

Upper Rocky River Local Watershed Planning Group

**Next Meeting:
Thursday, May 1
at the Davidson
Town Hall
2:00-4:00**

Meeting Objectives

Hear brief presentation on Huntersville's low-impact development ordinance

Review results of CDM's subwatershed ranking protocol.

Begin discussion of management strategies for restoration and protection.

Phase 1 Watershed Characterization Overview Brenan Buckley, CDM

Brenan provided an overview of the results of CDM's Phase 1 watershed characterization (Phase 1 refers to the original watershed area encompassing Clarke Creek and the Upper Rocky River). These observed watershed and habitat stressors were reviewed to provide the planning group members with information they could use to help formulate their lists of goals that they would like to see come from the management plan. He displayed maps that illustrated 2002 DWQ Benthic site rankings, general stream conditions at a number of sites throughout the watershed, and predicted changes in subwatershed imperviousness based on zoning.

He also listed some observed water quality and habitat stressors in the Watershed:

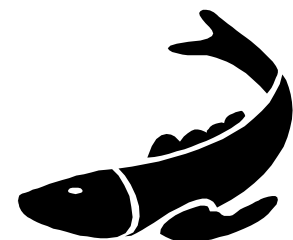
- Total suspended solids (TSS) and turbidity
- Observed streambank erosion
- Fecal coliform
- Nutrient loading (phosphorus)
- Loss of stream buffer
- Urbanization
- Toxicity in Upper Rocky river/Dye Creek
- Observed impacts to macro invertebrates
- Historical land uses.

This summary includes:

- Summary of watershed characterization results, Brenan Buckley, CDM
- Watershed planning group members reveal and discuss their goals for the watershed plan

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www.ces.ncsu.edu/WECO



Goal-Setting Exercise for the Upper Rocky River Watershed Plan

Participants were asked to answer the following question, and then categorized their responses.

“Look into the near future, when this watershed plan has been completed and is being implemented. You are ecstatic because...”

These are the goals the group would like to achieve with the Upper Rocky River Watershed Plan. The goals that may be addressed through CDM’s work in the next month have a ✓ next to them (CDM will develop a list of recommended management strategies that could assist in achieving the checked goals). Some of the goals in the various categories overlap with other goals.

IMPLEMENT LAND – USE PLANNING

- Use Ranking to establish land uses to protect creeks ✓
- Find a balance between growth & stream degradation ✓
- I.D. optimal locations for stormwater retrofits and LID practices ✓
- Direct Smart Growth Efforts
- Consider role of water as limiting factor in sustainable development
- Watershed Master Plans (Detailed) ✓
- Prioritize areas with greatest needs for action ✓
- Open space protected ✓
- Cooperation among agencies to solve problems
- Municipalities plan instead of react
- Use watershed boundaries instead of political boundaries for regional initiatives
- Provide data to be used by municipalities for Water Quality Master Plan ✓

PROVIDE RECREATION AND OPEN SPACE

- Establish functioning riparian buffers throughout the watershed ✓
- Use subwatershed or project ranking to coordinate town Land Purchases ✓
- Provide recreational fishing and hunting opportunities
- Increase Greenways length along streams increase
- Preservation of wetlands @ Clark Creek/Rocky River ✓
- Project improves/enhances open space ✓
- Preserve Greenway/Wildlife Corridors ✓
- I.D. high-quality preservation parcels to target for easements ✓

IMPROVE WATER QUALITY

- Developers no longer can hide under the Forestry Exemption to Soil Protection and Erosion Control Act
- Maintain/upgrade sewer collection, treatment systems
- Sediment input is reduced ✓
- Water quality improved ✓
- Investigate degradation from fertilizers and landscape maintenance efforts
- Use ranking information to investigate the pollutant load of non-point chemical applications
- Incorporate water quality BMPs into residential developments ✓
- Improved water quality downstream ✓
- Improve water quality in streams ✓
- Detailed Water Quality Models for watershed (HSPF etc) ✓
- Identify specific pollutant concerns in each sub-watershed ✓
- Storm flow peak flows ARF reduced ✓
- Improved flood plain function ✓
- Erosion checked on Upper Dye Branch ✓

PROVIDE EDUCATION

- Enhance Field research and education
- Develop educational area incorporation: wetlands, wildlife viewing, interpretive trails, etc
- Greater awareness of development impacts ✓
- Local public awareness water quality
- Public (community) involvement in water quality issues
- The public understands why change is needed ✓
- Public education (citizens and government)
- Increased appreciation of historical role of water in local/regional evolution
- Respect for water as source of all life
- Advocacy by religious community for water stewardship

RESTORE PHYSICAL HABITAT

- Protect threatened streams permanently ✓
- Stream buffers were established ✓
- Natural conditions restored ✓
- Complete restoration of channelized streams ✓
- Old WWTP site utilized as wetlands restoration (Mooresville)

- Identify healthy streams threatened by development ✓
- Restore and protect Riparian Habitat ✓
- Aquatic habitat diversity increased ✓
- I.D. good stream, buffer and wetlands restoration candidate sites ✓
- Reduce storm peak discharge flow from new development
- Preserve existing and reestablished historic wetland areas ✓
- Increase wetland(acreage in watershed) ✓
- Restore native aquatic community and habitat ✓
- Terrestrial wildlife habitat corridors protected ✓

FOLLOW UP/IMPLEMENT IN LONG TERM

- Identify and enlist stakeholders to serve on long-term watershed steering teams
- Provide for follow-up on specific watershed recommends (e.g. presentations to town council)
- Provide for long-term watershed monitoring project implement.

FIND FUNDING (\$)

- Help localities and other stakeholders I.D. funding sources ✓
- Determine cost effective subwatershed management strategies ✓
- Provide funding for the protection of threatened streams cons-easement and acquisition

Discussion of goals:

Participants had comments and questions about each of the major goal categories for CDM to consider in their upcoming subwatershed modeling effort.

Implement Land Use Planning

Can you consider water as a limiting quantity for growth? (Cabarrus has halted development based on availability of water- sparked by drought).

Can you consider interbasin transfers in this study?

Has the problem of land-use planning been realized by citizens?

Provide Recreation and Open Space

Duck and other hunting occurs on small streams that you may think are too small for recreation.

Are there any greenways plans that CDM could obtain from municipalities? (response- we can highlight larger parcels that allow recreation and/or education)

Our pilot project on Ramah Creek could be used for recreation.

Improve water quality

Participants discussed various methods of determining historical wetlands in the watershed. Some methods discussed were identifying hydric soils and looking at acreage of wetlands (data is outdated), using infra-red aerial photos (10 years old).

Brenan asked what standard should be used for connotating "good water quality" standards.

Group Agreement: The group agreed that an ideal water quality standard to aim for in their Watershed Plan is for "wadeable" waters, which are considered Class B by the NCDWQ.

Provide Education

The group discussed potential parameters that could be used to indicate whether projects could provide educational opportunities. Suggestions included:

-Presence of schools in subwatersheds

-Private versus public land

Another suggestion was to take a survey of environmental education organizations active in the area.

Restore Physical Habitat

Look at channelized streams

Look at acreage of existing habitat

Look at restoration and preservation opportunities

Find Funding

Will you look at land use values?

Should we look at flooding potential in dollars? How about flooding incidences? (response- we have and there have not been many here)

CDM will provide a menu of projects and strategies.

Subwatershed Ranking Protocol

Brenan Buckley and Michael Sloop, CDM

Brenan and Michael shared the protocol they will use to assess the subwatersheds in their modeling effort. They will be using 19 various parameters to measure aspects of the subwatersheds. The values of the parameters will be translated into a score of 1-5 based on severity of each.

The parameters will likely include:

- Percentage impervious cover (existing and future)
- Percentage impervious cover (change)
- Floodplain development/flooding potential
- Percentage riparian buffer deforestation
- Percentage buffer imperviousness
- Percentage wetland disturbance
- Soil erodibility index
- Erosion potential
- Rosgen Level 1 Scores
- DWQ habitat scores
- Presence of Natural Resource sites
- Presence of potential restoration sites
- Presence of 303(d) listed streams
- Nonpoint Source pollution loads
- Type/Condition of Wastewater management systems
- Historical Volume of Wastewater discharge/overflows
- Presence of Water supply wells
- Rules & Ordinances

These parameters will be group into five categories. Within each category, the scores resulting from the parameters will be added for each subwatershed. As a result, each subwatershed will be provided with a score

in each category, with larger scores indicating subwatersheds that need attention. The five categories for which each subwatershed will be scored include:

- Current natural resources and habitat value
- Current watershed health
- Future risk to watershed functions
- Watershed regulations and enforcement
- Retrofit Potential

Participants had suggestions for CDM that could help them to more accurately reflect their watershed goals in the modeling effort. These suggestions were listed on the previous page under “discussion of goals”.

A participant asked if there was a weighting system applied to the parameters (There is not currently, but that could be done).

Another participant asked if there was any way to assess agricultural BMPs being used in the subwatersheds. (This could be done through spot checks, but the agricultural land in the watershed is mostly row crops with 80-95% already in conservation tillage. NRCS is more likely to be working with animal operations for manure management than working with row crops)

CDM will apply the model to the subwatersheds and present results at May 1 meeting. Please contact Brenan at BuckleyJB@cdm.com if you have any other suggestions for using various parameters to assess the subwatersheds.

Brenan’s presentations from this meeting will be available at the WECO Website at www.ces.ncsu.edu/WECO.

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