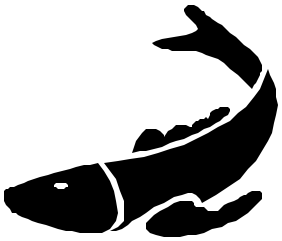
August 21, 2003 Meeting Summary

Upper Rocky River/Clarke Creek Local Watershed Planning Group

Next Meeting: Thursday, Sept. 25 at the Cabarrus Cooperative Extension Center 2:00-4:00

Meeting Objectives
Discussion about issues, potential goals in the Phase 2 planning area.

Location: Cabarrus County Extension Service Center, 715 Cabarrus Ave West, Concord



This summary includes:

- Final Watershed Management Recommendations for Phase 1, Brenan Buckley, CDM
- Initial watershed characterization results for Phase 2, Jay Lawson, MACTEC

Welcome to new Participants!

Phase 2 watershed planning began in August with a presentation on preliminary assessment findings from Jay Lawson of MACTEC, Inc. Brenan Buckley, CDM, presented recommendations for the Phase 1 watershed area in August. A draft of the Phase 1 Management Plan and Implementation Strategy will be provided to participants for their review and feedback.

New and continuing participants were provided with a draft working charter for the Phase 2 Watershed Planning Process prior to the August meeting. If anyone has any questions or changes they would like to see made, please contact Christy at Christy_perrin@ncsu.edu or 919-515-4542.

The September meeting will provide an opportunity for sharing information about your priorities in the Phase 2 watershed. We look forward to hearing about local issues of concern.

Recommended Watershed Management Strategies for Phase 1 Area
Brenan Buckley, CDM

Brenan provided the group with an overview of strategies they recommend for the Phase 1 area based on the watershed assessment. He also provided the group with a hand-out of 31 Recommended Best Management Practice sites (see http://www.ces.ncsu.edu/depts/agecon/WECO/rockriv.html).
For information about the methodology CDM used to determine best management practice sites and watershed management strategies, please visit the website to see Brenan's presentation and/or previous meeting summaries.

Brenan juxtaposed the Group's goals for the watershed with recommended strategies to show which goals were addressed. The overarching goals for the plan are:

1. Implement land use planning
2. Improve water quality
3. Provide recreation and open space
4. Restore physical habitat
5. Provide education and outreach opportunities
6. Follow up/implement for the long term
7. Identify potential funding opportunities

Specific goals from the group are matched up with corresponding strategies in the presentation.

Recommended management strategies fall into one of 11 categories.

1. *Aquatic Buffers*
   - Adopt min. buffers on all intermittent and perennial streams to smaller of 50 ft and 100 ft. or width of post-development floodplain, respectively
   - Implement riparian buffer restoration projects in Tier I and Tier II Current Health and Natural Resources subwatersheds
   - Consider 300 ft. buffers on both sides of the stream for areas adjacent to exceptional natural resources and habitat

2. *Development Controls*
   - Develop, model comprehensive land use plans that look at entire watershed
   - Allow innovative land use planning (low-impact dev., mixed use, infill, etc.)
   - Consider enhancements to Sediment and Erosion Control Programs

3. *Floodplain Management*
   - Adopt buffers equal to width of post-dev. Floodplain at minimum
   - Consider peak and volume detention to pre-development levels (particularly in Tier I and II Future Risk subwatersheds)
   - Develop maintenance program for conveyance system
   - Prepare/update hydrologic and hydraulic system models

4. *Habitat Preservation*
   - Actively i.d. and preserve buffers and wetlands in Tier I and II Future Risk and Natural Resource subwatersheds
   - Consider classifying wetlands, groundwater recharge areas, and natural heritage sites as outstanding resources and restricting their development

5. *Habitat Restoration*
   - Implement habitat restoration projects on first, second, and third-order streams in Tier I and II Current Risk and Natural Resource subwatersheds
   - Where possible, look for sites requiring both stream and buffer restoration for maximum benefit
   - Perform habitat restoration projects in Future Risk subwatersheds after build-out or installation of hydrologic controls

6. *Land Conservation*
   - Focus initial preservation efforts in Tier I and II Future Risk and Natural Resource subwatersheds
   - Focus secondary preservation efforts in Tier I and II Current Risk and Natural Resource subwatersheds
   - Preserve tracts having or draining to outstanding resources where possible

7. *Monitoring*
   - Perform wet-weather and dry-weather sampling at key points in the watershed to develop catalog of data
   - Other recommended monitoring:
     Benthic Sampling
     Fecal Source Tracing
     Flooding Complaint Database

8. *Non-discharge Management*
   - Reduce systemic sanitary sewer overflows through O&M
   - Develop illicit discharge connection and elimination program
   - Coordinate livestock management with landowners – keep out of streams, ponds
   - Develop domestic animal waste management strategies

9. Policy and Planning
   - Adopt watershed-based (not jurisdictional) management strategy with inter-governmental cooperation and project participation
   - Focus efforts on identified priority subwatersheds, but do not neglect "low hanging fruit"
   - Develop / refine watershed models (hydrologic, hydraulic, and water quality) to monitor development

10. *Runoff Controls*
    - Install / retrofit detention devices in priority subwatersheds; in tandem with restoration
    - Detain runoff from the 1-inch storm above the normal pool for 24 hours (WQ pool)
    - Match peak discharge and volume to pre-development levels (flood pool)
    - Site regional controls (80 to 800 acres +/-

drainage area) versus on-site controls where possible

11. Stewardship/Education

- Form watershed-based watershed management committee to act as watershed stewards
- Develop web- and mailing-based public education and information program
- Develop watershed research / education sites at preserved natural resource sites

Discussion regarding buffer widths:

The group briefly discussed potential benefits and drawbacks of various buffer widths. The NC Wildlife Resources Commission recommends 200 foot buffers on both sides of the stream for perennial streams and 100 foot buffer on both sides of the stream for intermittent streams at areas containing significant wildlife. Some participants mentioned that buffers on intermittent streams are important also. NCWRP requires a minimum 50 foot buffer in permanent easement in conjunction with stream restorations.

Note from WECO: CDM made their recommendation for buffer width based on the goals determined for the watershed plan. The local government entities will be ultimately responsible for deciding how and whether protection of buffers occurs in their jurisdiction.

Consensus on this issue was not noted amongst group members.

Discussion regarding overall recommended policies:

Huntersville is mostly located within a water supply watershed, which limits the amount of dense development allowed. Flexibility in design solutions would help, as one size does not fit all. Some potential solutions for Huntersville that were mentioned included:

- Sacrifice some areas for development to protect others
- Possibly look into regional detention of stormwater in Huntersville

Participants stressed the need for flexibility amongst local governments in applying recommended solutions so that they fit each area's unique situation.

Next Steps for Phase 1 Watershed Plan:

- CDM will complete the draft Management Plan and Implementation Strategy and provide to NCWRP and the stakeholder group for review.

- A Phase 1 watershed subcommittee may be formed to be involved with the Phase 2 watershed process, since much of the Phase 2 area is downstream of the Phase 1 area. This subcommittee could form the nucleus of a permanent watershed committee.

August Meeting Participants

William Allison, Iredell Planning
Jim, Borawa, NCWRC
Hal Bryson, NCWRP
Brenan Buckley, CDM
Andrew Burg, Mecklenburg Stormwater Svc.
Joni Cardin, City of Concord
Chris Challis, Kennedy Covington
Mike Ciriello, Town of Huntersville
Jim Cowden, Coop. Extension Rowan County
Richard Darling, MACTEC
Ward Elis, Ecoscience Corp.
Mark Fowlkes, NCWRC
Lindsey Hobbs, Town of Davidson
Jeff Hieronymus, Charlotte Stormwater Svcs.
David Kroening, Mecklenburg WQ Program
Jay Lawson, MACTEC
Roger Lentz, Cabarrus County
Gray Newman, Mecklenburg SWCD Board
Darrin Peine, Charlotte Stormwater Svcs.
Randy Plummer, City of Concord
Michael Sloop, CDM
Nicole Storey, Cabarrus County
Dennis Testerman, Cabarrus SWCD
David Whitley, City of Concord
Tom Yocum, NCDENR-DWQ

Phase 2 Watershed Planning: Preliminary Watershed Findings

Jay Lawson, MACTEC

Jay presented MACTEC's preliminary watershed assessment findings for the Phase 2 area. His complete presentation is available on website (once again, it is http://www.ces.ncsu.edu/depts/agecon/WECO/rockriv.html A summary of his presentation follows here.

Watershed area includes:

200 square miles located in rapidly developing "urban crescent" that extends along the I-85/I-40 corridor from Charlotte to Raleigh/Durham.

Includes portions of:
Cabarrus County (49%)
Iredell (6%)
Mecklenburg (36%)
Rowan (9%)

Municipalities:
Concord
Harrisburg
Kannapolis
Charlotte
Very small portions of
Mooresville and Mint Hill

Objectives of the watershed assessment are to:

- Assess historical and current watershed conditions
- Identify of major causes and sources of watershed degradation
- Involve of local stakeholders
- Predict of future watershed conditions under different scenarios
- Develop watershed restoration and protection recommendations

Will focus on three primary categories of watershed functions.

1. Hydrology: flow, sediment load issues, channel morphometry
2. Water quality: presence and potential origin of pollutants
3. Habitat: instream aquatic habitat and riparian habitat

Hydrology: Important factors

- Channel incision/widening
- Erosion/sedimentation
- Channel modifications

Hydrology: potential Stressor

- Development
- Channel alteration
- Aggradation/degradation
- Stormflow

Water Quality: Important factors

- Nutrients
- Sediment
- Fecal Coliform
- Metals
- Physical parameters

Water Quality: Potential stressors

- Septic systems
- Fertilizer application
- Pesticides
- Livestock
- Stormwater
- Waste disposal

Habitat: Important Factors

- Riparian Vegetation
- Instream habitat
- Fish barriers
- Exotic species

Habitat: Potential stressors

- Destruction of riparian buffers
- Channel scouring/deposition
- Inappropriate culvert design/installation
- Proliferation of kudzu in riparian areas

Data Gaps

Data gaps are identified. If any stakeholders can help with these data gaps, please contact Jay at JSLawson@mactec.com

- Biological/physical/chemical water quality monitoring
- Digital soils mapping for Iredell County
- Digital floodplain mapping for Iredell & Rowan counties
- Realistic projections of future land use
- Fecal coliform source tracing
- High-quality reference locations

WECO is:
Christy Perrin
Patrick Beggs
Leon Danielson
Kim McClain

Visit our website at:
www.ces.ncsu.edu/WECO