



**The Cumberland HCP Science Advisory Committee Meeting Notes**  
**Cumberland Mountain State Park, Crossville, Tennessee**  
**9:00 a.m.—3:30 p.m. (Central Time), Tuesday, 26 October 2010**  
*Northern Cumberlands Forest Resources Day*

**9:00 - 9:15 a.m. (Central) Arrivals, greetings, and refreshments**

**9:15 - 9:20 a.m. Introductions and overview of goals for the meeting**  
*Sean Blomquist, University of Tennessee*

- a. Hayden Mattingly stepped down as the SAC Coordinator, and Sean is now the acting Coordinator. The HCP is working to hire a new SAC Coordinator.
- b. Thanks to the presenters for coming and sharing their research.

**9:20 - 9:30 a.m. Update and status of the Northern Cumberlands Forest Resources HCP**  
*Alex Wyss, The Nature Conservancy*

- a. Welcome, and thanks for coming.
- b. Look at the poster outside about white-nose syndrome. It's an excellent poster.
- c. Be sure to sign in to be eligible for door prizes.
- d. This project started about 5 years ago. We looked at different conservation plans and came up with the two we have now, Forest Resources and Water Resources. The Biological Goals and Objectives are mostly completed and have been fine-tuned. We are working a lot with cerulean warbler experts to get an idea of habitat needs. We have had several workshops and a structured decision making workshop. The take model is virtually completed. The monitoring plan is completed in draft form. We are on track to complete the Forest Resources HCP by the end of this calendar year. We are making final changes to adaptive management, the take model, and the monitoring plan. The project management team, TWRA, experts, and other agencies have devoted a lot of time to this HCP. The SAC is at the heart of the HCP and is the reason we have a strong foundation in science.

**9:30 - 12:30 p.m. Cumberland HCP Focused Research Presentations (\*denotes presenter)**  
**(Presentations available on website; questions and discussions noted below)**

**1. Status and species-habitat relationships of the green salamander, *Aneides aeneus*, at Myatt Creek in Catoosa Wildlife Management Area. *Samantha Wyatt\** and *Dan Combs (Tennessee Technological University)***

- a. How were you able to distinguish between individual green salamanders? My number of different individuals observed is an estimate based on the sum of the highest # found in 1 night of surveying on each rock outcrop. I did PIT-tag green salamanders, but I was only able to relocate one individual. I did not find any under cover boards. Gumbert- Green salamanders can be distinguished by patterns. They also use Beech and other trees with sloughing bark during movement between rock outcrops. They crawl under the sloughing bark and can be from 15-20 ft high in trees. Samantha- I did search some trees while conducting surveys but never found any on trees.
- b. What successional stage is Myatt Creek in relative to other sites where green salamanders occur? It is mature, but not old growth. Transferability of the model may be important. There is a new

grad student doing a follow-up to my study surveying different sites with different successional stages/forest types throughout Catoosa.

- c. Did you have a variety of sandstone and limestone in your sites? There were only sandstone outcrops in the Myatt Creek drainage. The literature suggests that crevice characteristics are more important than rock type. They have been found in limestone outcrops at North Cumberland.
- d. Did you measure the amount of moisture on the outcrops? No, but we used data loggers and compared occupied and unoccupied sites. There was no difference found between temperatures and humidity at the sites.
- e. Did you notice slimy and green salamanders using the same habitat? Yes, they were found on the same rock outcrops, however I didn't ever locate them using the same crevice.

**2. Inventory of riparian bird communities and habitat characteristics in Catoosa Wildlife Management Area. *Christie Peterson\* and Tom Roberts (Tennessee Technological University)***

- a. When you do transects, how could you walk a transect without disturbing the birds? We stayed near the creek so that we were not walking through nest sites, and we limited loud disturbances.
- b. Did you search patches of river cane? There is not much thick cane in Catoosa, but there is a lot of rhododendron and mountain laurel. Maybe focusing on thicker areas may help us find them.
- c. How did you come up with the forest types (time frames)? My advisor and I worked together and determined them by forest structure. It seems like some forest types that you lumped together are very different. This may come out in the analysis.
- d. Ceruleans have not been seen.
- e. Some of the species codes are not consistent with what is used, and Christie will change them.
- f. Software such as Primer could be useful in your analysis, and Hayden Mattingly is willing to give ideas on this.
- g. Were the SMZs the same size? They were consistent for the most part and usually 30 m.
- h. Did you use the entire amount of your allotted time for your surveys? Usually only 30 minutes because we had so much area to cover.
- i. Does the time that the surveys were conducted make a difference? We have not analyzed this yet, but there seemed to be no big change in bird numbers between 7:30 a.m. and 10:30 a.m.
- j. Do you think you are missing some early birds since you started on May 15? We were worried about catching migrants, so that was our reasoning on starting at that time. You are primarily concerned with breeding birds, so your timing is fine.

**3. Sustaining Golden-winged Warbler Populations in the Cumberlands. *Katie Percy\* and Dave Buehler (University of Tennessee)***

- a. Referring to the areas that currently have GWWA that were burned in the past 10 years, were they burned prior to that? Those areas are there because of the mining, but it has to be burned now to arrest succession.
- b. GWWA have been documented occurring in clearcuts. Have you compared clearcuts to these other areas that have been burned?
- c. The seed bank for maple and tulip popular will be around for a while and will take several burns to be exhausted.
- d. Is there a cost associated with management to increase GWWA populations, and where will it come from? The money will come from endangered species money, if it becomes listed. Is there someone who can make a proposal? The National Wildlife Federation has a proposal for GWWA, and it will include info for land management. Recovery funds would make some funding available, but state wildlife grants generate more money.

- e. Were the burns in subsequent years? They were burned following the clearcut in 2009 and 2010. Instead of hot burns, it may be that you need 5 years of annual burning to knock woody vegetation back. If you reach that point, you might could do semiannual burns.
- f. Have you worked with the Office of Surface Mining for reclamation of mine sites? No. Most of the reclamation right now is to establish trees. They have to reclaim those sites. You need to get on board with them to manage for GWWA.

**4. Cerulean Warbler Response to Experimental Forest Management. *Than Boves\* and Dave Buehler (University of Tennessee)***

- a. We do have cowbirds in our study sites, but less than 1% of nests have been parasitized. The mechanism for reduced nest success is thought to be predation, but we are not sure from what.

**5. Predicting Cerulean Warbler Breeding Density in the Cumberland Mountains. *Melinda Welton (BirdWorks Consulting)***

- a. What were the ranges of the highest density populations and the lowest? Some of the lowest had no birds at all and were in the lower elevations. Some of the highest density spots had 7 or 8 birds in one spot. In Royal Blue, there are some transects that are completely high density the entire length. If you get one bird per point count, that equates to about 5 birds, and that's high density.

**6. Spring Migration of Female Indiana Bats (*Myotis sodalis*) From Caves in Eastern Tennessee. *Mark Gumbert\*, Jeff Hawkins, and Piper Roby (Copperhead Consulting)***

**7. Assessment of Allegheny Woodrats in Catoosa Wildlife Management Area. *Beth Stovall\* and Steven Hayslette (Tennessee Technological University)***

- a. Do you have a sense of the accuracy of the cameras to detect the rats? The cameras are very sensitive. They caught cave crickets on the ceiling of the outcrops.
- b. You should be able to get slope from GIS.
- c. What was your aspect for the outcrops? We are not sure what the exposure was of the aspect readings yet.
- d. Rock outcrops are a very important habitat for several species within the HCP area.
- e. What was the time of year you were out there with the cameras? February - October.

**12:30 - 1:15 p.m.**

**Lunch Buffet Upstairs in Restaurant**

**1:15 - 1:30 p.m.**

**Door Prizes**

**1:30 - 2:50 p.m.**

**Presentation of Draft Monitoring Framework and Survey Results**

*Sean Blomquist, University of Tennessee*

*Trisha Johnson, Tennessee Technological University*

- a. The group activity is a follow-up from last year. Right now, we are going to talk about the big picture monitoring. Refer to the monitoring program provided at meeting.
- b. What happens in an unimpaired reference area if you have a pine beetle infestation? What do you do? It certainly does undermine this approach. Using reserves as reference areas makes sense for forest and woodland, isolated wetland, and riparian habitats.
- c. In this case where you have large forest blocks, and how it's attracting birds, Dave is not sure how this would work. He is not sure about the relevance of patch size in the Cumberlands. It's really a

hypothesis that the large forest interior reserves are better than smaller patches. This is something we will have to work on in the future.

- d. Suspended Sediment: You set automated samplers at a certain discharge height, and once the sample is collected, the bucket is closed off.
- e. Population Monitoring: The occupancy and relative abundance are measuring different components of the population, so a lot of times you want to do both. Ideally we would like to do both, but it doesn't seem like we are going to be able to.
- f. Mark is somewhat concerned about detection for Indiana bats because the males will stay around the hibernacula. If you put something into the monitoring plan, then you have to rely on getting enough numbers of animals. How do you measure in terms of detection, if you have very few animals? We have 0 records on North Cumberland. Is this a step-wise approach in which you work toward relative abundance once you have a detection? Yes. We are talking about monitoring. How do you monitor if you don't have occurrences? You have to still assume that the males are still on the landscape, and every 2 years Copperhead Consulting monitors those populations. For Catoosa, we would have to monitor those caves in Fentress County. It is very complex, and all Indiana bat researchers struggle with this issue. One thing we could consider is doing some telemetry work with the males. There has been a lot of emphasis on the females, and that is kind of how our conservation measures are leaning.
- g. What you are proposing here is the idealized approach for a monitoring program. Have you discussed how much it will be reduced? We need feedback on what in this program is most important. Within TWRA, there are questions about the feasibility and our ability to do this. A lot of this info has not been invented yet in terms of the terrestrial side, and over the years this will be a learning experience for us. You need a baseline to start with because if you have no baseline, then no amount of monitoring will tell you how things have changed. We have good numbers on a few species, but we need a lot of info for others. We need help in knowing what the minimum is that we need to do. If we can do a good job of monitoring the T&E species and work on learning about the others, will that be sufficient? TWRA will be having a 3-day monitoring retreat and TO DO: Geoff has asked us to send him questions before that meeting for him to answer. TO DO: Geoff can think about the previous question and answer it for that meeting. All of these species may need 10 years or more of monitoring. All organisms will be unique, and you will need to develop a plan for each.
- h. Survey Results: Is the 5% decline for spotfin chub and blackside dace a decline in the population or the species habitat? We are not sure. It's what the survey participant said. This is something that can be discussed during the activity.

**2:50 - 3:25 p.m.**

**Monitoring Group Activity and Discussions**

(See separate small group afternoon notes)

**3:25- 3:30 p.m.**

**Closing Remarks**

*Sean Blomquist, University of Tennessee*

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**Main Goals for Today's Meeting**

1. Inform SAC members with past and present research related to the NCFRHCP
2. Summarize results of monitoring survey
3. Survey follow-up

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For more information about: 1) the NCFRHCP Project, please contact Alex Wyss at [awyss@tnc.org](mailto:awyss@tnc.org) or (865) 974-1955; 2) the WRHCP Project, please contact Katherine Medlock at [kmedlock@tnc.org](mailto:kmedlock@tnc.org) or (865) 546-5998; or visit the HCP website at [www.cumberlandhcp.org](http://www.cumberlandhcp.org).