Greater Redhorse (*Moxostoma valenciennesi*) and River Redhorse (*Moxostoma carinatum*) Status and Distribution in the Fox River near Aurora, Illinois

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Fisheries Biologist
Deuchler Environmental, Inc.

5th Annual Fox River Summit
March 10, 2017
Burlington, WI
Today’s Discussion

- Brief Project Overview
- Study Area
- Study Plan
- Past Studies
- Results
- Conclusions
Project Overview – Purpose

➢ Contracted by Fox Metro Water Reclamation District to study any potential effects of the District’s Discharges on the Fox River.
Project Overview – Components

- Quality Assurance Project Plan (QAPP)
- Water Quality Monitoring
- Effluent Plume Delineation
- Biological Sampling
  - Mussels
  - Macroinvertebrates
  - Fishes
Project Overview – Biology

- Mussel sampling completed in 2012
  - 2016 mussel relocation
- Fish and Macroinvertebrates
  - Four locations upstream and four locations downstream of the District’s discharges
  - Tributary sampling
Study Area

- Four Dams impacting the study area
  - North Aurora
  - Galena
  - Montgomery
  - Yorkville
Study Plan

- Sampling area divided into a LDB and RDB
- Each location electrofished for 30 minutes
- Sampled at least twice a year
- Sample area is a mix of runs and pools
- Fish are measured, weighed, examined for anomalies and released
T/E Redhorse – Past Studies

- Max McGraw Wildlife Foundation, 2000
- Fish passage feasibility study
- 14 River Redhorse collected from d/s of South Batavia Dam to Yorkville Dam
- Max McGraw did not encounter any Greater Redhorse
T/E Redhorse – Past Studies

- IDNR conducts basin surveys on a rotational basis
  - Four River Redhorse collected in ‘02
    - Two near Oswego
    - Two near Wedron
  - No state listed species collected in ‘07 or ‘12
- IDNR concluded River Redhorse are in low abundance
T/E Redhorse – DEI

- No River Redhorse collected by DEI
- 36 Greater Redhorse collected by DEI
- First collected in 2010
  - Verified by IDNR staff and Field Museum staff
  - and was added to the Field Museum collection
- New record to the Aurora area
- Once thought to be extirpated from Illinois
T/E Redhorse – DEI

- When Greater Redhorse are encountered, electrofishing is stopped
- Identified using caudal peduncle scale counts (14 – 16)
- Photographed and released
T/E Redhorse – DEI

- Collected in tail-water and run habitat with gravel, cobble, and boulder substrate
- Similar distribution u/s and d/s
- Most downstream catches occurred from June – September
- Most upstream catches May – June, October
Collected each year 2010-2016

- 2010 – 11 - 8 upstream, 3 downstream
- 2011 – 1 downstream
- 2012 – 1 upstream
- 2013 – 10 - 5 upstream and 5 downstream
- 2014 – 7 - 4 upstream and 3 downstream
- 2015 – 6 - 2 upstream and 4 downstream
- 2016 – None collected
T/E Redhorse – DEI

% of total catch 2010-2016

- 2010 – 0.06% of total catch
- 2011 – 0.01% of total catch
- 2012 – 0.01% of total catch
- 2013 – 0.09% of total catch
- 2014 – 0.07% of total catch
- 2015 – 0.06% of total catch
### T/E Redhorse – DEI

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T/E Redhorse – DEI

- Length at annuli data from Becker 1983 – Fishes of Wisconsin – was used to generate an average length at age.
- Greater Redhorse collected ranged from 3 to 10 years old
Conclusions

- Once river warms up fish seek refuge in areas of cooler, faster flowing water
- Seek refuge in treated effluent plume during heat of summer
- Collected annually from 2010 – 2015 indicating a viable population within the study area
Conclusions

- The Dams within the study area are restricting the movement, recruitment, food sources, and habitat of the Greater Redhorse.
The 32nd annual conference will feature a wide variety of presentations from professionals in private industry, public agencies, and research facilities. A full day of technical sessions will be held on Thursday and Friday (March 30-31); Saturday (April 1) will have half day workshops hosted. The complete agenda and speaker list will be available on the ILMA website in February.

Professional Development Hours will be provided for those guests which attend the either the 2-day conference sessions and/or the workshops; 10 PDHs will be provided for the conference sessions, 4 will be provided for attending one of the workshops.

Keynote address by special guest, author John Scott Watson

John will discuss his experience with the Prairie Crossings community and discuss how this residential development which was carved out of century-old farmland near Chicago, Illinois is a novel experiment in urban public policy that preserves 69 percent of the land as open space. The for-profit project has set out to do nothing less than use access to nature as a means to challenge America’s failed culture of suburban sprawl.

A special room rate of $89 per night has been set for guests attending the conference. Be sure to state your stay is with the Illinois Lake Management Association when making reservations.

Please visit the website [www.ilma-lakes.org] for full registration details.
Techniques – Fish Sampling
Techniques – Fish Sampling
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# Study Area

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