UMRCC Mussel Technical Section

March 19, 2013

Collinsville, Illinois

In total 23 UMRCC members attended the meeting representing the five UMRCC states and most of the Federal Agencies. Many members we present at the meeting by paying their own way.

Freshwater Mussels of the UMR booklet:

1. Members did a survey of how many UMR mussel booklets are available to the various field offices and apparently supplies are running low. People have been using this booklet at UMRCC type functions such as the Teachers Workshops and Fishing Clinics. A motion was made to inform the UMRCC executive board asking that the UMRCC be a potential partner if this booklet would need reprinting. We decided also that whichever state agencies can contribute all maybe give money to the UMRCC and UMRCC could organize. There are also a few changes that will be needed for the booklet such as changing the status of the sheepnose and spectlecase. A committee was formed and this will be an item that the new chairperson Rich Lewis will bring back up at the Fall Mussel technical committee meeting.

Committee Formed:

Jeremy Tiemann/Rich King: will lead effort

Ann Runstrum

Jon Duyvejonck

Scott Gritters

Travis Moore

Bernard Sietman (not present but appointed)

Heidi Dunn

1. Freshwater Mussel Conservation Society meeting. The FWMCS was formed in 1999 and has over 500 members and even some international participation. The UMRCC was one of the founder groups for the FWMCS. Heidi Dunn updated the section on our past joined history, and asked that in 2015 the societies meet jointly in some fashion. This would save on travel for some members and it would bond the two groups who share so much history. To host a joint meeting would require the states of Iowa and Missouri to switch places for the 2015 meeting. Iowa is in favor of the swap if the groups can iron out details of a joint meeting. The mussel section discussed some details of a potential meeting and it is clear that details will need to be worked out with the two groups. Both Travis Moore and Heidi Dunn both thought the hurdles could be jumped but it would take some thought and work.
2. Heidi Dunn gave an update on her metrics work to assess health of a mussel population. Presently she is working on looking for funding sources or grants to finish that work. Her studies will fit nicely in the standardization of sampling issue the Mussel Tech has been wrestling with especially concerning what information exactly need to be collected when sampling. The Tech section will add updates to this and monitor progress on this important work and it will be placed on the agenda of the fall meeting.
3. Scott Gritters gave a presentation on the Iowa Mussel database. In that database there were 223 studies conducted in Iowa border waters from Pools 9 to 19. A crude statistical analysis was performed on all the data. It was found that species richness and density appeared to be similar throughout the Pools. Although some of the higher densities were found in Pools 9 to 11, the dataset was off-set by equal numbers of low density and richness sites. Average richness in a survey was around 15 mussels and average density was right around 10 m2. Quartile analysis could be used to depict Poor, Fair, Good and Excellent mussel beds if needed.
4. The mussel tech section conducted a look at trend Sites up and down the river. Either for permits or for ecological studies some areas of the river have been sampled for mussel repeatedly over time. The Tech Section looked at some of these trend sites to get an indication for the health of mussel populations in recent history. The Tech section looked at sites at Pool 2, Hidden Falls, Pool 5, West Newton Chute, Pool 9 at Whiskey Rock, Pool 10 at Marquette, East Channel and McMillan Island, Pool 13 at Bellevue, Pool 14 at Cordova, Pool 15 at River Gulf and Grain, Pool 16 at Fairport and Pool 17 at the River Trading Company. Most of the trends were from the late 1990’s to present. Many of the sites from Pools 2 to 13 showed a decreasing trend over time, with some sites showing significant declines. The downstream sites seem to show stable or improving population over time. The section discussed what could be causing the issues upstream, such as recruitment. All agreed the snapshot was a crude quick look at the shape of the rivers mussels but valuable early warning system to get in the water and determine what is going on! It was decided that periodically the Mussel technical section needs to do a similar update of trend sites as it provided some valuable insight. Many of these sites are set to be sampled again in a year or two!
5. Mussel database standardization: Bernard Schonhoff led a discussion of the frustration of not having all our collected mussel data in one central location. Mussel data is parsed between the states and federal agencies. The section discussed how we could get all the data in one standardized database but had no real answers. For now we will look at the Corps database developed for the Higgins eye jeopardy opinion and at least try to get as many datasets into that format if at all possible. That would allow having data collected now being able to put enter on a standardized framework. We may be able to work backwards to get the older data entered. A subcommittee was formed to describe the different databases available, look to see what works and what does not, and determine what is needed. The committee was warned to look for a monster all encompassing database but just one that answers 95% of the issues needed such as “what was collected where”. Or in other words… “keep it simple stupid” A committee was formed to track this issue

Bernard Schonhoff- leader

Jon Duyvejonck

Rich Lewis

Scott Yess

Heidi Dunn

Travis Moore

Dan Kelner/Aaron MacFarlane

Bernard Sietman (not present but appointed)

1. Rich Lewis will be setting up next year’s Cordova mussel cleaning survey effort.
2. Jeremiah Haas gave an update on Exelon Power’s entry into the Mussel Culture business successfully raising black sandshell and Higgins Eye mussels this past season with the aid of Genoa National Fish Hatchery. They plan on doing much more in the near future.
3. We were not able to discuss at length the “standardization of the sampling” memo that was written by Jon Duyvejonck. It has been reviewed by members of the tech section but it is still an outstanding issue that needs to get the Tech Sections approval. This will be an issue to bring up again at the fall meeting.
4. Fall meeting will likely be held in a similar format to last year at the same time and place with the Fish Tech. Just reserve around 2 hours for updates of the years work.
5. Rich Lewis is taking over the chair of the Mussel Tech section. Three outstanding issues will be the 1) Mussel Standardization Tech section recommendation 2) Mussel booklet printing 3) mussel database.

Agency Reports:

**Iowa:**

Scott Gritters and Paul Sleeper coordinated the Iowa Mussel Blitz sampling again this year. The survey has traditionally been conducted to search for surviving adults from free release inoculated fish released into historical Higgins eye habitat. The rivers stocked with Higgins eye include sections of the **Cedar, Iowa and Wapsipinicon. Blitz’s, sampling has expanded to other streams generally north of the original stocking sites. These sites either have a poorly understood mussel resource or may be future Higgins eye stocking sites. The survey is generally the third week of August each year.**

**For the 2012 blitz survey, 44 people participated in the search with at least 6 agencies represented, 1 NGO and several volunteers.    The weather was quite mild and the rivers were in very low making for perfect wading (pollywoging) mussel sampling conditions.**

**A total of 15 river reaches were searched on six stream reaches. Approximately 2,336 mussels were collected of 24 species of which five are state T and E listed and the Higgins eye is a federally listed species.**

**Below is a summary of what was found:**

**Cedar River (Linn Co.): 420 mussels collected of 13 species.**

**Iowa River (Johnson Co.): 510 mussels collected of 22 species.**

**Lytles Creek (Jackson Co.): 4 mussels collected all plain pocketbooks.**

**Mineral Creek (Jones Co.): 35 mussels collected of 3 species.**

**Skunk River (Washington Co.): 1070 mussels collected of 12 species.**

**Wapsipinicon River (Jones Co.): 295 mussels collected of 10 species.**

From 2005 to 2012, survey teams collected 21,670 mussels of 33 species at 305 separate site locations on eight rivers. Total search time spent is 62,191 minutes or 1036 hours or the equivalent of 43 days in water. About the Higgins eye stocking program:

* To date 44 Higgins eye pearly mussels have been sampled and all are believed to be as a result of free release fish stocking efforts. One Higgins eye was captured in the Wapsipicon River in 2008 and then again in 2010 where it grew 20 mm between captures.
* Higgins eye mussels have been detected at three of the four locations where free release fish were stocked: The Iowa River, the Wapsipinicon River at Central City, and the Wapsipinicon River at Anamosa. No Higgins eyes have ever been found at stocking sites on stocking site on the Cedar River. Higgins eye in the Anamosa reach of the Wapsipinicon seem to have a limited population first detected in 2006 but not re-found in 2012. This river reach seems to be suffering from a general decline in mussel populations in recent years.
* Gravid female Higgins eye have now been found on the Wapsipinicon River at Central City so it is certainly possible this species will have the ability to perpetuate itself.
* Populations on the Iowa River and Wapsipinicon River at Central City appear to be quite robust and of various size classes indicating stocking have worked on multiple occasions.
* Eight other mussel species found in these river reaches had a catch per hour that were lower than that of the stocked Higgins eye mussels

Some simple mussel observations from the 2005 to 2012 dataset:

* Rarest species collected were the butterfly and spike at two each.
* Average catch rate was around 20 mussels per hour. Highest catch rates on mussels for the team was from the Iowa River with up to 49 mussels collected per hour.
* Most common species collected was the plain pocketbook found in nearly every river reach except the Skunk River. In the Skunk River, the wartyback was the most common. Wartybacks were not found in any other inland River.
* 914 muckets were collected in the surveys but 910 of them came from one river reach… the upper Cedar River.
* Some mussels like the pistolgrip, which use flatheads for hosts and hickory nuts which use sturgeon for hosts were found below dams like at Anamosa...but not above.   No fish migration also limits the hitchhiking mussels! Dams certainly also seem to play a role on mussel distribution in Iowa City!

All mussel surveys in the Mississippi River and all inland stream surveys have been entered into an excel database for future use.

The Iowa DNR and USFWS received a sizable mitigation settlement on Pool 15 from the ALCOA Company for past released PCB’s. We are using the money to augment some of the mussel beds in the region and potentially reintroduce the federally endangered fat pocketbook. Agencies meet on August 2, surveyed relocation sites on Pools 15 and 16 to determine site selection.

Gritters has been working with Paul Sleeper, Joe Sanfilippo and Mike Coffey (USFWS) on bio monitoring of mussels in the Cedar River. This section of river is listed as impaired for mussel and this team is working on a strategy to monitor why it is so impaired?

Staff from Guttenberg, Bellevue, Fairport and Solon attended the Habitat Equivalency Analysis (HEA) meeting in Solon. This is the second meeting to determine the logistics of using the HEA process in our permits and standardize the values used to calculate the HEA. It also started the process on how to distribute collected funds.

Gritters assisted with numerous volunteers and agency folks with the Cordova Higgins eye roundup sponsored by the Illinois DNR. This effort assesses the status of the Higgins eye and other mussel species in the mussel rich area around the Cordova Illinois. Many Higgins eye found in this survey are used by the Genoa NFH as propagation brood stock for their reintroduction efforts.

Solon Fish management, Bellevue Management, Rathbun Fish Culture and the USFWS Genoa NFH teamed up to inoculate 2500 channel catfish for stocking in the Iowa River. Washbords were historically present in the Iowa River system but have been extirpated for probably 50+ years. According to Nathan Eckert (Genoa NFH) catfish infested with Washboard dropped an average of 19.65/fish.  This translates to a total release of 26,530 washboard transformers.

On April 12th broodstock black sandshell and butterflies were collected from the Fairport Hatchery mussel bed out of the Mississippi River. Broodstock mussels were then sent to the Genoa National Fish Hatchery for propagation purposes. Walleye and largemouth bass were later inoculated with glochidia from the broodstock black sandshell and higgins eye mussels. On April 26th, the inoculated fish were placed in cages in the reservoir at the Fairport Fish Hatchery. On October 10th, the mussel cages were pulled from the reservoir to check for mussels which resulted in only one mussel being found. It is thought that conditions may have gone anoxic at the bottom of the reservoir causing the poor success. Also, numerous crayfish were found in each of the cages which could have caused the poor success due to predation. Next year floating cages will be used to hopefully eliminate problems with anoxic conditions and crayfish. Propagated mussels were to be used for the Pool 15 Mussel Augmentation Project

On June 7, Adam Thiese assisted the Lake MacBride Fish Management Staff and the Fish and Wildlife Service search for broodstock pistolgrips on the Iowa River for the Pool 15 Mussel Augmentation Project.

On August 1st, Bernie Schonhoff, Scott Gritters, Adam Thiese, and Ben Sleeper assisted with the higgins eye mussel broodstock collection and zebra mussel cleaning at the Cordova mussel bed on pool 14 near Cordova Illinois.

August 2nd, Bernie Schonhoff, Scott Gritters, Adam Thiese, and Ben Sleeper assisted with mussel surveys for the Pool 15 Mussel Augmentation Project at Pigeon Creek and Campbells Island on Pool 15. There were a total of 1487 mussels were collected including 19 butterflies and 3 higgins eye mussels. They also assisted with a mussel survey in Velie Chute in Pool 16 looking for possible reintroduction sites for the Fat Pocketbook.

October 4th, Bernie Schonhoff, Scott Gritters and Adam Thiese attended a HEA meeting at the Lake MacBride Fisheries station to discuss the HEA and Iowa’s Mussel Trust Fund. HEA protocols were discussed to set up some guidelines when dealing with permits. Discussion also took place on how to use the money that is acquired from the HEA. Bernie chaired the meeting and Adam recorded minutes of the meeting for the group

October 5th, Adam Thiese and Scott Gritters assisted the Lake MacBride Fish Management Staff and the Fish and Wildlife Service inoculate channel catfish with washboard glochidia. The inoculated catfish were then released into the Iowa River.