

# Minutes for Hellbender Meeting with NC Wildlife Resources Commission and Others Interested Groups/Individuals

**Date:** January 31, 2007

**Location:** North Carolina Zoological Park (Stedman Education Building – Board Room)

**Participants:** Charles Lawson (WCU Grad. Student); Ed Corey (State Parks Inventory); Dr. Wayne Van Devender (Appalachian State University); Amy Van Devender; Linda Green (Appalachian State University); John Groves (NC Zoological Park); Jeff Beane (NC Museum of Natural Sciences); Laura Valadez (NC Zoological Park); Lori Williams (NC Wildlife Resources); Jeff Humphries (NC Wildlife Resources).

Others from NC Natural Heritage, NCWRC Mountain Nongame Aquatic Sup, Western Carolina University, New River SP, DENR-Div. of State Parks, USFS-Pisgah, USFS-Cheoah, Wayah, Tusquitee, Highlands, Davidson College, Riverbanks Zoo, and WRC Permit Office were invited, but had other commitments for this day.

Lunch was provided by Zoo.

## Minutes

**Hellbender PHVA:** An overview of Hellbender PHVA report and develop conservation plan for Hellbender in NC. was presented by J. Groves. A copy of the final Hellbender PHVA report is attached. This report covers the status of Hellbenders (Ozark and Eastern Populations), discussions on their research and conservation needs. It also speaks to recommendations for research to lead researchers, and governmental agencies to better management plans for this species. Other topics such as educational outreach needs and what the group who produced the PHVA thought they already had influence over that could be immediately worked on by the group. Action steps for each of the recommendation are also described.

The Hellbender PHVA can be used by all states within the Hellbenders native range to determine the needs of this species in each of these states. One of the major issues with this species in the eastern (Appalachian) populations is that we do not know everything that is need at present to properly manage this species in the east. Surveys of existents population are badly needed to determine population sizes, ecology and demography's of this species in the eastern (Appalachian) populations. Captive population will be important to help accomplish some of the needed research recommended They will also be important for determination on how to breed this species in captivity for later re-introductions and/or augmentation of wild populations. Assurance captive population may be needed in the future because of declining amphibian population that may be occurring in the U.S.

### Current research needs for North Carolina:

From the Hellbender PHVA the following research needs were identified by J. Groves for North Carolina:

**Develop Hellbender surveys in NC:** This was discussed and agreed upon by the attending group. The current needs will be to determine where active populations of Hellbenders are in the state. Historical localities will need to be sampled to determine if

they still exist. It will be important to determine what age (size) classes are in our populations and where there may no longer be reproductively active populations. General life history and ecological information and habitat descriptions will be obtained during the survey. This survey will need to continue for some time into the future.

The Zoo will look at helping with staffing some of these surveys, but scheduling will need to be in advance for proper planning purposes. Others in the group also mentioned they would try to help if possible. Funds will be needed by the zoo to send staff members for survey work.

Lori Williams and Jeff Humphries will develop the Hellbender survey for NC. We hope to get this started this year (2007).

**Compare low and high elevation populations:** We will need to test the current theory that high elevation populations have greater hellbender abundance than low elevation population as a result of land use. This can be accomplished during the Hellbender surveys that Jeff and Lori will develop.

**Fund and conduct baseline meta-population studies.** Include population structure, age classes, sex ratios, fecundity, recruitment and survivorship data. Also include water quality (past and present). Funds will be needed to be obtain for basic meta-population studies to insure the continued survivorship of this species in NC. We did not indicate who would take this on at this meeting.

John Groves will look into grants from St. Louis Zoo for some of this work.

**Discuss involving High Schools, Colleges and Universities (adopt a Hellbender population concept).** This was discussed and there were some concerns about using large groups to monitor Hellbender populations by amateurs. A major concern was disrupting populations. It was discussed that training will be needed if we include these groups. Another concern was liability for students in fast moving and/or deep water.

Lori Williams talked about how groups such as these could help add to the States conservation funds because volunteers can record their time and expenses to WRC and WRC could use this information for use with the states matching funds allotments to the Federal government for non-game state listed wildlife programs.

It was determine that if we use groups like these, we will first need to get a better idea on where we would want to use them for monitoring Hellbender population. It was suggested that we could get this information from the proposed state-wide survey. We will need to discuss this later when we have enough information to determine these purposes.

**Prioritize watershed for hellbender populations and do threat analysis.**

It was mentioned that the PHVA recommended that threat analysis of watersheds and Hellbender populations are needed. We did not discuss this greatly, but this will be a topic that will continue to come up in future meetings of this NC group.

**Training citizen researchers (schools).** Mentioned but not discussed in any detail. We will need to discuss this at a future meeting (see Discuss High Schools, colleges and Universities above).

**Develop and implement palatability study of Hellbenders as prey and predator of trout:** John Groves is planning to use captive male at zoo for some palatability studies on introduced trout. Lori Williams will discuss with fisheries about getting stomachs of wild trout collected and sent to zoo for analysis. Stomach will need to be preserved in formalin or alcohol for preservation. Data sheets will need to be prepared by zoo to collect this data properly.

**Assist with developing hellbender captive husbandry protocols and techniques (with other named zoos in report).** John Groves will work with other zoos in the Group 4 of the PHVA to develop proper husbandry recommendations for this species.

**Establish breeding group at NC zoo and other zoos (see draft PHVA report –Group 4 Captive Breeding).** John Groves will work as needed with other zoos on this recommendation and keep WRC informed of our activities. It was mentioned that the Dallas Zoo has a request in for captives from NC and plans will be made to help them if they meet the proper criteria.

Working with other zoos will require that localities are tracked where adults/eggs originate. All zoo specimens obtained from use of the zoos permit will be the property of North Carolina and placed on loan to other institutions. We do not plan to provide animals to all institutions.

The NC Zoo does plan in the future to establish breeding groups as we have been planning for some time.

The zoo may also be establishing Assurance populations of declining Southeastern Amphibians and it was mentioned that Hellbenders and other salamanders may be a part of this program. This latter program is being recommended by the World Conservation Association (IUCN), Captive Breeding Specialist Group (CBSG of IUCN), World Zoo Association (WAZA) and the Amphibian Specialist Group of IUCN.

It was also discussed that possibly we could use State Fish hatcheries in the mountains to attempt to establish breeding groups. Lori Williams is going to look into this possibility.

**Assist with development of outreach programs (with other zoos, Cryptobranchid Interest Group, Ozark Hellbender Working Group, state and federal agencies).** NCPARC will also be contacted by John Groves to assist with various Outreach programs. Jeff Humphries and Lori Williams will work on the WRC folks in Raleigh to add a blurb in the fishing regs digest about hellbenders

Note: Lori has requested a digest from VA and GA who currently do have a hellbender blurb. She also reports that: Jeff and I will work on the WRC folks in Raleigh to add a blurb in the fishing regs digest about hellbenders. I've already started this ball rolling with my immediate supervisor who will work it up the chain

**Request help from researchers to provide eggs for rearing experiments at zoos.**

**PHVA Group 4. Coordinate with Jeff Humphries. Permit needs.**

This was discussed briefly and Jeff Humphries said that he could help provide eggs if needed and that he did not have a problem with providing eggs of this species.

**Other issues discussed:**

**Discuss bait fish and dumping of unused bait.** Disease issues, predation issues, competing prey issues (palatability), developing lists of prohibited bait species. Develop education program for fisherman. What bait species are being used and where? Generate a three question survey to bait fisherman – What they collect, what they buy to use and what happens to bait when they are finished – fill out anonymously and send WRC (maybe offer a drawing at end of season?).

This was discussed and Lori Williams knows that WRC is interested in this issue for a variety of reasons. There are concerns that there is a lack of knowledge of bait issues in the fishing sport and that education is needed on this issue. Lori will discuss this further with Dain Palmer and Steve Fraley. We are hoping that a three question survey can be issued to fisherman for gathering information on this issue in the state. The three questions are: What they collect, what they buy to use, and what happens to bait when they are finished?

It was also discussed that some of the outreach programs developed for this species concern bait. Enforcement issues of bait will also need to be looked into. There are laws in the state on bait, but this may be difficult to enforce.

It was mentioned that John Jensen of Georgia Wildlife was interested in this for his state and we can ask him what they are doing concerning this issue. John Groves will contact John Jensen.

**Discussed recreational uses of waterways (canoeists/tubers, campers, and fisherman).** Many issues here (e.g. urinating and defecating in watercourses, trash, introduction of chemicals, killing of hellbenders, need to remove hooks, collecting for home, minnow traps, etc.). An educational need.

To be discussed with NCPARC Educational group by John Groves.

**Develop a list of stakeholders, outdoor groups and companies that impact hellbenders in the state.**

This can be accomplished by looking on the internet and discussions with NCPARC. Lori Williams and Linda Green (ASU) agreed to look into this. John Groves will also discuss this with Jeff Hall of NCPARC.

**Produce popular articles on hellbender and their issues for NC Wildlife magazine and other outdoor magazines.**

Several of us agreed to look into and produce some articles on this species. Todd Pusser will look into NC Wildlife Magazine, National Wildlife and Our State Magazine. He is looking at two years or so because he wants to get great

photographs of the Hellbender in the wild doing things. Todd is a professional photographer/Writer.

John Groves will also look into doing some articles for possibly recreational magazines and other more local magazine publications.

Lori Williams will also facilitate and encourage local newspapers to run articles on hellbenders, water quality, etc. in the mountain region.

Jeff Humphries is interested in looking into having some programs on this species on public radio.

Other topic:

Jeff Humphries' research on the Davidson River and Looking Glass Creek in Transylvania County was presented by Jeff Humphries. This power-point discussed some of the activity of the Hellbender at these localities and some good discussions on behaviors of the Hellbender were discussed.

Updates other NC aquatic salamander species – Lori Williams showed a map of two species of Mudpuppies in the state and announced that surveys of these species are needed and anyone interested in helping with these are needed. Contact her if you would like to help with these.

**Next Meeting:** It was agreed to have a second meeting of this group in one year. Wayne Van Devender suggested to hold it at Appalachian State University with ½ day of updates and then some field work. Date and times for this meeting will be determined by the Host.

Prepared: John D. Groves  
1 February 2007