

**PERCEPTIONS OF A CHANGING ENVIRONMENT
IN MADISON COUNTY, GEORGIA
AND SOME IMPLICATIONS FOR RIVER CONSERVATION**

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I. INTRODUCTION

Environmental anthropology and river conservation

Environmental problems, in some respects, are technical problems: ideally, given enough brain power, resources, and experience, ways could be found to make most of what we humans do regenerative, efficient, non-polluting, and sustainable. Many people tend to think of environmental problems in this way, banking on a the creation of a better technical fix as a solution. However, in a much larger sense, environmental problems are problems of human choice. They are the results of choices made both now and in the past, in households and governments, nationally as well as globally. Those choices reflect what has been seen as important, do-able, preferable, more or less risky, more or less beneficial, and more or less known or understood at particular times, in particular instances, to particular people or groups. While anthropologists have long studied the human-nature relationship, focusing on factors that range from how

population size and ecosystems interact, to the influence of religious ideas and social roles, a relatively new "environmental anthropology" uses this perspective of human choice to look at how environmental issues and problems become defined, recognized, responded to, and worked out in contemporary society. While some environmental anthropologists work within universities and colleges, others work with agencies, organizations, and citizens' groups to help them understand and come up with approaches for dealing with particular, environmentally related needs or problems.

In order to encourage the development of this application of anthropology, the Society for Applied Anthropology (SfAA), in cooperation with the U.S. Environmental Protection Agency (EPA), has begun a project that awards fellowships and summer internships to new and established environmental anthropologists to support local efforts throughout the U.S. The aims of this project are many: that local efforts will gain useful support and insight; that lessons learned from particular, local cases will inform the work of others across the U.S.; that the central and regional offices of the EPA will gain better understanding of how to support locally-based environmental planning and protection in conjunction with its new emphasis on community-based initiatives; and that new and established anthropologists will gain experience with the kinds of methods, ideas, and working relationships useful for this kind of work.

This report describes the results of one such SfAA Environmental Anthropology internship. During the summer and fall of 1997, a small grant from the SfAA allowed me, a University of Georgia doctoral student specializing in environmental anthropology, to spend some time working in Georgia with issues surrounding river basin planning and conservation. The river basin concerned is that of the Broad River, which drains portions of 10 counties along the state's northeastern border and has received national and state recognition for its ecological significance. Although the river has thus far managed to remain one of the last, free-flowing, and relatively undisturbed rivers in Georgia, area residents and researchers, seeing regional trends of increasing residential development and population growth, have sought ways to protect its unique condition. In 1997, a couple of local non-profit groups initiated a collaborative effort, along with a state agency and a public service institute of the University of Georgia, to bring to the attention of Broad River basin residents the river's significance and promote region-wide planning for its preservation.

As they embark on this innovative and ambitious project, these collaborators face some daunting challenges. Given the extent of the river, it is formidable enough to even just think about achieving protection of the main river corridor. Like most river conservationists these days, however, they also know that the condition of the main trunk is much determined by the condition of its tributaries, and that these in turn are affected by land use practices throughout the territory that the system drains: for instance, by how much paved surface there is and how much storm water runoff and pollution they generate, by runoff from fertilizers applied on lawns and farmlands, or by construction or other soil and vegetation disturbances in stream side zones. How does one find out what the residents living in ten counties think about the conservation of this river, and whether they think it's important enough to do something about it? Would residents, particularly those already invested in activities with the potential to most directly affect the river, be willing or able to modify their practices, if need be, to help preserve the river? In a rural, but changing, climate, where land use planning and controls are few and unpopular, and job development a big concern, would residents support the notion that new construction, new development, and new industry be somehow managed to keep from damaging the river system? Is there even any consensus that the river system might be under threat? Finally, in a context where there exists a strong ethic for the protection of private property rights and minimal interference of government, how might any of this be achieved?

The SfAA internship seemed like an ideal vehicle to help the Broad River project begin to address some of these questions. Given that they fundamentally revolve around questions of how people define, choose, and prioritize problems and actions, it seemed that environmental anthropology could offer some useful perspective. Since 1994, I had been following and giving occasional support to conservation efforts directed at both the Broad and Etowah Rivers, both in northern Georgia. With the advent of the internship, and the gracious help of project members, I set about becoming familiar with this particular project, its aims and players, and providing analytical support along the way. My main activity became a series of interviews conducted in one of the Broad River counties, Madison County, which I hoped would help elucidate something about residents' perceptions of their environment, the need for environmental planning or protections, and the kinds of responses they consider appropriate. I chose that county because it is the only one of the Broad River counties to have adopted extensive zoning ordinances, an event that occurred in 1994 amidst a fair amount of controversy, and residents were fresh from grappling with issues of whether and how to control land use.

The results of these interviews are presented in the following report, along with some additional information and ideas about the resources and prospects for conservation of the Broad River system. The views expressed in these interviews certainly don't represent the those of all Madison County residents, let alone of all watershed residents. They do suggest, however, something of how some residents have navigated the tricky issues of individual versus collective rights; of how individuals may use many frameworks - social, economic, cultural, physical, as well as natural - in defining what is important, threatened, and needing protection in their environment; and of how, even if individuals' knowledge of the natural environment and perceptions of risk toward it vary significantly from those of biologists or ecologists, there exist strong values of environment and community that may go far towards conservation ends.

They also suggest that there is little that is black-and-white in this situation, despite the frequent anticipation of antagonisms or hard-and-fast lines being drawn in association with environmental issues. In fact, in part because of this anticipation, I chose to present the interview results in a way that would be more likely to blur than emphasize lines. The study is too small to support conclusions that match x view with x type of person; in any case, the point of the study was discovery, to expand or open up the possibilities for thinking about the environment and its protection, not narrow them. If any interesting patterns suggest themselves, and some do, then these might point the way to further investigations.

Finally, because the questions and issues raised by the Broad River effort reflect not only dynamics specific to this region, but also many relevant to river conservation initiatives and environmental issues in general, it is hoped that the information in this study may find broader application.

Acknowledgments

I'd like to thank the residents of Madison County who allowed a complete stranger into their home or office and gave generously of their time, knowledge, and ideas. I hope that they'll let me know if anything they read here rings glaringly wrong, or any other reactions they might have. Solemn expressions of gratitude and indebtedness are also due the sponsors of this internship, for providing the excellent opportunity, and for their incredible forbearance and graciousness in awaiting the product. Finally, I owe sincere thanks to members of the Broad River Watershed Association, the Georgia Environmental Policy

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II. WHAT'S NOT TO LIKE ABOUT RIVERS? SOME THOUGHTS ON THE CHANGING FOCUS OF RIVER CONSERVATION INITIATIVES AND WHY THEY CAN BE CHALLENGING

In Georgia, as elsewhere in the U.S., there is a growing interest in the restoration and preservation of rivers and a blossoming of projects with river basins and watersheds as their focus. This interest, and the momentum it has been gaining, seem to draw from many sources. One of these seems to be a growing understanding of rivers, not just as channels of moving water, but as ecological systems in and of themselves, in which streambeds, riparian (stream side) zones, floodplains, headwaters, wetlands, and so on, interact to support unique biological, chemical, and physical processes, with the term "riverine" system being used to refer to this expanded concept (Doppelt et al 1993).

Another source is in the better understandings scientists have of the critical ways in which riverine systems interact with surrounding landscapes and ecosystems, providing "ecological services" and benefits to humans. These include providing spawning grounds and nurseries for fisheries, extending and linking wildlife habitats, slowing soil erosion and water runoff, aiding recharge of groundwater, and filtering pollution. It also includes providing the water supply for human activities, open space in densely populated areas, and both subsistence and recreation for rural people, boaters, fishers, and hunters. In turn, there is increasing evidence that the conditions of river systems - biological, chemical, and physical - are affected by the cumulative actions of humans throughout watersheds. This expanded vision of river systems parallels and draws from what is often called the "ecosystem approach" to conservation management that has emerged from the fields of ecology and conservation biology in recent years. In this approach, conservation initiatives move away from managing particular species, particular populations, or particular locations, and move towards efforts to maintain the ecological functions, structure, and dynamics of larger landscapes. It is also a model that recognizes humans as an integral and unavoidable part of these landscapes, and long-term conservation as enduring only with the consent, collaboration, and understanding of those humans. This is in contrast with "set-aside" approaches that are probably more familiar to the public, in which nature is preserved essentially by keeping human intrusion to a minimum.

Together, these perspectives have widened the scope of interventions or practices that river conservation initiatives now consider important. Whereas earlier efforts may have primarily targeted specific "point-source" discharges of pollutants, a few measures of chemical water quality, a particular species or population, or specific segments of rivers, current efforts are likely to add to these a wide array of practices throughout the river system and its watershed. These range from "best management practices" such as maintaining tree cover in riparian buffer zones, to keeping down the amount of impervious (e.g., paved) surfaces that increase storm water runoff and pollution loads in rivers. Seeing rivers as ecological systems, and as critical parts of larger ecological and human systems, has tended to expand the purview of river conservation to include regional land use practices and development patterns, and has led to thinking about whole watersheds as appropriate units for conservation management.

Whatever their scope, river conservation initiatives face some daunting challenges. Rivers lace together landscapes that cross political and agency jurisdictions, yet there rarely exist social, technical, or political institutions with a relevant geographic scope or topical focus, a problem that ecosystem management efforts face in general. The call to conserve river systems is often cast in terms of preserving something that belongs to and benefits us all. Yet most riparian areas and the watershed lands that feed the system are privately owned; the residents of a watershed have a variety of relationships to, ideas and experiences of, and priorities for both the water that rivers carry and the lands that they drain; and governments or conservation organizations rarely know enough about how proposed conservation measures might affect particular land users or managers.

One of the challenges, then, of a river system project, is to make the watershed come into view for residents, despite the fact that it may currently have no real meaning as a political, economic, social or cultural space. Typically, as has also been the case with the Broad River project, maps are drawn, aerial photos collected and assembled, and images of the watershed are created so that residents can visualize the system, and even better, place themselves in it. But even if this environmental space comes into view and reveals a certain logic, residents already have a variety of frameworks that give meaning to this space, around which they already have ideas, experiences, values, histories, and practical concerns. "Farming", "building roads", "development", "raising timber": these are all forms of environmental management, are all frameworks people use in thinking about, prioritizing options for, and making decisions about the environment. So are "property," "home place", "the place my grandparents had a mill on", "the place I've hunted for sixteen years", or "the place I'm making mortgage payments on." If the concept of "watershed" being put forth as a significant framework for managing the environment is seen by residents as a threat to, or devaluing, or competing with these commitments to and interests in the environment they already have, it seems reasonable that it could raise sensitivities and opposition, even among people who value nature and rivers. Rephrasing the first sentence of this paragraph, perhaps one of the challenges of watershed conservation is not only to make the watershed meaningful, but also to understand the values and meanings that the environment already has for residents and see how watershed conservation fits into them.

A second challenge, I'd like to suggest, has also to do with meanings, values, and interests. Terms like "ecosystem management" or "conservation" may seem relatively self-evident in intent and meaning to a lot of users of the terms. But in fact, they refer to a set of unspecified actions, to be undertaken by someone, with some set of goals in mind, based on some assessment or judgement of what needs doing, and applied to something. "Management" or "conservation" by whom? Of what? For what purposes? Using what methods? And based on whose judgements? Even left purely up to ecologists and biologists, who presumably work from similar frameworks and knowledge bases, the answers to these questions would be based on a series of judgments about where to draw ecosystem boundaries, what the most critical processes or time frames are to worry about, what standards to use for knowing when something is restored or "conserved," and so on. As a reviewer of the ecosystem management concept has pointed out, "management goals are statements of values - certain outcomes are selected over others," and ecosystem management is an inherently political process (Grumbine 1994:32). What happens when the people involved operate from potentially very different knowledge bases, experiences, values, and practical concerns, as might suburban residents, farmers, and scientists? Whose judgment prevails over what constitutes a true environmental risk, or a true economic risk, or what constitutes a sufficient conservation measure? Again, one of the challenges of a watershed conservation initiative is that is an inherently judgment- and value-laden process, and that despite the goal of arriving at a relatively coherent set of approaches to land use practices, the potential for perceived conflicts of interest, and of conflicts in

judgments about where to go and how to get there, is high.

River conservation projects might do well to take some tips from conflict resolution theory in thinking about how to deal with these potential challenges. Two concepts may be especially useful. One has to do with distinguishing "positions" from "interests." A position can be thought of as a stance that someone takes in relation to a particular problem or issue (for instance, housing contractors coming out against site management regulations for river corridors), usually in defense of their interests (i.e., feeling that they will lose more money than they can make back in sales). Unless one understands the concerns the contractors have, their stance could be read as anti environmental, or anti-regulations, when in fact, if their interests in making sure they're not caught in a financial hole are addressed, they might be happy to comply.

The second concept has to do with distinguishing "means" from "ends." The focus here is on recognizing that conflicts can arise in disagreements about either of these. For instance, watershed residents could agree that river conservation is necessary, but disagree on the appropriate ways to make that happen, e.g., whether it should be voluntary or mandatory.

Thus, in trying to understand residents' motivations for supporting or not supporting river conservation measures, river projects might do well to try to learn about the frameworks - be they based on values, experience, knowledge, practical concerns, or other interests - that residents use in defining their interests in and relationship to the environment, and that they apply to judgments of what constitute appropriate goals and means to achieve them.

III. THE BROAD RIVER PROJECT AND AIMS OF THE INTERNSHIP

The focus of the internship was a river conservation initiative in northeast Georgia that faces just these kinds of challenges. The Broad River Watershed Association (BRWA), a non-profit, voluntary citizens' group, was incorporated in 1991 by area residents interested in seeing protective measures for the Broad River developed before imminent development trends could have too much of an impact. In contrast with another group, the Broad River Action Group (BRAG), which engaged in activist opposition to specific threats to the river, BRWA was founded with the intention of working slowly to build long-term support in the watershed for river protection, as well as developing legal and other tools to assist landowners in putting river land under permanent protection. Taking a fairly low-key approach, BRWA has engaged in a variety of activities toward this end: giving presentations in schools and community groups, organizing canoe floats and other events for area residents to get to know the river, and constituting itself as a land trust so that it could hold in perpetuity conservation easements that river corridor landowners might design and donate to the trust. When the state created a fund specifically for river protection under the Rivercare 2000 program, BRWA, in partnership with the Georgia Environmental Policy Institute (GEPI, another local non-profit organization), was instrumental in getting funds to purchase a significant land tract along the river. In addition, other long-term projects, such as the creation of a paddlers' "Heritage Trail" have been in the works.

In 1997, however, BRWA and GEPI joined together with two local planning institutions in a collaborative project that will considerably ratchet up its activity level in the watershed. In conjunction with the Northeast Georgia Regional Development Center (NEGI, a regional planning assistance office of the Georgia Department of Community Affairs), and the Institute for Community and Area Development

(ICAD, a public service institute of the University of Georgia that provides planning assistance to local government and organizations), BRWA and GEPI began an EPA-funded Watershed Protection Project for the Broad River Basin. The primary aims of the project are three-pronged: 1) to promote watershed-wide awareness of and support for protection of the river system; 2) to develop GIS-based resource inventory and planning tools that could be used by local governments and organizations to evaluate potential conflicts between development and river resources; and 3) educating local government officials and regional planners on options for managing sensitive areas. As part of the public outreach and education component, at the time of research the project envisioned a series of public meetings in 8 of the 10 watershed counties which would raise public awareness about the river system, gauge public sentiments about preservation goals and methods, and ultimately, through an interactive and iterative process of successive events, result in a set of recommendations for local government officials.

Having few precedents to work from for this innovative approach, project members set about contemplating what they hoped to achieve and how to go about it. Project members allowed me to sit on some early planning meetings and interview them during this process in order to get a fix on what role my internship could play. The public interaction meetings, called at the time "River Forums," seemed to offer the greatest challenge, and while discussing this aspect of the project, members raised a variety of issues and fundamental questions. Who are those members of the public that might have an interest or a stake in river conservation, how could they be identified and connected with? What information or issues would be relevant to the public, what would speak to their interests and "fire them up?" Underlying it all, what would get residents to buy into and support river conservation practices or policies? At the same time, project members wanted the forums to be a two-way street: they didn't want to be in the position of preaching or lecturing, they wanted to create ways for watershed residents to express their values and "preferences" regarding the river. They wanted to proceed in a way that would be both respectful to participants and productive. And while they were willing to spearhead and facilitate the whole process, it was their hope that it would become more than just a BRWA effort, that there would be other organizations and constituencies that would take the process along.

At the same time, project members anticipated a variety of potentially difficult factors, many derived from their own experience thus far in raising the theme of river conservation. Some members had encountered reactions of watershed residents associating river conservation with infringements of private property rights and government interference, a theme that looms large in the ethics of many Georgians, and were afraid that outreach efforts could get stalled by this prickly topic. Another anticipation was of encountering a strong insider-outsider dynamic; since most of the project members are largely professionals based in and around the university town of Athens, and the local identity and self-awareness of area towns and counties is historically strong, there was a concern about being seen as outsiders and about the difficulties of "bridging the gap to other people in the counties." Other project members had encountered a confusion of BRWA with the earlier, confrontational BRAG, and were afraid this, too might get in the way. As part of my internship, I offered to provide support to the project in getting a fix on identifying relevant members of the public to reach out to and anticipating in what ways they might relate to the enterprise of river conservation. I provided support to efforts underway to think about "stakeholder" analysis and participation strategy, and to analyze the experiences of other watershed projects. I explored the feasibility of using existing demographic or socio-economic data bases to do some spatial analysis of the populations living in specific locations within the watershed, for instance, within sensitive river corridors, but in rural counties with dispersed populations, the data, most of it based on U.S. Census blocks and tracts, couldn't be brought down to that fine a scale of resolution. In the end, I chose to focus my efforts on an activity that I thought few project members would be likely to undertake,

and that would allow me to draw more directly on anthropological perspectives of interest. My main activity became a series of interviews conducted in one of the Broad River counties, Madison County, which I hoped would help elucidate something about residents' perceptions of their environment, the need for environmental planning or protections, and the kinds of responses they consider appropriate. I chose that county because it is the only one of the Broad River counties to have adopted extensive zoning ordinances, an event that occurred in 1994 amidst a fair amount of controversy, and I expected residents to be fresh from grappling with issues of whether and how to control land use. I chose this as my main activity also, for other reasons. For one, project members were talking about designing a survey that could be used to gauge public perceptions and reactions to river conservation planning, and like most anthropologists, I felt that someone had to go out and find out more about how residents actually frame and talk about the issues of concern, particularly in a neutral context, before survey questions that were meaningful and valid could be written. It is hoped that the interview results will provide some food for thought to this end.

For another, I was struck by the extent to which many project members expressed the sentiment of there being a gap between themselves and the general, "unknown" public in the watershed, and the extent to which they anticipated resistance or even antagonism to the topic. I felt that a useful service I could provide would be to help close this gap, or open up new possibilities to fill it. Perhaps the interviews could provide a space for residents to express, and project members to hear, a broader panorama of perceptions, views, hopes, concerns, and reactions in relation to the prospects for river conservation.

IV. METHODS USED IN THE STUDY

The informants

The original intention had been to try to tap individuals involved in four different segments of the county population, selected because it might be expected that they would have varying takes on, and experience different impacts from, issues of land use, development, and conservation: 1) people who make a living directly from the land, i.e., farmers, timber owners; 2) people involved in real estate development industry; 3) people involved in the business sector, especially retail and services largely tied to residential growth; and 4) wage laborers, i.e. workers in factories or businesses who don't necessarily have a direct economic relationship to the county's natural resources.

Rather than trying to aim for some kind of representative sample or breadth of coverage among these categories, which I felt was beyond the scope of the time I had available to me, I went for depth, in the form of fewer but more detailed interviews. As noted earlier, one of the aims of this study was to help inform subsequent studies that might be more focused on describing patterns in watershed residents' views.

I began with informational interviews with individuals in and outside the project to help orient me to the project itself, to the issues, and to these groupings I had defined. Among these were individuals involved with the Broad River project, the U.S. Natural Resources Conservation Service, the Northeast Georgia Regional Development Center, the Oconee Soil and Water

Conservation District, and a research unit associated with the USDA. From these key informants and from subsequent in-depth interviewees, I sought referrals to others who might fit my four categories. I

also approached people myself based on their apparent membership in one of these categories.

The strength of this method is that it allowed me to relatively quickly access individuals with the characteristics I sought. The weakness of the method is that it is less likely to pick up the diversity of perspectives that may exist within the (in this case, largely occupation-based) population of interest, in that individuals are less likely to know people who move in different networks or circles of association, live in different geographic areas and under different economic or social circumstances, and are therefore less likely to know people whose experiences and perspectives are markedly different. I attempted to correct for this by explicitly asking for referrals to individuals that informants thought might have different perspectives or experiences from their own. In fact, I would say that the final sample of informants is dominated by people who had some explicit interest in development and land use issues in the county, and by individuals who have been active in them in some way, either voluntarily, or inevitably as a result of their occupation (e.g., developers).

In the end, of the 21 total interviewees, six were currently or had been in the past farmers, with poultry, cattle, truck farming, and hog-raising experience being represented. 6 were involved in the real estate development industry as developer, builder, real estate agent, or contractor. Eight were involved in conservation-related organizations; however two of these were sought out for their membership in other categories, their involvement with these organizations discovered after-the-fact, and the degree of their participation in these organizations not very clear. Four informants were local or regional government employees. The total adds up to more than 21 because one person could be considered a member of three of the categories, while two others fall into both farmer and developer groups. Referrals were received for wage workers in construction, business owners, and an older and less publicly visible generation of farmers and landowners, some of the latter being described as having distinctly different viewpoints than the person who referred them. Interviews with three of these were set up and subsequently postponed by the informant to a time beyond the point at which I stopped taking interviews; others had to be repeatedly scheduled, particularly among the business people and construction workers. One of the latter skipped town with the company truck before our scheduled interview. I felt fairly confident that if I hadn't stopped taking interviews when I did, I would have succeeded in getting informants in all four groups, and a more diverse sample of informants.

There were 12 males and 9 females in the group. The group was dominated by a middle age group: 15 were in their 40s and 50s, 3 in their 30s, 2 in their 20s, and 1 in his 60s. Seven were born and raised and have lived most of their lives in Broad River counties, while eight more were from other Georgia counties.

Interview format

An interview guide (see Appendix B) was drawn up to use as a memory jog in semi-structured interviews i.e., interviews that attempt to cover a set of pre-determined points or topics at the same time that they allow informants to define, add, or reject topics, content, and terms according to how they perceive their relevance. Doing the interview guide helped me to figure out how to word questions and to think about the sequencing of topics. However, if followed as written, it would have constituted a structured interview equivalent to a questionnaire with open-ended questions, and would have been too restrictive. My interviews were directed conversations, in which I selectively used, modified, and added new questions

according to the flow and content of each interview. Some of the questions on the guide were never even attempted. The general strategy was to work from the general to the specific, trying to get the "lay of the land" as the person saw it before delving into specific topics. I typically began framing the interview in very general terms, asking first about changes in the county that the person had observed, and moving on from there to progressively more specific questions about impacts or concerns generated by these changes, about the natural environment, rivers, the Broad River, and so on. Regardless of the order, however, a bottom line set of points were addressed across interviews, namely informants perceptions of:

0. the kind and nature of land use and environmental change in the county, beginning first with changes of any kind the informant chose to describe, and subsequently asking specifically about "the environment;"
1. impacts of any changes: on the individual, on quality of life, on the environment, on the Broad River;
2. the existence environmental concerns or need for environmental protection in the county;
3. the significance of the Broad River and need for its protection;
4. selected conservation practices and tools; and
5. roles and responsibilities in relation to the environment.

Presentation of the results

The interview results presented are drawn primarily from the "non-conservation" group informants, since I saw this study as mainly being aimed at members of the Broad River project and others interested in conservation. In the presentation of the results, informants are identified only by membership in one of the target categories, occasionally by some other general term, and not always by the same category when they belong to more than one. In part this is because I promised confidentiality to all informants, even when they brushed off the need for it, so that they might feel freer to express themselves without having to worry about implications. It is also because I wanted readers to not get caught up in trying to assign particular viewpoints to particular individuals or categories of people. As noted earlier, I hoped to expand readers' ideas about the possibilities for how residents might be thinking about these issues, not reinforce or create new stereotypes. In any case, the sample is too small to really derive those kinds of conclusions.

Another choice had to be made in presenting the results: summarize in my own words and interpretations what I found out vs. presenting the data itself so that readers can appreciate and feel the weight of informants' words for themselves. In the end, I tried to strike a compromise by summarizing the main themes I saw in informants' statements, and then presenting sample comments demonstrating these themes. I hope the format is not too cumbersome.

V. RESIDENTS TALK ABOUT THE CHANGING ENVIRONMENT OF MADISON COUNTY

Development and growth

When I introduced the purpose of my interviews to potential informants, I explained that I was interested in what kinds of changes, if any, in land use, development, and the environment they had perceived and how they felt about them. When the actual interviews began, I started with a question about changes the

informant had seen in the county, without specifying the kind.

"Well, definitely, from my perspective, it's gone from farmland to non-farmland... there's no farmland, or if they are, they're non-working farms, they're idle, or cattle farms. Or, I guess, poultry's the leading industry now... But, we used to say that they weren't real farmers because (laughing) they didn't plow, they didn't work, you know, in the fields, like a farmer, like a so-called farmer does... But it's just changed so much, because when I grew up, on the farm, and worked on the farm, everybody I knew lived on the farm, and worked on the farm, like I did... I think it's becoming, basically, our county is like a bedroom county for Clarke County. We don't have that much industry in the county, so it's becoming housing." (office worker)

"To me, two tremendous things that are changed county-wide... people say, first thing they say it's population... The population right now for the '95 census and the early 50s is almost identical... there's essentially no net change... However, the people that are here are an entirely different group of people than the people that were here in the early 50s. And I think that reflects a change, obviously, in the way people make their living, and also I think something that a lot of people really don't realize is the change that has occurred in the agriculture in this area that has brought about that change." (farmer)

"A lot of people in the county have kids that have grown up, maybe had to go away to get jobs, now they want to move back to the county but don't want to farm." (builder/developer)

"I think, at the meeting the other night, ... the county commissioners, said they've already issued 500 new building permits this year in Madison County.. It probably wasn't over 25 or 30 poultry houses, and the rest of it was either mobile homes or stick-built, site-built houses." (contractor)

The quotes above represent main themes brought out by informants in response to the initial general question about changes in the county, which I would summarize as the following:

0. an increase in the population, most of whom work outside the county, with a corresponding increase in residential construction, parceling off of land tracts, housing developments, and demand for services;
1. a county being transformed from one largely dominated by a rural economy and lifestyle, to one in which most residents make their living outside the county in non-agricultural jobs, although agriculture continues to be the largest single income source;
2. an increase in intensive forms of agriculture, such as poultry houses, which with cattle, are the

commercially viable forms of agriculture, and which are organized, capitalized, and managed very differently, and have different impacts on county lifestyle and environment, than do older forms of farming;

3. a housing boom characterized by two distinct trends: subdivisions that largely serve a higher-end, professional market, and a burgeoning demand for lower- or entry-level cost housing largely being met by manufactured and some site-built homes on unplanned, individual parcels throughout the county.

Informants' initial descriptions of how the county is changing largely focus on economic, demographic, and physical characteristics. Many describe a county being transformed from one largely dominated by a rural economy and lifestyle, to one in which most residents make their living outside the county in non-agricultural jobs. The farmers I spoke to, in particular, noted that while the number of people working in agriculture had declined, it is still the single largest source of income in the county, since there is relatively little industry or commercial development. Informants described a great growth in residential development, pointing out subdivisions, individual house construction, and the large number of manufactured homes, all springing up mainly in the south and west of the county, near Athens-Clarke County, along with a large increase in the number of people living in the county.

Two of the informants noted that, while the population has increased in recent decades, it has actually only gone back to approximately the same population level that existed in the county in the early 1950s. In the intervening decades, they pointed out, the county population declined. One informant in particular explained that during the post-cotton, post-World War II years, as was the case elsewhere in the Georgia Piedmont, family farming declined along with the decline in the viability of crop farming in the region, and a generation left to seek non-farm employment. Interestingly, it is from this generation that most of my informants were drawn: 15 of the 21 were in their 40s and 50s, old enough to have spent their childhood or young adulthood on some of these now-gone family farms, but also comprising the generation that enacted the transition, largely making its livelihood off-farm and outside the county, several having gotten college degrees or other training. In turn, their grown children are among those county residents that are described as commuting outside the county for work, but who, in trying to take advantage of the lower cost of living in Madison County, remain close to family and friends, and raise their children in an atmosphere something like the one they grew up in, help create the growing demand for housing, especially moderate-cost housing.

Some informants also describe a changing landscape in what might be called more social or relationship-based terms, emphasizing a transition from one in which they felt they had known most of the people around, shared much in the way of lifestyles and concerns, resolved many issues on a face-to-face, personal basis, and felt relatively secure, to one where there are more impersonal interactions, greater anonymity, greater diversity of lifestyles and backgrounds, and a lesser feeling of personal security or control over one's welfare, particularly when it comes to land use. Two made especially eloquent statements about what the county had been like as a "farming county," where most people you knew shared many of the same rhythms and activities based on farming; where as a child, everyone you knew came home from school, changed clothes, and went out to work in the fields with the rest of the family. Parts of these statements were about the fact that farming wasn't really farming anymore - that poultry farmers are really more like factory managers than workers of the soil, and how this reflects that change from a farming-oriented community. Another, one of the only two informants in their 20s, talked about growing up and knowing everyone in his town church, about a more laid-back atmosphere, and about leaving cars unlocked with the keys in the ignition, whereas now, he only knew

about half the people in church, and unlocked cars and houses were a thing of the past. One informant considered that the demographic changes of the past 10 years had meant that the rhythm of things were perhaps a little faster, and that residents had to deal with more people of different backgrounds and expectations, but that these changes had brought an infusion of new ideas and energy, with many of the "newcomers" wanting to make a positive contribution to their new home. Those informants I asked said that most "newcomers" tried to fit in around local life, going to local churches and trying to get to know people, rather than remaining apart in separate social circles.

However, even with these changes, these and other informants expressed very positive statements about the quality of life in Madison County, their desire to continue living there, and their hopes for maintaining this quality of life.

"My roots, as far as I'm concerned, have been here.. a lot of family ties, my daddy's brothers and sisters, several of them live around here close, we grew up with cousins, and close community, and all with similar interests, similar rearing, we're all close to the same age... My parents live about six miles from where I live now.. All that, I guess, is part of what makes me still feel like Madison County is home... where I wanted to be, where I want my children to grow" (farmer)

"If it's just a matter of finding a better place to live, no, I like living here. And I'm certainly as close to Atlanta and Athens as I would like to be (laughing). If I move, I'd want to go in the other direction" (office worker)

"There's still a rural emphasis in the county, on parents and teachers working together... there isn't all that gang activity... teachers can still actually teach here" (builder/developer)

What's driving development and growth?

What a person thinks is contributing to a situation might affect how they feel about it, as well as whether or what they think they should or can do about it. One of my questions was usually about what informants see as driving growth and development in the county. In this section, at the risk of being dull, I summarize informants' many numerous points. Several comments representative of these points actually show up elsewhere in the text.

The three most commonly cited factors were: 1) the lower cost of land, lower taxes, and fewer regulations that exist in Madison, compared to Clarke Co.; 2) its proximity to Athens, as well as its increasing accessibility to Atlanta and South Carolina, especially as area highway expansion plans proceed; and 3) qualities of life in the county, apart from lower costs, such as a slower pace of life, lack of congestion, smaller communities, open space and rural surroundings, schools not yet beset by the problems of urban schools (including those in Athens), and the older, historic qualities of the county.

The new populations

Each of these factors, individually or combined, are described as attractive to several kinds of populations. One builder/developer, who has worked in more than one of the major, higher-end subdivisions that have sprung up in western Madison County, recalled most of the subdivision buyers as coming from out-of-state or out-of-county, often either professionals transferred to jobs in the Athens area or already in Athens-Clarke but seeking to move out because they could get more for their money in Madison County. This informant characterized their buyers, in general, as not necessarily seeking acreage nor a rural way of life, so much as the kind of suburban house they could buy in Clarke County but for much less cost. Some of these also sought some extra privacy, or what they thought would be safer places for their kids to grow up and go to school.

Realtor and builder/developer informants pointed out other populations for whom these same qualities of the county are attractive. Young adults and young families who may have grown up in the county, who can't easily afford to buy land or houses in Oconee and Clarke Counties, or even in Madison, but who may be able to get an acre or two from their parents on which to build or locate a manufactured house. Retired couples, downsizing and seeking a quieter life, some of whom may have grown up in a country setting and seek to "go back to their roots." And what might be called "urban refugees," couples and families currently living in urban or suburban situations, often in the Atlanta area, who seek an alternative to the urban lifestyle, perhaps some land and a few animals, some of whom, in the words of one informant, may have "a rather romanticized view of country life" that they hope to become a part of, but also "realize the intrinsic value of land and older homes... they want a piece of history." One realtor gave the example of a rural property with an old farmhouse on it that was advertised in the Atlanta paper; in the first day the ad appeared, the agency received 60 calls and the property was sold to the first caller. Similarly, one informant, who grew up in Madison County but now lives in a small town in an adjacent Broad River watershed county, recalled, unsolicited, in the course of the interview at least five households she knew of that had moved to her town from metropolitan areas, primarily Atlanta, with the intention of setting up alternative occupations that they could pursue in a small-town, rural setting. A fifth population mentioned are individuals and groups, again from metropolitan areas, Atlanta in particular, who are buying or leasing large tracts of land for hunting and recreation.

Changes in land value and turnover in land ownership

In addition, another set of factors related to changes in land ownership and land value were mentioned which, while not referred to as causing this trend of growth and development, are described as both resulting from and likely to feed it in turn. Informants across the board remarked on the rapid increases in land values that had occurred, particularly in the western areas of the county, and particularly for land in pasture or otherwise attractive for development. As one farmer noted, cattle-raising is marginally lucrative in the county as it is, so the pressure to sell pasture land can be great. At the same time, a couple of the farmer informants noted, an older generation of retired farmers exists whose land isn't likely to be farmed or farmable by their heirs, given both the marginality of non-intensive forms of agriculture in the county and the younger generation's non-farm occupations. For this older generation, selling off land for development may represent the best return they can expect to get, and have their retirement funded as a

bonus. Another set of observations made by informants relate to timberland. Three informants noted a trend where, as the pines that were planted in mid-century on former cotton and row-crop land come of age, they are being clear-cut and the underlying land often put up for sale or development. One informant described a generation of private, local timberland owners, who, having largely built their holdings out of former farmland in the post-row crop era, are likely to be selling off holdings in the next decade or so as they retire. In relation to both farm- and timberland holdings, there seems to be a generational effect, which combined with increased land values, may mean a lot of turnover in land ownership in the next decade or so.

As for factors that may restrain development, informants noted the general lack of sewer and water systems in the county as a restraint on both commercial and industrial development, as well as the distance to major interstates. As will be discussed below, also, several informants raised the question of whether there could be water supply constraints in the future.

Important issues and concerns raised by development

Informants described several issues that this trend of development has raised in the county, elaborating concerns or reactions that they themselves have, as well as those that have been raised by other residents in the county. Informants' evaluations of the natural environmental implications of development will be addressed in a separate section.

Population growth and residential development as a given

My informants, across the board, seemed to accept that growth and residential development emanating out from Clarke County is an inevitable part of the county's future:

"You can't stop people from coming into the county. I don't know where they all come from, but, you know, people come through our county and they like the environment here, they like the climate, and it's just a good place to live." (contractor)

"In Madison County, growth is coming. The next growth spurt out from Athens is going to be here. There are people that want to keep it the way it was, and there're people that want to manage the growth." (builder/developer)

"[There's] more traffic; less land available, and the cost of land that is available is extremely high... Crowding in schools, the schools are crowded. I can't think of anything else right off the bat... I don't guess it's a negative effect, I don't look at it as negative because you can't stop growth, things keep changing, so, you can't stop that." (office worker)

"Oconee county was like Madison, rural, agricultural; now, it's wall-to-wall subdivisions, pretty well saturated. Clarke Co., it's the same way, plus the tax rate in Clarke is quite high. In Madison, the tax rate is very low in comparison. It seems natural that the growth would be coming to us. It's moving our way now, it'll be more so in the future... They're saying the population will double in the next 20 years, but I don't know if anybody really knows."
(farmer)

But this inevitability hasn't been accepted without some concern.

Fear of "shoddy" overnight development

One reaction is to the prospect of poor-quality, uncontrolled, rapid development. Many informants what has happened in Oconee County in recent years as an example of precisely what they don't want to see in Madison Co.

"People who had never built a house before in their life [were taking advantage of the real estate boom]. They threw up junk and then left it... There was so much below-standard construction.... It was going up so fast, the inspector couldn't keep up with it." (builder/developer)

Impact on the tax base

Some of this concern has to do with the impact of uncontrolled development on county services and on the tax base.

"You know, people want to live in the country, in a rural environment, but they also demand all these government services, you know, police, fireman, water, sewer, garbage pick-up, a place for your kids to go to school. But... if they don't have some way to plan for it or anticipate it, you know, somebody comes out here and builds a thousand-house subdivision, there's no way the schools can handle it. The sheriff's department can't handle a thousand new houses, 'cause that's gonna equate into three or four thousand more people." (contractor)

There's disagreement, however, on just what sectors are really supporting the county tax flow. One of the builder/developers expressed the view that subdivisions and residential development (in the absence of substantial commercial or industrial development) are what support the county tax base and pay for these service, and that in that sense, residential development is good for the county. On the other hand, one of

the farmers believes that all residences represent a net drain on the county revenues, with the agricultural sector disproportionately shouldering the burden of creating a positive cash income for the county. In his view, "*people demand services, land don't demand services.*" He questions whether even the higher-cost houses generate enough taxes to pay in turn for the services they demand, while agriculture demands few services but still pays substantial taxes. This observation feeds into another set of concerns, discussed below, surrounding the extent to which residential development is compatible with contemporary agriculture in the county.

Boom in manufactured homes

Some reactions in the county to rapid growth have to do with the fact that most of the residential growth has been in mobile or manufactured homes, with several informants stating a recent ratio of at least four out of every five housing permits being granted for manufactured housing. One of the central concerns expressed about this boom in manufactured homes is that they are currently taxed as personal property, rather than as real property. Plus, in contrast with site-built houses, their value depreciates over time. They were described as creating an increased demand on county services, without creating sufficient tax revenue to the county to compensate; in the words of one informant, they represent a net tax drain.

"For the last probably 10 or 15 years, there's been a lot of, I say lower-cost but I don't say that with a negative connotation, but there's been a lot of lower-cost development, smaller parcels without planned, just divided up, and a lot of them have become just sort of mobile homes, manufactured homes. Overnight kind of growth that's, it has a quicker impact on the county, because you obviously get a change in the citizenry real quick, but with that kind of growth you don't get a change in the tax base." (farmer)

Unmet need for low-cost housing

The problem, however, as several informants pointed out, is that the boom in manufactured housing is being driven by a tremendous need for entry-level housing in the county, which isn't being met by the major subdivisions or site-built homes in general..

"Madison County has a low per capita income... [most people] are really not very high income. There have been a lot more people moving into wage jobs in the city, getting a better income... Sometimes the best they can do is to come back and get an acre from mommy and daddy, set up a mobile home on it. There's a need for mobile homes, otherwise these people couldn't get off the ground." (builder/developer)

"There's a pent-up demand for houses in the \$80,000 to \$125,000 market... [These are] kids

who graduate from high school and want to stay in Madison County. Double-wides are about the only option for a lot of these folks. A lot of first-time home buyers... If it's a two-income family, with \$15,000 or \$18,000 each, they can only afford a \$77,000 to \$80,000 house... A lot of people from the county area, that are already here, young couples, young families... At the other end of the spectrum, [there are] empty-nesters, selling big houses, gearing down. People wanting smaller houses." (farmer/developer)

Poor living conditions associated with manufactured homes

However, informants' statements seem to reflect an ambivalence in the county about how to deal with this issue. On the one hand, there is a concern about the safety of mobile homes, older ones in particular, which appear to fill an important niche in the local housing market because of their affordability. Informants knowledgeable about zoning and planning in the county indicated there was a movement afoot to restrict the movement of older manufactured homes into the county.

"There are so many mobile home residents living in poverty, yet paying good rent... We'd like to see rules for mobile homes... With the first puff of wind, they're gone, then the people buy another. They need to get their money's worth. I wish there were more low-income houses, so people wouldn't have to rent these horrible mobile homes." (builder/developer)

"Some of the old ones, they have aluminum wiring. They're very fire-prone. That's usually if they're made prior to 1976." (government employee)

Fear of developments that encourage crime, poverty

On the other hand, informants report sentiments in the county against mobile or manufactured homes, based on impressions that a lot of people have of them as being associated with crime and poverty conditions.

"Everybody complains. There's a perception, right or wrong, that they're trashy development. People have a mind set that mobile homes look trashy, have the cars up on the blocks in the front yard." (government employee)

"There's a perception of high-density mobile home parks as places of high crime." (professional)

The catch, however, seems to be, as some informants reported, that there are some similar perceptions or fears regarding low-cost or entry-level subdivisions.

"What you wind up with is the houses that they're getting, what they, builders try to do, the builders trying to come in there and build cheap houses to get people out of trailers. These people go get a 100 percent FHA loan, you know, and then they move in there, can't pay the main bills, and the house just sits there, gets sold to any Joe Schmoe, and what you wind up with, five, ten years down the road, is a subdivision with yards grown up, rundown houses... There's one that's about 15 houses in it, I mean, it's just totally run down, it's just awful. You go down there, and there's cars all out in the front yard, you know... and infested with drugs... I mean, that's basically what you're gonna get, you know, these little quick-sell houses"
(member of builder/developer group)

Anti-growth, anti-subdivision sentiments

Several informants also characterized strong sentiments within the county against the prospect of growth and development. Frequently expressing some sympathy for these positions, informants characterized resistance in various terms: as a desire to keep the county rural, the population small, and not become another Clarke or Oconee County; as a reaction to change, in and of itself and fear of the unknown; as a sense of loss of control over one's environment, particularly for those longtime landowners - the older generation of small-scale farmers; the families that have owned a few to several hundred acres of land across generations - whose land is adjacent to areas zoned and/or sold for housing development; and as a desire to preserve the nature and wildlife that many grew up with and see as antithetical to subdivisions.

"That not-in-my-backyard aspect, [it's] mainly adjacent people,[those] right immediately affected... It's an emotional response to a perceived threat, [they think] why can't we keep it the same? But that's unrealistic. It's a response based on fear, the perception that life is going to be different." (realtor/developer)

"You'd be surprised at the opposition that exists to that (referring to a subdivision with parcels as large as two acres). Because here's a parcel that was open and unused, it's next door, it's in my neighborhood, and here all of a sudden I've changed that, how dare you change that, to 20 houses. Now people have to live somewhere, and I'd probably do, if it was next door to me, I'd probably oppose it too." (farmer)

"People absolutely fear change. Fear of the unknown, and will go in some cases to almost all lengths to prevent change from, prevent change or something that they perceive to be negative to occur next to them. Some people's perception of negative would be a subdivision

development; somebody else's perception of negative would be a farmer increasing his poultry operation... " (farmer)

"These people have are extremely conservative, they've worked hard all their lives for what they have, they want to keep what they have; obviously, they don't want any intrusions, either from the government, or the neighbors, or certainly no outsiders." (farmer)

"I mean, just from growing up, I grew up on, you know, all this land, you know, you can walk out in the yard and build a fort in my backyard, you know. You know, I don't want that to change, you know, and my family hasn't changed it in generation after generation... It wasn't ever meant to be done that way (referring to medium-density subdivisions out in the county)... We tried to stop all that by, you know, going to the zoning meetings, you know, and try to voice our concerns about the zoning of it... because once you get a high-density area, then, it basically changes everything. Once you go through there, you know, it just affects the water runoff, the creeks, the ponds, and basically changes the whole system, the way everything works." (member of long-time landowning family)

Some landowners sell or develop

Some residents actively opposed aspects of the county plan or subsequent zoning regulations that they thought would cost them control over their environment; others ignored it. Yet others, according to informants, have found it in their best interests to have some control over what happens near them, as well as some benefit from it, by selling, subdividing, or developing the land themselves.

"It's growing out in Madison County ,and it's inevitable, you know, that the growth is going to be there, and we've got to get some return off the land, cause of taxes and stuff... We've got some land up in (names a place in the county)... and we're going to be forced to take some of that, you know, it's zoned commercial, so we're going to have to develop that, but the rest of the land, you know, we want to leave to all, you know, for my kids, my grandkids to enjoy." (member of long-time landowning family)

"[a person who owns farmland, whose grandkids live maybe in Atlanta] has two choices: leave it there and pay taxes on it, or sell it... If you look at it from the outside in, be objective as you can about it, it's two miles from the Clarke County line, why would you not [sell the land for development]?" (farmer)

Conflicts between agriculture and residential development

The above issues have arisen as the county moves away from being what residents knew as a primarily rural, agriculture-based county. For county residents that currently farm, one of the biggest concerns is whether population growth and residential development will threaten their ability to pursue their livelihoods.

As noted earlier, poultry houses and cattle-raising are about the only truly commercially viable forms of agriculture in the county, although a couple of farming informants noted efforts of some residents to develop alternative, specialized niches. A couple of informants noted that Madison County's poultry industry is the second largest in the state with operations of 100,000 to 150,000 birds now commonplace. Even so, and even given agriculture as Madison County's largest single economic sector, farming informants could think of few county residents who were either full-time farmers or made their living entirely from farming. One cattleman informant noted that the cattle business is only marginally lucrative in the area, unless it can be combined with a poultry operation, or unless one has a big herd. Most Madison County herds are not very large, in the range of 24-40 cows. Regarding poultry operations, a couple of farming informants noted, usually at least one, if not both, spouses in the household are working off-farm. To make a full-time living in poultry, one farmer noted, requires about six growing houses, at a cost of around \$135,000 each. To take this on requires considerable resources and capitalization, since six houses would require at least \$750,000 worth of debt. Few young people can handle this; one informant figured that maybe 50% of the operators he knew were retired from the military or from other businesses.

The combination of poultry and cattle were noted as particularly complementary, since the former generates great quantities of organic waste (known as poultry litter) which, because of its bulk, is costly to transport out of the region, and so is best disposed of locally; while the latter benefits greatly from and even depends upon the soil-building properties of litter, since much land was depleted during the row-cropping era, and litter is cheaper than chemical fertilizer. The ideal, as a couple of informants put it, would be to combine both operations in one, with the added benefit that the predictability of poultry market cycles helps balance out the less predictable cycles of the cattle market. In any case, cattle-farming informants noted that they consider litter to be a key element of their operations.

Within this context of agriculture in Madison county, a couple of the dynamics that farmers noted as potentially threatening to their occupation have already been mentioned: increasing land values in some areas, making it more difficult to justify keeping land in uses such as pasture; and the possibility of the agricultural sector shouldering a disproportionate share of county taxes. Two other factors were cited as primary concerns. One has to do with the potential conflict (already realized in other locations within the state) between the environment created by today's intensive, mechanized agriculture, such as poultry operations, and the living environment considered suitable to residential development. As one farmer eloquently put it:

"Because of that intensity, and the change in the people that are coming into the county, is where you're going to really get some conflict between population and agriculture... The population that's moving here... they want to see what they perceive as rural life, agriculture-type settings. Apparently what their perception of agriculture is, is more like what was going on in the late 50s and early 60s, when everybody had a horse and everybody had a cow. But the place of agriculture has changed so that they really resent what they're being insulted

with coming from the agricultural community... In essence,... what people want when they come out to Madison County, they want to be able to live in a serene environment, where they can watch the sun set over a pasture that's got some cows grazing in it, and everything's dandy, and in that picture you paint, there's no flies."

Intensive, mechanized agriculture, such as poultry houses, generate a lot of noise, waste, and odor within relatively small, localized places, and the application of poultry litter to pasture creates an unavoidable, enduring smell. A few informants spoke about conflicts they had heard about in other parts of the state, where new subdivision residents were quite unprepared for what to expect from their agricultural neighbors. One informant recalled a Georgia case in recent years where a residential developer had managed to successfully litigate against a farming operation that had pre-existed the development, because of the noxious conditions created. A government agricultural employee, talking about the conflicts she had come across in Oconee County, where new subdivisions have quickly peppered the countryside, recounted a case where a farmer had gone to the trouble of posting signs around his property giving passersby and residents official notice to the effect: "Warning, working farm; noise and odors present." Clearly, in Madison County, there has been some anticipation of the potential for similar conflicts.

The second concern raised has to do with the issue of animal waste generated by intensive, confined livestock operations and their potential impact on water quality. One farming informant feels that the issue has been very much in the public eye, that the media have done an unbalanced job of presenting scientific information, and that as a result, the new, residential population coming into the county is predisposed to see the kind of agriculture that predominates in the county as negative. He feels that the agricultural sector needs to take a leadership role on the issue, in large part because of this visibility. Echoing this notion, a cattleman informant described efforts by the Cattleman's Association to address the issue of more controlled applications of poultry litter to safeguard the water supply. Farming informants were well aware of recent policies in North Carolina that have legislated standards and procedures for the application of litter, and expressed the desire to avoid such impositions from without and, if anything, come up with their own, pre-emptive solutions.

Summary

These are the kinds of responses I got when asking informants about changes in the county environment in general terms, i.e., not specifically ecological. For only four of the informants not in the conservation group category was the impact of development or of the new intensive agriculture on the natural environment an unsolicited component of their general view of change in the county. For the other informants, potential implications for the natural environment were brought up usually upon my solicitation. The results of those parts of the interviews are discussed in the next section, however, I suggest that threats to the natural environment are not a key element of most of my informants' current views on and concerns regarding the changing landscape of the county.

For most informants, it is the rural character of the county, with all the characteristics they associate with it and the different things it has meant to them - slower pace of life, family relations, fewer and more familiar people, relatively inexpensive land, low taxes, few regulations and a lot of freedom in use of their

land, open space and privacy, a lot of interaction with nature and wildlife, an agricultural lifestyle or occupation - that serves as the most salient reference point for talking about what Madison County is as a place to them. It is primarily in reference to these associations that my informants described the changes they have seen in the social and physical landscape. My informants reported mixed evaluations of these changes. They all recognized the inevitability of some change happening along these lines, precisely because of its rural character and location. For some, some of this change is desirable, perhaps bringing new jobs, new people, new ideas, or new amenities. For others, the situation raise issues of loss of control over their immediate environment, or of changes in qualities of life they have known and preferred over what exists in more urbanized settings. For yet others, poor quality development and its consequences, and impacts on the county tax base and services are other major themes. And finally, for some informants, particularly the farmers, there are serious concerns about their ability to continue their livelihoods, as potentially conflicting ideas emerge of what people want the county to be.

Planning and Zoning regulations as a response to the changing environment of Madison County

Interestingly, some residents chose not to be passive in the face of these imminent changes. Having Oconee, Clarke, and places elsewhere in and outside Georgia as examples, some residents as early as the 1980s began a movement to examine the directions of land use, development, and economic change in the county, with the aim of trying to direct change so as to preserve desirable qualities of the county. "Desirable growth, not anti-growth," as one informant put it. A Chamber of Commerce was formed during that time, whose members were described as very instrumental in this process. As a current Chamber member noted, she could see the changes coming down the pike, thought the county needed some job development, but didn't want to live life in the fast lane. Out of these early efforts, as it was described to me, came first a county Planning Commission, and then a series of events that resulted in the development of two comprehensive plans and the adoption of zoning regulations. According to several informants, Madison County was one of the first rural counties in the state to develop a comprehensive plan, and is one of the few rural counties to adopt zoning regulations. This has occurred in a state and local climate strongly supportive of individual property rights and very wary of government regulation at any level. Despite considerable controversy and anti-regulation sentiment - which by all accounts persist - it appears that zoning may have passed mainly because it seemed to many residents, at least to many of those willing to become involved, to offer a means of control over their changing environment and a way to defend their place, or interests, in it. In particular, the goal of protecting the agricultural economy and preserving the county's rural character was one of the driving forces behind some residents' activism, and became the key mandate of both county plans, as well as an underlying principle of zoning. As one informant noted:

"There was enough county representation [in the comprehensive plan process] to where we heard loud and clear two things that you will do, when writing zoning ordinances or comprehensive plans: one, protect the agricultural economy, and two, to the greatest extent possible, preserve its rural character... Everything that's been done since, those two things have been kept in mind by the writers of whatever land use ordinances that have been passed in the county." (farmer)

Indeed, the Comprehensive Plans explicitly state this guiding mandate. Among other things, zoning as it has been developed in the county seeks to preserve agricultural zones and to locate more intensive residential growth away from them in anticipated development "hot spots". One of the operative principles is the "compatibility" of new with existing uses. For example, 5- acre lots are seen as compatible with some agricultural areas, while smaller lot sizes are compatible with existing towns and cities. The hope, as noted in the county plan, is to not only reduce potential conflict, but to reduce the pressures on farmers to convert farmland.

The agricultural sector was cited as one of the main constituencies that made zoning go through. Their participation was actively courted, and special efforts were made to keep them informed, according to one informant who was involved in the process. Although many landowners, including former or current farmers, were described as being vehemently against zoning as an infringement on their property rights, some evidently saw in it a way to protect their interests.

"You help us write it. You can't locate smelly chicken houses next to residences, and at the same time, we'll protect you from having something locate next to existing houses that would conflict. So they saw that. They hate the idea of zoning, but they could see that they would get some benefit from it. We kept them informed, and each time we wrote a section dealing with the agricultural community, we passed it by the people" (farmer)

Some large landowners, "old-timers" by some informants' descriptions, were described as having supported zoning because they wanted some explicit way to deal with the increasing number of unknown people and absentee landowners. Other informants made statements that echo the dilemma of the trade-offs between unfettered private property rights and zoning regulations.

"The zoning is one way to try to control the growth and then have the services that people really want once they get here... the people that already live, you know, we don't want to see our county going down because of this influx and growth. I mean, the zoning ordinances, there's no other way for the government to prepare for it... I think that zoning in the long run is going to be good for the county." (contractor)

"I'm glad that we do have zoning, uh, I'm not even sure what they're called, but we do have some zoning in Madison County. I'm glad we do, because if not, then you're going, we're nearly doing anything everywhere, and there's no appreciation for your, for the environment or your neighbor, if you don't have zoning. It's a two-sided coin, though, it does have a down side, but I guess you have to look at the other side and hope it outweighs the down side... The down side I see is that it's your property, you should be able to do with it whatever you want to. To me, that's the downside, because you lose some of your rights. But you just have to

consider what it does to the environment and what it does to your neighbor... I think that's the main fear people have, of, you know, somebody telling you they can't do, if they decide to do thus and so on their property. I feel like that's the main fear. Of losing control." (office worker)

"In Madison County, zoning is a good thing going for it. Zoning... allows us to be good neighbors... It'll help people find what they want [in the county], they'll know what's going to be around them... It keeps down confrontation... We don't need to be squeezing the farmers out... It's about making things better, that's the thing, making the community better, not tear it down." (builder/developer)

"As the county grows, and more people coming in, people want Madison County to stay Madison county. But at the same time, this is, the sentiment to individual property rights is still strong, and I am an individual property rights advocate.... [But} there's so many issues involved, there's not any clear right or wrong... But if you want to keep Madison County as it is, somebody's gonna end up getting less for his land than what it's worth. And some developers are going to end up not being able to develop a piece of property he or she thinks they ought to be able to make a profit off of... It depends on the degree that you really want to keep Madison County as it is, and what you feel like what sort of structure you have to have to keep it. Everybody's perception is different... There's so many perspectives on what people need Madison County to be... Zoning is, I think, a necessary step, unfortunately necessary step because people as a whole, rather than be concerned about these decisions that I make,... that I believe I want to pursue, how is it gonna affect all my neighbors, how is it going to affect the community; rather than [that], I'm doing this because this what's best for me, this is how I can get the most money out of it... without regard to the needs of the community, or the needs of the neighbors, and I think that when you get into a societal situation like that, you don't have any choice but to implement some controls." (farmer)

VI. HOW INFORMANTS TALKED ABOUT THE NATURAL ENVIRONMENT, THEIR ENVIRONMENTAL CONCERNS, AND THE NEED FOR ENVIRONMENTAL PROTECTION OR MANAGEMENT

Having explored informants' frameworks for describing changes in their environment in open-ended terms, I then wanted to explore how they might be thinking about the natural environment in the county. I was interested in whether or what links they might see between the patterns or trends they'd identified and impacts on the natural environment, including river systems, or whether there were any environmental concerns they had that perhaps had just not come up thus far in the conversation. Typically, my questions would take the form of asking directly if there were any environmental consequences from the trends they'd mentioned; if they had any environmental concerns; or whether they thought there was any need for environmental protection. One of the interesting tricks of the latter two questions is I very often got a response focused on more global issues like ozone depletion, or air or water pollution in Atlanta. I think that in reading these responses, it's important to realize that my questions were phrased in terms of "the

environment," which may evoke a set of ideas that might be distinct from, for instance, questions about "nature." Therefore, when I remembered to do so, I would ask informants what the terms "environment" and "nature," respectively, meant to them, again as a way of exploring informants' frameworks for thinking about the "environment," writ large.

Perceptions of "natural" environment: issues, concerns, or need for protection

For the farmers in the group, the natural environment was an automatic element of their accounts of change in the county in general, therefore many of their comments were not specifically in response to questions about "the environment." Their comments were almost always related to farming itself. A couple of them mentioned that soil erosion was much less of a concern as an impact from farming than it used to be, due to the widespread use in the region of no-till methods, the relative lack of row-cropping, and the amount of land in pasture. All my farming informants seemed highly aware of the potential impacts that intensive, mechanized, and confined livestock operations can have on the local environment, both as a nuisance factor to nearby residents (smell, noise, etc.) and on water quality, supply, and stream bank erosion. While these issues loom large in their consciousness, and informants cite examples in nearby states that have begun to require standards and procedures for some practices such as litter application, it is not clear that there is consensus or conviction among local farmers on just how ill the effects are on the Madison Co. environment of many current practices.

One farmer cited research comparing nitrate runoff from an area using poultry litter for many years with that from pine trees, with no difference found. He felt that existing research did not clearly show that chicken litter was as great a source of waterway pollution as has been made out in the public media, although he clearly felt that farmers need to be concerned about the issue, research it, and take a leadership role in dealing with it and developing voluntary standards. Acknowledging that litter application can be abused, he noted that it was a critical input for him in his operations, due to its cost and its ability to improve soil. As he noted,

"Agriculture in general, especially confined livestock operations, will have to play a major role in insuring water quality... because of the large amounts of animal waste that are produced and particularly being spread on open land, [it's] a very visible process... Agriculture has been and will be under scrutiny because of the fear of nitrates and phosphates into surface water... [and] all of Madison County relies of surface water, even the deep wells are relying on surface water runoff."

Another informant noted that the local Cattleman's Association had begun to take on issues of non-point source runoff in its member education efforts, developing suggested rates for application of poultry litter and promoting the limitation of cattle access to waterways. Echoing the first farmer, he and others within the cattle industry feel it is critical for cattlemen themselves to take initiative in developing voluntary standards and practices regarding these issues, otherwise it will end up being legislated for them. He believes that most of the cattlemen he comes in contact with do not as yet see any ill effects on the environment resulting from current practices, and therefore do not have environmental impacts as a

central concern. Yet

"It's one of those things that you just got to take it and keep working, keep working, keep getting the information out, and slowly over time, people will realize, yeah, they know what they're talking about..."

He, however, is concerned that current practices will impact not only the county's waterways, but its ground water as well.

"At some point, and it's not too far off, the farmers are going to have to justify the quantity of poultry litter that they spread on their pasture lands. Right now, whenever they clean out a poultry house, they just load their trucks and spread it, whether the land needs it or not. There's only so much the land can absorb, the nitrogen has to go somewhere... We're trying to put across that if they don't do it (monitor and adjust their practices) themselves, they're going to give grounds to the government to step in. Since there's no county-wide water system, we have to have good well water, [and] unabsorbed nitrogen could get into it... Where they're close to the Broad river or its tributaries, too much nitrogen could end up in them. Too much nitrogen, as you know, isn't good for the plant life, the fauna in rivers... Every year, more and more is going into the soil. It's slow to get down there, but it'll get there... [Once the well water is contaminated] it will be too late, because there won't be any way to get rid of it."

This informant noted that one motivation that cattlemen have had for moderating their application of chicken litter has been nitrate poisoning of grass, which is toxic to cattle, and which can result when too much is applied during a dry season. In relation to cattle access to waterways,

"But the state's going to step in and control access to creeks and rivers, if we don't do it ourselves. If we just allow the animals to access the river wherever they choose to, tear up the bank, have the soil erosion... then, the state's going to stop us. The state already has the power to do it, they just don't have the resources. Same thing with the chicken litter, it's on the books. And all they've got to do is be funded, and get enough people on board where they can go around and start checking these farms, and it's all over."

Finally, another farmer noted that she'd observed local streams running red with sediment.

For another informant, a member of a long-time landowning family, the natural environment was also a salient element of his view of general changes in the county. For him, the effects of subdivision

development and construction on natural systems and wildlife were a large concern:

"We don't agree with developers often stripping the land, by no means. We like to keep it the way it was, you know. Try not to disturb it and give animals, wildlife, a place, you know, where they can still live... Once you get a high-density area, then, it basically changes everything. Once you go through there, you know, it affects the water runoff, the creeks, the ponds, and basically just changes the whole system, the way everything works... You know, the wildlife, and the fish, and everything like that, and contamination, water runoff, sewage..."

For the rest of the informants, most comments I got on the natural environment came in response to questions phrased specifically in terms of "the environment." A few were specific to development, and mainly came from three informants involved in that sector. They included:

- because there are more paved roads, there's less soil erosion but more pollution and runoff;
- more road construction is going on, which is one of the worst culprits for soil erosion and sedimentation, and standards are poorly enforced;
- because the county doesn't have a sewage system, lots need to be developed with septic tanks, and a lot more trees have to be cleared than would otherwise be necessary;
- there's a lot of land being stripped of trees just to get the value of it, and then the land erodes;
- some individual mobile homes or parks may have overloaded septic systems that may be leaching contamination.

Another set of responses were about the prospects for air pollution, water pollution, garbage disposal, and, for one informant, questions about El Nino and the ozone layer, as well as the potential effects of certain kinds of industrial pollution on human health. Apart from the latter, however, these were topics framed largely in terms of other places, such as Atlanta, and only as speculative concerns for the future in Madison Co., not current problems.

"I guess I've never really considered we've had problems with air pollution... I'm not concerned about that at this point... But I think that if we don't recycle enough.... at some point in time... where are you going to put it? and our grandchildren are going to be grown, and where are they going to live? ... Well, I don't know how we're gonna continue at the rate we're going to do... Where will they put their trash and where will they get their clean water, I guess is what I'm trying to say. Those being the two basic things, you've got to have clean water and you've got to have somewhere to put your trash." (office worker)

The possibility of future problems with the water supply was a significant and potentially unifying concern raised by many informants, especially if the county population and intensive agriculture continues to grow. Several informants noted that the county depends on surface water for its supply, and

pointed out two issues of potential concern: increasing demands on and competition for the water supply, and the need to preserve surface water quality from pollution.

"I feel like our water supply would be affected, I don't know that it is already, but I would feel like that at some point it could be, just because of the population." (office worker)

"Also, we're not really facing this now, but there's going to be, some point down the road, there's going to be some conflict just on who gets the water. [As agriculture intensifies, land becomes more expensive, irrigation will be necessary]. Since you're dealing entirely with surface water, you could very easily diminish the flow of the Hudson or the Broad significantly by just, irrigation water... I feel like it becomes everybody's responsibility to take ownership of that problem rather than hide from it. That's's easier to say than it is to do.... I think water issues... are going to be one of the hot issues, that really brings it all in focus, what everybody needs to and must do to preserve it..." (farmer)

Perceptions of the environment

I only asked about a third of the informants this question, but when I did, I got some very similar responses that focused on soil, water, air, and occasionally plants and animals. Three also mentioned human-built structures as a part of the environment.

"My surroundings. Clear air, good pure water, lots of trees, open spaces. Towns are a part of the environment."

"Your air, your water, being your basic environment to exist."

"The environment we live in; the right combination of any water, soil, so we can have what we need to live, for our existence."

"Water, air, land fresh air that we have in (Town name)."

"Environment means the air, the plants, the animals, the trees, the soil, you know, I mean, everything."

By contrast, "nature" seemed to have a different quality.

"There's no force that can stop nature. You can slow it down, maybe,. It's just nature--"

lightening, wind, air, they can do some damage."

"When I think of nature, I think more of trees and animals, instead of just water and air; nature would be more like the way trees grow and the way animals survive as nature."

"You know, you can have environment anywhere, any kind of environment, but nature, on the other hand, is, that's the thing that's fading away, that's true, you know, wild nature."

"It's a philosophical question. You could say everything is natural, that what's man-made is natural because men are natural. In a strict sense, environment is more than just nature... the natural world minus man's interference... If you had to divorce man out of nature, there'd still be nature."

Overall, in these responses, informants' concepts of "environment" and "environmental protection" seem very much focused on pollution and on air, soil, water, and garbage disposal, as opposed to concepts like biodiversity, ecological interactions, or species abundance. It is also notable that for the farmers and the member of the long-time family, the natural environment was part of their descriptions of general changes in the county, while for the rest of the informants, the natural environment tended to be separated out and not discussed until it was specifically solicited.

VII. RIVER ECOSYSTEMS AND WATERSHED DYNAMICS

One of the themes I wanted to explore, as well, was the kinds of frameworks informants might be using for thinking about river ecosystems and watershed dynamics. That is, to try to get some hints at the ideas or knowledge base people have for thinking about river systems. This theme is actually quite undeveloped in my interviews, since I was not as systematic in addressing it as I was with other themes, and it deserves to be the sole topic of an inquiry. Sometimes, informants had so much to say about other important things, that by the time two hours were up, both they and I were well beyond tolerance for any further questions. Here I summarize results based on what informants said in response to any question or stimulus, as well as to questions directly addressing the theme, and present some informants' definitions of the term "watershed."

As some of the former quotes and comments begin to reveal, the informants that are farmers, plus an informant from a longtime land-owning family who has spent a lot of time outdoors on family and other land, show a lot of familiarity with local rivers and with many of the dynamics and activities that affect their conditions. These informants almost across the board could name the streams that cross their lands, describe where the streams came from and where they went, what streams they drained into, and could speak in terms of the acreage or portions of their land that the streams drain. As a group, these informants are very aware of different land and streamside management effects on streams and wetlands, such as nitrogen and phosphorus run-off and streambank erosion by cattle, and talked about the dynamics and functions of wetlands. At least three had allowed wetlands to remain or be re-established on their farmlands, for various reasons. They often knew where water supply lakes were in the region. Two of them, who also had roles as builders or developers, had spoken of ways that housing developments could be designed to minimally disturb the natural drainage and wildlife. The non-farmer described decreases in

fish species and abundance in the smaller streams that he believes resulted from land use changes, in contrast with conditions within the Broad River, where he thought the fish population was still strong and varied. All of the farmers, also, have been exposed to USDA programs that promote conservation practices, with all but two of them having actually participated (see later section on conservation practices). On the whole, this group expressed a lot of what could be considered river- as well as watershed awareness, coinciding in many respects with current scientific knowledge, if not necessarily focusing on issues of biodiversity and stream ecology.

With the rest of the informants, it is harder to generalize based on these interviews, and it is possible that the following may do some injustice to the knowledge of some. Those informants that were only in the builder/developer group clearly recognized issues of runoff, soil erosion, and siltation as a result both of site preparation, road construction, and removal of vegetation, as well as an issue of whether there is sufficient groundwater for development. However, they did not bring up the range of implications or impacts, or the names and descriptions of local river systems, or watershed awareness that the farming group did. A couple of informants had grown up along the Broad River; one of them fell into the farmer and builder/developer group. The other had not been on the river since childhood and little came up during our conversation in the way of river system or watershed comments, instead focusing on the localized qualities of the particular river section remembered.

I asked five informants what the term "watershed" meant to them. Most everyone knew it had something to do with water collecting, but the responses vary in their focus on the water, the land, or the protection aspects of it, and clearly have a somewhat different focus from that of a multi-county river basin conservation initiative.

"Watershed? Uh, where all, it's the bottom of the drainage of all the surrounding land. You now, it's where all the water drains in. Kind of the low point of the land." (member of longtime family referred to above with much river knowledge)

"I think of it as a body of water, but I really don't know why it's built, I really don't know the purpose. But watershed itself being, a shed to protect something, so you would, I would look at it in that light. But I really don't know what a watershed is." (office worker)

"Watershed? Well, they wanted to put a watershed lake over in Burden Creek." (government employee)

"Watershed is the area that collects all that rainfall... How can I explain it? Let's take an example, if you have a 10-acre field, it's where the water collects. It's all the area that's actually going to provide water downstream." (developer/farmer)

"Watershed? What it means to me is the land... The water that falls on a particular piece of land, it eventually passes by a particular point; all the water that drains into a particular lake." (contractor)

It is important to note that there are many "watershed lakes," as they're commonly known, in the region and in the county. These are impoundments of streams to create lakes for the purpose of water supply and/or flood control, and in some cases may be used for recreation. At least twice in my interviews, an informant took my mention of the Broad River Watershed Association or a question regarding the larger watershed to refer to watershed lakes in nearby counties administered by a Soil and Water Conservation District or by a committee of local residents.

VIII. THE BROAD RIVER: SIGNIFICANCE AND NEED FOR PROTECTION

As we moved from the general to the specific, I hoped to explore what significance the Broad River might have for my informants -- whether they used it, what they knew about it, whether they thought it needed any kind of protection. Oftentimes, the question I began with was simply, "does the Broad River have any significance or meaning for you?" followed up by inquiries about use or the need for protection. I was afraid that the wording of the initial question had the potential to be oblique, but in fact it usually worked fine.

Two informants grew up along the Broad River, but since adulthood have not gone back to use or enjoy it. Nevertheless, they think the river is special and should definitely be preserved.

"I was raised on the Broad rRver. My dad and my grandfather managed a farm that encompassed about 2,000 acres up and down the Broad River. And we'd go play in the river when, summer afternoons, have fish baskets in the river, throw a boat in the river, catch fish out of the river. But, since I've gotten grown, and we've moved away, [I haven't been back to] the Broad River... I think it's the only, last free-flowing river in north Georgia... I'd like to see it, the river, stay like it is. I mean, there's been some articles been written about building a power generating dam on the river. Might be. I'd like to see the river stay like it is, although I don't routinely go fishing or canoeing or anything on... [Why} leaving like it is? Because I remember it in my childhood, from where I grew up. We played in the river, up and down the river there, and fished on it." (contractor)

The other informant also offered very strong, personal memories of the Broad:

"We love the river... That's where I used to swim and play [growing up]... We used to go, daddy used to take us to the river, there were several little roads down, you know, to the river,

little bumpy, bad riding roads. Then when you got down there, it was a pretty smooth place where the shingle mill was and everything. We played down there, and then after they built that bridge down there we'd go down to the bridge because it was easier to get to. But, we enjoyed it. That was before the canoeing. And I never have went down, floated down the river, as they call it, on a canoe. I've never done that." (government employee)

This informant still has a family member that lives on the river.

"Well, there's not as many fish down there now, that's what my brother says, he fishes there. And, he said that a lot of the catfish are gone. There's not as many. And he said some kind of big blue fish. He was talking about it down at the house the other day. He thought it ate part of 'em up or something, and a lot of people caught 'em, too. But, they're good. The fish that come out of that river are usually good, the catfish. It tastes good (laughing). My husband goes to Carolina [to fish], and they're good, too, but they still don't taste like the Broad River catfish to me!"

Another informant, who does use the river, also finds it worthy of preservation:

"Yeah, I get on the Broad every now and then and go fishing... [I catch] catfish, bass.. I hadn't really seen any changes [in the river], I think they're doing a really good job, the Broad River Action Group, doing a really good job of controlling that... By just, you know, trying to curb the development of it, and the citizens are just getting together, and saying, you know, we're not going to do this, you know. Trying to preserve it. To me, it's one of the cleaner, it's one of the cleanest rivers in this part of the country, by far... We don't really have any ties to the river save for just riding, you know, just going fishing, camping. But it's still nice because it's not developed, you can take your boat down there, drop it off from the bridge, you know, float down. Pull up on the banks, pitch a tent, and, you know, fish, and uh, not really anywhere else you can do that, you know? Not around here, you know." (member of long-time family)

This same informant thinks that another reason the Broad is in such good shape is that the kind of people who enjoy it are people who want to take care of it, and among this category of folks are hunting groups:

"Anybody down there, you know, enjoys the river, they don't really, you go down there, you don't really see, you don't see what you see in other places, like, you know, the Oconee and everything, beer cans and stuff like that. You know, people take care of it, and that's why it's

still there... I got a couple of buddies that are in hunting clubs, and they, you know, police it and take care of it, and don't mess it up. You know, I think hunting clubs are good down there because they cover such a large area, it will never be developed, it'll stay leased out. You know, because it's producing, the land's producing an income to the people that own it, and they don't have any reason to get rid of it. You know, people are going to pay money just to have a place to hunt."

By contrast, two or three other informants who had no personal experience with the river expressed no particular feelings about preservation of the Broad, and had varying impressions about its status. One thought that the Broad was probably already protected, because of state laws requiring buffer zones. Another assumed that the river was unsafe:

"(to husband:) You think it's safe enough that you would let your children play in the river? ... Would you even fish out of it? ... You'd still eat the fish out of it? Think the water's clear enough and clean enough that you'd fish out of it and for people to swim in it? ... No, I had already told her that I would be, now, very leery about playing in the water or eating fish out of it, of any river." (office worker)

Yet other informants who did not necessarily interact with the river personally recognized it as valuable. One informant felt that at least some groundwork was being laid in the county to protect the Broad as a result of river corridor protection measures enacted by the county, although it isn't by far enough. His concern was mainly for the future:

"We don't need it now, we really don't need it, I mean it's just water running down through the county. And people go down there and drink beer, go fishing there, and canoe down the shoals. As far as those few people that use it as recreation, I guess there's a need. As far as the county, the citizens as a whole, they can't perceive a need for it. But when water becomes a scarce commodity... in Madison county, that's the only river we can look to, is the Broad River. And so we've got to protect it the best we can right now." (farmer)

This informant went on to describe who he does think is motivated to save the river. Noting that public access to the Broad is pretty limited, he thinks that it is mainly either recreationists, or people living along the river, that are motivated, and pointed to a potential tension inherent in these interests:

"A lot of people live along it that want to protect it. If you could find a way to protect it without taking any of their rights away, the way to protect it is by limiting access, that's what

they want. They want a law that's written says aint nobody can use the river except those folks that live along the river. That's what they'd like. That's not what they're gonna get, obviously, but that's what many of them would like to have. I don't think the average citizen in Madison County is focused on that river yet, as a need either now or in the future."

In addition, a couple of informants, when thinking about the condition of the Broad, referred to sewage from the town of Royston and poultry litter being spread on adjoining lands as about the only factors they could think of currently that might be affecting it. A third informant has a family member who reported that a sewage spill from Royston had killed many fish.

Finally, a couple of informants referred to members of at least two families in the area that had taken an active role in trying to protect local rivers, through the county planning and zoning process as well as through personal vigilance and activism. Interestingly, both of these families were described as having a presence of several generations in the area, closely tied to the ownership of mills that, of course, were run by these very rivers. When I asked one informant if the individual concerned had ever explained the reasons for his interest in river conservation, he said:

"It was because of his family, they'd made their money off of the watershed that was off there, the family built a mill for corn and grain, used the water of it to make their living. They respected that, it was passed down from generation through generation to respect the [creek name]. He talked about his daddy and his granddaddy and what the [creek] had meant to them."

IX. PERCEPTIONS OF SELECTED CONSERVATION AND LAND MANAGEMENT PRACTICES

If river system and watershed conservation ultimately requires changes in land management practices, then it would be critical to know what the implications might be for those people who would make those modifications. For instance, if "best management practices" such as maintaining tree cover along streambanks, or fencing cattle out of streams, or other desirable practices are to be advocated, how feasible are they for the relevant population to adopt? Are there financial or technical or other constraints? I explored with many informants whether they had adopted or had any opinions of the more commonly known best management practices that I'm aware of, either through USDA programs or otherwise, and what they thought about conservation easements.

Farm conservation programs and practices

Of the members of the farming group, all but two have participated at one time or another in USDA conservation programs. These are a variety of programs that have been promoted over the years through different agencies of the USDA, usually the former Soil Conservation Service (now the Natural

Resources Conservation Service), that offer financial incentives, cost-sharing, and/or technical support to farmers and landowners willing to institute particular conservation or best management practices on their land. Sample practices include: maintaining vegetative buffer strips along streams; putting sensitive acreage into conservation reserves; restoring or enhancing wetlands; improving wildlife habitat acreage, and others. One landowner said she hadn't participated in any because of the paperwork involved and having "someone bugging her."

Three farmers made comments to the effect that many conservation practices were likely to be good farming practices, and that often the reason for not adopting them is less a matter of economics than of other factors, such as not seeing the harm in current practices, or because of habit, or because of other factors.

"Realistically, for most situations, this certainly would not be true for all; for most situations, allowing the things that are good management from a conservation standpoint or a water protection standpoint, most of those things also are good management practices from a dollar standpoint, that we probably ought to be doing anyway. I'll give you an example, and this is one that we don't do that we ought to be doing, fencing livestock off of standing water, streams... There are ways you can fence the cattle off water, you preserve the water structure, preserve the water quality. You obviously are going to give up some grazing... But, and also, [there are] parasite problems that are disease problems, that are or can be related to cattle that have been allowed to stand in water, particularly water that can become stagnant or swampy areas. Really, realistically, unless you get into a requirement of the construction of some kind of structure, the majority of cases, probably are not pure profit issues."

"The reaction is well, I don't see any real harm right now, it's benefitting me. Many don't see any problem right now (regarding poultry litter effects on groundwater)... Many of them are doing that (restricting cattle access to water) already. It could mean building a stock pond or well, for some. I'm not aware of any government programs available to cost-share on that, though there may be. There could be a cost there that would be prohibitive for some, even if the person were inclined."

Personality and preferences can enter the picture.

"Some people like to keep things neat. Cattle keep the grass cut, and fencing off means you have to then mow that area."

There were also comments on how to deal with some of the factors that prevent adoption of conservation practices:

"The parts of it that do become economic issues for the farmer, but are still very important issues for the public as well, I think those are issues that the government in whatever degree is going to have to face. We need to make this attractive enough that the producer is going to be willing to... and there's a lot of that going on through a government program with the NRCS, which we do participate in."

"One way that we've been able to convince farmers to be careful what they do with chicken litter: too much litter [applied] in a dry season can cause nitrate poisoning in the grass, which kills cows. So, we've been able to get people to slow down, to concentrate a little more on it, because it affects their pocketbooks."

"The awareness of environmental issues is much greater just in general than it has ever been. And I think that is so as well for people involved in production agriculture as it is for those who are not. Old habits are hard to change. A lot of things that we have been doing all along that haven't, that we know now probably are either wrong or not the best things to do, but because it's the way we've done them all along, it's hard to change from that. Education, I think, is going to be key to it, I don't think there's anyone that's involved in the process that intentionally wants to harm the soil, cause problems to the water sources, etc. But maybe from, either lack of knowledge or lack of financial ability to change, or whatever, make some mistakes that may cause some problems."

"Farmers as a whole are probably one of the more adaptive groups, segments of the population... they've changed with marketing changes, they've changed with societal trends... they have a lot of ability to change."

Wetlands

One farmer remarked on how wetlands had become quite valuable in recent years, and that with so much construction in the state, some people are able to rent out wetlands. Three farmers had allowed beaver-created or -maintained wetlands to stay or re-establish themselves on their land voluntarily, and considered that the loss of grazing or farmland to them had been acceptable, and that the benefits had been, in general, the presence of wildlife, and for one, a source of irrigation water.

"I don't really see it as a big loss to me, because it's, it just seems to me it's a natural area for a wetland to be established, the beavers have done it for me, and I can live with that... If they'd taken all of my acres from me, I'd feel differently about it. But I kind of like it to be down there. For the first 10 years I was there, I went down every Sunday, rain or shine, and broke up beaver dams, and so I was able to graze all the acres. And then I realized I was fighting a losing battle, the younguns were coming along, and they were wanting to build additional nests, or whatever they're called, so I decided, well let it happen. And now it's happening. It's nice down there, a lot of turkey, wild turkey there, some other ducks, some geese, some other water fowl, and I can live with that."

Best Management Practices and Site Design Guidelines for Developers

One farmer/developer said that he thought it was really to people's benefit to follow the Erosion and Sedimentation Plans that are required for non-agricultural, soil-disturbing activities in the state, that it saves them money in the long run. Another two developers stated that extra site management or design requirements can add cost to the developer, but as long as it's something they know about and plan for up front, and the rules don't get switched on them in-process, they can include the costs in the loans they apply for and not have it be a financial burden. Two also mentioned that the design approach of clustering houses on site so as to reduce the total amount of site disturbance and impervious surfaces, while leaving more open space, were probably more economical for the developer. However, one remarked that there is strong aesthetic in the area for people wanting to have their own private space around their house, so to cluster could be taking a risk. One of the constraints to developers in doing this kind of site-tailored development is that each site is variable. As a result, as one informant noted, you can't just hand developers a set of blank guidelines to follow. He noted that there had been a movement afoot within the county Planning and Zoning Commission to get a university intern to develop a set of sample guidelines for different kind of sites, but that the effort had stalled.

Conservation Easements

The handful of informants I asked about this generated five main themes. One, in general, was an expression of a lack of knowledge about the subject. The second was a tendency for some informants to confuse the kind of conservation easements that the BRWA is trying to promote with other state or federal programs or provisions, along with the evaluation that those programs weren't worth it, or cumbersome, or that this was not an appropriate role for government. A third issue raised, by an informant that was quite familiar with the kind of easements being proposed by BRWA, was the lack of clarity, as yet, of the concept. That is, much of it has not been worked out yet, such that the individual doesn't have the security of knowing exactly what the financial benefits and trade-offs would be, and what the implications for lenders and the IRS would be. This related to a fourth issue raised, which had to do with the degree to which political and legal institutions in general were knowledgeable about easements and their implications, and administratively able to deal with them. This uncertainty, in turn, makes it more difficult for an individual to consider taking one on. Finally, a fifth issue raised has to do with the degree to which an individual is giving up property rights to their land, and the unacceptability of that to many people.

"The part of it I don't like, this may be a misperception on my part, is in signing up for those, obliging your land to those easements, that essentially becomes public land, particularly if you have a navigable waterway. Well, all waterways that are navigable are public anyway. But if you set aside a lowland or an area that a stream runs through, this conservation use under the specific guideline that I was reading, somebody else that just may be passing through, oh here's a nice creek, I'll go walking down through it, they can do that... More than likely, it was some agricultural publication or report on some of those options [I read it in]. But those are not, I think the government ought to be out of the farming business period, particularly the federal government." (farmer)

"It's not an issue that's talked about often, but when it is talked about, the farmers say that this is ridiculous. I'm not giving anybody the rights to my land... [They see] no benefit to them at all, not the least bit. Because they're not focused on the environment yet, and conservation, it's not an issue, it's not an issue in the county... There are some citizens that would do it... But it's not an issue in the county, you don't hear people talking about it... Now, if you were talking about something like mineral rights, where they could derive considerable amounts of money, that would be different, but they don't see that. They don't see any benefit to them whatsoever. And you just don't talk to a farmer about giving up rights to his land, unless you're going to do something dramatic for him. He's hard and fast about this, this is something that he's been taught from way back in Depression times, when daddy said, you know, you hold onto your land, if it ever comes back, don't let anybody take it away from you... Your land is it; that's power, that's wealth, that's everything to a farmer. You don't give it away. Now again, it's a generalization, cause there are some people who are concerned about it and will do this. Very, very few. Most people I come in contact with... they think it's crazy." (farmer)

X. RESPONSIBILITY TO THE ENVIRONMENT AND TO EACH OTHER

Another theme I tried to explore had to do with informants' views about the issue of responsibility - for the environment, to each other in relation to environmental issues (writ large), and of individual versus government responsibility. Here again, this is a topic that could use more careful study. Some sentiments around these issues are suggested in comments already listed; for instance, in discussions of zoning, or of motivations for adopting conservation measures. The following comments amplify and expand on the topic.

Government

Not unexpectedly, informants had definite views on the role of government, both favorable and critical. On the positive side, there were several statements about the importance of government as the means for people as a group to have vision - to plan for the present and the future, to have an overview that the individual doesn't have; to represent, in a sense, the groupness of people, to remind them of their membership in the wider community and their responsibilities to it, if only by enforcing the rules; to resolve or head off conflicts; and to serve as a means to open up issues to public light and decision-making.

"The role of government has to be to protect the people that come after us; but how do you balance that with the person that has to have a job now?" (contractor)

"It's to help people survive and thrive, the majority of the people. It can't be for all of the people. Look at the example of development, it could be unfair to me if it's not passed, it's

unfair to a nearby landowner if it does pass. But, yet, it brings things out in the open more, it allows people to dissect things. Anytime you shed light on something, it's a good thing." (farmer/developer).

"[Government's role is] to keep an eye on development, keep an eye on development, don't let it get to where it ruins something without having to, basically." (builder/developer)

"We all complain about government this and government that; but obviously, government is what gets us together." (office worker)

"We need government to get us to do what we should." (office worker)

"If we don't have an elected office to look out for us, you could have a few ruin it for all. Daddy would just croak if he heard me say that." (contractor)

"Government needs to have something to do with it. Like with people burning tires, burning trash, people do what they want, if you don't tell them what to do." (government employee).

"(Regarding working out conflicts of interest between people) well, I think they already have it going on right now, with the zoning thing, to where it's public notice, and people around them, you know, can find out what's, what they want to do before, you know, they all of a sudden got bulldozers and everything else in there." (builder/developer)

"It helps to keep down confrontation." (builder/developer).

"Government is people." (contractor).

"The proper role of the government is to carry out the will of the people. But some of the issues are very complicated. A lot of people don't have opinions about a lot of things, therefore, they don't have a will, you know what I'm saying?" (farmer/developer)

On the other hand, government intrudes on private property rights, especially the federal government; it

creates bureaucracy and unnecessary complications, which change all the time; it creates environmental problems unnecessarily; since it needs to look at the big picture, its one-size-fits-all policies end up being too black and white, too arbitrary, and unfair; if there has to be

government intervention, it should be locally based, since no one at the federal level can know what's right for the local context; and, it's finally, it's subject to politics.

"It's a tough step to take, but until there's some real progressive, intensive steps taken towards developing a county plan, a concrete county plan, things that are not uncommon to a Cherokee County or a Gwinnett County... But where you develop a plan like that you really, I think, begin encroaching on private property rights... Do I have the right to do with my land as I please, or as I see most fit, or at its most productive use, or, does the government have greater authority, over me." (farmer)

"People are getting more resentful of government... The government seems to be trying to get more control over property... Some of the rules for participating in government programs can be so complicated, [and then] some rules just don't seem necessary... But then, the feds got to look at the big picture, at the whole U.S.; so the federal government treats everyone the same." (farmer/developer)

"(Regarding the county and zoning), you know, they only look at, that I see, it's just black and white. You know, they don't, there's a big gray area in there that everybody forgets, you know, things that would help out people... There's a guy... he had 72 acres. He wanted to cut out a little section for him and his wife, give the rest, deed the rest of it to his kids. But they wouldn't let him do it, cause they said that it was in the wrong zoning. ... And then they go 2 miles down the road and zone it, zone a piece of land for a subdivision... Just because, there's one thing says it's a hotspot of growth, bam, they zone it for houses." (builder/developer)

"Well, local government ought to have a lot to do with it; you know, those EPA laws on burning and stuff, they don't apply to here because it's not thickly populated." (government employee)

"I think the government ought to be out of the farming business, period, particularly the federal government. Any of these kinds of regulations like this, that didn't exist, if they had to exist, I'm convinced that local communities know more about what they want and what they need than anybody in Washington does. I'm convinced that all the legislation, all the rules were written with absolutely the best intent in mind, however there's no way that anybody

could sit up there inside the walls of Congress and dictate what is best for Madison County and what's best for the state of Georgia... If we have to have those sort of regulations, then they should be locally imposed and locally controlled, if it can't be individual. If it won't work just on pure property rights, than anything that has to go I prefer to be local." (farmer)

"(Regarding local government decisions) It all depends on the public opinion in the room at the time, what the decision-makers pay attention to." (farmer/developer)

Rules

Comments about rules and regulations share a lot with those about government. But because they're not specifically about government, which carries a lot of other meaning with it, and just about the concept of rules, which could be arrived at by various means other than government, they're worth looking at separately.

None of my informants seemed to think that rules weren't necessary. The main sentiments expressed were that: rules are necessary; however, they need to be fair and fairly applied; they need to be enforced; they are best developed locally, by ourselves, rather than externally; and, a lot of the rules that already exist would probably be sufficient if people would only follow them.

"Yes, without some kind of controls, someone has to enforce the rules, or people won't do it [regarding need for environmental protection.]" (farmer/business person)

"You don't want it to get trashed. If we don't have rules that'll help to protect the environment, such that people don't burn trash, don't throw trash on the side of the road... There need to be rules... There's always someone who will try to take advantage... Rules keep us cordial... They allow us to be good neighbors... But there need to be rules for everyone - what's fair for one is fair for all... If a developer knows the rules up front, they can plan for it, they can apply for enough money to cover it in the loan, as long as they don't switch them halfway through." (builder/developer)

"So we were told it'll [zoning] never fly. There'll be so much resistance, even if it's passed, that you'll never be able to implement it... Did not happen. I'll tell you one of the reasons why, that I think, in my opinion, is that it's been used in a fair manner across the board. There's always politics involved in any type of activities that Commissioners get involved in, and zoning's no different. So, to some extent, in certain instances, it was political, the decision was based on politics than on the rightness of the decision. But generally speaking, it's been fairly, if you come before the Planning Commission, you're treated the same as

anybody else, even, whether you live in the county or don't live in the county, whether you've been here for ten years or you come from a family that's been here since George Washington granted land rights. So, it's the fairness of it." (farmer)

"If people would abide by what regulations we have now, we'd be fine, but they don't. You know, if you've got a big pile of tires out here and you want to burn them up, you just go burn them up." (contractor)

"I would like to think we won't get to the extremes like North Carolina has. (Describes the poultry litter application procedures being mandated by the state for operators there). If we're going to head off some of these controversial problems, we're going to have to be pro-active rather than reactive, otherwise somebody'll be making those decisions for us." (farmer)

Individuals

Some of the comments on rules seem to have to do with ideas about how and by whom rules should be generated, and the fairness of them. Some seem to have to do with ideas about what motivates individuals in their actions toward the environment. The main themes informants came up with in this regard went as follows. The largest chunk seemed to reflect the view that many people act mainly from self-interest, based on a variety of what I'll call "practical" factors that end up being more important than the individual's concern for the environment. Another theme had to do with individuals being guided largely by emotional responses to particular issues. A third theme posited that if people do environmentally irresponsible things, it's not through intent but rather from the lack of knowledge, or technical or financial ability.

"(Regarding compliance with site preparation guidelines) Well, it's uneven, cause they only do what they're forced to do, it's like anybody else, you know, you just keep working, and when they say you won't get paid, then you go back and do it all... You only do it when you know you have to." (contractor)

"Just, people take shortcuts, you know, and, trying to get by without having to do something, you know." (builder/developer)

"It's a microwave society. People are wanting things here, now, and fast; it's a lot of short-term thinking." (farmer)

"People need to be aware and concerned. Until it hits them in their own backyard, most people aren't aware of how valuable resources are. People need to be personally affected." (farmer/business person)

"Most people don't care about endangered species, unless it's something they can kill and eat, they don't care about things like fish dying out. People need to be either more educated, or threatened. When they feel the health effects, they'll sue. Here, there's not a visible health effect, people don't notice it. They're not seeing it as a health issue." (local professional)

"It's sort of like people getting really serious about recycling. Nobody's gonna get real serious about recycling, as opposed to using landfills, until they cost them about a 130 dollars a ton to dispose of something... That's just one of the problems of living in an affluent society, there's a lot of waste... the economy's good, nobody needs to, has to be creative with their thinking... When dollars get in the way, reason tends to go out the door. It's no longer, how's this gonna affect my neighbor, it's this is going to get me one million dollars, you worry about your own self." (farmer)

This same farmer, however, also put it in term of ability:

"Education, I think, is going to be key to it, I don't think there's anyone that's involved in the process that intentionally wants to harm the soil, cause problems to the water sources, etc. But maybe from, either lack of knowledge or lack of financial ability to change, or whatever, make some mistakes that may cause some problems. But certainly none of that's done intentionally, nobody's intentionally polluting water sources, or knowing they're doing something that's going to cause somebody problems. The more that you educate the public in general, realistically, and then the agricultural production sector, as to some of the things that can be done, to actually improve your production, improve your bottom line while you protect the natural resources, I think it will happen on its own." (farmer)

"There's so much I don't know about the environment, but I care... If someone can show me what to do or if I can vote for someone.. We oftentimes do something out of ignorance, or don't do something [for that reason]." (builder/developer)

"It's an emotional response to a perceived threat. They think, why can't we keep it the same? ... It's a response based on fear, the perception that life is going to be different."

(farmer/developer)

"There are a lot of people who are old-timers, from families that have been in the county since way back when, who feel that 'if it was okay for daddy and granddaddy, so that's the way I'm doing it and that's the way it should continue to be'... These people are extremely conservative, they've worked hard all their lives for what they have, they want to keep what they, obviously, they don't want any intrusions, either from the government, or their neighbors, or certainly no outsiders." (farmer)

Responsibility to Neighbors/Community/Society

In contrast with many of the statements focusing on individuals' self-interest, I was struck by how frequently the metaphors of "neighbors" and "community" and occasionally, "family," were used by different informants to describe peoples' responsibility or relationship to each other, vis a vis the environment. Other themes were about preserving options for the future; and the question of who should pay the costs of practices that society considers important.

"You wouldn't want to crank up you lawn mower at 4 a.m. in the morning. You wouldn't want to do something to affect your neighbor's water or air, knowingly, intentionally, so we do have a responsibility to each other." (office worker)

"In our business, we could just, when we clear land, you could just put a truckload of tires in the brushpile, light it, and burn it up. But, you know, we don't do that. Cause I don't want to have to smell the tires burning and I know people downwind from it don't want all the smoke and the ashes from it. We try to be good neighbors when we're out there working on a piece of property... I think we ought to be conscious of our neighbor and of protecting the environment." (contractor)

"I think they should [have responsibility to each other regarding the environment]. We should respect other people's properties... They shouldn't throw paper down like they do here, they oughtn't to be dumping... It hurts everybody... I wouldn't want to do my neighbor that way." (government employee)

"You've got to care, got to be a part of the community... It's about making things better, that's the thing, making the community better, not tear it down... (Regarding rules) They allow us to be good neighbors... (Regarding having to prove oneself as a reputable builder given the fears of overnight development in the county) You have to prove yourself one house at a time.

You didn't grow up with them, they don't know your parents... The land is like a person to them (the people in the county), like a member of their family." (builder/developer)

"You gotta, I mean, like the old saying, do unto others you'd have them do unto you, you know. I mean, I'm not going to do something that's gonna affect the guy down the road you know, and at the same time, I believe somebody up the road from me ought not to do the same thing to me." (builder/developer)

"It behooves us, it's our responsibility to make sure that we're doing nothing in any way that's hazardous to anyone else. Cause obviously we're here, so if we do anything's hazardous to anybody else, it would be hazardous to us first. It just is and should be part of our responsibility to do that. We want to operate in such a way that, if at some point, our children decide that they want to pursue this as a career, that they have an option."

"I don't know what they're going to do when they're [grandchildren] grown, where they're going to live and how they're going to operate in the same way that we are. Where will they put their trash and where will they get their clean water, I guess is what I'm trying to say." (office worker)

XI. WHAT TO MAKE OF THIS STUDY: IMPLICATIONS AND APPLICATIONS

In thinking about how the views described here might relate to the county as a whole, or to the Broad River watershed, readers need to keep in mind the smallness of the group, the method of sampling, the predominance of a particular age group, and the observation that I seem to have struck a relatively moderate group who are probably more alike than unlike in many of their viewpoints. We have no way of knowing how a more diverse group of people would have responded to these same interviews. Given these cautions about extrapolating to the wider community, there is, I think, in these eloquent statements, a lot of food for thought.

The case of zoning is suggestive. Here is an instance where land use regulations were adopted, despite much controversy and strong individual property rights sentiments. The call to protect the rural qualities and agricultural economy of the county is described as what ultimately made it fly, what allowed many residents to buy into it. Most informants, when describing the county, used its rural nature and characteristics they associate with it as the reference point for their descriptions of what it has been and how it is changing. The influx of new population; new construction springing up, including manufactured homes and parks; increased demands on county services; a sense of not knowing one's neighbors as well or of what rules they'll play by; changes in agriculture that may conflict with new residents' expectations; increases in land values and other pressures to sell or convert land - all these in one way or another are described as having threatened aspects of this environment important to residents, or to their place in it, or to their sense of control over it, or to their ability to leave some of it to their children. And while there

certainly must be motivations for supporting zoning that didn't come up in the interviews, those that did come up suggest that even in contexts where people treasure their private property rights and the ideal of minimal government interference, they can decide that sometimes it is better to have some explicit rules that everyone plays by, that there needs to be a way to look out for the big picture, that planning for and managing use of the environment, even if everyone doesn't get exactly what they want, is worth it to preserve desirable qualities of it for now and for the future. Many of those values expressed - for preservation, for rules for the sake of order and fairness, for leaving something to the future, for rural space, and for nature - are values that could bode well for the prospects of river system conservation.

On the other hand, when many of my informants spoke explicitly about what I've been calling the natural environment, in response to questions about "environmental impacts or concerns," they didn't seem to be seeing environmental protection as much of an issue in the county right now. Nearly all of them, when they think of the environment, tended to talk in terms of air, water, soil, and solid waste disposal, and very occasionally the plants or animals. But by and large the definition of environmental problems employed seems to focus on pollution of these elements, or the erosion of soil, with some being more conscious of stream sedimentation than others. As far as the impact of development on the environment, there is awareness that road and other construction can cause sedimentation, but there also seems to be a perception that current rules, if people would follow them, are probably enough to take care of this. The emphasis here seems to be on making the rules work. Related to this, I think, was a tendency to think of regulation or rule enforcement as typical responses to pollution issues. Thinking of the environment in this way, my informants don't currently judge that the county has air or water pollution problems. Even the farmers in the group, who I think show more extensive environmental knowledge than most (discussed below), seemed to talk about environmental impacts or consequences in terms of pollution, erosion, or sedimentation.

There are a couple of interesting points here, especially in relation to the prospects for watershed conservation. Since pollution and erosion are important problems in river systems, it's good that there is a widespread awareness of this potential there. On the other hand, if my interpretations are valid, the models that informants are using to think about what needs protecting and managing in the environment are very different from those being used by river ecologists and conservation biologists. With one notable exception, my informants weren't talking about biodiversity, about species abundance or composition, or other ecological dynamics. If people are using a pollution model to evaluate the need for environmental protection, and they don't see pollution as a real problem in the county, then they may not see the value of putting much effort into river protection. There may be a gap here between the criteria that river conservationists and the general public use to evaluate the need for river protection, and it needn't have anything to do with how much the environment or rivers are valued. Interestingly, this goes along with the findings of Kempton, Boster and Hartley (1995) who did an extensive study of environmental values among the American public. They, too, found that the majority of Americans, while having very strong environmental values, are using a "pollution model" to evaluate environmental risk, and that this hampers them in choosing appropriate policy responses. Kempton et al judged that scientific understandings of environmental problems take a while to filter out to and be internalized by the general public; the pollution model has become well established, but other understandings of non-pollution problems have not yet got out there.

On the other hand, informants' descriptions of "nature" seem much more akin to the kinds of things that river system ecologists and biologists are aiming to manage and preserve. In the interviews, "nature" was much more likely to involve elements of living things, and the factors that affect them, or that relate them

to each other, or that allow them to thrive. There is much in the interviews to suggest that nature is highly valued; and certainly natural resources and natural spaces are part of what county planning and zoning are intended to protect. Some of this valuing of nature may be based on ideas about its intrinsic value or its aesthetic value. However, one place where it shows up strongly in the interviews is among those individuals that have grown up with or otherwise had a lot of personal experience with natural or wild spaces, such as those who grew up along the Broad River or on lots of family land, or have spent a lot of time hunting. The experience of nature may be an important factor, and given the county's rural past, a lot of residents may have this. But beyond only exposure, a personal identification with natural places seems really salient in some of the interviews: the people who's childhood was spent on the Broad River but haven't used it since have strong feelings about preserving it; the informant who identifies heavily with the family land he grew up on was one of the few informants who was specifically concerned about the impact of development on natural systems, on the kinds and numbers of wildlife, on the depletion of nature, in those terms. A watershed conservation project may want to take into consideration the implications of the different meanings - and experiences - that "the environment" versus "nature" may have for people

In the interview text, I noted that there may be different usages of the term "watershed" floating around; this might be a small technical detail that a river conservation project might have to attend to. An even bigger question suggested is the extent to which residents have knowledge of local river systems, and how much that has to do with the opportunity to be involved with them. Among my informants, it was only the farmers and the person who grew up with lots of family land that expressed a lot of knowledge of local river systems. In addition, members of old-time families that used to run mills and have close ties to local streams were described as being very knowledgeable and concerned about river systems. In contrast, the informants that had no experience at all with the Broad River on the whole seemed less knowledgeable about its condition and potential threats to it.

However, it is significant to note that, regardless of the models, or knowledge base, or personal experience that informants appear to use in relation to river systems, one unifying, across-the-board concern expressed by many was about whether there would be a sufficient water supply for the future as population and agricultural demands grow. Being fully aware of the county's dependence on surface water, several informants focused on the importance of safeguarding the water supply and its quality for the future. The poultry and cattle farming informants expect to be increasingly involved in dealing with both water quality and supply issues. As one informant noted, water issues have the potential to be what *"really brings it all in focus... what everybody needs to and must do to preserve it."*

What, if anything, do the interviews suggest about factors affecting land owners' and managers' ability to implement best management or other conservation practices? For the farmers' part, my farmer informants (as well as one non-farmer) really seemed to have the most extensive environmental knowledge, and to be well-versed in relevant soil and water issues and dynamics, even if they don't focus on all of the things that ecologists do. Whether this is because of the very fundamental nature of their involvement with natural resources and dynamics, or years of exposure to USDA information or programs, or the centrality of soil erosion in Georgia's history -- all of these could contribute. In any case, farmer informants show a high awareness of both conservation issues and techniques; many of them have participated in USDA conservation programs, and there were some clear evaluations on their part that conservation practices tend in any case to be good farming practices. Moreover, while these informants didn't show a clear conviction or consensus about whether farming practices are currently having a negative environmental impact, they recognized it as a significant concern, as well as that they, as farmers, will increasingly be at

the center of conservation issues. These informants felt that it is incumbent on the farming sector to take a leadership role in dealing with water issues, and would like to avoid having rules or regulations slapped on them as an industry. The case of zoning shows that farmers have already been willing to take an activist role in defending their interests in the environment. All these things, I think, make the agricultural sector a very strong resource for watershed conservation that a project should take into consideration. Informants already identified one issue that seems a conservation project could try to address. Some conservation practices might cost a farmer money, and USDA programs don't necessarily support all possible practices. Could assistance be provided, for instance in obtaining seed money, to experiment with techniques like litter composting? It seems that partnerships based on this kind of assistance could be very fruitful.

Even if a watershed assistance project has no ability to help farmers with the financial aspects, a lot could be learned from the experiences of the USDA conservation programs regarding the pros and cons, for farmers, of adopting some of these conservation practices. In Appendix A, I suggest that a watershed project should look at these and other programs as models to learn from, since many have been working towards objectives that overlap with or support many watershed conservation aims. As such, they represent potential reservoirs of practical and organizational experience, potential sponsors or allies, and potential outreach networks that could be very valuable. I list there some organizations and projects that might serve as models, potential partners, or consultants.

Regarding developers and conservation practices, I draw the following points from the interviews. My informants seemed to accept that although rules and regulations can be a bother, they come with the territory of being a developer. For them, rules and requirements are acceptable and financially feasible, as long as they know up front what they are, the rules don't change in-process, and they are able to include any extra expenses in the loans they apply for. In a climate that is rather scrutinizing of development, explicit rules also allow these developers to gain credibility, acceptance, and security, particularly if they're fairly applied. However, I did not speak with the kind of occasional or small-time builder that builds a house here and there, one at a time, for whom the situation may be different. In addition, if most of the housing boom is in the form of manufactured and site-built homes, dispersed on individual parcels throughout the county, it may also be that policies primarily aimed at the environmental practices of subdivisions could have little effect on a significant chunk of housing-related land practices in the county.

Regarding concerns that residents have about the impacts of current development patterns on the tax base, one implication for a watershed conservation project might be that any proposals that are perceived as lowering tax revenues may have an especially difficult time.

Regarding values and the classic dilemma of individual versus collective rights: while informants seemed to express a lot of cynicism about the propensity of individual motivations to be guided by self-interest - i.e., people take the easy way out, they don't respond to the environment until it hurts their pocket book or their health - I was struck by the frequency with which informants expressed the importance of being a good neighbor and a member of the community. For many, even if they don't see environmental problems as a serious concern in the county, doing the right thing environmentally is doing the right thing by your neighbor and community; the two were repeatedly linked. The trade-off of accepting rules, as some noted, is that it keeps some of the less neighborly ones from ruining it for the rest.

Regarding other populations in the county: some of the newer, incoming population is described as coming in specifically because of its appreciation for land and history, and may represent a conservation

ethic. Long-time hunting clubs have been described as good stewards of natural spaces, including along the Broad River, and as providing good financial incentives, in the form of lease money, for keeping river lands undeveloped. On the other hand, some of the people who have come from metropolitan areas and bought or leased land for hunting have been described by one informant as being poor stewards and neighbors (again, a link between the two concepts). If many of the new subdivision residents aren't necessarily coming in to be land stewards themselves, certainly many in the farming setor perceive them as a force with a low tolerance for activities impacting the aesthetics of the land, and an awareness of water pollution issues.

It's been a central task of this project to try to understand something about what motivates people in relation to the environment. In the literature that treats of this subject, there's an underlying discussion about what is more important. Is it values? But then, as in Kempton et al (1995) and many other studies, it turns out that people can express strong environmental values, while their understanding of the issues hold them back from acting on them; or it's found that people who don't express what explicitly seem to be environmental values, at least as an environmentalist might, do very environmentally sustainable things. Is it knowledge that is key? Maybe it's more education that is needed. Then again, a person can have excellent environmental knowledge, but if some practical issue gets in the way, such as an economic one, or they have some higher priority interests to attend to, they may not be able to act on it. Also, there are different kinds of knowledge; all over the world, farmers or forest users have different explanations of how natural systems work, yet they manage resources soundly. Is it having experienced environmental change or crisis that makes the difference? Is it practical issues, like economics, or technical ability, or demands on labor? All of these things turn out to be important, not any single one, as I believe the comments in these interviews support.

It's also been one of the premises of this project that there are many frameworks through which people perceive, value, define, and make decisions about the environment. The biogeographical space that is a watershed is also a social space, an economic space, a personal and a family space, a physical space, a political space, and an historic space, or rather, it is many such spaces for many people. In the rich comments and perspectives that they offer of changing conditions in their immediate world, these residents of Madison County reveal some of the values, knowledge, experience, interests, and practical concerns that currently shape their actions in relation to the environment, writ large, much of which, I suggest, is very relevant to a watershed conservation initiative. These interests and values and frameworks, however, don't necessarily come explicitly labeled as "environmental" or "conservationist" or "Broad River."

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APPENDIX A.

Organizations and Programs That May Serve as Potential Models, Partners, or Consultants

Thinking in watershed terms, as members of river conservation projects know, means thinking in terms of crossing and bridging many kinds of boundaries: political boundaries, as they seek to link up the towns, cities, and counties into which watersheds are divided up; agency boundaries, as they try to link up the roles and services of different agencies that impinge on and can be coordinated to support watershed objectives; disciplinary boundaries, as the training and experience of all kinds of people, from biologists to farmers, lawyers to planners, are needed to analyse, inform, and evaluate the options; and social boundaries, as project members seek to work with and link members of the public with varying backgrounds, educations, experiences, and ideas about rivers and conservation and land use. This is not an easy and unambitious task.

But everything need not be invented from scratch. As should be clear from these interviews, many people

already have knowledge or experience or concerns related to at least some aspects of river system/watershed conservation aims. In addition, there are organizations and programs whose interests or activities may in some respects overlap with, parallel, or be supportive of watershed conservation goals, whose methods or form of organization may be instructive as models, that may have infrastructures developed that can serve as communication and participation networks, and that might be tapped as potential partners, allies, or consultants. What follows are brief descriptions of some programs or organizations having aims, expertise, infrastructure, or experience that may be useful to a watershed conservation project.

Soil and Water Conservation Districts

There are two Soil and Water Conservation Districts (SWCDs) that cover the Broad River watershed area the Oconee River SWCD, which includes Jackson, Barrow, Clarke, and Oconee Counties; and Broad River SWCD, which includes Banks, Franklin, Hart, Madison, Elbert, Oglethorpe, and Wilkes. The Broad River SWCD has good coverage of the area included in the Broad River watershed, though the Districts do not conform to watershed boundaries.

The SWCDs are responsible for reviewing and approving Erosion and Sedimentation control plans required by the Erosion and Sedimentation Control Act of Georgia, which applies to all soil-disturbing activities except agriculture, certain other activities, and lot sizes under 1.1 acres. Basically, these are volunteer efforts, and although they are closely connected to the objectives of federal and state policies and legislation, for instance, monitoring compliance with Erosion and Sedimentation Control Plans, they do not play the role of enforcers. Rather, they try to work with people in local, site-specific contexts to meet water and soil conservation goals, providing information and assistance. Local, experienced farmers and landowners are often District Supervisors and key elements of this activity. The SWCDs might be seen, then as a long-standing infrastructure with localized mechanisms for reaching out to area farmers, landowners, builders, and others engaged in activities with implications for soil conservation and water issues. This focus, along with the experience that District Supervisors have in working with land managers and owners to work out local solutions, suggests key knowledge, experience, and approaches relevant to a watershed- and river conservation objectives.

Each county in a SWCD has two District Supervisors, one elected, one appointed. Each SWCD has a District Conservationist assigned to it, who is paid by the USDA Natural Resources Conservation Service (NRCS), provides technical assistance, and is likely to have perspective on and knowledge of activities and individuals in the member counties. There is also an umbrella organization for SWCDs, the Georgia Association of Conservation Districts. Some Districts may have an office with salaried staff, some don't. The Oconee River SWCD does, based in Winder, and puts out a quarterly newsletter on volunteer labor. The Broad River SWCD did not in 1997 have any staff.

SWCDs also engage in other communications, education, and assistance activities. For instance, the Oconee SWCD makes available on a rental basis two no-till planters for area residents. Oconee SWCD also puts out a quarterly newsletter which aims to communicate

"not only with affiliate members but as time goes by with those who have a strong interest in

the conservation of our natural resources; soil, water, trees, wild life and all of nature's things that depend on 4 inches of topsoil for their life. This group will include farmers, foresters, hunters, fishers, bird watchers, and teachers of conservation education. Also builders and developers of all kinds..." (April 1997 Newsletter, Oconee River SWCD).

Additional activities include informational meetings and dinners, e.g., for builders and developers. "Feed 'em and make 'em listen," was how one District Supervisor described them. Districts have also purchased and distributed educational materials and packets, e.g., Church Leader Guides, Educational Guides (for schools), and comic books. The Oconee District, along with the Georgia Association of Conservation Districts, has for many years co-sponsored an annual, week-long Natural Resources Conservation Workshop in Tifton, which high school students attend on a scholarship basis. The students attend a variety of classes, presentations, and field trips to learn about natural resource conservation and management issues, as well as to learn about related careers. Many different agencies and organizations give presentations and participate. The Oconee River District, and possibly others, has a Centennial Club of people whose families have owned the same land for 100 years or more.

Finally, a cooperative program between the former Soil Conservation Service and the SWCDs has existed (information may not be current on this) called "The Earth Team," which provides volunteer service opportunities to work in a variety of conservation planning, surveying, mapping, education, and technical jobs. These were to be administered through the local SCS offices.

Watershed Lake Associations

As mentioned in the interview texts, there are in the region many "watershed lakes" built for the purpose of flood control by damming local streams. In my research, I came across mention of what may be two institutional forms for administering and managing these lakes. The Little Sandy Creek Watershed Association is one example, responsible for the dam at Sandy Creek Park in Clarke County, where it seems the initial building of the reservoir was an effort spearheaded by local citizens to protect farmland. The Broad River SWCD is the managing organization and easement holder for a watershed lake within its district, the construction of which may have been one of its early missions. I am not sure what institutional mechanisms are responsible for the other many watershed lakes and watershed supply lakes that can be found in the region.

Although the objectives of these watershed institutions are somewhat different from those of the BRWA, they would seem nevertheless to represent a significant chunk of organizational, legal, and technical experience in defining a need and implementing a response to some watershed management issues, if on a small scale. Typically, easements on land surrounding watershed lakes have had to be acquired, or other means instituted for accessing and controlling the land under and around the lakes. Thus, the associations likely have experience in engaging with landowners on issues that may impact private property rights for the sake of larger, collective goals of flood and silt management. Also, as the nature of land use in some counties de-emphasizes agriculture and moves toward residential, recreational, or commercial uses, these institutions may be evolving new objectives and expertise in response to these conditions.

USDA Conservation Programs, Farm Service Agency, Farm Service County Committees, Local Work Groups, and the NRCS

Many of the USDA agencies in recent years have been in flux, as they get re-organized, down-sized, and as programs change. At the time of research, the Farm Service Agency of the USDA had been the administrator of various USDA loan and cost-share programs for agriculture. Included in these programs have been those such as the Agricultural Conservation Program, the Water Quality Incentive Program, and the Conservation Reserve and Wetlands Reserve Programs that support with financial and technical assistance landowners' adoption of various water, soil, and wildlife conservation practices. Some of these programs at the time of the research were in the process of being replaced by a more comprehensive Environmental Quality Incentives Program (EQIP, see below), which I understood would be administered by the NRCS.

There are at least two things of great interest here. One has to do with the infrastructure of these programs for working with local landowners and land users. The other has to do with looking at these various conservation incentive programs as models, and for what could be learned from them about the needs, interests, motivations, incentives, and disincentives for landowners in adopting conservation practices with implications for both non-point source control and specific corridor/streambank management

Interestingly, at the time of research, a proposal was being put together out of the Southern Piedmont Research Station in Watkinsville specifically to evaluate farmer adoption of these programs and their success in meeting conservation objectives. This research, if carried out, could be very informative to a watershed conservation project.

Regarding infrastructure, there are Farm Service County Committees, comprised of local county farmers, that are elected and serve an advisory and outreach role in relation to Farm Service Agency programs, having primary input into the amount and distribution of loans and contracts in their county. With recent downsizing of government agency operations, several County Committees may be chunked together with one FSA office, e.g., Oconee, Barrow and Clarke are chunked with an office in Watkinsville. County Committees also have Local Administrative Area representatives, e.g., South Oconee County. The FSA office also puts out a monthly newsletter, which was described as one of the main ways people find out about USDA and NRCS programs.

As part of the new EQIP, Local Work Groups are supposed to be formed in each county. As of summer of 1997, the program was one year old, and the LWG process was still formative. Initial meetings as described by the Oconee River District Conservationist included representatives of various agencies, such as the DNR, FSA, Cooperative Extension Service, as well as the Soil and Water Conservation District Supervisors, and individual farmers.

Both the Farm Service County Committees and the Local Work Groups potentially represent:

0. networks of individuals whose objectives or interests may overlap with or impinge on watershed and river conservation objectives;
 - a. networks of knowledgeable and experienced individuals, tied into both agricultural and broader natural resource-related constituencies, that could be tapped for advice, information, and ideas about how to proceed; and
 - b. potential resources for publicity, co-sponsorship, etc.

The Local Work Groups seem to be an attempt to involve participants beyond just the agricultural sector, which is one step towards the cross-jurisdictional and cross-agency collaboration that watershed conservation implies. The District Conservationist also indicated that watersheds are being seen as a more efficient way to focus agency resources; however, there are administrative and other factors - including a history of close, county-based interaction between farmers and service agencies - that as yet prevent that.

With groups like the Farm Service Committees, as with any group or organization, it is important to note that the fact of being elected by local farmers alone does not assure that they can be taken to either fully represent or fully include in their network "all" farmers.

As potential models to learn from, the USDA conservation programs provide financial incentives and technical assistance to farmers and other landowners to implement conservation practices of many kinds, including vegetative buffer strips, no-tillage practices, better management of livestock wastes, increasing wildlife habitat, etc. In some programs, landowners agree to contracts that keep land in designated uses for a specified number of years. Financial assistance is often on cost-share basis, is not a loan, and may be competitive, with farmers submitting bids for cost-share amounts. Although a watershed project may not be in the position to offer the kind of financial incentives that the government can, there may be much to learn here about the role that economics or other factors play in farmers' abilities to implement conservation measures, about farmers' own evaluations of the usefulness or practicability of them, whether the measures actually work, and in the kinds of information, technical assistance, and relationships that are useful for promoting such measures.

Georgia Forest Stewardship Program

This is a program similar in some respects to the USDA conservation programs mentioned above, and is a cooperative project of the Georgia Forestry Commission, the Department of Natural Resources, the University of Georgia Cooperative Extension Service, and USDA agencies. Targeted at nonindustrial, private timber owners falling under a certain maximum acreage, a participating landowner receives a detailed forest management plan, including best management practices, streamside management, and attention to wildlife and threatened or endangered species, and then is eligible for cost-share funds to implement the recommendations. Individuals receiving funds agree to implement the plan for 10 years. This program, like the ones mentioned above, may similarly offer expertise, contacts, and models to learn from. (1-800-GA TREES).

University of Georgia Cooperative Extension Service

The Cooperative Extension Service is, of course, a well-established outreach and technical assistance network with a long history and much familiarity to rural people. As area counties become more urbanized or suburbanized, the Service has also oriented its information and technical assistance to applications of interest to these populations. The Extension Service has a presence in many public venues, and Agents, who have technical areas they are consulted for, often know and come to be known by residents over time, may end up knowing particular farms and locales quite well. A watershed conservation project might want to explore the potential for the Extension Service or its Agents to play a role in supporting dissemination and outreach, in co-sponsoring or providing venues for events, in

consulting on outreach methods and contacts, perhaps even in how to generate financial or technical support for working with landowners on technical solutions.

Georgia Conservation Tillage Alliance

Its mission is stated as centering around the promotion of conservation tillage and "other economically viable and environmentally sound agricultural and natural resources management practices." Members include individual farmers; commodity, grower, and agribusiness groups; and federal and state agencies, and it organizes a variety of demonstrations, tours, conferences, and farmer-to-farmer meetings. The National Conservation Tillage Digest, a publication, is distributed to members. In the business of getting innovative technical information out, focused on the facilitation of conservation practices, and working across agencies and occupational/ disciplinary lines, this could be a useful ally/resource/consultant. (GCTA, Rt. 2, Box 171, Douglas, GA 31533).

Rural Electricity Co-ops and Providers

Jackson EMC is a cooperative that supplies electricity to at least some of the area in the watershed. As a power provider, Jackson EMC would likely have an interest in development trends and related issues, which have an effect on the cost and efficiency of providing electricity to members. As a cooperative, Jackson tends to have a lot of community orientation and input. If you get your electricity from them, you are a cooperative member, receive a monthly newsletter, can vote for the Board of Director, which is locally drawn, and receive other membership benefits. The monthly newsletter covers a range of things from electricity policy to member's recipes, energy efficiency practices, community events, and other topics of interest to the membership. Jackson EMC hosts an annual membership dinner, a sort of massive family picnic that is well-attended, and provides sponsorship for non-electricity related community events, such as scholarships. One of the builder/developers consulted for this study found out about a big builders' product show through Jackson EMC. With its inherent interests in development patterns, its community orientation and outreach capabilities, and local involvement in its Board, a rural electricity coop could be an important consultant and resource for a watershed conservation project.

Homebuilders Associations

There is an Athens Area Homebuilders Association, which has local meetings and social events for members. Because it costs a certain amount to be a member and is based in Athens, many builders operating on a small-scale or dispersed throughout the counties may not join, so I don't

know how big of a network this represents. However, this is potentially a network that could consult with and provide dissemination and outreach support to a watershed project.

Cattlemen's Associations

Another occupation-based association with a wide network and a definite relationship to land use and watershed issues. The Cattleman's Association in Madison County was instrumental in outreach efforts related to zoning, provided support in designing a survey for farmers and in dissemination, and played a consultative role. A newsletter is produced by the local group, and monthly magazine is produced by the regional or national association. Cattlemen's Associations have been taking on water-quality issues related to cattle raising and use of poultry litter on pasture. As mentioned in the interview texts, there is an interest in the industry in avoiding imposition of the kinds of regulations that have begun to appear in states like North Carolina and developing local, voluntary solutions.

Farm Bureaus

Again, an occupation-based organization providing services, such as insurance, to farmers. In Madison County, the Farm Bureau gave valuable logistical and outreach support to the efforts to inform and involve farmers in planning and zoning issues, and played a consultative role. It also puts out a publication.

Georgia Forestry Association

Another association that holds regular meetings and dinners, and serves as a vehicle for member education and communication about new techniques, laws, tax issues, profit issues, and so on.

Georgia Farm and Market Bulletin

Not an organization, but a potential dissemination resource. It carries periodic guest columns, has a large readership, and taps into a large group of people interested in plants, dirt, and the environment.

APPENDIX B.

SAMPLE INTERVIEW QUESTIONS

(note that, since this is an interview format, these questions will guide content, but order and actual wording of some questions may change in response to participant's framing of responses)

1. First, tell me a little bit about yourself and where you've lived. That will help me to put in context your views. How long have you lived in this county? [Where was person born; did spend time outside county? state? in urbanized setting? Where consider self "native" of? Is there a history of family land ownership, farming, logging, etc. in area.]
2. What do you consider to be your main occupation? How long have you been doing that for?

3. Have you had any formal education or training in a particular trade or field?
4. (If moved to this county from elsewhere, or left and came back:) Why did you move to this county? (If never left:) What keeps you in this county?
5. How would you describe the quality of life in this county?

Now I'd like to ask you a few questions about whether you've noticed or experienced any changes in the environment locally, and if so, how they may have affected you.

6. In the time that you've been here, have you seen or experienced any changes in the local environment? Tell me what you have seen.

(If talks about general national, state, global stuff, record and understand; then, ask about changes more locally, in the county or city, on own land)

(If says hasn't, ask if has heard anyone else talking about changes)

(If asks me what I mean by "environment," ask what environment means to them.)

(Possible prompts: i.e., changes in the kinds of or numbers of plants or animals, changes in soil, air, water, plant cover. etc.)

7. Have you noticed changes on land you own/farm/timber/fish or hunt on?

8. What would you say has caused these changes [in #'s 6. & 7. above]?

9. Do you or your family use the Broad River for anything? Is there anything about the Broad River that you especially value? (or that especially interests you? or that you think is especially important?)

10. Have you seen changes in or around the Broad River? What would you say has caused those changes?

11. In what other ways has this county/town changed?

12. What do you think these changes are due to? (If doesn't know: What have you heard that other people think changes are due to? Do you agree with that?)

13. Have these changes affected you or your family or friends in any way, positive or negative or otherwise? [This will be asked in relation also to #'s 6,7, 10]

14. Do you feel that anything needs to be done about these [changes/impacts]?

15. How do these changes compare to other places you've lived in? (How does the environment here in this county compare to other places you've lived in?)

16. What does the term "environment" mean to you?

17. What does the term "development" mean to you?

Now I'd like to ask a few questions on your views about protection of the environment, and on experiences you may have had with different environmental protection practices, programs, or laws.

18. Do you think that protecting the environment is important? Why?

19. Is there anything you've done on your land (farm/household/business etc.) that had to do with conserving or protecting natural resources or the environment? Why was that activity/practice/program attractive to you? (If nothing: Has there been anything you thought about doing in your business/household/land that)

20. (If something like a USDA program or conservation easement or whatever) How did you find out/learn about that?

21. What are the pros or cons of this activity/practice, from your point of view? If don't know: How would you decide whether it was a good idea for you personally?

22. Have you ever lived someplace where there is land use zoning? (If not: What do you think of when you think of zoning? What are/were (what do you think are) the pros and cons of zoning?)

* 23. Have you heard of or had any experience with conservation easements? What are/were (what do you think are) the pros and cons of conservation easements, from your point of view?

24. Have you heard of or had experience with river corridor buffer zones? What are/were/what do you think are the pros and cons of these, from your point of view?

* 25. Would you say that you have "environmental values"? How would you describe those values?

26. How would you describe the relationship between humans and nature? What should the relationship between humans and nature be? How do you think you come by those views? (What do you think has helped shape these views?)

27. Are nature and environment the same thing?

28. Do people have responsibilities toward the environment? What are they?

29. Do they have responsibilities toward each other in regards to the environment? If so, what?

30. What role would you say government should have in protecting the environment? Should the role of local government be different from that of state or federal government?

31. What role should the individual have?

32. Do you have any thoughts on how to achieve a balance between protecting the rights of

individuals and protecting the environment? (For instance, how to make sure that what some people do with their land doesn't negatively affect everyone else's land?)

33. We've mainly focused on protecting the environment in the present. Do you think it's also worth the extra effort and cost to protect long-term aspects of the environment, for our grandchildren or for other people who live in the future, even if it doesn't benefit us today?

*These questions were drawn from Kempton, Boster, and Hartley 1995, but not used.

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