

Assessing Riparian Health and Land Use on the New River of Ashe County, NC

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PROJECT FOCUS

Appalachian State University students will collaborate with the New River Conservancy and New River State Park of Ashe County, North Carolina to measure riparian health, land development patterns, and public attitudes about recreational development along the New River in Ashe County.

PROJECT DETAILS

Course Number, Name, and Instructor

AS 5060: Community-based Research
Dr. William Schumann

Community Partner

New River Conservancy
New River State Park

Need

The New River, part of the National Wild and Scenic Rivers network, begins in Ashe County, NC, yet there is little county-level data available about land ownership patterns, riparian health, and local public attitudes that can inform both non-profit conservation efforts and government service provision along the river. Given the limited resources available to assess these....Appalachian State University will work in coordination with the New River Conservancy (NRC) and New River State Park (NRSP) to support the capacity of these organizations to prioritize projects by providing deeper knowledge about three areas of research: understanding the extent of land subdivision along the New River; assessing the need for restorative work along riverbanks; and determining public interest in recreational tourism development.

Number and description of planned meetings with the community partner

8/29/17: NRC staff will travel to Appalachian State University to review the project goals and train students in riparian monitoring along a section of Wilson Creek in Boone.

9/2/17: Students will travel to Ashe County to canoe a 5-mile section of the New River to assess riparian health.

9/9/17: Students will travel to Ashe County to meet NRC and NRSP staff and participate in an annual river clean-up event.

9/23/17: Students will travel to Ashe County to canoe another 5-mile section of the New River to assess riparian health.

10/10/17: Students will travel to Ashe County to provide a mid-project report to NRC and NRSP staff at the offices of the NRC.

11/14/17: Students will present research findings at a community forum in West Jefferson, NC organized by the NRC.

12/1-2/17: Students will present research findings at the Appalachian Teaching Project (ATP) meetings in Washington, D.C.

3/1/18: Students will present research findings at the meetings of the Appalachian Studies Association (ASA).

PROJECT OVERVIEW

Appalachian State University's 2017 ATP project will focus on ARC Goal 4, Natural and Cultural Assets: Strengthen Appalachia's community and economic development potential by leveraging the Region's natural and cultural heritage assets. Specifically, this project will build the capacity of two community partners to prioritize conservation and recreation development efforts and efficiently utilize limited resources to sustain the rural economy and environment of Ashe County, NC. Currently, staff at the NRC and NRSP have limited or incomplete data about: the number and state of undeveloped lots along the river; the state of riparian health, including riverbanks; and preferences about additional conservation and recreational development projects among public users of river resources. A student team at Appalachian State University will collect data related to each topic during the fall 2017 semester in coordination with staff at the NRC and NRSP. Research will include three interrelated sub-projects. First, students will use ARC GIS data available through Appalachian State's Department of Geography and Planning to determine land ownership patterns along the New River in Ashe County. Second, students will canoe approximately 10 miles of the New River with GPS and camera equipment to create a geo-locatable database of riparian health conditions on riverbanks. Third, students will survey the general public at high-traffic recreational areas in the NRSP to assess public interest in conservation and development work. Data collection will enable the project partners to prioritize projects based on the size of land holdings (including the extent of river frontage on lots), the restorative needs of specific sections of river, and the potential for public support of specific projects. In turn, data collected will enable proposal writing, information exchange (e.g. county or state offices, non-profit organizations), landowner and public education about riparian conditions, and planning for present and future service demands on government agencies. Presentations will disseminate the findings to project partners, the general public, and academic audiences.

PROJECT OUTCOMES

Goal 1 Identify the numbers and types of land parcels along the New River

Objective 1.1 Use ARC GIS software to examine digital tax parcels to collect data about the number of landowners, the size of parcels, the extent of development on parcels

(i.e. forested, cleared, developed), public and private landownership patterns, and the number of subdivisions within parcels.

Objective 1.2 Create a report of land use patterns, including maps, tables, and data sets, to facilitate prioritization of NRC and NRSP conservation and recreational tourism projects

Goal 2 Assess riparian health of the New River in Ashe County, NC

Objective 2.1 Canoe with New River equipped with GPS and camera equipment to conduct a riparian health assessment of the New River with regard to the height and slope of river banks, vegetation patterns, and the extent of development.

Objective 2.2. Create a database of riparian conditions to facilitate prioritization of NRC and NRSP conservation and recreational tourism projects

Goal 3 Determine local public interests in conservation and recreational tourism projects among uses of river resources

Objective 3.1 Create a survey instrument and survey users about projects in high-traffic areas of the New River, e.g. NRSP fishing docks

Objective 3.2 Create a database of public interests, including (as applicable) tables and maps, to facilitate prioritization of NRC and NRSP conservation and recreational tourism projects

Goal 4 Disseminate research findings for community, scholarly, and general public audiences

Objective 4.1 Create power point and poster assets to share research findings with various audiences

Objective 4.2 Present research results at project mid-point to NRC and NRSP staff; present final research results at project conclusion to NRC/NRSP staff and the general public in Ashe County

Objective 4.3 Present research results at ATP meetings in Washington, D.C.

Objective 4.4 Present research results at ASA meetings

Use of project outcomes

1. Identifying the numbers and sizes of land parcels will enable the NCR to identify ideal collaborators for future land conservation efforts, e.g. it is a more efficient investment of non-profit resources to work with one ten-acre landowner on conservation than to work individually with ten small landowners that own one acre each.

2. Understanding variations in the vulnerability of specific sections of river bank will help the NRC and NRSP target limited resources on protecting the most at-risk areas.
3. Documenting preferences for outdoor recreation along the river among recreational resource users will help the NRC and NRSP plan more effectively for recreational projects that meet the widest-possible demand from resource users.
4. Sharing project data and inviting additional feedback from the general public in Ashe County will strengthen the ability of the NRC and NRSP to coordinate conservation and recreational development efforts in line with public interests for these topics.
5. Collectively, the NRC and NRSP can identify overlapping needs among #1-4 to weigh several considerations in conservation and recreation planning. For example, a future stream bank restoration project can be selected based in part on the health of stream-banks in specific areas (#2), the size of the land parcels (and number of landowners) where restoration can have the biggest impact (#1), the demands of river resource consumers relative to the goals of restoration (#3), and general public demand for river-related services (#4).
6. Data collected will support public education efforts regarding environmental health and recreational opportunities.
7. Data collected will also provide county-level authorities with better information to plan for service provision and/or environmental protection efforts.