Etowah HCP Steering Committee
October 21, 2005
Cartersville

Present:
Steering Committee, Voting: Michael Castagna, *City of Jasper;* Norman Pope, *Pickens County;* Mike Tuller, *Cobb County;* Lynn Tully, *Dawson County.*

Steering Committee, Non-Voting: Mike Harris, *DNR;* Katie Knowles, *USACE-Allatoona;* David Kubala, *CCWSA.*

Advisory Committee and Interested Parties: David Ashley, *JJ&G;* Sam Breyfogle, *Temple-Inland;* Mauro Chiaverini, *Temple-Inland;* Laurie Fowler, *UGA;* Emily Franzen, *UGA*; Beth Gavrilles, *UGA;* Curt Gervich, *HCP;* Frank Gipson, *Cobb County;* Robin Goodloe, *FWS;* Evert Grobbelaar, *City of Canton;* Stan Hall, *Cherokee County;* Marjorie Hicks, *Biohabitats;* Susan Kidd, *TGC;* Lamont Kiser, *Bartow County;* Ben Knowles, *UGA;* Gary Mullinix, *City of Canton;* Chris Robinson, *Paulding County;* Jamie Baker Roskie, *UGA;* Michael Smith, *Smith & Smith;*
Candace Stoughton, *TNC;* Seth Wenger, *UGA.*

Welcome: Lamont Kiser on behalf of Steve Bradley & Commissioner Clarence Brown

I. Priority Area Protection & Runoff Limits Program
Seth explained that priority areas are watersheds critical to the survival of the imperiled species. They were selected on the basis of distribution of fish populations.

- Priority 1 areas protect the most sensitive species, and the most species overall;
- Priority 2 areas protect mainly Cherokee darters, and others;
- Priority 3 areas need no extra protection, as there are no known populations of imperiled species there.

Last year the Steering Committee adopted a stormwater ordinance, very similar to the Metropolitan North Georgia Water Planning District (MNGWPD) ordinance. The Priority Area Protection Runoff Limits provisions being voted on today will be inserted as Section 5 in that ordinance.

The goal is to set runoff limits at a level species can handle without going extinct.

To determine these limits, UGA scientists modeled fish response to different factors: natural features, historic land use, and current land use. They looked at all three to see which best predicted the actual fish population distributions. They wanted as much data as possible to be sure that current land use is, in fact, the driver of fish population distribution.

They consulted with national and international experts on this kind of modeling.

In cases where the threatened species were so rare that not enough data was available, they used surrogate species (species very similar to the threatened species) to run the models.

Seth showed some of the modeling results:

For example, for the Etowah darter, there's an 80% probability of occurrence in large streams where there's zero effective impervious cover (EIA). The probability of occurrence drops off entirely by 6% EIA. For small streams, probability starts at 40% for zero impervious cover and drops out at lower levels of EIA. They needed to use a surrogate species for the amber darter.

The Cherokee darter doesn't seem to respond to impervious levels, but shows a response to forest cover (the more forest cover, the more likely it is to occur). It's more common in smaller streams than larger ones.

They used this information to determine where the Priority 1 areas should be located.

They don't know exactly how sensitive the rare species are; four of the nine they were able to test are as sensitive as the Etowah darter, so they hypothesize the others are as well.

Runoff limits are based on the fish species' sensitivities. Runoff in Priority 1 areas is limited to the same amount of runoff as would have occurred under pre-development forested conditions. Developers will essentially need to make their developed site act as if it were a forest.

Although Priority 2 areas mainly support Cherokee darters, they are also important because they play a role in protecting the downstream Priority 1 areas. The scientists propose limiting runoff in those areas to the same amount of runoff as would occur if the site had 5% actual impervious cover.

There is no runoff limit for Priority 3 areas.

Analyses show it's possible to meet the Priority 1 and 2 limits for most kinds of development in the Etowah. For intense commercial and multi-family development, however, there will need to be some flexibility. A small number of nodes for more intense development within the priority areas, chosen by local government, can be accommodated. In those nodes, the runoff would be limited to half the amount that would otherwise be generated by the actual impervious cover on the site. For example, if the site has 80% actual impervious cover, it has to act as if it only has 40%.)

To determine the capacity for development nodes, the researchers used the same models that accurately predicted current fish distributions to estimate the impacts of the nodes on fish species.

Seth presented maps showing the probability of occurrence of Etowah darters over time under different scenarios: current conditions, future with no HCP, and future with the HCP including runoff limits.

The current scenario map matches up well with actual collections.

The "No HCP/ No runoff limits" scenario assumes some stormwater management according to the MNGWPD ordinance. This scenario doesn't predict total species extinction, but does predict a very dramatic loss. Under this scenario, Amicalola Creek is the only stream with a high probability of occurrence of the species; the probability drops below 50% everywhere else.

The "runoff limits/HCP" scenario shows some loss, but the priority areas still look pretty good. The model predicts a bit of a decline in areas that are marginal to begin with, but the largest populations should continue to have strong numbers. The amount of loss will be the basis of the estimate of "take" under the HCP.

Seth then compared these scenarios in graph form.

Candace asked whether the take under the HCP scenario would be approved by FWS.
Seth said that FWS will base their decision on biologists' opinions. The HCP researchers are holding a conference call with biologists from around the country about this next week. They are asking for their opinions on which systems are critical, and how much loss is acceptable. They're trying to get this reviewed by as many biologists as possible.

Robin said that the Endangered Species Act (ESA) allows for incidental take; the question is whether the change allowed by the HCP is too much. Certainly there's a pretty dramatic difference between the HCP and the no HCP scenarios.

David asked whether anyone knows what in particular in the runoff affects the fish.

Seth said he has reviewed the work being done on that question. There's not much definitive, but there's evidence that different aspects of stormwater (e.g. flow, temperature, pollutants) affect the fish. UGA researchers did a study on flow, and it appears that an increase in higher flows and extended low flows have a major impact – but of course the flows carry pollutants. Suspended sediment is emerging as a really big problem. The UGA researchers don't sample when the water's really high, so that effect has probably been underestimated.

David asked whether infiltration of stormwater causes groundwater contamination.

Seth said there has been extensive research into that issue, usually from places where groundwater is used for drinking water. Highly polluted runoff going into a drywell could be a concern where groundwater is used for drinking water, but rooftop runoff is fine. Bioretention works well. Dry wells are shallow trenches, not injection wells.

Lynn asked how the UGA scientists came up with the "half impervious cover" standard for the nodes.

Seth said that there has to be some reduction in effective impervious cover to protect the fish. He first modeled a scenario with no restriction on impervious cover, which showed there'd be room for hardly any nodes. He tried scenarios with different impervious levels until he found a

reasonable balance. UGA researchers also looked into the feasibility of a big box store meeting the "half impervious cover" standard. They asked professionals who design these types of buildings if meeting this standard were possible, and were told that it was. One of the companies had done similar designs in Florida and was interested in seeing if it would work here.

For a large parking lot, they might have several bioretention cells, with a smaller-than-usual detention pond. For a subdivision, there might be 2 ponds in series.

Robin asked about the cutoff for large vs. small streams in the models. Seth said small streams are those that drain 30 sq km, large streams drain 90 sq km.

Curt then talked about how a development can meet the runoff limits, the technical committee process and conclusions.

The runoff limits can be accomplished in two ways:

- Better Site Design practices to reduce runoff
- Infiltration of runoff through stormwater BMPs

He showed several examples, including a raingarden designed by Diane Minick, bioretention areas in Freedom Park, a raingarden at the Etowah Water & Sewer Authority, and a Cherokee County subdivision.

He explained that the BMPs are designed to be able to collect the necessary amount of stormwater by using the "curve number" method from the Georgia Stormwater Manual, which engineers routinely use.

Engineers first determine how much runoff the site would generate in its forested, natural condition; then how much runoff the developed site would generate; and then they subtract the former from the latter to determine the amount of stormwater that needs to infiltrated to meet the runoff limit. Then they can determine how to size the BMPS and how much stormwater to infiltrate.

The Advisory Committee asked Alfie Vick, a stormwater expert and professor in the School of Environmental Design, to take the plans for an existing subdivision and redesign it to infiltrate to the Priority 1 level. They asked him to retain the subdivision layout as already designed. This is a sort of worst-case scenario for meeting the runoff limits, because using Better Site Design to lay out the subdivision in the first place would have resulted in a lower volume of stormwater needing to be infiltrated by the BMPs.

Alfie added a dry well and rain garden to all the lots and swales along the streets; otherwise the site plan was unchanged.

Lynn asked how much of each lot is taken up by the raingarden. Seth said it was less than one might expect – the design included an infiltration chamber placed under the driveway and a small raingarden to remove pollutants before infiltration.

Curt said the Technical Committee included developers, engineers, stormwater professionals, county and city representatives. They met several times, and will continue to meet to work on a manual as an addendum to the Georgia stormwater manual.

The Technical Committee agreed on priority areas and runoff limits.

There was a question about how to ensure homeowners maintain the raingardens properly. Curt said this issue was the main topic of discussion of the Technical Committee.
They came up with a set of common problems and proposed solutions for maintenance issues.

1. *Problem:* maintenance responsibility is not clearly assigned. *Solution:* assign clear responsibility.
2. *Problem:* too few inspections, and often irregular. *Solution:* jurisdiction should inspect on a regular schedule, which varies depending on the size of the development.
3. *Problem:* if facilities fail, property owners often don't fix. *Solution:* government can fix and bill owner.
4. *Problem:* HOAs dissolve. Solution: mandatory HOAs, required to have adequate funding and can't dissolve without passing on maintenance responsibility to another entity.
5. *Problem:* Homeowners don't maintain stormwater facilities, or sometimes even destroy them. Solution: inspections ensure maintenance, specify maintenance obligations on the deed, and pass maintenance responsibility on to future owners. The Technical Committee mentioned that in many cases, instead of having raingardens on each individual lot, raingardens could instead serve 3 or 4 lots; then they're the HOA responsibility, and more likely to be maintained. They also talked about having inserts in water bills and educating realtors about maintenance.
6. *Problem:* Insufficient funding. *Solution:* Stormwater Utility (Cartersville just started process of developing one.)

The Technical Committee also came up with a maintenance responsibility schedule.

There was a comment that governments may have to start taking ownership of these BMPs that benefit the whole community, because individual property owners often don't maintain them properly.

Amendments to Stormwater Ordinance
The Technical Committee recommended amendments to the stormwater ordinance because there were a couple of unfinished sections. Curt summarized the amendments:

Section 5 – Priority Areas/Runoff Limits
This section had been left blank while the Runoff Limits program was developed.

- 5.1 – specifies runoff limits for different priority areas and development nodes.
- 5.2 – requires use of approved procedure to calculate runoff volume (currently curve number, but if another method becomes approved, that could be used.)
- 5.3 – requires use of approved stormwater BMPs and facilities.

Detailed information on calculations and BMPs will be included in the technical manual the Technical Committee is drawing up. This will be a document to help developers and engineers design stormwater management systems that meet the runoff limits.)

Candace and Mike suggested including a parenthetical note in Section 4 on page 17 to say "unless provisions of section 5 apply."

Section 7, Ongoing Inspection and Maintenance

- 7.1 – clarifies that repair and maintenance be done as specified in Homeowners Association (HOA) covenant. 7.2 – states that enforcement procedures in 7.5 must be followed after a warning is issued; and the local jurisdiction must comply with the inspection/maintenance schedule.
- 7.5 – states that if the responsible party fails to maintain a BMP, the local jurisdiction can fix it and place a lien on the property.

Discussion followed. Norman said that most Priority 1 areas are rural, served by septic systems. He asked if we can include a septic maintenance requirement. Laurie said we're not sure it's directly linked to the survival of the imperiled species. We know it's a problem for the lake, but are not sure if it's as big a problem for the fish as the known stressors (chiefly runoff). A link is suspected but not yet certain.

Laurie said that we have to be sure that we're not overreaching; we can't ask FWS to regulate something that doesn't impact the fish. Laurie said that even if septic maintenance is not part of the HCP, UGA will provide a model septic maintenance ordinance to anyone interested in it.

David asked if the HCP is dynamic; Curt said that adaptive management requires monitoring of species, habitat, and whether ordinances and BMPs are being done.

Gary asked about training in stormwater BMPs for local government staff. He also said it was important that the playing field is level in all the jurisdictions, so that it costs developers the same to do business everywhere.

Curt said that there will be training programs. Laurie added that DCA is already planning to do some stormwater training, and we'll partner with them in the Etowah. Also, FWS has funded the HCP development process for another year to cover outreach and training for local governments.

Lamont expressed concern about the burden of inspection of individual lot BMPs, and that he thought it would be better to encourage regional BMPs.

Seth said that the Technical Committee heard this concern from many people. Research shows that the more distributed the system, the better able to replicate the site's natural hydrology. In developing the manual, with the help of the Steering Committee, the Technical Committee hopes to figure out the optimal way to balance effectiveness and practicality of inspection/enforcement.

Mike Smith asked if existing developments within the priority areas will need to be retrofitted to bring them in line with the runoff limits.

Seth said that existing development is grandfathered in; the runoff limits program only applies to new development. We are working under the assumption that the fish are persisting now with the current level of development, so we need only to control runoff from new development. We're adding total volume, not just peak rates. Engineers say this is very doable, but it's different from what they're used to – they're used to focusing on the rate of runoff, this requires them to focus on the volume.

We haven't explicitly discussed how nodes will work for redevelopment. Anything existing is called an existing development area. If there's redevelopment there, it would be treated like a development node, and would not have to meet the stricter levels. The Technical Committee doesn't want to discourage redevelopment.

There was a question about buffer requirements. Curt said that buffers are not included in the stormwater ordinance.

David asked whether MNGWPD or HCP buffer rules take precedence. Laurie said that the HCP counties would need to go by the HCP regulations because they're pursuant to a different law. If the MNGWPD changed their rules, the Steering Committee – which stays in place for the life of the HCP – would have to decide whether to change the HCP regulations to be consistent. If a county decided that they couldn't live with the HCP regulations, they'd have the option of dropping out of the HCP.

David asked what would happen if the fish continue to decline even with the HCP in place. Would FWS say "no more development?"

Laurie said that her understanding is that if you comply with the terms of the HCP, you are shielded from liability. For the life of the HCP a developer in your community can't be sued for violating Section 9 of the ESA if he is complying with the HCP. If, when the term of the HCP is over, the communities want to continue the HCP, FWS might ask them to do more.

Candace asked if the HCP can be changed to better protect the fish if, for example, in year 10 we're doing everything according to the HCP regulations but the fish are declining.

Laurie said that as part of adaptive management, the Steering Committee will decide what will trigger the Steering Committee getting back together and figuring out what to do about a decline. There will need to be a Technical Committee on adaptive management. FWS will need to approve the Adaptive Management document, including the triggers for re-convening the Steering Committee. The idea is for local governments to have as much certainty as possible, so we'll try to anticipate potential problems. Adaptive management should include triggers that will give us a chance to work with FWS to make changes before take is exceeded, so as not to have changes imposed on the HCP by FWS.

Robin said that it's fairly standard to have additional requirements added as science gets better.

Mike Harris said that if something comes along that's outside the purview of any anticipated actions, the counties are covered.

The Steering Committee agreed to adopt the amended stormwater ordinance, and directed Laurie and Curt to contact the absent Steering Committee members to ask for their votes.

Pickens County Runoff Limits Pilot Project

There were several meetings with officials from the City of Jasper and Pickens County to organize the project. The officials recommended a technical committee of local stakeholders.

Seth ran models to show impacts based on current/near-future conditions, and on buildout based on current FLUP with runoff limits. He modeled assuming that development in Priority 1 areas could go to a higher density than currently allowed (agricultural 1:10 acres, residential 1:1 acre). For the FLUP buildout/runoff limits scenario, the model shows a slight drop in species. A third scenario starts with the buildout/runoff limits and includes some conservation areas that Mountain Conservation Trust plans to protect. (He ran the conservation scenario to see how necessary it is to go beyond the runoff limits and conserve land too. The model showed that the addition of conservation areas improves things (for the species) a bit.

Conclusions from the modeling showed that under the proposed runoff limits program:

1. most streams remain habitable in Priority 1 areas
2. more development is planned in Priority 2 areas
3. runoff limits are enough to protect habitat even with that additional development if they're rigorously implemented

The stakeholder committee worked on how and where to place the higher density development nodes. The local governments wanted a flexible scheme to locate them; they didn't want to put them on the map, but preferred to base them on variance requests.

Candace said that TNC is trying to figure out where to conserve land. Seth said he found that replacing development with conservation shows a small benefit. The committee did not discuss changing node capacity based on the presence of additional conservation areas. In Pickens, there may be some growth on Rte. 515 for instance, that's not on the FLUP, so they need some flexibility, but it's not unlimited flexibility.

Mike Smith said that from a planning standpoint, the value is to show that it's not too difficult to add a habitat conservation analysis.

Mike Harris asked how long it takes to run the model for various jurisdictions.

Seth said it was developing the model that took the most time, but now that that's done running the actual models should be a lot quicker.

One of the most challenging aspects of doing the modeling is getting the information and converting CAD files to GIS.

Pickens County recommendations:

1. Adopt and implement stormwater ordinance including runoff limits.
2. Consider all currently zoned commercial and intense uses as nodes. Reserve additional node capacity in Priority 2 (assuming that there haven't been a spate of rezonings)
3. No additional nodes in Priority 1 areas.
4. Look into a TDR program, since there's some benefit in conservation

Dawson and Cherokee Counties will be next. Dawson finished their FLUP last spring. Their citizen committee is in place, and should complete the Priority Area planning this winter. Cherokee is working on their comprehensive planning process, and is due to be done by fall 2006.

II. Final version of Technical Committee recommendation on Conservation Subdivisions

Mike Smith, a member of the Technical Committee, described the committee process. He said that a conservation subdivision ordinance is not controversial with developers or local government staff, as it saves everyone money while protecting habitat. The ordinance allows the same number of lots on a piece of property as a conventional subdivision would have, and with less infrastructure to maintain. This provides developers a way to meet the runoff limits.

The concept is to cluster lots and save large areas of open space. The model ordinance is based on the MNGWPD model. Local jurisdictions could adopt a more stringent ordinance than this if they like, and some jurisdictions may already have adequate ordinances in place.

The model ordinance contains both requirements and recommendations.

There was discussion about some of the provisions of the model ordinance.

Robin asked whether utilities and roads, including open trench construction, can go through the open space. Laurie said that road and utility crossings of streams are addressed in their own ordinances. Seth said that the Committee wanted conservation subdivisions to be no more difficult to do than conventional subdivisions, so it was better to cover crossings in an ordinance that both kinds of subdivisions would follow.

Mike Castagna suggested that detention ponds should be allowed in the primary conservation areas. There was general agreement that prohibiting stream impoundments makes sense, and should remain a prohibited use of open space. The consensus was that it wasn't necessary to prohibit detention ponds. The Steering Committee directed Curt to ask the absent Steering Committee members if they agree with making this change.

There was discussion about whether to add a requirement or recommendation for buffers between subdivisions. Mike Tuller said that they're finding that residents of conventional subdivisions don't like clustered neighborhoods, so it's really important to have a good buffer

between subdivisions. The Steering Committee agreed to leave that up to the jurisdictions, but not include it in the ordinance.

David suggested removing the requirement that the open space be permanently protected. The voting members of the Steering Committee, however, were in favor of retaining the permanent protection requirement, and directed Curt to poll the absent Steering Committee members on this issue.

Timeline
Laurie gave a progress report on the components of the HCP.

Minimization/Mitigation
Buffers: done
E&S: done
Stormwater/BSD: done (pending final approval of today's amendments)
Road/stream crossings: in progress; will report at next meeting
Water supply: in progress; will report at next meeting
Mass grading: in progress, will report at next meeting
Utility crossings: in progress, will report at next meeting
Conservation subdivisions: done (pending final approval of today's amendments)

Priority Area Protection
Pickens County: done (pending adoption by county and city)
Dawson & Cherokee: next in line
Note: Fulton doesn't need to be done, no Priority I or II areas

Adaptive Management: Technical Committee to begin work
Implementation Strategy: Technical Committee has started meeting
HCP and Environmental Impact Statement/Environmental Assessment language: drafting has started
Scientific reviews: ongoing

Adoption of ordinances:
Counties and cities are making good progress on this. The goal is to have everything done by April 2006.

Schedule is tight, will need Steering Committee meetings for Jan, Feb and March.

Next Meeting

Friday Jan 20, location TBD