

Proposal to Rivanna River Basin Commission Technical Advisory Committee

Submitted by John Murphy
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Proposal: The RRBC TAC will bring the below-stated recommendation to the RRBC at its next meeting.

The TAC recommends and requests for the RRBC to join in the collaborative purchase of a land use map of the Rivanna Basin. The total project cost will be as much as \$65,000, and the River Basin Commission's cost will be as much as \$25,500.

Overview: StreamWatch, The Nature Conservancy, Albemarle County Water Resources Division, and Albemarle County Natural Heritage Committee have identified the need for an updated land use map. For the first three groups, the map would fill gaps in information about current land use as it relates to watershed processes and stream health. For the NHC, the map would help guide recommendations about conserving the County's ecological and biological diversity.

The organizations have met five or six times since November 2006 and have outlined the project scope. GIS experts within the group have been Rick Odom (NHC), Chris Bruce (TNC), and Damon Pettit (Albemarle County). Two potential contractors have been winnowed from a larger candidate pool, and a cost range has been defined.

Project Scope: Based on 2007 aerial imagery, all land within the Rivanna Basin and Albemarle County will be classified into one of the following five categories:

- Deciduous forest
- Coniferous forest
- Mixed forest
- Open land
- Impervious surface (road, driveway, sidewalk, parking lot, roof)

The product will be superior to previous land use maps because . . .

- . . . it will be based on 1 meter imagery (rather than 30 meter)
- . . . it will be based on current imagery
- . . . it will be developed according to carefully defined specifications (minimum mapping unit, error tolerance . . .)
- . . . it will be subject to a quality control and approval process led by TNC

Need: Effective watershed management and conservation hinges on the ability to accurately characterize land use and land cover. The map will be essential to any threat

assessments the RRBC may commission in the future, including threats represented by sedimentation and hydrologic alteration. The map will support work already underway by StreamWatch, TNC, and Albemarle Water Resources Division. Specific uses identified by collaborating partners are listed below.

- more effective targeting of conservation acquisitions (TNC)
- modeling the relative importance to stream health of multiple factors operating at multiple scales (population density, agriculture, imperviousness, forest cover, local habitat condition, stream morphology, sediment, etc.) (SW, RRBC, TNC, Albemarle)
- aid in the establishment of a stormwater utility (Albemarle)
- help target restoration projects, particularly riparian forest installations (Albemarle) and bank stabilization projects (TNC)

Cost and Cost Sharing: Cost will range from ~\$45K to ~\$65K, depending on specs and contractor. The higher priced product may be advisable. TNC and StreamWatch have each committed \$7K. Assuming the higher price, the remaining \$51K could be split between the RRBC and Albemarle County at costs of \$25,500 apiece.