

# **Cumberlands HCP Science Advisory Committee**

## **Summary and Minutes**

### **September 18, 2008**

#### **Summary**

The Science Advisory Committee (SAC) met at Cumberland Mountain State Park near Crossville, Tennessee, on 18 September 2008 from 9:00 a.m. to 3:15 p.m. Twenty four people were in attendance: Rebecca Anderson, Paul Ayers, Andrea Bishop, Than Boves, Eric Britzke, Dave Buehler, Geoff Call, J.R. Candlish, Stephen Haase, Mick Harvey, Jeffery Hawkins, Cory Holliday, Don Hubbs, Trisha Johnson, Richard Kirk, Hayden Mattingly, Vincent Neary, Nathan Nibbelink, Sally Palmer, Dave Pelren, Piper Roby, David Withers, Emily Woodle, and Alex Wyss. The main goals for the meeting were to (1) inform SAC members with past, present, and future research goals; (2) describe the status of the species working groups; (3) assess cumulative impacts for each proposed covered species; and (4) delineate next steps for upcoming months.

After introductions, Alex Wyss began the meeting with an update on the status of HCP development efforts. The main updates were that (1) the HCP is now in the fourth year of funding, continuing progress in the development phase; (2) we are developing two HCPs: urban growth related Water Resources HCP and forest activities on WMAs Forest Resources HCP; (3) the proposed species lists and activities have been approved by Steering Committees of both HCPs; (4) Tennessee Wildlife Resources Agency and Cumberland, Morgan, Scott Counties and the cities of Crossville and Wartburg are currently proposed ITP holders, however, we will continue to work with Fentress county to pass a resolution in support of developing an HCP; (5) HCP FY08 funding is supporting a fall 2008 Practicum course at the University of Tennessee providing a Service Learning Experience for 22 students that will address needs of the HCP development; (6) HCP FY08 funding also supported hiring postdoctoral researcher, Sean Blomquist to aid in development of HCP; (7) we funded 5 research projects; and (8) Kentucky discontinued participation in the HCP development. Alex's presentation is attached to this email. Questions from the SAC members included (1) Is prescribed burning being considered as a covered activity in the Forest Resources HCP? And (2) Has the FWS given the HCP development team deadlines for completing the 2 HCPs? Alex responded to the first question and said that we did not fully discuss this at the Technical Team meeting; however we will document this as an activity that should be added as suggested by the SAC. Also, the FWS has not given any deadlines and have not mentioned that the development team is not making sufficient progress. TWRA has, however, pushed the Summer 09 timeframe for completing the Forest Resources HCP.

Next, Hayden Mattingly provided an update on the HCP's current online posting policy. We will post species occurrences only in the form of 12-digit HUCs. As the HCP document is being written, this topic may arise again and we will inform the SAC and ask for approval before changing this policy.

Following a break, 6 researchers working on HCP-related projects gave short presentations on completed and/or upcoming research. The presentations are attached and titles are found on the agenda for the meeting. Speakers presented in the following order: Than Boves, Piper Roby, Eric Britzke, Vincent Neary, Paul Ayers, and Nate Nibblelink. Two posters were displayed for viewing during the meeting. Paul Ayers displayed *GIS-based Underwater Video Mapping for Identifying Federally Listed Mussel and Fish Habitat to Support the Cumberland Habitat Conservation Plans*; and Trisha Johnson et al. displayed a poster created for the 2008 Society for Conservation Biology meeting *Objective Criteria for Selecting Covered Species and Activities in Multi-species Habitat Conservation Plans on the Cumberland Plateau, TN*.

After lunch, door prizes were given to SAC members. Trisha Johnson presented the species working group update and future plans for the SAC. Her presentation discussed current progress in each of the 9 species working groups; bats, mammals, warblers, herps, rare fishes, blackside dace, crayfishes, mussels, and plants. She described the new “Core Team” approach in which the two SAC Assistant Coordinators, Sean Blomquist and Trisha Johnson will work with two TWRA biologists, Kirk Miles and Mark Thurman to draft the scientific aspects for the HCP. Support for the “Core Team” will come from Karen Lannom-GIS, SAC members-ad hoc advisors, and the UT Practicum. The species working groups will then be asked to provide peer review on the completed work January-February 09 and again June-July 09. The “Core Team” will focus primarily on the Forest Resources HCP and will use the TN SWAP database as a starting point for all work. Simultaneously, the UT Practicum will provide 3 groups of students who will focus on support for the Water Resources HCP. Trisha also presented the approach for developing conceptual models and cumulative impact models for each species proposed for coverage along with a preliminary model for probability networks to convert the conceptual models to models with an empirical basis. Last, she explained the small group activity to assess cumulative impacts to each covered species. Each group was provided a sheet for each species with a list of activities queried from the TN SWAP database believed to affect the species. Groups were provided with distribution maps in the project area along with other literature supports.

After a break, the SAC divided into their assigned groups: Aquatics 1, Aquatics 2, Terrestrial 1, Terrestrial 2, and Plants. Aquatics 1 (Hubbs, Mattingly, Nibblelink, and Withers) was asked to assess Caney Fork (Pristine) Crayfish, Obey Crayfish, Obed Crayfish, Emory River Crayfish, Cumberland Elktoe, Purple Bean, Black Mountain Salamander, and Hellbender. Aquatics 2 (Ayers, Kirk, Pelren, and Woodle) was asked to assess Spottfin Chub, Emerald Darter, Ashy Darter, Arrow Darter, Tangerine Darter, Olive Darter, Sickle Darter, Blackside Dace, and Tennessee Dace. Terrestrial 1 (Boves, Buehler, Hawkins, and Wyss) was asked to assess Cerulean Warbler, Swainson’s Warbler, Golden-winged Warbler, Eastern Slender Glass Lizard, Northern Pine Snake, and Four-toed Salamander. Terrestrial 2 (Anderson, Britzke, Harvey, Holliday, and Roby) was asked to assess Rafinesque’s Big-eared Bat, Indiana Bat, Eastern Small-footed Bat, Woodland Jumping Mouse, Allegheny Woodrat, Common Shrew, Smoky Shrew, and Southeastern Shrew. Plants (Bishop and Call) was asked to assess Cumberland Sandgrass, Cumberland Rosemary, Eggert’s Sunflower, Large Flowered Barbara’s Buttons, White Fringeless Orchid, Pondweed, and Virginia Spiraea. Results from the groups are in the small group activity document attached to this email.

Groups concluded their work and a group picture was taken. In sum, the group exercise conducted at this meeting aided the continued scientific support necessary for the development of the HCPs and highlighted gaps in our knowledge about some of the species proposed for coverage under the HCPs which is important to document during development. The SAC members were thanked again, as their in-kind support is vital to the development of the 2 HCPs. The meeting was adjourned at approximately 3:15 p.m.

Table 1. Common and scientific names of species and subspecies mentioned in this document and currently proposed for coverage under the 2 HCPs.

Common Name	Scientific Name	HCP
<b>Mammals</b>		
Rafinesque's Big-eared Bat	<i>Corynorhinus rafinesquii</i>	Forest Resources
Indiana Bat	<i>Myotis sodalis</i>	Forest Resources
Eastern Small-footed Bat	<i>Myotis leibii</i>	Forest Resources
Woodland Jumping Mouse	<i>Napaeozapus insignis</i>	Forest Resources
Allegheny Woodrat	<i>Neotoma magister</i>	Forest Resources
Common Shrew	<i>Sorex cinereus</i>	Forest Resources
Smoky Shrew	<i>Sorex fumeus</i>	Forest Resources
Southeastern Shrew	<i>Sorex longirostris</i>	Forest & Water Resources
<b>Birds</b>		
Cerulean Warbler	<i>Dendroica cerulea</i>	Forest Resources
Swainson's Warbler	<i>Limothlypis swainsonii</i>	Forest Resources
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	Forest Resources
<b>Reptiles</b>		
Eastern Slender Glass Lizard	<i>Ophisaurus attenuatus longicaudus</i>	Water Resources
Northern Pine Snake	<i>Pituophis melanoleucus melanoleucus</i>	Water Resources
<b>Amphibians</b>		
Hellbender	<i>Cryptobranchus alleganiensis</i>	Forest & Water Resources
Black Mountain Salamander	<i>Desmognathus welteri</i>	Water & Water Resources
Four-toed Salamander	<i>Hemidactylium scutatum</i>	Forest Resources
<b>Fishes</b>		
Spotfin Chub	<i>Erimonax monachus</i>	Forest & Water Resources
Emerald Darter	<i>Etheostoma baileyi</i>	Forest Resources
Ashy Darter	<i>Etheostoma cinereum</i>	Forest & Water Resources
Arrow Darter	<i>Etheostoma sagitta</i>	Forest Resources
Tangerine Darter	<i>Percina aurantiaca</i>	Forest & Water Resources
Olive Darter	<i>Percina squamata</i>	Forest & Water Resources
Sickle Darter	<i>Percina williamsi</i>	Water Resources
Blackside Dace	<i>Phoxinus cumberlandensis</i>	Forest Resources
Tennessee Dace	<i>Phoxinus tennesseensis</i>	Water Resources
<b>Crayfishes</b>		
Pristine (Caney Fork) Crayfish	<i>Cambarus pristinus</i>	Forest & Water Resources
Obey Crayfish	<i>Cambarus obeyensis</i>	Water Resources
Obed (Hairfoot) Crayfish	<i>Cambarus</i> sp. cf. <i>crinipes</i>	Forest & Water Resources
Emory River Crayfish	<i>Cambarus</i> sp.	Forest & Water Resources
<b>Mussels</b>		
Cumberland Elktoe	<i>Alasmidonta atropurpurea</i>	Forest & Water Resources
Purple Bean	<i>Villosa perpurpurea</i>	Forest & Water Resources
<b>Plants</b>		
Cumberland Sandgrass	<i>Calamovilfa arcuata</i>	Forest & Water Resources
Cumberland Rosemary	<i>Conradina verticillata</i>	Forest & Water Resources
Eggert's Sunflower	<i>Helianthus eggertii</i>	Forest & Water Resources
Lg. Flowered Barbara's Buttons	<i>Marshallia grandiflora</i>	Forest & Water Resources
White Fringeless Orchid	<i>Platanthera integrilabia</i>	Forest & Water Resources
Pondweed	<i>Potamogeton tennesseensis</i>	Forest & Water Resources
Virginia Spiraea	<i>Spiraea virginiana</i>	Forest & Water Resources

