



**ILLINOIS NATURAL
HISTORY SURVEY**
PRAIRIE RESEARCH INSTITUTE

**FISHES ASSOCIATED WITH THE ILLINOIS ROUTE 83 (IDOT FAP 866)
/ ILLINOIS ROUTE 137 (IDOT FAP 352) PROJECT CORRIDOR
BETWEEN ILLINOIS ROUTE 132 AND U.S. ROUTE 45
IN LAKE COUNTY, ILLINOIS**

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Report Prepared For

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**INHS/IDOT STATEWIDE BIOLOGICAL SURVEY & ASSESSMENT
PROGRAM REPORT 2012(23)**

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INTRODUCTION

This report is submitted in response to a Further Studies Transmittal by Susan Hargrove (Illinois Department of Transportation, Springfield – IDOT) to Joe Merritt (Illinois Natural History Survey, Champaign – INHS) dated 13 March 2012, requesting that surveys for fishes be conducted in aquatic habitats along the IDOT FAP 366 / FAP 352 project corridor in Lake County, Illinois. The project corridor, approximately 11 miles in length, passes through the municipalities of Lake Villa, Round Lake Beach, and Grayslake, Illinois. The northern terminus of this corridor is just north of Illinois Route 132 (East Grand Avenue); the corridor extends south along Illinois Route 83 (IDOT FAP 866), becoming Illinois Route 137 (IDOT FAP 352) at the intersection of Illinois Route 120 (Belvedere Road) just south of Grayslake, and then terminates at Peterson Road, just east of U.S. Route 45. This report summarizes historical information for fishes known from the project area, and results of surveys for fishes conducted at two sites within this project area on 2 July 2012. Nomenclature used for fishes discussed in this report follows Robins et al. (1991) and Mayden et al. (1992). The current status of threatened and endangered species of fishes discussed in this report are taken from U.S. Department of Interior, Fish and Wildlife Service (USDI, FWS) (1996, 1997), Illinois Endangered Species Protection Board (IESPB) (2011), and Mankowski (2010, 2012).

PROJECT LOCATION

Sampling for fishes was conducted in two locations: 1) in an unnamed tributary to Mill Creek at the Illinois Route 83 / Barron Boulevard (IDOT FAP 366) crossing in Grays Lake (latitude 42.34431° North, longitude 88.03322° West) (**Figure 1**), and 2) in an unnamed wetland near the intersection of Illinois Route 137 / Buckley Road (IDOT FAP 352) and Jensen Drive, just south of Grays Lake (latitude 42.32303° North, longitude 88.01854° West) (**Figures 2, 3**).

HABITAT CHARACTERIZATION

The survey for fishes in the unnamed tributary to Mill Creek at the Illinois Route 83 / Barron Boulevard crossing in Grays Lake was conducted in a reach of the stream from approximately 50 yards upstream (west) of the bridge culvert to approximately 100 yards downstream (east) of the bridge culvert (**Figure 1**). Stream width was approximately 5 yards with depths ranging from 0.1 to 3 feet (mean depth: 0.5 feet). Substrate at this stream site was predominantly silted sand/gravel and cobble with some aquatic vegetation and woody debris. The stream was not flowing. Stream banks were gradually sloped and predominantly lined with trees both upstream and downstream of the bridge culvert.

The survey for fishes in the unnamed wetland near the intersection of Illinois Route 137 / Buckley Road (IDOT FAP 352) and Jensen Drive intersection south of Grays Lake was conducted in a reach of the wetland approximately 100 yards in length (**Figures 2, 3**). The width of this wetland was approximately 10 yards, and the depth varied from 0.1 to 3 feet (mean depth: 0.5 feet). The substrate in this wetland was silted mud; patches of cattails extended from the shoreline into the main body of the wetland in several areas along the length of this wetland site (**Figure 3**). Stream banks were gradually sloped and predominantly lined with grasses along the southwest shoreline, and cattails along the northeast shoreline.

BACKGROUND

Fishes known historically from the Mill Creek basin (Des Plaines River drainage) in Lake County, Illinois, total 27 species in 8 families (**Table 1**) (INHS Fish Collection Database). Of these, one species is state-listed. The state-threatened Iowa darter (*Etheostoma exile*) has been collected three times in the basin: 1) Druce Lake on 12 Jne 1979 (collector unknown), 2) Third Lake on 2 July 1998 (collector unknown), and 3) 1.5 mi SW Wadsworth, Dileys Road, on 26 May 1999 by INHS personnel C.A. Taylor and S.J Harrington (data from INHS Fish Collection, Champaign). The INHS Fish Collection database does not have records of Banded Killifish (*Fundulus diaphanus*), Blackchin Shiner (*Notropis heterodon*), Blacknose Shiner (*Notropis heterolepis*), Pugnose Shiner (*Notropis anogenus*), or Starhead Topminnow (*Fundulus dispar*) as occurring in the Mill Creek basin.



Figure 1. Unnamed tributary to Mill Creek at the Illinois Route 83 / Barron Boulevard (IDOT FAP 366) bridge culvert in Grays Lake, Lake County, Illinois, where a survey for fishes was conducted by INHS personnel on 2 July 2012.

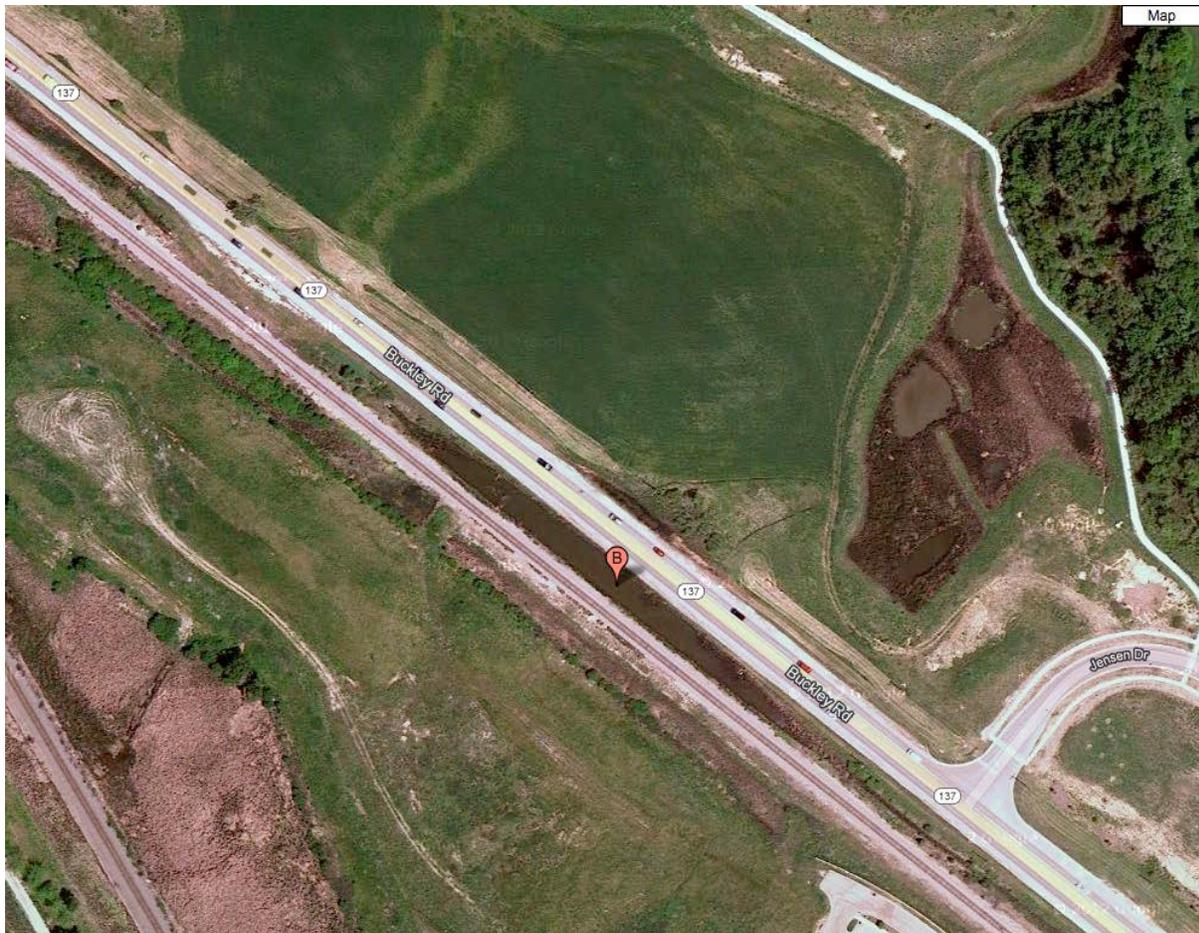


Figure 2. Unnamed wetland near the intersection of Illinois Route 137 / Buckley Road (IDOT FAP 352) and Jensen Drive intersection, just south of Grays Lake, Lake County, Illinois, where a survey for fishes was conducted by INHS and U.S. Army Corps of Engineers personnel on 2 July 2012.



Figure 3. Unnamed wetland near the intersection of Illinois Route 137 / Buckley Road (IDOT FAP 352) and Jensen Drive intersection, just south of Grays Lake, Lake County, Illinois, where a survey for fishes was conducted by INHS personnel on 2 July 2012

METHODS

The unnamed tributary to Mill Creek (**Figure 1**) was sampled on 2 July 2012 by INHS personnel J.S. Tiemann, A.R. Kuhns, and S.M. Jaworski, and U.S. Army Corps of Engineer personnel N. Barkowski. Fishes at this site were collected from 1) a 150-yard reach of this stream using a Smith-Root Model 12 DC backpack electrofisher (sampling time: 45 minutes), and 2) the area of this stream directly under the Illinois Route 83 / Barron Boulevard bridge culvert using a 10 foot minnow seine (sampling time: 5 minutes). The unnamed wetland (**Figures 2, 3**) was sampled on 2 July 2012 by INHS personnel J.S. Tiemann, A.R. Kuhns, and S.M. Jaworski. Fishes were collected from a 100-yard reach of this wetland using a Smith-Root Model 12 DC backpack electrofisher (sampling time: 30 minutes). Specimens were counted in the field and returned to their habitat with the exception of voucher specimens of each species collected. Those vouchers were preserved in the field in 10% formalin and deposited in the INHS Fish Collection.

RESULTS

Eight species of fishes were collected from these two sites in the project area on 2 July 2012 (**Table 1**). None of the species collected are listed at the federal or state level. All species captured are common inhabitants of northern Illinois streams.

DISCUSSION

The preferred habitat of Iowa darters in streams is quiet pools over mud and clay substrates (Smith 1979, Page and Burr 1991) or in small creeks >16 feet wide) with abundant vegetation, which was observed in the unnamed tributary site (**Figure 1**) in the immediate vicinity of the Illinois Route 83 bridge culvert and the unnamed wetland (**Figures 2, 3**) near the intersection of Illinois Route 137 and Jensen Drive during our survey on 2 July 2012. Although it is possible for an occasional Iowa darter to move into the project area, this seems unlikely given the rarity of specimens collected from sites in the Mill Creek basin during past and present surveys.

LITERATURE CITED

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- U.S. Department of the Interior, Fish and Wildlife Service. 1996. Endangered and threatened species, plant and animal taxa; proposed rule. Part III. 50 CFR Part 17. Federal Register 61(40):7596-7613. February 28.
- U.S. Department of Interior, Fish and Wildlife Service. 1997. Endangered and threatened wildlife and plants. Federal Register, 50 CFR Part 17.11 and 17.12. October 31, 1996. 46 pp.

Table 1. Historical records for fishes collected from the Mill Creek basin in Lake County, Illinois (source: INHS Fish Collection Database), and fishes recorded by INHS personnel during surveys at two sites associated with the Illinois Route 83 (IDOT FAP 866) / Illinois Route 137 (IDOT FAP 352) project corridor between Illinois Route 132 and US Route 45, Lake County, Illinois, on 2 July 2012.

| Family | Scientific name | Common name | Unnamed tributary 2 July 2012 | Unnamed wetland 2 July 2012 |
|-----------------------|--------------------------------|-----------------------|----------------------------------|--------------------------------|
| Cyprinidae | <i>Cyprinella spiloptera</i> | Spotfin shiner | | |
| | <i>Cyprinus carpio</i> | Common carp | 1 | |
| | <i>Nocomis biguttatus</i> | Hornyhead chub | | |
| | <i>Notemigonus crysoleucas</i> | Golden shiner | | |
| | <i>Notropis dorsalis</i> | Bigmouth shiner | | |
| | <i>Notropis stramineus</i> | Sand shiner | | |
| | <i>Pimephales notatus</i> | Bluntnose minnow | | |
| | <i>Pimephales promelas</i> | Fathead minnow | | |
| | <i>Semotilus atromaculatus</i> | Creek chub | | |
| Catostomidae | <i>Catostomus commersoni</i> | White sucker | 3 | |
| Ictaluridae | <i>Ameiurus melas</i> | Black bullhead | 16 | |
| | <i>Ameiurus natalis</i> | Yellow bullhead | | |
| | <i>Noturus flavus</i> | Stonecat | | |
| Umbridae | <i>Umbra limi</i> | Central mudminnow | 13 | 36 |
| Fundulidae | <i>Fundulus notatus</i> | Blackstripe topminnow | | |
| Gasterosteidae | <i>Culaea inconstans</i> | Brook stickleback | | |
| Centrarchidae | <i>Lepomis cyanellus</i> | Green sunfish | 7 | 7 |
| | <i>Lepomis gibbosus</i> | Pumpkinseed | | |
| | <i>Lepomis gulosus</i> | Warmouth | | |
| | <i>Lepomis humilus</i> | Orangespotted sunfish | | |
| | <i>Lepomis macrochirus</i> | Bluegill | 12 | 24 |
| | <i>Micropterus salmoides</i> | Largemouth bass | 5 | 3 |
| | <i>Pomoxis nigromaculatus</i> | Black crappie | | |
| Percidae | <i>Etheostoma exile</i> | Iowa darter | | |
| | <i>Etheostoma nigrum</i> | Johnny darter | | |
| | <i>Perca flavescens</i> | Yellow perch | 3 | |
| | <i>Percina maculata</i> | Blackside darter | | |