

UMRCC Mussel Ad Hoc Meeting March 2010

Scott Gritters - Chair

Steve Zigler: USGS

Developing statistical and geospatial models of mussel distribution and habitat for Pool 18 using pool-wide mussel survey data (Corps funded). For each sampling site, estimates of complex hydraulic variables including shear stress, Froude number, boundary Reynolds, and Relative substrate stability have been computed for use as candidate predictor variables. Model development is ongoing.

Movement of unionids over low and high slope areas in the Upper Mississippi River and their response to planned water level drawdown in Pool 6 (LTRMP-APE, USFWS, USGS base funded). In 2009, 240 mussels (*A. plicata*, *L. cardium*) were tagged with PIT tags and placed at 12 sites in Pool 6 in anticipation of the water level drawdown. Although the drawdown did not occur, we collected baseline data on movement of tagged mussels from June-October (N=3929 observations). Tag loss was negligible, relocation rates were high, and survival was about 95% over the study period. GIS analyses of mussel movement patterns is ongoing. If the drawdown occurs in 2010, the study will be repeated to provide a full Before-After-Control-Impact (BACI) statistical design.

Illinois by Jeremy Tiemann and Dan Sallee

Illinois is in year two of three in their state wide mussel surveys. A SWG grant was award to IDNR and INHS to conduct mussel surveys at the same locations as the IDNR's fish surveys and IEPA's invert/water quality surveys.

IDNR and INHS conducted a mussel survey of the Rock River after the big fish kill to assess if there was a mussel kill after the ethanol spill. Data are still being processed.

Josh Sherwood, a graduate student at Western Illinois University, is conducting mussel surveys of the Spoon and Lamoine River. He is going to compare the two faunas while examining fish data and land-use data from the two basins.

Kevin Cummings and Jeremy Tiemann are conducting state wide snail surveys. If you are working in the Mississippi and come across snails, we would appreciate if you would ship us a few individuals (dead animals will work). If you have any questions, feel free to contact us.

Illinois is in the 3rd year of butterfly propagation effort and year 1 of a black sandshell propagation effort.

Cordova will get 2 cleaning efforts, the big one being August 4. We will also help with the assessment of the Rock River and Pool 16 stocking sites.

Jeremiah Haas Quad City Nuclear Power Plant:

1) Is open to doing some propagation with the walleyes they raise at the QCNPP. Looking still at possibly doing some black sandshell propagation and will coordinate with Iowa and Illinois on future projects.

2) Discussed some trigger points from the HCP where mussel monitoring would occur in Pool 14 beds...

- a. More than 1% excursion hours are used;
- b. 4 years have elapsed, making the fifth year a sample year;
- c. A plant event or issue has caused concern for the mussel beds.

This would include any information revealed during the mussel bed surveys which may indicate negative trends or events.

Updates for the UMRCC Mussel Ad Hoc and Fish Technical Section Committees – Spring, 2010

Submitted by Travis Moore, Missouri Department of Conservation, Hannibal, MO 63401

MCT and Mussel Ad hoc Committee Reports

Missouri hasn't sold a commercial musseling permit in over 10 years now. Since there is a lack of interest in this venture, we submitted a recommendation for closure. It was approved by our commission and took effect on March 1, 2010.

We are working with Chris Barnhart at Missouri State University on an ebonyshell host and propagation project. Mussels were collected in 2008 but did not appear to brood in 2009. Chris is holding them at the Kansas City Zoo and will check them throughout this spring and summer. He will be looking at a variety of potential surrogate hosts, including juvenile skipjack, various shad species, green sunfish, crappie, and potentially others.

Zebra mussels remain low in the Mississippi but are now present in almost every large reservoir in southern Missouri.

The FWMCS will be holding a mussel workshop in St. Louis on October 19 – 21 and we are holding a mussel workshop for MDC and USFS staff in Hannibal on August 11 – 13. We held a mussel workshop for our volunteer Stream Teams this past summer. Approximately 40 people attended.

USFWS: Phil Delphey

Summary of winged mapleleaf propagation work - 2010

Place out infested fish in cage – St. Croix River near Stillwater (May or June)

Aggregate up to 100 adults/check aggregations – July 21-23

Search for gravid adults – 23 Aug – 1 Oct

Infest channel catfish at Genoa National Fish Hatchery

Study effect of fish size on transformation – in cooperation with La Crosse FWCO and USGS (pending no. of gravid adults found)

Continue to monitor juveniles in silos/cage

Determine where/when to release juveniles – prep. for release in 2011?

* Spotlight species action plans developed by USFWS for Higgins eye and winged mapleleaf

* USFWS about to initiate five-year review of winged mapleleaf status

* Propagation of winged mapleleaf in Arkansas parallels effort in St.

Croix/Upper Miss.

* Update on status of proposing snuffbox, spectaclecase, and sheepnose

for listing under Endangered Species Act

- * USFWS cooperating with EPA and UMRBA to summarize status of spill contingency planning for Higgins eye habitats

USFWS: Doug Aloisi:

- Spotlight species action plans developed by USFWS for Higgins eye and winged mapleleaf
- USFWS about to initiate five-year review of winged mapleleaf status
- Propagation of winged mapleleaf in Arkansas parallels effort in St. Croix/Upper Miss.
- Update on status of proposing snuffbox, spectaclecase, and sheepnose for listing under Endangered Species Act
- USFWS cooperating with EPA and UMRBA to summarize status of spill contingency planning for Higgins eye habitats
- Produced over 1.373 million Higgins Eye juveniles through Recovery efforts and placed 72 cages with Cordova/Cassville strains
- Stocked 120 host catfish in 3 production cages for Winged Mapleleaf production in the spring of 2009
- Infested 270 channel catfish in the fall of 2009 for release in the spring of 2010
- Constructed and operated a mobile propagation trailer using Mississippi River water as culture water.
- Surveyed 2008 culture cages and discovered 8900 sub-adults for future release.
- Released 1952 free release host fish in Iowa rivers holding 732,000 mussels.
- Acquired golden shiner host fish, infested fish and placed 2 sheepnose cages for growout.

Mark Hove: Macalester College and UMN

- * Analysis of St. Croix River bed sediment dynamics and hydrology
- * Assess aquatic thermal environments and mussel communities above and below St. Croix Falls dam on the St. Croix River

* Identify host(s) of select upper Miss. R. mussel species

Dave Heath: Wisconsin DNR

- 1) Wisconsin has added a mussel component to a statewide citizen aquatic monitoring effort where volunteers will send dead shells and photographs of living mussels in for ID.
- 2) The Miss. R. group worked on designing and analysis of the Hudson and Interstate monitoring sites on the St. Croix R. in 2010.
- 3) Continuing to do take work on HREPs and drawdowns.
- 4) Continuing to evaluate impacts to mussels related to permitting and other regulatory activities.
- 5) The state endangered and threatened mussel list is currently undergoing review.
- 6) Wisconsin has closed the 50 lbs per day personal use limit on live mussels on the St. Croix. Over the last 10 years, we have closed all commercial clamming and all live mussel collections statewide except for a limit of 50 lbs per day on the Mississippi R. for personal use.

Chuck Theiling: USACE

Chuck Theiling discussed the ecosystem restoration objectives of the Pool 18 Drawdown, anticipated benefits and impacts, and proposed adaptive management actions and studies. Drawdown objectives are to restore aquatic plants, with benefits for fish and wildlife. Potential impacts to freshwater mussels have been the focus of DNR and USFWS concerns about the project. Adaptive monitoring to refine mussel impact estimates has provided substantial new information that has been used to develop post-project monitoring.

Scott Gritters and Jennifer Kurth: Iowa DNR

- 1) Jennifer Kurth presented data on Iowa DNR's attempt to assess climate change impacts to Iowa's mussel populations; she presented worksheets used to assess various species of conservation concern.
- 2) Jennifer is also looking at doing more mussel assessment work in impaired water bodies in Iowa.
- 3) Scott Gritters continues monitoring of Farmers Creek and Mineral Creek in the Maquoketa water shed, doing headwater mussel introductions into these streams. Some streams have

been stocked with juvenile mussels, while others by stocking fish hosts. Three species have been selected for initial work with Genoa NFH on three species for introductions: plain pocketbook, black sandshell and fat muckets.

4) Scott Gritters will again coordinate and effort with the help of Paul Sleeper and the Genoa NFH folks to do more surveys of the Iowa, Cedar and Wapsi in August. Looing at an open time window, possibly coordinate with Dan Sallee with getting volunteers to the Cordova cleaning and then on to Iowa tributaries.