

## MEETING NOTES

Cumberland Habitat Conservation Plan Steering Committee  
Crossville City Hall, 4<sup>th</sup> Floor Training Room  
392 N. Main Street Crossville, TN  
May 16, 2013

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### ATTENDEES

Name		Affiliation
Clark	Annis	Crossville Wastewater Treatment Plant
Tim	Begley	City of Crossville
Tim	Blount	National Park Service
Everett	Bolin	Crab Orchard Utility District
Eric	Brady	City of Crossville
Dr. Chris	Burcher	CHCP Team (UT)
Karina	Bynum	Tennessee Dept. of Environment and Conservation
Kevin	Dean	City of Crossville
Barry	Field	Field Engineering
Mayor J. H.	Graham	Mayor of Crossville
Dennis	Gregg	Obed Watershed Community Association
Robert	Harrison	Plateau Properties
Doug	Little	Plateau Properties
Katherine	Medlock	The Nature Conservancy
Jack E.	Miller	City of Crossville
Shelley	Miller	CHCP Team (UT)
Teresa	Payne	CHCP Team (UT)
Dr. Daniel	Reed	CHCP Team (UT)
Rebecca	Schapansky	National Park Service
Peggy	Shute	US Fish and Wildlife Service
Sarah	Sorenson	US Fish and Wildlife Service
Gay	Stewart	Home Builders Association of Cumberland County
Chuck	Sutherland	CHCP Team (TTU)
Mark	Thurman	Tennessee Wildlife Resources Agency

### MEETING GOALS

- Introduce New Member Barry Field from Field's Engineering
- Review and Read Meeting Guidelines
- Provide Steering Committee (SC) general updates on the CHCP
- Present New Covered Activities (Wastewater Treatment Plant and Meadow Park Dam)
- Present information about the CHCP Monitoring Strategy

## **WELCOME AND INTRODUCTIONS**

- Teresa Payne (CHCP Team) welcomed all attendees and reviewed the purpose of the meeting.
  - Barry Field from Field's Engineering was introduced and welcomed as a new addition to the Steering Committee.
  - Meeting Guidelines were reviewed and read aloud for all attendees

## **General HCP Update**

*Presented by Teresa Payne, CHCP Project & Outreach Manager*

Teresa Payne (CHCP Team) updated the Steering Committee regarding work that has been accomplished.

*Highlights:*

### Outreach Update:

- CHCP Staff recently participated in the Mayor's Sustainability Fair for the 3<sup>rd</sup> year in a row. We presented four interactive displays showing habitat fragmentation, talked to students about the CHCP, and provided them with a list of careers related to environmental planning.
- CHCP Staff also plan to attend the following events to provide public outreach for the CHCP:
  - Pleasant Hill Festival, May 18<sup>th</sup>
  - Water Fest, July 6<sup>th</sup>
  - Cumberland County Fair, August

### Project Progress Update:

- Staff has completed several draft sections of the CHCP document. The following sections have been sent to the USFWS for review: Introduction, Environmental Settings, and Changed and Unforeseen Circumstances. The USFWS have responded with comments on these sections and we are working to address edits.
- Staff is preparing a draft document addressing Terrestrial Habitat Compensation. CHCP participants are required to compensate for any terrestrial habitat that is taken. We have completed a framework for this section.

## **Steering Committee Presentation on New Covered Activities and CHCP**

### **Monitoring Framework**

*Presented by Dr. Chris Burcher, CHCP Science Coordinator*

Media: PowerPoint Presentation

### Additions to Covered Activities

*Dr. Chris Burcher, CHCP Science Coordinator,  
Clark Annis, Waste Water Treatment Plant Manager,*

*Tim Begley, Crossville Engineering Director*

Media: Power Point Presentation

Dr. Chris Burcher presented information regarding the addition of the Wastewater Treatment Plant and Meadow Park Dam expansion to the CHCP Covered Activities list. Clark Annis, a representative from the Crossville Wastewater Treatment Plant (WWTP), and Tim Begley, a representative from the City of Crossville, spoke in support of these additions. After the presentation, the Steering Committee discussed the issue.

*Highlights:*

**WWTP Project:**

Dr. Burcher described the importance of increasing wastewater treatment capacity in preparation for future population growth in Cumberland County. He explained that CHCP staff plan to include the WWTP and Meadow Park Dam projects as covered activities under the CHCP and incorporate the details of these projects into the document. He also mentioned that the most extensive additions to the CHCP will be addressed in the adaptive management section of the document because the Applicants need to plan for potential adverse impacts to the species as a result of increases in wastewater capacity or lake inundation. Dr. Burcher then asked Clark Annis to provide details regarding the WWTP project.

Clark Annis described the WWTP project in detail and explained the following:

- **Project Purpose:**  
If the state will permit us, we would like to increase our capacity from 3.5 MGD to 15 MGD. The upgrades to our system are already in place to do this.
- **Current Wastewater Usage:**  
Recently the actual wastewater capacity was 2 MGD in real time.
- **Benefit of Increasing Capacity:**  
An increase in capacity will allow us to provide higher quality treatment on lower flows. It's actually easier to treat lower flows with higher capacity. Additionally, it will allow us to meet the needs of future growth in our community.
- **Information about Existing WWTP Infrastructure:**  
Currently we have 60 miles of low pressure sewer and 22 pump stations. Our main lift stations have generators and can still run if the power plant goes out.
- **Approaches to WWTP Upgrades:**
  - Increase the capacity of pumps to handle low flow.
  - Try to make the best choices for our money and our improvements to benefit the community.
  - Encourage local businesses/industries to make pre-treatment upgrades to treat the waste water before it goes to the WWTP

*(Example: Flowers Bakery spent 2 million dollars on a pre-treatment facility).*

- Employ new technology to make improvements

*(Example: turbo blowers and water reuse system in the WWTP).*

- Save money where we can and make use of biowaste to benefit farmers.

*(Details: Every year the WWTP generates 2,000 tons of bio waste. This is worth ~\$175 per acre. If we were to dispose of this in a landfill it would cost us \$250,000 each year. We can convert this cost to benefit farmers by using it as fertilizer; in doing so, we can convert this to an \$80-90,000 benefit to farmers).*

- **Quality of Treatment:**

The Treatment Plant's quality of treatment has surpassed NPDES Permit requirements for several years. Averages across 10 years show the following: 62% of design flow, BOD 31%, SS 23%, Ammonia nitrogen levels within 30% below levels. So as you can see, we are producing the highest water quality that we can.

- **Monitoring Quality:**

The National Park Service manages several gauges close by and that pinpoints one of the benefits of the CHCP-coordination with other agencies. These gauges track conductivity, dissolved oxygen, pH, etc. At a moment's glance we know the quality of water running through these gauges.

Clark Annis ended his portion of the presentation by announcing that he will be making a presentation on the WWTP to Crossville City Council and asked the committee for any questions.

**Q & A:**

**Q:** Mayor Graham (to Clark Annis) Are you supportive of the CHCP and its efforts for sustainable growth?

**A:** Clark Annis: I support the CHCP and the planning opportunities that it can provide for sustainable growth.

Seeing no further questions from members, Dr. Burcher transitioned to discussing the incorporation of the Meadow Park Dam project into the CHCP.

**Meadow Park Dam Project:**

Dr. Burcher explained that the Meadow Park Dam expansion would involve increasing the size of the reservoir to provide a larger water supply for residents. He pinpointed the need to discuss the potential impacts of a larger lake footprint and dam failure on the covered species. Dr. Burcher mentioned that he did not anticipate large impacts from the WWTP and Meadow Park Dam projects. He supported incorporating planned community projects like these into the CHCP when possible and then asked Tim Begley to provide details about the Meadow Park Dam project to the Steering Committee.

Tim Begley began his discussion of the project by describing the challenge that we face with water supply and storage as residents of the Plateau. He recalled a demonstration from a former county mayor in which the mayor used a porous rock and a bottle of water to show the difficulty of storing water on the Plateau.

Tim Begley continued his discussion by mentioning that according to recent round table meetings with regulatory agencies, it was made quite clear to staff that there will be no additional water impoundments planned in the state. He described that city staff explored different options to better secure the water supply. One option was to pump water from Watts Bar. At a cost of \$0.50/1,000 gallons and a possibility to nearly double the community's carbon footprint, this option was rejected as cost prohibitive. Instead, city staff decided to pursue the option to work with the Army Corp of Engineers to address increasing the size of Meadow Park Lake.

Tim Begley then informed the Steering Committee that Cumberland County receives approximately 57 inches of rainfall each year. He mentioned that we pump 2-4 inches out of the reservoir and that in the summer months the majority of the rainfall goes over the spillway. Tim Begley emphasized the need for greater storage for drier months to address drought concerns.

Tim Begley explained that by increasing the size of Meadow Park Lake, we can provide a 50-100 year fix for the City of Crossville. He said that the project would involve increasing the surface area of the lake. The Meadow Park Dam expansion would raise the dam by approximately 20 feet and roughly double the surface area of Meadow Park Lake from 260 to 560 acres.

In terms of impacts to the covered species in the CHCP, Tim described that increases in the lake size may warm the water and changes aquatic habitat downstream from a stream ecology to a lake ecology. In turn, Tim explained that this change in ecology could negatively impact aquatic species. However, Tim reported that in his opinion, the damage has already occurred because lake ecologies are found downstream even at the current lake size.

After describing the purpose of the project, Tim asked the Steering Committee if anyone had any questions.

#### **Q&A:**

**Q:** Doug Little: How many customers will the increase serve?

**A:** Tim Begley: This is a 50 year fix.

Mayor Graham: We planned for 100,000 people for 50 years. It really depends on how much money we can get. If the money is "cheap enough," then why not build it bigger and make the water available for all utility districts across the region? Currently the lake is also serving Bledsoe, Putnam, and Rhea counties with water.

Tim Begley also discussed the raw water supply from Tansi as a contingency plan to recover water in the winter months. Mayor Graham added that we can pump from Tansi from October 15<sup>th</sup> to April 15<sup>th</sup> each year to within 4 inches of the weir height.

Dr. Burcher continued to facilitate the presentation by reminding Steering Committee members that CHCP Staff will be incorporating these projects into the CHCP document. He was hopeful that the additions would not require a lot of extra time and said that their incorporation may be easier because most of their impacts had already occurred. He continued to say that most of the work would involve assessing the likely impacts to covered species in the future.

## **Monitoring Strategy**

*Dr. Chris Burcher, CHCP Science Coordinator*

*Media: Power Point Presentation*

Dr. Chris Burcher presented the monitoring strategy for the CHCP. The presentation was followed by discussion by Steering Committee members. See below for highlights from the presentation:

### *Highlights:*

**Dr. Burcher:** Monitoring is a required component of the CHCP. Currently, we have a chapter framework in draft form. We will work with our applicants to ensure that these parts of the CHCP document have met the requirements before sending the information to the USFWS for review.

Monitoring is not just about collecting organisms. There are three different areas of monitoring listed on this slide, including compliance monitoring, habitat monitoring, and species monitoring.

Compliance monitoring will include planning meetings, site visits, etc. to determine if the Conservation Measures (CMs) are being implemented. This type of monitoring will focus on checklists as things are happening on the ground.

Habitat monitoring involves monitoring for take and must be reported to the USFWS annually. What we really need to know is “How much terrestrial and aquatic habitat is lost by development each year?” This can be as simple as reviewing site plans and detailed site inspections.

Species monitoring: The CHCP is a “habitat” conservation plan. There are two approaches to monitoring; habitat monitoring or species monitoring. We do not have sufficient data necessary to monitor via the species approach, so we focus the majority of our monitoring efforts on the habitat approach. However, we are still including some species monitoring in the CHCP. The most important thing to consider is streamlining monitoring efforts for the Applicants so that annual reporting is also streamlined.

How do the applicants address projects that don't volunteer to participate in the CHCP? What influence are participants and non-participants responsible for? The applicants will be keeping track of both participants and non-participants and will be reporting both to the USFWS. The Applicants will know if someone will participate early in the process, during the planning meeting.

Clark Annis actually alluded to one of our habitat monitoring approaches earlier in the meeting...using pre-existing gauges for our monitoring efforts. The basic idea is to utilize as much infrastructure as we can to incorporate those data in our reports.

The CHCP Team is developing a monitoring plan which is largely driven by those that wish to participate in CHCP coverage. We will create a tracking mechanism for development projects; Eric (Brady) already has the capability to incorporate this mechanism.

In reading gauges, the Applicants will be looking for drastic changes in water chemistry because these changes are directly related to habitat quality for the covered species.

As Clark mentioned, these gauges can be checked by computer. If the levels are unchanged, then activities proceed as planned. If there is a change, then the Applicants have to find a way to determine what caused the change, and then trigger the adaptive management measures to address the cause.

The role of the adaptive management section is to address many of those "what if" scenarios. Responses will be triggered by changes revealed in monitoring data.

Species monitoring may not be a necessary part of the CHCP because we are monitoring habitat. However, if the Applicants can coordinate with agencies that already do species monitoring, then they can get a "maximum return on a minimum investment." Through data sharing we can "beef up" the monitoring plan/reporting. We can also build these data into our adaptive management strategies.

Several agencies are already monitoring most of our covered species anyway, and the Applicants may need to arrange an agreement for data sharing. Even though the Applicants may not be monitoring species directly, they can still use these data to make adaptive management decisions.

In summary, here are some the questions that we are trying to answer for each type of monitoring (copied from slide):

- **Compliance**
  - Are participating developments doing what they're supposed to be doing?
- **Habitat**
  - How much take occurs for each species?
  - How much habitat is altered?

- **Species**
  - Indirect – water quality and flow triggers
  - Direct – are sampling results changing? (agencies)
- **Annual Reporting**

Dr. Burcher then asked the Steering Committee if there were any questions on monitoring.

**Q&A and Discussion:**

**Q:** Tim Begley: If we are keeping running totals of acreage impacted, does this include agriculture?

**A:** Dr. Burcher: No, agriculture is not a covered activity. It is interesting that you bring this up because of the idea of cumulative impacts. One question that we ask ourselves is “Can we measure or weigh non-covered activities with take?” I think that some of this analysis will still need to occur because the information is beneficial.

**Q:** Kevin Dean: On that same train of thought, I had a non-participation discussion with Teresa (Payne) recently. Will we be able to come up with a number to tell us how good the CMs will be?

**A:** Dr. Burcher: Yes, we will be able to do this.

**Q:** Kevin Dean: Eventually, this should be an easy calculation based on data from monitoring, right? Can’t we compare take for projects implementing Conservation Measures and projects not implementing Conservation Measures?

**A:** Dr. Burcher: Yes, but I am not sure when the analysis will be completed. Thank you for bringing it up though.

**Q:** Mark Thurman (to Peggy Shute): In terms of species monitoring, does the USFWS have to approve the monitoring plans of any associated agencies whose data you will use?

**A:** Peggy Shute: We have to approve what is in the CHCP document. So in that sense, I guess we would be approving of other agencies monitoring plans as they relate to the uses of the data. During the review we will look at the agency’s monitoring plan and see if we think that they will give sufficient data necessary to inform adaptive management.

**Q:** Mark Thurman: For the Forest Resources HCP, we have to do a species monitoring framework. How is this related?

**A:** Peggy Shute: The CHCP will need to describe the data, the agency’s monitoring framework, and its uses in the CHCP.

**Q:** Tim Begley: I struggle with concept of stream monitoring in a place with uncovered activities. What if someone dumps fertilizer in a stream? How do we handle that in the CHCP?

**A:** Dr. Burcher: That is a good question. I think that is a question for the USFWS.

**Q:** Clark Annis: What's the big difference between being a participant and a non-participant under the CHCP?

**A:** Dr. Burcher: If you volunteer to participate under the CHCP, then you are covered with the USFWS and do not need the USFWS to complete a site visit/survey.

**Q:** Clark Annis: Wouldn't that require a lot of outreach to explain this to the public?

**A:** Dr. Burcher: Yes, outreach will be needed.

**A:** Kevin Dean: I'm sure we will be doing a sale's pitch to get this message out to the public.

**A:** Teresa Payne: Clark, thank you for addressing outreach. One of our plans is to provide developer workshops and public information meetings to help with outreach. We will be increasing our outreach efforts as time goes on. In addition, I plan for the CHCP staff to provide educational sessions for local agencies to discuss how to streamline their permitting processes through the CHCP. We would also like to use this opportunity to bring in staff from the permitting agencies and continue to strengthen those relationships into the future.

**Q:** Everett Bolin: Almost everything is covered except agriculture. Wouldn't these projects go through you anyway (to City Staff)?

**A:** Kevin Dean: Yes.

**Q:** Clark Annis: What makes people volunteer to participate?

**A:** Peggy Shute: There is an enforcement part of the Endangered Species Act (ESA). We (USFWS) don't like to enforce the ESA if we don't have to, but enforcement can result in hefty fines and even jail time. For example, in Birmingham Alabama, the City took out a beaver dam and inundated a spring fed stream killing several endangered fish species. The USFWS prosecuted the City of Birmingham for this action under the ESA and it resulted in a \$750,000 fine; the USFWS would probably not have prosecuted the City of Birmingham for this action if they had not already known about the species in the stream and decided to take action anyway. If you participate in the CHCP, then you will be lawfully taking species and you are covered. Enforcement of the ESA also applies to private property owners via section 9 of the Act. We do not want to enforce the ESA with private land owners, but it is a possibility. We prefer the CHCP as a proactive approach to protection when possible.

**Q:** Tim Blount (To Peggy Shute): Was the ESA enforced with the City of Birmingham because they knew about the species and did it anyway?

**A:** Peggy Shute: Enforcement is more likely when people know and take action anyway.

**A:** Rebecca Schapansky: I agree that enforcement is more likely when people know and take action anyway. I have worked with enforcement projects in the past. On one project regarding wood storks and wetlands, the offenders originally agreed to protect the wetlands for 5 years, but they did not keep this agreement and drained the wetlands anyway. They were prosecuted.

**Discussion:** Dr. Burcher: Enforcement of non-participants in the CHCP will likely have a greater impact on the level of participation because we can see direct impacts of enforcement locally to members of the community.

**Discussion:** Gay Stewart: I cannot express how necessary that it was to make the CHCP voluntary. I believe that it is a huge asset to developers and land owners to have a voluntary option.

**Q:** Clark Annis (to Karina Bynam): If we improve water quality in the Obed, then is that going to put us in a better position to get increased capacity in the future?

**A:** Karina Bynam: If you improve water quality, then you are very likely to receive exceptional status with TDEC. A lot of calculations for TDEC permits are based on flow though. You have very low flow here in Cumberland County with effluent dominant streams.

**Discussion:** Mayor Graham: I like this “Me too” effect that we are addressing by including Meadow Park Dam and the Waste Water Treatment Plant on the CHCP. This marks a good day because developers will look at this and we will be an example for other cities using HCPs. Last week at the Sustainability Fair, every 5<sup>th</sup> grader in Crossville was given the opportunity to talk to 34 demonstrators about sustainability, recycling, water quality, etc. I want to thank everyone at this meeting, because the Steering Committee will be the core group supporting sustainability in this community into the future.

**Discussion:** Tim Begley: What we are teaching our kids about sustainability is great and it is our future.

**Discussion:** Peggy Shute: In reference to the Mayor’s comment about Crossville and Cumberland County being an example to the rest of the state, I would like to say that the USFWS really wants these things to happen and be successful because we want the rest of the state to become proactive about species protection. This is especially important as more species are added to the endangered species list over the next 30 years or so. You all are ahead of the game because your covered species list has covered all of the species that I think are likely to be listed within the next 30 years.

**Q:** Doug Little: Is the monitoring being done by the permit holder? How much personal monitoring do you think that I should do to cover myself as a developer?

**A:** Dennis Gregg: Well, it’s not zero; erosion control for example.

**Q:** Doug Little (to Dennis Gregg): Do you think that I need to do a baseline? If I don’t do a baseline, how do I know what impact my development activities have had?

**A:** Dennis Gregg: It’s the conservation measures that you need to document that you have done. If all of the fish die downstream, and you can show that you did all of the conservation measures, then it’s not your problem.

**A:** Kevin Dean: You are not responsible for the failing of the conservation measures. If you did what you were supposed to do, then that is all you are responsible for. Let’s say that you were required to install silt fencing and the stream still experienced erosion. Well, that would trigger adaptive management and as long as you complied with the conservation measures, then that is not your fault.

**A:** Peggy Shute: (to Doug) That’s on us (USFWS) to review the plan to say that it is sufficient or not to protect the species.

**Discussion:** Kevin Dean: If something is not working, then adaptive management is triggered. From there we learn ok, silt fences are not good enough, let’s try something else.

**Q:** Rebecca Schapansky (to Dr. Burcher): Chris, earlier we were talking about monitoring and issues that make it difficult to determine causes of impacts. What are you getting when you are monitoring? It is important to make sure that you can link to the cause. Otherwise, why do the monitoring?

**A:** Dr. Burcher: Notice that most of our monitoring is passive. We must have a return on our monitoring investment.

**Q:** Dennis Gregg: Does the take model incorporate a secondary effect such as movement of invasive species? If I go out into the forest and build a subdivision with houses and roads, within 10 years there may be invasive species that will impact endangered species. How do we account for this?

**A:** Dr. Burcher: There's really not even a way to do this. Swainson's warbler is really the only species that I think that this would impact.

**A:** Mark Thurman: Cerulean warbler habitat can be impacted by cowbird parasitism which can be increased by not just exotic, but invasive species as well.

**Discussion:** Dr. Burcher: There are immeasurable net losses and net gains with any model. We did not measure those things and not everyone agrees with that.

**Discussion:** Gay Stewart: It is always impossible to measure the unknown.

At the end of the discussion, Teresa Payne thanked all attendees for coming to the meeting, announced the next Steering Committee meeting (September 19<sup>th</sup>, 2013 at 1:00 PM, City Hall, 4<sup>th</sup> Floor Training Room), and adjourned the meeting.

**ADJOURN**