

## Pollutants of Concern and Aquatic Communities Review of the East Side Highway

No Threatened and Endangered species were found during surveys of the project area except the state threatened slippershell mussel at site FS508-19.

### Money Creek

Money Creek is the main tributary flowing into Lake Bloomington watershed.

#### Pollutants of concern

Total phosphorus and nitrogen are two pollutants of concern in Money Creek. Fifty-three percent of total phosphorus concentrations exceeded TMDL endpoint of <0.05 mg/L. The Illinois Integrated Water Quality and Section 303(d) List – 2010 lists Money Creek as Full Support for Aquatic Life. Twenty-six percent of nitrate-nitrogen in Lake Bloomington exceeded the 10 mg/L drinking water standard. According to the Lake Bloomington TMDL Implementation Plan, potential sources of pollutants include row crops, onsite wastewater treatment facilities, urbanization, shoreline erosion, and stream channelization.

**TABLE A-1: IEPA Status of TMDL in Lake Bloomington Study\*, 2010**

(modified from IEPA, 2010 Appendix A-6)

Water Name	Water ID	Impairment Listing	TMDL Status
Lake Bloomington	IL_RDO	Nitrogen-nitrate	Approved 2007
Lake Bloomington	IL_RDO	Total phosphorus	Approved 2007
Lake Bloomington	IL_RDO	Total Suspended Solids (TSS)	Approved 2007

\*Money Creek is the main tributary flowing into Lake Bloomington

#### Aquatic Communities

There were no endangered or threatened fish or macroinvertebrates species collected from stream sites within the project area. The dominant fish species found in Money Creek were spotfin shiner (18%), redbfin shiner (18%), and bluntnose minnow (17%) at site FS508-02; green sunfish (36%), creek chub (14%), and hornyhead chub (14%) at site FS508-19. Three species of mussels were found as shell and 15 species were found alive, including one specimen of the state-threatened slippershell mussel (*Alasmidonta viridis*) collected at Site FS508-19, which also ranked as one of the two poorest macroinvertebrate sites.

**Table A-2 Biological Characteristics of Streams Within the East Side Highway Corridor**

INHS Station Number	Stream	Number Fish Species	Number Intolerant Fish Species	Benthics Mean Taxa Richness	Number Mussel Species	Dominant Mussel Species	Aquatic Habitat Class <sup>1</sup>	Family Level Biotic Index
FS508-02	Money Creek, at U.S. RT. 66	17	0	18.33	5	ellipse (33%), creeper (25%)	Fair	6.72
FS508-19	Money Creek, Co.Rd. E 1750 N	11	0	5.00	3	cylindrical papershell 67%)	Poor	7

Source: Wetzel et al. 2011 rev.

<sup>1</sup>Water quality based on Hilsenhoff's (1988) family level biotic index (cutoff points are: 0.00-3.75, Excellent-Organic pollution unlikely; 3.76-4.25, Very good-Possible slight organic pollution; 4.26-5.00, Good Some organic pollution probable; 5.01-5.75, Fair-Fairly substantial pollution likely; 5.76-6.50, Fairly Poor- Substantial pollution likely; 6.51-7.25, Poor-Very substantial pollution likely; 7.26-10.00, Very Poor Severe organic pollution likely; NA = Not Available

## Pollutants of Concern and Aquatic Communities Review of the East Side Highway

*No Threatened and Endangered species were found during surveys of the project area.*

### Kickapoo Creek

Kickapoo Creek is located within the Salt Creek / Sangamon River drainage.

#### Pollutants of concern

The Illinois Integrated Water Quality and Section 303(d) List – 2010 assesses Kickapoo Creek and Little Kickapoo Creek as fully supporting aquatic life use. No other uses such as fish consumption, primary contact or public water supply uses have been assessed by IEPA. None of the tributary streams to Kickapoo Creek have been assessed for any use. No causes of impairment or sources of impairment are listed for Kickapoo Creek or Little Kickapoo Creek by the IEPA.

#### Aquatic Communities

Two intolerant species (spotted sucker and banded darter) were present at FS508-13, and the banded darter was one of two dominant species at FS508-14 (32%). Dominant species at other sites were common and widespread species such as bluntnose minnow, creek chub, green sunfish and Johnny darter. In terms of macroinvertebrate community diversity and composition, the best sites were at sites FS508-02, -13, -14, and -17. Of the three past mussel surveys, no state listed mussels were found. Kickapoo Creek (at CR 2000 E and west of Downs) contained the highest mussel diversity of relatively common and widespread species.

**Table B-2 Biological Characteristics of Streams Within the East Side Highway Corridor**

INHS Station Number	Stream	Number Fish Species Present	Number Intolerant Fish Species	Benthics Mean Taxa Richness	Number Mussel Species	Dominant Mussel Species	Aquatic habitat Class <sup>1</sup>	Family Level Biotic Index
FS508-10	Kickapoo Creek at county road 2100E	13	0	8.67	0	0	Poor	6.95
FS508-12	Little Kickapoo Creek-North at U.S. RT. 150	14	0	7.67	0	0	Poor	6.99
FS508-13	Unnamed tributary [East Branch] Kickapoo Creek, Co. Rd. 2150E	9	2	9.67	0	0	Fair	6.23
FS508-14	Kickapoo Creek, Cheney's Grove Road	9	1	13.33	5	cylindrical papershell (53%)	Fair	5.76
FS508-15	Unnamed tributary Kickapoo Creek, Co. Rd. 950N	3	0	10.33	0	0	Good	6.71
FS508-16	Unnamed tributary Kickapoo Creek, Co. Rd. 2100E	7	0	10.33	0	0	Good	6.50
FS508-17	Kickapoo Creek, at county road 2000E	16	1	11.33	10	fatmucket (37%), plain pocketbook (24%)	Poor	6.66

Source: Wetzel et al. 2011 rev.

<sup>1</sup>Water quality based on Hilsenhoff's (1988) family level biotic index (cutoff points are: 0.00-3.75, Excellent-Organic pollution unlikely; 3.76-4.25, Very good-Possible slight organic pollution; 4.26-5.00, Good Some organic pollution probable; 5.01-5.75, Fair-Fairly substantial pollution likely; 5.76-6.50, Fairly Poor- Substantial pollution likely; 6.51-7.25, Poor-Very substantial pollution likely; 7.26-10.00, Very Poor Severe organic pollution likely; NA = Not Available

\* banded darter is considered an Intolerant species