

Mollusk Restoration

The Center was founded in 2002 by the Kentucky Dept. of Fish and Wildlife Resources. Its mission is to restore and recover rare and imperiled freshwater mollusks. Our staff have years of experience in many fields related to fish culture, aquaculture, malacology, shellfish and bivalve culture, algae culture, aquatic ecology, limnology, freshwater ecology, conservation biology, fish and shellfish husbandry, endangered species conservation, population ecology, ichthyology, and many other areas. We have worked with over 70 species of freshwater mussels, 75 species of fishes, 12 species of snails, and dozens of algae species. Our primary focus is the conservation, restoration, culture and propagation of freshwater mussels.



Juvenile mussels of the endangered Cumberland bean (left), pink mucket (right), slippershell mussels (right center) reared at the Center. CMC Bioreactor for algae culture (left center).

Universities where staff or CMC graduate students were affiliated



Funding assistance to the Center has come from the following Agencies



Kentucky Field Office



STATE WILDLIFE GRANTS PROGRAM



Center for Mollusk Conservation
established 2002

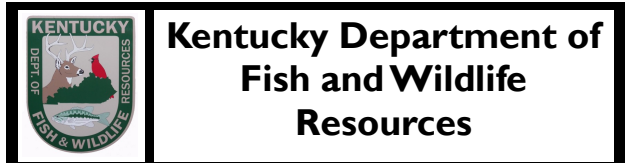
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[http://fw.ky.gov/Wildlife/Wildlife Diversity/Freshwater Mussels](http://fw.ky.gov/Wildlife/Wildlife%20Diversity/Freshwater%20Mussels)



Center for Mollusk Conservation
Frankfort, Kentucky

CMC Meet our Staff



Monte is a native of western Kentucky and a 1989 graduate of Murray State University (B.S. Biology). He obtained a M.S. (aquatic biology) from Tennessee Technological University in 1991

(research focus on large river macroinvertebrate communities including mussels and snails).

Monte A. McGregor, Ph.D. His doctoral work was completed in 2000 at Auburn University in the Internationally known Department of Fisheries and Allied Aquacultures where he worked on stream macroinvertebrates in pristine streams in Alabama. He worked for 6 years as a malacologist with the Virginia Department of Game & Inland Fisheries where he started the Aquatic Wildlife Conservation Center. He has been with KDFWR since 2002. He is or has been an adjunct professor at KSU, EKU, UK and UofL where he has assisted 8 graduate students since 2004.



Adam is a native of central Kentucky and a 1999 graduate of Eastern Kentucky University (B.S. Biology). He obtained a M.S. (biology) from Eastern Kentucky University in 2006 working on host fish relationships. He has extensive experience in fish husbandry and ichthyology and been with the Center since 2002.



Adam C. Shepard, M.S.
Focus Area: Ichthyology

Julieann is a native of northern Kentucky and a 2013 graduate of Eastern Kentucky University (B.S. Wildlife Management). She obtained a M.S. (Aquaculture and Fisheries) from University of Arkansas at Pine Bluff in 2016 working on bacterial communities in ponds related to decomposition. She has extensive experience working in laboratories, and is working with *in vitro* mussel culture, and algae culture. She has been with the Center since 2016.



Julieann Jacobs, M.S.
Focus Area: Laboratory Culture

Our efforts will hopefully contribute to the quality of wildlife in Kentucky and allow us and others opportunities to enjoy the unique Kentucky outdoor environment. We support hunting, fishing, boating, hiking, wildlife watching, and other outdoor activities.



Megan Owings, M.S.
Focus Area: Mussel Husbandry, Biostatistics

Megan a native of Maryland and a 2015 graduate of the University of Delaware (B.S. Marine Science). She received her M.S. in Marine Biology from the University of New Hampshire in 2018, where she studied horseshoe crab behavior and physiology. She has been with the CMC since 2018.

Travis is a native of Owen County. He received his B.S. from Morehead State University in Animal Science and his M.S. from Kentucky State University in Aquaculture. He started at the CMC as a seasonal technician in 2010, was hired on as a Fish Tech II in 2011, and as a Biologist II position in 2012.



Travis Bailey, M.S.
Focus Area: Aquaculture



Travis Williams, BS
Focus Area: Algae Production

Travis is a native of Harlan County, Kentucky. He received a B.S. in Forestry in 2011 from the University of Kentucky. He has worked as a tree-health care specialist for 1 year, and for 3 years with the Department as a hatchery technician (Pfeiffer Fish Hatchery) Travis joined the CMC in 2018.

Wendell is a Research Fisheries Biologist with the US Forest Service Southern Research Station. He is a native of Lexington. He received his B.S. from Eastern Kentucky University, his M.S. from Ohio State University, and his PhD from the University of Mississippi. He has been located at the CMC since 2014 where he collaborates on mussel research projects. He is the author of two books on freshwater mussels.



Wendell Haag, Ph.D.
Research Biologist, USFS Collaborating Scientist

Seasonal Staff/Graduate Students

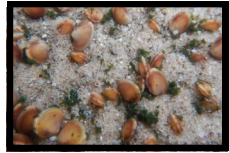
The Center has temporary seasonal technicians available to qualified individuals. We also have graduate students working on MS and PhD degrees on a variety of projects.

Restoration in Action

Mussel releases

The Center has released propagated individuals of several rare species, such as the tan

riffleshell, clubshell, slippershell, snuff-box, pink mucket, Cumberland elktoe, Cumberland bean, Cumberlandian combshell, along with translocations of the northern riffleshell, fanshell, rough pigtoe, oyster mussel, dromedary pearlymussel, and spectaclecase. These populations are being monitored for success.



Advances in Culture and Propagation

In the past few years the Center has successfully reared several rare and endangered mussels using *in vivo* and *in vitro* (artificial culture methods) including the Cumberland bean, purple catspaw, fanshell, salamander mussel, snuffbox, slippershell, fatmucket, and dozens of others to a stockable size.



Mussels reared at Minor Clark Hatchery, Morehead, KY

Research

The Center has been instrumental in discovering many host fish for several mussels, including the hickorynut, pyramid pigtoe, Cumberland bean, rabbitsfoot, and others. We have also documented many behavior patterns for mussels including mantle lures, conglutinates, super conglutinates, nets, & worm-like lures.

Field Surveys

The Center conducts annual intense quantitative surveys using m² grids and has documented the presence and quantity of rare and endangered mussels throughout Kentucky. We have a large group of volunteers who assist every year and can always use extra help.



Juvenile culture systems used to rear juvenile mussels (left). Mussel sampling in the Green River.