

**North Central Division – American Fisheries Society
Rivers and Streams Technical Committee
Steven Schainost – Chapter Representative**

Activities related to Rivers and Streams in Nebraska for 2017

Nebraska Department of Environmental Quality, Surface Water Monitoring Programs

The Surface Water Unit of NDEQ collects physical, chemical, and biological water quality samples from streams and lakes, implements surface water improvement projects, and prepare surface water quality reports. Several monitoring programs collect stream and lake samples throughout the state; however, most monitoring is focused in one to three river basins each year in conjunction with a rotating basin monitoring strategy. Targeting resources in this manner improves NDEQ's ability to identify and remediate water quality problems and allows resources to be focused where they can produce the greatest environmental results. During a six-year cycle, all 13 river basins in the state are intensively monitored. Monitoring data are used to document existing water quality conditions, assess the support of beneficial uses (such as aquatic life, recreation, and public drinking water supply), and prioritize water quality problems. The current six-year basin rotation monitoring cycle is:

2017 -- White River-Hat Creek, North Platte and South Platte River basins;
2018 -- Big Blue, Little Blue and Republican River basins; and
2019 -- Middle Platte and Loup River basins.

In addition to the Stream Biological Monitoring Program which assesses the health of streams by evaluating the composition and numbers of resident aquatic macroinvertebrate and fish communities, NDEQ also conducts the following monitoring programs: Ambient Stream Monitoring, Basin Rotation Monitoring, Fish Tissue Monitoring, Public Beach Monitoring and Ambient Lake Monitoring. Reports and summaries of these activities can be found on NDEQ's website address: www.deq.ne.gov

Nebraska Game and Parks Commission

Coolwater Streams: In 2015/16, the Commission drafted a Coolwater Streams Management Plan. The purpose of the Cool Water Stream Management Plan is to identify goals for stewardship of cool water stream resources in Nebraska, and to develop specific, attainable and measurable action items for Nebraska Game and Parks Commission (NGPC) staff to implement to achieve the vision. A copy of the plan is available on the agency website.

Freshwater Mussels: Nebraska is on the western edge of most freshwater mussel species in North America. The conversion of the native prairies to agriculture with it's associated stream channelization, sedimentation, etc. have hammered Nebraska's freshwater mussels. Several, once common, species are extirpated or nearly so. The NGPC has begun a program to spawn, rear and stock freshwater mussels into (hopefully) suitable waters with a goal to establish several breeding populations. We began with the Plain Pocketbook (*Lampsilis cardium*) which survives in one stream. After two years, a stock of some 10,000 juveniles were available and a portion of these were stocked into three watersheds. A graduate student at UNL will begin to evaluate the success of these over the next two years.

Missouri River Program: Gerald Mestl heads up this program assisted by a large staff, which monitors several aspects of the Missouri River. With over 30 years of data, they are at the point where they can now correlate river operations with fish species responses. In 2017, they will be looking in more detail into the Asian carps which are increasingly impacting the river's community of fishes.

Rivers and Streams Program: Steve Schainost heads up this program which deals with several aspects of our interior rivers and streams. Past focus has been on fish passage projects and stream monitoring along with maintenance of databases on fish, crayfish and mussel collections. In recent years he has collaborated on the publication of *The Fishes of Nebraska* (2015). He has also completed *The Crayfish of Nebraska* (2016) and *A Guide to the Freshwater Mussels of Nebraska* (2016). He is now collaborating with Dr. Edward Peters (UNL, ret.) on a publication (*The Nebraska Stream Fishery Surveys*) that compares the results of the first statewide survey (1939-41) with a recent (2003-05) resurvey.

Spalding Fishway: A new fishway was built over the Spalding Dam with a goal to pass Channel Catfish and other native Great Plains fishes. It is a denil fishway that was completed in the fall of 2015. After one year of operation, the fishway was found to successfully pass Channel Catfish, River Carpsucker, Quillback, Shorthead Redhorse and Walleye. Several problems were identified and planned modifications are expected to improve passage in 2017.

University of Nebraska at Lincoln

Current Research Projects

Freshwater Mussel Rearing and Re-introduction Evaluation

As noted above, juvenile freshwater mussels have been stocked into three watersheds in Nebraska. In 2017, a graduate student will begin trying to find out how these faired.

Missouri River and Platte River catfish

Research continues on catfishes. Several publications have been completed and can be viewed on Dr. Pegg's UNL web page.

Mark Pegg

Associate Professor

School of Natural Resources

402 Hardin Hall

3310 Holdrege St.

Lincoln, NE 68583-0974

University of Nebraska at Kearney

Joe Thiessen (MS - University of Nebraska at Kearney) recently completed his graduate work on a Plains Topminnow project. The first is the continuation of previous stocking assessments and reestablishment. The second is developing a statewide management plan that will identify the preferred habitat thresholds, limitations for species persistence, and levels of conservation actions needed. The final part is the creation of specific drainage assessment protocols that will aid regional biologists in

determining the needs of individual populations of Plains Topminnow. The overall research objective was to identify the species management needs for the prevention from federal management and/or listing.