

Project No. \_\_\_\_\_  
Fund \_\_\_\_\_

## **PROJECT OUTLINE**

ALABAMA AGRICULTURAL EXPERIMENT STATION  
AUBURN UNIVERSITY

TITLE: **Social Impacts of the Bio-Fuel Industry on Rural Alabama**

DEPARTMENT(S): **Department of Agricultural Economics & Rural Sociology  
School of Forestry & Wildlife Sciences**

PROJECT LEADER(S):  
(with signatures)

**Dr. Conner Bailey, Professor of Rural Sociology**

**Dr. Larry Teeter, Professor of Forestry**

DATE OF TERMINATION OR REAPPRAISAL: **September 30, 2008**

DURATION and TOTAL ESTIMATED COSTS: **3 Years, \$119,978**

OBJECTIVES:

(1) Interview researchers, policy-makers, bio-fuel producers, and both current and prospective users of bio-fuels to estimate future growth of the bio-fuel industry in Alabama, and determine where that growth is likely to occur;

(2) Evaluate opportunities and constraints to bio-fuels production by farmers and landowners, including those with limited resources; and

(3) Evaluate the likely impact of growth in the bio-fuels industry on rural Alabama, including changes in land use patterns, employment opportunities, and income generation.

# **Social Impacts of the Bio-Fuel Industry on Rural Alabama**

Alabama's abundant timber resources (70% of the state is in commercial forest) and the potential for development of switchgrass and other energy crops is thought to be substantial. Our work will focus on Alabama, but we expect our findings to have at least regional implications given the extent of the South's forest and agricultural resources. Significant investments are being made in bio-fuel research both at Auburn University and elsewhere around the country. An impact assessment will provide useful information to researchers, developers, and policy-makers to maximize societal benefits from bio-fuel development, and to promote rural and community economic development in Alabama and neighboring states.

## **1. CRIS Retrieval**

Over 140 active projects were retrieved from CRIS using the keywords "bio-fuel," "social impacts," "economic development," "community," "income," and "jobs." However, only eight projects related to the work proposed here. Nagel (Univ Minn) includes bio-fuels as one element in a broad array of opportunities that could be developed to enhance agricultural and rural communities in the 5-state Northern Great Plains region. Herndon (Miss. State) focuses on the potential for developing a bio-fuels industry in Mississippi and will consider the economic feasibility of a wide range of potential feedstocks. Cassman (Univ Nebraska) is investigating the expansion of the grain ethanol industry and trying to determine the weakest links in the industry's economic, social and environmental foundations that might effect its long-term sustainability. Adams (Univ Nebraska) is investigating specialty forest products (including woody biomass) as potential drivers of rural economic development in Nebraska. Alwang (VA Tech) has been studying the economic obstacles to commercial bio-fuel production on Virginia farms and has concluded that it is not viable given current market conditions and current production and marketing technology. Holcomb (Oklahoma) is analyzing the infrastructure requirements of bio-fuels industries as part of an effort to assess the industry's potential for developing successfully in that state. Tom Gallagher (Auburn) is studying ways to efficiently harvest biomass from timber stands and deliver it to a bio-energy facility. Results from this work will be helpful to characterize the employment (jobs, potential payrolls) needs of a future woody biomass feedstock supply industry in rural Alabama.

## **2. Justification**

The search for alternative energy has emerged as a national priority. Through the Natural Resources Management & Development Institute (NRMDI), Auburn University is making significant investments in bio-fuel research. We propose to examine the likely impact of bio-fuel development on

rural Alabama, where bio-fuels in various forms will be produced. Our proposed work addresses AAES research priorities 1 and 5.

*Priority 1: Advancing environmental, economic, and social sustainability through identification of technologies, farming approaches, or organizational strategies that ensure the viability of agricultural and forestry production systems.*

Alabama has abundant timber resources (70% of the state is in commercial forest) and the potential for development of switchgrass and other energy crops is substantial. Successful bio-fuels development could provide an economic boon to Alabama farmers and other rural landowners by creating a market for perennials like switchgrass or thinnings or other small diameter timber.

Our proposed research is exploratory in nature given that the bio-fuels industry is at an early stage of development. Such assessments at the outset are of vital importance to shaping the future direction of the bio-fuels industry so that appropriate technologies, production practices, and organizational strategies can be designed to ensure economic viability and social sustainability. Bio-fuels are not the first new industry to affect rural economies, and there are lessons to be learned from the history of technological innovations (e.g., farm mechanization) and shifts in production systems (e.g., from row crop to pine plantation).

*Priority 5: Ensuring the socioeconomic and self-empowerment of families and communities in Alabama while meeting the USDA's goal of enhancing economic opportunity and quality of life for Americans.*

Priority 5 specifically mentions the impact on rural communities of technological change and alternative energy sources. At this early stage of development, it is unclear whether the benefits of bio-fuels development will be concentrated among large producers who enjoy economies of scale in access to technologies and markets, and to what extent other potential producers, including limited resource producers, might also benefit. In addition to research on this question, we also will explore how benefits of bio-fuels development might be distributed through rural communities in the form of employment, sales of inputs, land values, tax receipts, and general increases in economic activity will determine whether bio-fuels development contributes to economic viability of Alabama farmers and social sustainability. An impact assessment will provide useful information to researchers, developers, and policy-makers to maximize societal benefits from bio-fuel development.

### **3. Literature Review**

The U.S. Department of Energy has designated \$760 million to projects that include wind and solar energy, and \$385 million to six companies for cellulosic ethanol plants (ACES 2007a). Venture

capitalists have invested over \$100 million in conversion technologies for switchgrass (Yellin, Hinman, and Venkataraman 2007). The pending farm bill may boost production of cellulosic-based feedstocks (ACES 2007b).

Much of the research on bio-fuels development has been technical and economic in nature (e.g., Wallace and Palmer 2007). In comparison, relatively little attention has been devoted to the social dimensions of bio-fuels development, the focus of our proposed work. Most of the literature on social issues related to bio-fuels has focused on developments in developing nations (Baue 2006; Biopact 2007; Global Forest Coalition et al. 2006; Tokar 2006; “Tortilla Wars” 2007). This literature highlights the potential for ecological and social disruption of large-scale bio-fuels projects and the positive developmental impacts of scale appropriate feedstock production systems in which local producers can participate.

In the United States, Keoleian and Volk (2005) report both environmental and social benefits of willow biomass crops used as feedstock for bioenergy. The authors state that such crops could provide an alternative source of income for farmers, while community businesses and power plants can create mutually beneficial relationships as money generated by locally-produced energy is spent locally. Keoleian and Volk also state that more jobs could be created by this form of energy production than by fossil fuels or other renewable forms.

Baral and Guha (2004) examined the benefits of using biomass from short-rotation woody crops (SRWC) as fuel sources. The authors argue that energy production from biomass helps the growth of rural economies. They note that technological progress leading to commercialization has been slow because of “lack of adequate policies, incentives, investments in research and development (R & D), and institutions for creating the environment conducive to bio-energy promotion in the U.S.” (Baral and Guha 2004:51).

Alabama is home to both research projects and new bio-fuels industry developments. In January, a ground breaking was held for a bio-fuel refinery in Opp, Alabama, with plans to produce 60 million gallons of fuel a year from multiple sources, including peanuts, soybeans, and waste products (“Perihelion Global” 2007). Auburn University’s Center for Paper and Bioresource Engineering recently reached an agreement with Masada Resource Group LLC to collaborate on a \$1 million per year research project to identify alternative sources of energy – namely through biomass and waste conversion (“AU, Masada” 2007). The groups hope that current industries (agriculture, forest, and waste management) can contribute to production of bio-fuels. In the forestry field, ArborGen is experimenting with genetically modified eucalyptus trees in Baldwin County, and claims that the trees produce eight gallons of fuel for every gallon used to farm and process them (Raines 2007).

Algae is also being explored as a possible source of bio-fuel (“Algae BioFuels” 2007; “Alabama Grant” 2007). Per acre, algae (which contains vegetable oil similar to that found in corn and soy) can produce 30 times more oil than current crops used for bio-fuels (“Algae BioFuels” 2007). Governor Bob Riley recently awarded Auburn University a \$10,000 grant to study the feasibility of using pond algae in bio-fuel production (“Alabama Grant” 2007). If research results indicate algae is a commercially viable option, the university plans to develop a pilot pond and one or more demonstration ponds. Mark Hall, an Alabama Cooperative Extension System agent who specializes in renewable energy, states that conceivably, algae has the potential to produce more fuel in a smaller area than other sources, such as corn (ACES 2007a).

In light of this recent rush to promote bio-fuels in Alabama and the U.S., we believe research on the likely social impacts of this emergent industry is timely. Our review of available literature, not surprisingly, shows a dearth of such research. Our proposed research would follow the successful model for examining the potential impacts of genetically engineered loblolly pine on rural communities and forest land owners in Alabama were this technology to be approved and adopted (Bailey, Sinclair, and Dubois 2004). Such research fits into a long tradition of social science research into the likely consequences of technological development known as “social impact assessment” (Burdge and Vanclay 1995).

### References Cited

- Alabama Cooperative Extension System (ACES). 2007a. “Ethanol Without Corn Still Eludes Researchers.” *Extension Daily*, April 24, available at [http://www.aces.edu/departments/extcomm/npa/daily/archives/2007\\_04.php](http://www.aces.edu/departments/extcomm/npa/daily/archives/2007_04.php).
- Alabama Cooperative Extension System (ACES). 2007b. “Congress Ponders Switchgrass Incentives.” *Extension Daily*, June 7, available at <http://www.aces.edu/departments/extcomm/npa/daily/archives/003074.php>.
- “Alabama Grant Furthers Cultivating Algae for Biofuel.” 2007. Renewable Energy Access. Retrieved April 30, 2007 (<http://www.renewableenergyaccess.com/realnews/story?id=48322>).
- “Algae BioFuels Targets Alabama for Biofuel Production.” 2007. Market Wire. Retrieved June 20, 2007 (<http://biz.yahoo.com/iw/070208/0213452.html>).
- “AU, Masada to Convert Garbage, Sewage to Ethanol.” 2007. Wire Eagle. Retrieved May 30, 2007 (<http://wireeagle.auburn.edu/news/6>).
- Bailey, C., P. Sinclair, and M. Dubois. 2004. Future Forests: Forecasting Social and Ecological Consequences of Genetic Engineering. *Society and Natural Resources* 17:641-650.

- Baral, A. and G. S. Guha. 2004. "Trees for Carbon Sequestration or Fossil Fuel Substitution: The Issue of Cost vs. Carbon Benefit." *Biomass and Bioenergy* 27:41-55.
- Baue, B. 2006. "Biofuels May Not Be Sustainability Panacea, According to Bank Sarasin Report." SocialFunds.com. Retrieved May 3, 2007 (<http://www.socialfunds.com/news/article.cgi/2073.html>)
- Biopact. 2007. "A Closer Look at Social Impact Assessments of Large Biofuel Projects." Retrieved June 28, 2007 (<http://biopact.com/2007/04/closer-look-at-social-impact.html>).
- Breiner, S., K. Cuhls, and H. Grupp. 1994. "Technology Foresight Using a Delphi Approach: A Japanese-German Co-operation." *R&D Management* 24(2):141-53.
- Burdge, R. and F. Vanclay. 1995. *Environmental and Social Impact Assessment*. London: John Wiley & Sons.
- Global Forest Coalition et al. 2006. "Biofuels: A Disaster in the Making." *Energy Bulletin*. Retrieved May 3, 2007 (<http://energybulletin.net/21845.html>).
- Keoleian, G. A. and T. A. Volk. 2005. "Renewable Energy from Willow Biomass Crops: Life Cycle Energy, Environmental and Economic Performance." *Critical Reviews in Plant Sciences* 24:385-406.
- "Perihelion Global Held Major Press Conference Today in Opp, Alabama Updating Progress on BioFuel Refinery." 2007. Yahoo Finance. Retrieved May 10, 2007 (<http://biz.yahoo.com/iw/070509/0250747.html>).
- Raines, B. 2007. "Baldwin Site of Eucalyptus Experiment." *Mobile Register*, May 6, available at <http://www.al.com/news/mobileregister/index.ssf?/base/news/117844304965390.xml&coll=3>.
- Tokar, B. 2006. "Green Energy: Panacea or Just the Latest Hype?" Institute for Social Ecology. Retrieved May 3, 2007 ([http://www.social-ecology.org/article.php?story=20061209\\_235213405](http://www.social-ecology.org/article.php?story=20061209_235213405)).
- "Tortilla Wars Erupt." 2007. *Ecologist* 37(3):11.
- Wallace, L. and M. W. Palmer. 2007. "LIHD Biofuels: Toward a Sustainable Future." *Frontiers in Ecology and the Environment* 5(3):115.
- Yellin, J., K. Hinman, and N. Venkataraman. 2007. "What Happened to Bush Call for Switch Grass?" ABC News. Retrieved May 4, 2007 (<http://abcnews.go.com/Nightline/story?id=2814511&page=1>).

#### **4. Procedures**

*Objective 1:* Interview researchers, policy-makers, bio-fuel producers, and both current and prospective users of bio-fuels to estimate future growth of the bio-fuel industry in Alabama, and determine where that growth is likely to occur.

Task 1.1. Identify relevant researchers, policy-makers, bio-fuel producers, and both current and prospective users of bio-fuels to be interviewed.

Task 1.2. Use available literature on bio-fuels to develop an open-ended interview guide to elicit expert opinion on the likely future growth of Alabama's bio-fuel industry.

Task 1.3. Conduct interviews with a cross-section of experts and manage data consistent with the Institutional Review Board for Human Subjects protocols.

The bio-fuels industry in Alabama is at a very early stage of development and the best way to evaluate the potential and direction of this industry is to interview a cross-section of knowledgeable individuals. This "Delphi approach" (Breiner, Cuhls, and Grupp 1994) utilizes the knowledge of expert respondents and is well suited to evaluating future trends related to novel technological developments. For this project, we propose to use such interviews to provide a basis for predicting the future of Alabama's bio-fuels industry. We will interview researchers at Auburn University and elsewhere, policy-makers at the state and federal levels, bio-fuels producers (e.g., the forest products industry, especially lumber and paper mill operators), and both current and prospective users (e.g., Alabama Power). We anticipate that approximately 40 expert interviews will be conducted.

Key to success in using the Delphi approach is developing an adequate understanding to develop appropriate questions. To this end, Task 1.2 will involve a rigorous review of literature of the social, economic, and policy context of the bio-fuels industry and similar technological developments. The interviews themselves will be open-ended and semi-structured, allowing respondents to explore in depth issues which they believe to be particularly important or regarding which they have particular expertise.

*Objective 2:* Evaluate opportunities and constraints to bio-fuels production by farmers and landowners, including those with limited resources.

Task 2.1. Incorporate questions in the interview guide developed under Task 1.2 to determine whether production of different bio-fuels is scale-neutral.

Task 2.2. Match interview data regarding where the bio-fuels industry is likely to develop with current land use patterns to determine likely distribution of bio-fuel production.

Task 2.3. Evaluate interview data and available secondary data to determine the likely cost structure of bio-fuels production systems and likely markets for bio-fuels.

Based on the nature of technological change in the agriculture and forestry sectors, we anticipate that production of bio-fuels will not be a scale-neutral enterprise, that there will be economies of scale with regard to both land and equipment. Some production systems may be more accessible by limited resource farmers and landowners, and we expect our experts to help identify such systems. We also will rely on our expert respondents to identify likely bio-fuel processors and users. The geographic distribution of such facilities will affect the geographic distribution of where bio-fuels are produced due to transportation costs. Understanding the spatial distribution of such facilities will provide a basis for

understanding which parts of the state and what population of farmers and landowners are most likely to adopt bio-fuels production systems.

*Objective 3:* Evaluate the likely impact of growth in the bio-fuels industry on rural Alabama, including changes in land use patterns, employment opportunities, and income generation.

Task 3.1. Assess the likely impact of bio-fuels development on rural Alabama communities, distinguishing between regions and types of farmers and landowners.

Task 3.2. Prepare written reports, conference papers, and manuscripts for publication (e.g., an AAES Bulletin and articles in peer reviewed journals).

Task 3.3. Identify appropriate external competitive funding opportunities and develop plan for successful application.

Objective 3 is where we analyze the data we have obtained and predict the likely impact of future growth in the bio-fuels industry on rural Alabama, where such growth might take place, how such growth might change current land-use patterns, and who will be likely to benefit from such growth. This objective explicitly refers to the preparation of written materials for publication. Task 3.3 provides explicit reference to the need to identify external funding opportunities. In the “Schedule” below, this Task is identified as “continuous.” We anticipate that working on a proposal for an external grant will become a major activity at some point, but we do not know at this time precisely when that activity will occur during the year.

## **5. Expected Results/Outcomes**

We anticipate that our panel of experts will identify a range of bio-fuel types that can be produced in rural Alabama. We know that timber resources and switchgrass are bio-fuels which are attracting the most attention, while other sources (e.g., poultry litter) are being explored. A viable bio-fuels industry will depend not only on the ability to generate materials but also to deliver them to facilities where they can be transformed into electricity or other forms of energy. The market for bio-fuels will be shaped by investments in such facilities, and we anticipate the location of such facilities will in turn influence the spatial distribution of bio-fuels production and associated income and employment opportunities.

Understanding the spatial distribution of such facilities will provide a basis for understanding which parts of the state and what population of farmers and landowners are most likely to adopt bio-fuels production systems. This information will be important to the bio-fuels industry and also to the Alabama Cooperative Extension System, which will be asked to support development of this new industry. Our research represents an example of the classic relationship between research and Extension functions.

We expect to produce an AAES Bulletin, two conference papers (one to the Rural Sociological Society and one to the Southern Forest Workers Conference), and at least one article to a high-quality peer-reviewed journal such as *Society & Natural Resources*.

We also expect to identify and make plans for a successful application to a competitive grant program to secure extramural funds. We are confident of our abilities in this regard for a number of reasons:

- The PI on this project (Bailey) was PI on a 2003 AAES Foundation grant that provided the basis for a successful NRI grant for \$460,000; this was the fourth NRI grant for which Bailey served as PI over the past 15 years.
- The PI (Bailey) and co-PI (Teeter) have worked together on past research projects and have established a productive professional and personal relationship with complementary research interests and strengths.
- The subject of bio-fuels has attracted considerable national attention over the past year and research funds from the USDA and other sources are moving quickly into this field of opportunity.
- Among other sources of funding for future research is the U.S. Department of Energy and the Southern Rural Development Center.
- Auburn University's Natural Resources Management & Development Institute is designed to increase the University's visibility in this field, providing a solid technical underpinning to our efforts to examine the social implications of bio-fuel industry development.
- Seed money provided by this AAES grant will provide an empirical base for development of a successful proposal grounded in fact rather than conjecture.

## **6. Role of Personnel**

Dr. Conner Bailey is a Professor of Rural Sociology in the Department of Agricultural Economics & Rural Sociology. Bailey will serve as Principle Investigator on this project. His expertise is in the area of natural resource sociology and rural development.

Dr. Larry Teeter is a Professor of Forest Economics and Director of the Forest Policy Center in the School of Forestry & Wildlife Sciences. His expertise is in the areas of forest economics, GIS, and public policy and he has been PI or co-PI on \$1.8 million in grants while at Auburn. Dr. Teeter will serve as co-PI.

Janice Dyer is a Research Associate, has a M.S. in Rural Sociology, and has extensive field research experience in rural Alabama. She has published on the subject of property rights issues related to rural African Americans. Ms. Dyer will take the lead in literature reviews, drafting of the interview guide, and will participate in all of the interviews, data analysis, and preparation of written materials for publication.



## **9. Impact of this Grant on Existing or Planned Funding**

This AAES funding mechanism is designed to provide seed money to facilitate future successful extramural grant efforts. The research proposed here is exploratory in nature and will establish a basis in research which will give us a competitive advantage in attracting extramural support. The data we obtain will provide an empirically-based understanding of an emerging industry, providing a basis for identifying important conceptual and methodological approaches to further examination of the bio-fuels industry.

Current research supported by the AAES involving heir property (ALA095-005; Bailey, Kennealy, & Dyer) addresses the unique needs of African Americans in rural Alabama who, as tenants-in-common with other family members, do not have clear title to their land. This tenure status limits their ability to harvest timber or improve agricultural land. This research on heir property will provide an important understanding of one type of obstacle which may limit the benefits of bio-fuels production in rural Alabama.

Additional research supported by the AAES (ALA080-046, Teeter & LaBand) focuses on economic evaluation of energy conversion technologies for a wide variety of biomass sources in the South, determine regional economic impacts from bioenergy development, and evaluate alternative public policies to facilitate such development. The current proposal represents an extension of this project. While Teeter and LaBand are looking at the economics of different technologies and biomass sources of energy, our focus is on the social and spatial dimensions of bio-fuel industry development. Participation of Dr. Teeter on both projects will facilitate a synergistic exchange of ideas.

Both Bailey and Teeter are established and productive scholars who have a proven track record of attracting extramural competitive grants. The bio-fuels field is rapidly emerging as a growing research field. Escalating fuel costs are driving research into bio-fuels and other alternatives to fossil fuels. The work proposed here will provide us a solid foundation for successfully seeking extramural competitive grants.

**D. Estimated Costs**

			YR1	YR2	YR3	TOTALS
Personnel	Months	Rate	Total			
PI - Bailey	0.25	2664	2664	2797	2937	8398
Co-PI - Teeter	0.4	3304	3304	3469	3643	10416
Research Associate - Dyer	6	3500	20998	22048	23150	66196
Sub-Total			26966	28314	29730	85010
Benefits @ 26%			7011	7362	7730	22103
Total Personnel costs			33977	35676	37460	107113
Travel						
Conference			2000	2000	1200	5200
Field			2270	1350	1295	4915
Materials			1850	450	450	2750
TOTALS			40097	39476	40405	119978

Please see page 9, above, for budget justification.

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EDUCATIONAL BACKGROUND:

Ph.D., Cornell University (1974-1979).  
M.A., Ohio University (1972-1974).  
B.Sc., Southern Oregon College (1964-1968)

CURRENT POSITION:

Professor (1994 - )  
Graduate Program Officer, Rural Sociology (1999- )  
Associate Professor (1988 - 1994)  
Assistant Professor (1985 - 1988)

PREVIOUS EMPLOYMENT:

Research Fellow (1983-1985)	Research Fellow (1980)
Marine Policy Center	Senior Research Fellow (1981- 1982)
Woods Hole Oceanographic Institution	Int;l Ctr. Living Aquatic Resources Management
Woods Hole, Massachusetts 02543	Manila, PHILIPPINES

RESEARCH GRANTS (\$1,339,450 as PI; \$1,593.093 total as PI and co-PI):

USDA National Research Initiative Competitive Grants Program (4 grants as PI)  
National Science Foundation (2 grants as co-PI)

CONSULTING EXPERIENCE:

U.S. Geologic Survey  
U.S. Army Corps of Engineers  
Food and Agriculture Organization of the United Nations  
Minerals Management Service, U.S. Department of the Interior  
U.S. Agency for International Development  
United Nations Development Program

PUBLICATIONS

Books and Monographs: 8  
Refereed journal articles: 33  
Book Chapters: 22  
Other Publications: 23

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***Education:***

A.B., Economics, University of Michigan, 1973.

Ph.D., Forest Economics, Colorado State University, 1985.

***Employment:***

Assistant-Associate-Full Professor, School of Forestry, Auburn University, 1985-present.

Director, Forest Policy Center, Auburn University, 2000-present.

***Relevant Sponsored Research Projects (these projects - \$400,000+)***

Interregional Timber Inventory and Supply Analysis in the South, USDA Forest Service (SOFAC).

Trends in Forest Management Type Changes in the South Central Region, USDA Forest Service (SOFAC).

Local and Regional Economic Benefits from Forest Production Activities at the Savannah River Site:  
1951-Present (USDA FS)

Projecting Timber Inventories at the Product Level, USDA Forest Service (SOFAC).

Social and Economic Correlates of Timber Dependency in Alabama, USDA NRI (Co-PI).

***Relevant Publications:***

Teeter, L., M. Polyakov, and X. Zhou. 2006. Incorporating Interstate Trade In A Multi-region Timber Inventory Projection System. *Forest Products Journal*, 56(1):19-27.

Polyakov, M., L. Teeter, and J. D. Jackson. 2005. An Econometric analysis of Alabama's pulpwood market, *Forest Products Journal*, 55(1): 41-44.

Teeter, L., B. Cashore and D. Zhang (eds). 2003. *Forest policy for private forestry: Global and regional challenges*, Wallingford, UK: CABI Publishing, 307 p.

Teeter, L. (ed). 2003. *Proceedings-Global Initiatives and Public Policies: First International Conference on Private Forestry in the 21<sup>st</sup> Century*, Forest Policy Center, Auburn University, 291 p.

Teeter, L.D. 2000. Local and regional economic benefits from forest products production activities at the Savannah River Site: 1951-present. Final report to the U.S. Forest Service, Cooperative Agreement SRS 30-CA-96-035.

Teeter, L., and X. Zhou. 1999. Projecting timber inventory at the product level, *Forest Science*, 45(2):226-231.

***Professional Consulting:***

Meridian Corporation - on strategies for modeling the economic impacts of wood-fired power generation in the South

Georgia-Pacific Corporation - conducted surveys to evaluate wood raw material markets in the Southern U.S.

Georgia-Pacific Corporation - timber supply modeling methods

Gulf States Paper Corporation - on the availability of timber resources for paper and saw mill expansions

Boise Cascade, Inc. - economic impacts of reductions in federal timber sales (in Idaho, Montana, Minnesota)

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**Education:**

M.S., Auburn University (2005-2007). Major field: Rural Sociology.  
B.A., Auburn University (1999-2003). Major field: Journalism. Minor field: Anthropology.

**Current Position:**

Researcher (2007)  
Department of Agricultural Economics and Rural Sociology  
Auburn University

**Previous Employment:**

Graduate Research Assistant (2005-2006)  
Department of Agricultural Economics and Rural Sociology  
Auburn University

Layout/copy editor for Living section and bureau paper (2003-2004)  
*Mobile Register*  
Mobile, Alabama

**Publications**

- Dyer, Janice F., Conner Bailey. Under review. A Place to Call Home: Cultural Understandings of Heir Property Among Rural African Americans. *Rural Sociology*. Submitted March 6, 2007, Manuscript #07-021.
- Dyer, Janice F., Patrick Kennealy. In preparation. Housing and Community Capacity in Alabama's Black Belt: Constraints and Potential of Heir Property. *Journal of Extension*.
- Dyer, Janice F. 2007. Heir Property: Legal and Cultural Dimensions of Collective Landownership. Bulletin 667. Auburn: Alabama Agricultural Experiment Station.
- Dyer, Janice F. In preparation. Heir Property in Alabama. Alabama Cooperative Extension System.

**Papers and Posters:**

- Maintaining Homeplace: A Comparison of Tenancies-In-Common among African Americans, White Appalachians, and Native Americans. Annual meeting of the Rural Sociological Society, Santa Clara, California. August 2007.
- Heir Property: Legal and Cultural Dimensions of Collective Landownership in Alabama's Black Belt. Black Environmental Thought conference, Tuskegee, Alabama. May 2007.
- Protecting Homeplace: An Examination of the Legal and Cultural Implications of Heir Property in Alabama's Black Belt. Annual meeting of the Southern Rural Sociological Association, Mobile, Alabama. February 2007.
- Kinship, Stability and African American Land Loss: Examining the Implications of Heir Property in Alabama's Black Belt. Annual meeting of the Rural Sociological Society, Louisville, Kentucky, August 10-13, 2006.

**UNITED STATES DEPARTMENT OF AGRICULTURE  
COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION  
SERVICE**

OMB approved 0524-0039

**ASSURANCE STATEMENT(S)**

**STATEMENT OF POLICY** - Institutions receiving CSREES funding for research are responsible for protecting human subjects, providing humane treatment of animals, and monitoring use of recombinant DNA. To provide for the adequate discharge of this responsibility, CSREES policy requires an assurance by the institution's Authorized

Organizational Representative (AOR) that appropriate committees in each institution have carried out the initial reviews of protocol and will conduct continuing reviews of supported projects. CSREES also requires AOR certification by citing a timely date that an appropriate committee issued an approval or exemption.

NOTE: Check appropriate statements, supplying additional information when necessary.

1. INSTITUTION Agric. Econ. & Rural Sociology & Forestry & Wildlife Sciences

2. CSREES PROJECT NUMBER OR AWARD NUMBER (if known)

3. PROJECT DIRECTOR(S)  
Bailey, Conner & Teeter, Larry

4. TITLE OF PROJECT **Social Impacts of the Bio-Fuel Industry on Rural Alabama**

**A. BIOSAFETY OF RECOMBINANT DNA**

Project does not involve recombinant DNA.

Project involves recombinant DNA and was either approved ( ) or determined to be exempt ( ) from the NIH Guidelines by an Institutional Biosafety Committee (IBC) on (Date).

This performing organization agrees to assume primary responsibility for complying with both the intent and procedures of the National Institutes of Health (NIH), DHHS Guidelines for Research Involving Recombinant DNA Molecules, as revised.

**B. CARE AND USE OF ANIMALS**

Project does not involve vertebrate animals.

Project involves vertebrate animals and was approved by the Institutional Animal Care and Use Committee (IACUC) on (Date). This performing organization agrees to assume primary responsibility for complying with the Animal Welfare Act (7 USC, 2131-2156), Public Law 89-544, 1966, as amended, and the regulations promulgated thereunder by the Secretary of Agriculture in 9 CFR Parts 1, 2, 3, and 4. In the case of domesticated farm animals housed under farm conditions, the institution shall adhere to the principles stated in the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching, Federation of Animal Science Societies, 1999.

**C. PROTECTION OF HUMAN SUBJECTS**

Project does not involve human subjects.

Project involves human subjects and

Was approved by the Institutional Review Board (IRB) on (Date). Performing Institution holds a Federalwide assurance number ; if not, a Single Project Assurance is required.

Is exempt based on exemption number .

Specific plans involving human subjects depend upon completion of survey instruments, prior animal studies, or development of material or procedures. No human subjects will be involved in research until approved by the IRB and a revised Form CSREES-2008 is submitted.

This performing organization agrees to assume primary responsibility for complying with the Federal Policy for Protection of Human Subjects as set forth in 45 CFR Part 46, 1991, as amended, and USDA regulations set forth in 7 CFR 1c, 1992. All nonexempt research involving human subjects must be approved and under continuing review by an IRB. If the performing organization submits a Single Project Assurance, supplemental information describing procedures to protect subjects from risks is required.

SIGNATURE OF AUTHORIZED ORGANIZATIONAL REPRESENTATIVE	TITLE	DATE
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According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0524-0039. The time required to complete this information collection is estimated to average .50 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.  
CSREES-2008 (12/02/00)

### CURRENT AND PENDING SUPPORT

1. Record information for active and pending projects, including this proposal. (Concurrent submission of a proposal to other organizations will not prejudice its review by CSREES.)
2. All current efforts to which project director(s) and other senior personnel have committed a portion of their time must be listed, whether or not salary for the person involved is included in the budgets of the various projects.
3. Provide analogous information for all proposed work which is being considered by, or which will be submitted in the near future to, other possible sponsors including other USDA programs.

NAME (List/PD #1 first)	SUPPORTING AGENCY AND AGENCY ACTIVE AWARD/PENDING PROPOSAL NUMBER	TOTAL \$ AMOUNT	EFFECTIVE AND EXPIRATION DATES	% OF TIME COMMITTED	TITLE OF PROJECT
<b>Current:</b>					
Bailey, Dubois, Hartarska, Lindsey	NRI-CSREES 2005-00711 [ALA01-029]	460,000	06/14/2008	10%	Forestry and Community: Creating Local Markets for Local Resources
Bailey	AAES ALA01-022	52,063	09/30/2008	5%	Resource dependency and rural development in AL
Bailey, Kennealy	AAES	70,472	09/30/2007	5%	Heir Property and Land Loss: Addressing Problems Affecting Rural and Community Economic Development in Alabama
Hite, Marzan, Bailey	Miss-Al Sea Grant Consort.	60,000	12/31/2007	1%	Southwest Alabama Working Waterfront Inventory
<b>Pending:</b>					
Bailey, Teeter	AAES	119,978	09/30/2010	5%	Social Impacts of the Bio-fuel Industry on Rural Alabama
Bailey, Novak	AAES	58,574	09/30/2008	5%	Heir Property and Land Loss: Addressing Problems Affecting Rural and Community Economic Development in Alabama

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 Form CSREES-2005 (12/2000)

**CURRENT AND PENDING SUPPORT**

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3. Provide analogous information for all proposed work which is being considered by, or which will be submitted in the near future to, other possible sponsors including other USDA programs.

NAME (List/PD #1 first)	SUPPORTING AGENCY AND AGENCY ACTIVE AWARD/PENDING PROPOSAL NUMBER	TOTAL \$ AMOUNT	EFFECTIVE AND EXPIRATION DATES	% OF TIME COMMITTED	TITLE OF PROJECT
	<b>Current:</b>				
Teeter, L.D.	USDA Forest Service	\$36,000	09/01/06 - 08/31/08	.05	Family Forest Owners: A Diverse Group with Diversified Objectives
Zhang, Y, Teeter, L.D.	USDA Forest Service	\$25,000	09/01/06 - 08/31/08	0	Timberland Ownership Parcelization and Its Driving Factors in Alabama
Teeter, L.D.	USDA Forest Service	\$40,000	9/14/04 -9/13/09	.05	Conversion of Legacy Aquatic, Wildlife, and Plant Data to GIS Format
Teeter, L.D. and Laband, D.N.	Alabama Agricultural Experiment Station	\$120,000	10/1/06 - 9/30/09	.11	Biomass: An Economic Development Option for the Rural South
	<b>Pending:</b>				
Bailey, L.C. and Teeter, L.D.	Alabama Agricultural Experiment Station	\$119,978	10/1/07 - 9/30/10	.04	Social Impacts of the Bio-Fuel Industry on Rural Alabama

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Form CSREES-2005 (12/2000)

**UNITED STATES DEPARTMENT OF AGRICULTURE  
COOPERATIVE STATE RESEARCH, EDUCATION,  
ANDEXTENSION SERVICE**

**CONFLICT OF INTEREST LIST  
FOR COMPETITIVE PROGRAMS ONLY**

Name: Conner Bailey

For each project director (PD) and other personnel that are required based on the specific program guidelines, list alphabetically by last name (and with last name first), the full names of individuals in the following categories and mark each category which applies with an x . Additional pages may be used as necessary. A conflict of interest list for each PD must be submitted before a proposal is considered complete. Inclusion of a C.V. or publication list in the proposal is not sufficient.

- All co-authors on publications within the past four years, including pending publications and submissions
- All collaborators on projects within the past four years, including current and planned collaborations
- All thesis or postdoctoral *advisees/advisors*
- All persons in your field with whom you have had a consulting/financial arrangement/other conflict-of-interest in the past four years

Note: Other individuals working in the applicant's specific area are not in conflict of interest with the applicant unless those individuals fall within one of the listed categories.

Name	Co-Author	Collaborator	Advisees/ Advisors	Other – Specify Nature
Alley, Kelly	x			
Baharany, Ntam		x		
Bliss, John	x	x		
Brodbeck, Arnold			x	
Casanova, Vanessa			x	
Claxton, LaToyaey	x		s	
Crim, Sarah	x		x	
Dubois, Mark	x	x		
Duffy, Patricia	x	x		
Dyer, Janice		x	x	
Faupel, Charles	x			
Fraser, Rory		x		
Hallmark, Ginger	x		x	
Harris, Craig	x			
Hartarska, Valentina		x		
Howze, Glenniphon	x	x		
Joshi, Mahendra Jorge	x		x	
Kagawa, Masahiro	x		x	
Lindsey, Brucey		x		
Lupo, Crystal	x		x	
McDaniel, Josh		x		
McSpirit, Stephanie	x	x		

Merritt, Lani			X	
Miloucich, Stephen	X		X	
Molnar, Joseph	X			
Newland, Christopher	X			
Norton, Joni F.	X		X	
Paglia, Todd	X			
Perez, Karni	X			
Robinson, Laura	X		X	
Schelhas, John		X		
Sinclair, Peter	X	X		
Smith, Danna	X			
Stonich, Susan	X			
Teeter, Larry	X	X		
Thomas, Shanna			X	
Tuinstra, Reinstra	X	X		
Walton, Bryan	X		X	
Ward, Keith	X			
Warren, Sarah	X			
Zabawa, Robert		X		
Zhang, Daowei	X			

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Form CSREES 2007

**UNITED STATES DEPARTMENT OF AGRICULTURE  
COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE**

**CONFLICT OF INTEREST LIST  
FOR COMPETITIVE PROGRAMS ONLY**

Name:     Larry Teeter    

For each project director (PD) and other personnel that are required based on the specific program guidelines, list alphabetically by last name (and with last name first), the full names of individuals in the following categories and mark each category which applies with an . Additional pages may be used as necessary. A conflict of interest list for each PD must be submitted before a proposal is considered complete. Inclusion of a C.V. or publication list in the proposal is not sufficient.

- All co-authors on publications within the past four years, including pending publications and submissions
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- All thesis or postdoctoral *advisees/advisors*
- All persons in your field with whom you have had a consulting/financial arrangement/other conflict-of-interest in the past four years

Note: Other individuals working in the applicant's specific area are not in conflict of interest with the applicant unless those individuals fall within one of the listed categories.

Name	Co-Author	Collaborator	Advisees/ Advisors	Other – Specify Nature
Bailey, Conner	X	X		
Basnyat, Prakash	X	X	X	
Butler, Brett	X	X		
Cashore, Benjamin	X	X		
Cubbage, Frederick	X			
Dolisca, Frito	X	X	X	
Dyer, Janice		X	X	
Headley, Jeremy			X	
Huang, Star	X		X	
Jackson, John	X			
Laband, David	X	X		
Majumdar, Indrajit	X	X	X	
McDaniel, Josh	X	X		
Mills, John	X	X		
Polyakov, Maksym	X	X	X	
Robinson, Laura	X		X	
Schelhas, John		X		
South, David	X	X		
VanderSchaaf, Curtis	X			
Wu, John	X		X	
Zhang, Daowei	X			
Zhang, Yaoqi	X	X		
Zhou, Xiaoping	X	X	X	

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