of Collecting Site(s) - County for all sites; waters for aquatic collections and civil township for all others Pecatonica, Sugar, and Rock River drainages in Lafayette, Green, and Rock Counties

Final Disposition of Specimens or Items Permanent Illinois Natural History Survey Fish Collection

Special Conditions of this Permit This permit does not authorize the collection of Endangered or Threatened Species. You MUST notify Regional Fisheries Biologist Scot Stewart (608-273-5967) of the planned location of your collecting activities at least 48 hours in advance of collections. This will allow us time to notify local biologists and respond to questions from the public. This permit does not authorize you to collect on private land without the landowners permission

I hereby certify that I have read, am familiar and agree to comply with the regulations described herein. This permit is not transferable and must be exhibited to any authorized agent of the Department of Natural Resources on demand. An annual report is due by January 10 of each year.

Permittee's Signature (Permit Valid Only When Signed) Mark H. Sabaj	**Date Signed** 4/20/99

DNR Permit Number SCP-SCR-005-9900	Date DNR Permit Begins April 20, 1999
	Date DNR Permit Expires July 1, 2000

cc: Scot Stewart

State of Wisconsin
Department of Natural Resources
FOR THE SECRETARY

By Alan Crossley Date Signed 4/16/99

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