A PROPOSAL

FOR

TITLE V FUNDS

RURAL DEVELOPMENT ACT OF 1972

FOR PROJECT ENTITLED

INCREASING INCOME OF SMALL FARMERS IN WESTERN NORTH CAROLINA THROUGH PROPAGATION AND PRODUCTION OF NATIVE RHODODENDRON

Covering the Period January 1, 1977 to December 31, 1977

Requesting Support in the Amount of $11,800 Research

4,000 Extension

$15,800 Total

Submitted by

J. W. Strobel, Head
Horticultural Science

K. R. Keller, Director
N. C. Agricultural
Experiment Station

George Hyatt, Jr., Director
Agricultural Extension Service

INCREASING INCOME OF SMALL FARMERS IN WESTERN NORTH CAROLINA THROUGH PROPAGATION AND PRODUCTION OF NATIVE RHODODENDRON

Western North Carolina has a large number of small farmers with low annual incomes. Production of intensively cultured high income commodities could substantially improve the standards of living on these small farms. There are several desirable woody ornamentals that are native to Western North Carolina and are in strong demand for use as nursery plants. One of these plant types is the native rhododendron (Rhododendron maxima, and Rhododendron catawbiense). For the past several years natives have gone to the forests, dug out native plants, cut them back, planted them on their farms, and then sold them 2 to 4 years later as shrubs. These are locally known as "cut-backs". There are two great disadvantages to this procedure of growing and selling native rhododendron plants, namely (1) the process is a slow and tedious one, and (2) the supply of wild native plant material is rapidly dwindling and will soon disappear.

The commercial propagation and production of native rhododendron plants could be an excellent source of income for many small farmers in Western North Carolina. Sound and feasible techniques of propagation need be developed for these native plants. Such techniques have been developed for other woody ornamentals and might well be adapted and refined for native rhododendrons.

The native rhododendron is one of the most popular native Western North Carolina shrubs. It appears that it will be possible to propagate these plants either by seed or by asexual means such as cuttings. We propose to determine the most feasible means of propagating native rhododendrons and then to disseminate our findings to growers in Western North Carolina and encourage the adoption of these findings.

SPECIFIC OBJECTIVES

1. To determine the best feasible means of rapidly propagating native rhododendrons in Western North Carolina.
2. To disseminate the findings of our research to rural farm families in at least two Western North Carolina Counties (Jackson and Watauga Counties) and to encourage the adoption of these findings by certain selected farm families.
3. The ultimate objective is to raise the farm income and the standard of living of a number of farm families, living on small farms, in Western North Carolina.

PROCEDURES

This project will require equal funding each year for three years.

The first two years will be devoted to developing feasible propagation techniques for native rhododendron. The third year will be devoted to disseminating the research findings to appropriate farm families and encouraging the adoption of this new information.

Two graduate assistants will be employed during the first two years. The procedure for each of these will be as follows:

1. One graduate student will investigate fully the feasibility of propagating native rhododendron by seed. He will make a detailed study of the literature, collect seed of different individual plants from the wild and determine: ideal time for seed collection, seed storage requirements, expected germination percentages, ideal time to plant seed, best media to use, time required from seeding to saleable plant, and the general uniformity of plants that are reproduced from seed.
2. The second graduate student will investigate fully the feasibility of propagating native rhododendrons from cuttings. His study will

include such factors as age and types of stock plants, time to make cuttings, types of cuttings, size of cuttings, use of growth regulators, media for rooting, temperature for rooting, time required for rooting, rooting percentage, and time required to produce a saleable plant.

During the third year a Special Area Extension Agent will be employed for one year. This agent will work under the joint supervision of the Extension Horticultural Specialist (Woody Ornamentals) and the District TVA Supervisor. He will take the findings of the research assistants to growers and potential growers. He will concentrate his efforts in Jackson and Watauga Counties and will work closely with the County Extension staff of these two counties. They will identify present and potential clientele. The agent will spend his time with the two county agents and the identified clientele in helping them become proficient in propagation of native rhododendron. This will be done largely through meetings, schools, demonstrations, and personal contact. From this nucleus of growers it is anticipated that the propagation and production of native rhododendrons for nursery plantings will rapidly spread throughout Western North Carolina.

PERIOD OF WORK

This project would be conducted during the period January 1, 1977 through December 31, 1979 -- a total of three years.

PROFESSIONAL PERSONNEL AND LOCATION

During the first two years the graduate assistants would be under the direct supervision of Ornamentals Research faculty, Department of Horticultural Science, NCSU. During the third year the Special Area Extension Agent would be under the joint supervision of the Extension Horticultural Specialist (Woody Ornamentals) at NCSU and the District Extension TVA Supervisor at Asheville, N. C.

RELATIONSHIP TO OTHER RESEARCH AND EXTENSION PROJECTS

There are two related Experiment Station projects, namely:

Project No. 3396 -- Propagation of Kalmia

Project No. 3397 -- Developing Growth Regulators and Herbicides for Ornamentals.

There is also a related inter-regional research project, namely S-103, entitled "Economics of Producing and Marketing Woody Ornamentals in the South".

These above mentioned three projects and this proposed project on native rhododendron production should compliment each other.

Several County Extension Agents and one Extension Horticultural Specialist are currently working with farm families on the production of native rhododendrons. The procedure for such production is slow and cumbersome, thus the need for this project.

PUBLICATIONS AND EVALUATION

As a result of the research there should be at least two technical research publications on rhododendron propagation. An Extension Circular should be written to tie the research findings into a usable package for County Extension Agents and growers. There should be additional articles in popular publications and trade journals.

The major evaluation will be in the form of an annual survey of the industry to determine the growth of the rhododendron industry in Western North Carolina and the number of farm families with substantially increased incomes.

LITERATURE REFERENCES

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Title V Funds Only FY 1977
U.S. DEPARTMENT OF AGRICULTURE

BUDGET STATEMENT RESEARCH AND EXTENSION SERVICE
TITLE V RURAL DEVELOPMENT ACT OF 1972 (P.L. 92-419)

STATE OR REGION	PROGRAM TITLE
North Carolina	Increasing Income of Small Farmers in Western North Carolina Through Propagation and Production of Native Rhododendron.

1. PERSONNEL:	RESEARCH COMPONENT (MYE)	RESEARCH COMPONENT AMOUNT	EXTENSION COMPONENT (MYE)	EXTENSION COMPONENT AMOUNT
(A) PROFESSIONAL-SCIENTIST RESEARCH (NAME AND TITLES)		$		$
(B) PROFESSIONAL SUPPORT				
Graduate Research Assistants (2)	1.0	8,800		
(D) CLERICAL LABOR AND OTHER Temporary Labor			.4	2,000
2. PERSONNEL SUBTOTAL		$ 8,800		$ 2,000
3. TRAVEL		500		1,500
4. EQUIPMENT		500		
5. OTHER OPERATING EXPENSES (IDENTIFY LARGE ITEMS)				
Communication & Supplies		2,000		380
Employee Benefits				120
6. SUBTOTAL		$ 3,000		$ 2,000
7. COOPERATIVE AGREEMENTS, CONTRACTS OR GRANTS WITH OTHER INSTITUTIONS:				
INSTITUTION SALARY MYE TRAVEL EQUIP. OTHER				
EXT				
RES				
EXT				
RES				
EXT				
RES				
8. GRAND TOTAL		$11,800		$ 4,000

FORM AD 458 (8-73)

A PROPOSAL

FOR

TITLE V FUNDS

RURAL DEVELOPMENT ACT OF 1972

FOR PROJECT ENTITLED

Exploratory Analysis of Market Potential

for Native Woody Ornamentals

Covering the Period January 1, 1977 to December 31, 1977

Requesting Support in the Amount of $ 4,850 Research
$ 5,650 Extension
$10,500 Total

Submitted by

A. J. Coutu, Professor,
Department of Economics
and Business

M. A. Cohen, Extension Assistant
Professor, Department of
Horticultural Science

Head, Department of Horticultural Science

Head, Department of Economics and Business

Director, Agricultural Extension Service

Director, Agricultural Experiment Station

Title: Exploratory Analysis of Market Potential for Native Woody Ornamentals

Justification:

It is suggested by some that there is an insatiable market for selective native woody ornamentals. However, given technology changes of seed multiplication, presumed seasonality of consumption, limited alternatives in competing supply regions and numerous purchaser alternatives, there is considerable doubt. The native ornamentals in question include Kalmia latifolia (mountain laurel), Rhododendron calendulacea (flame azaleas) and Rhododendron maximum, Rhodendron catawbiense and Rhododendron carolianum.

Given very limited knowledge of consumptive characteristics and economic conditions in alternate supply areas, the central questions are what levels of industry expansion should be encouraged and what level/form of educational assistance should be pursued.

Previous Work and Present Status of Pertinent Research:

In general, economic analyses of the nursery and specifically woody ornamentals have a brief history. The first southern regional project, initiated in 1965, on woody ornamentals focused on market structure, production organization and problem identification. A second regional project for the period 1975 to 1980 is focusing on cost-price relationships, regional specialization and greater specification of market structure.

From these studies some insights are gained on substitute products relating to market seasonality, transfer costs, significance of housing starts, labor requirements, optimum age of harvest and on competing supply areas. Some of the results will be useful in estimating costs of production and transfer costs for substitutes for native ornamentals.

Some recently initiated research in North Carolina on seed replication and container production of native ornamentals will be most useful. There are issues of the depletion of native stock and the possibilities of cost reducing production systems.

However, the extreme diversity of the woody ornamental industry in terms of varieties, production systems and market structure limit the usefulness of existing knowledge. The situation suggests the high potential of a specific exploratory study.

Objective:

For this initial exploratory study, the general objective will be to characterize local and alternate supply areas, market channels and market conditions. More specifically the objectives are as follows:

1. To estimate production costs for representative nursery producers in North Carolina and in competitive supply areas.
2. To estimate market characteristics in selected northeast locations including seasonality, substitutes, relative prices and quantities, containerization, etc.
3. To estimate characteristics of assembly, transfer and distribution activities in selected North Carolina and competitive supply areas.

Procedure:

An initial requirement will be a more complete review of the literature on production systems and consumer preference relating to native woody ornamentals. In particular, the review will focus on recently initiated research on the nursery industry in the South.

To estimate cost schedules for North Carolina and competing suppliers, a series of activities are suggested. A small subjectively drawn sample of nursery producers in North Carolina and in at least three competing supply areas will be surveyed to compile technical input-output schedules, nursery firm organizational structures and factor prices. For selected production system components, motion and time estimates will be taken for the producers in the survey. Nursery product cost schedules will be synthesized for alternative production systems from the field survey data, published research, farm record data and expert judgement.

Sample nursery firms in competing supply areas will be identified in consultation with extension and research colleagues. Major competing supply areas are New York, Pennsylvania and selected states in New England.

With respect to the second objective, an initial effort will involve development of expected price schedules by locations for native ornamentals and primary substitutes from trade journals. A second phase will involve a small market survey of representative sales outlets in Maryland, Pennsylvania, New Jersey, New York and possibly a location in New England. This highly subjective survey should provide data on market seasonality, price and quantity schedules on native ornamentals and primary substitutes, sources of supply, containerization preferences and other knowledge on consumer preferences.

From secondary sources relating to regional studies and a small survey of North Carolina truckers, estimates will be made of assembly, transport and distribution costs. This effort should also provide exploratory data on market structure, state regulatory issues, marketing margins and market information problems.

Related Activities:

As indicated above, an inter-regional research project relates to some aspects of this proposal. The inter-regional project, S-103, "Economics of Producing and Marketing Woody Ornamentals in the South", does not involve any of the nursery products associated with this proposal but will provide some data on consumer preferences, transfer costs and market flows by type of nursery product. More specifically the overall objective of the inter-regional project is to provide information on the combinations of production and marketing operations which will result in maximized returns to woody ornamental producers in the South. Specific objectives follow:

1. To develop estimates of the cost-price relationships of producing and marketing selected woody ornamental plants.
2. To estimate optimum market schedules for selected woody ornamentals based on input costs and product price relationships.
3. To ascertain patterns of geographical distribution and exchange of selected woody ornamental plants from production units to the point of final sale and analyze the product flow of nursery products consumed in the Southern Region.

Another complementary project supported by the Experiment Station is titled, "Propogation of Kalmia", (No. 3396), directed at the development of vegetative techniques for propagating native Kalmia latifolia. Also project No. 3397, "Developing Growth Regulators and Herbicides for Ornamentals", proposal focuses on technical management programs for native ornamentals in Western North Carolina.

Publications and Evaluation:

There will be three primary publication outlets:

1. The Economic Information Report Series of the Department of Economics and Business at North Carolina State University
2. The Circular Series of the North Carolina Agricultural Extension Service, and in
3. Selected trade journals.

As in most projects, a possible outcome could be greater specification of additional research and extension effort, such as which components of the production and marketing system are crucial to a successful native ornamental industry. However, such an outcome would emerge from educational meetings scheduled with nursery producers and county extension personnel on the results of the proposed activity. Other possible outcomes of such meetings might be specification of training efforts on selected phases of the activity, development of an effort to link further research on these native ornamentals into the regional research project, or a decision to move on a very intensive effort to expand such nursery activities.

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Technical Committee SM-34, Expenditure Patterns for Landscape Plants and Lawns by Apartment Owners in the South, Southern Cooperative Series, Bulletin No. 184, January, 1974

Technical Committee SM-44, Landscape Plants and Lawns in the South: Homeowners Expenditures and Use Patterns, Southern Cooperative Series, Bulletin No. 180, November, 1973

Title V Funds Only FY 1977
U.S. DEPARTMENT OF AGRICULTURE

BUDGET STATEMENT RESEARCH AND EXTENSION SERVICE
TITLE V RURAL DEVELOPMENT ACT OF 1972 (P.L. 92-419)

STATE OR REGION	PROGRAM TITLE
North Carolina	Exploratory Analysis of Market Potential for Native Woody Ornamentals

1. PERSONNEL:	RESEARCH COMPONENT (MYE)	RESEARCH COMPONENT AMOUNT	EXTENSION COMPONENT (MYE)	EXTENSION COMPONENT AMOUNT
(A) PROFESSIONAL-SCIENTIST RESEARCH (NAME AND TITLES)		$		$
(B) PROFESSIONAL SUPPORT				
(C) TECHNICAL SUPPORT (TECHNICIANS--PARA-PROFESSIONAL)				
(D) CLERICAL LABOR AND OTHER (Temporary Labor)	.3	2,500	.3	3,500
2. PERSONNEL SUBTOTAL		$ 2,500		$ 3,500
3. TRAVEL		1,605		1,545
4. EQUIPMENT				
5. OTHER OPERATING EXPENSES (IDENTIFY LARGE ITEMS)				
Questionnaires, publication and supplies		600		400
Employee Benefits		145		205
6. SUBTOTAL		$ 2,350		$ 2,150
7. COOPERATIVE AGREEMENTS, CONTRACTS OR GRANTS WITH OTHER INSTITUTIONS:				
INSTITUTION SALARY MYE TRAVEL EQUIP. OTHER				
EXT				
RES				
EXT				
RES				
EXT				
RES				
8. GRAND TOTAL		$ 4,850		$ 5,650

FORM AD 458 (8-73)

FUNDS FROM ALL OTHER SOURCES ONLY FY 1977

U.S. DEPARTMENT OF AGRICULTURE

BUDGET STATEMENT RESEARCH AND EXTENSION SERVICE
TITLE V RURAL DEVELOPMENT ACT OF 1972 (P.L. 92-419)

STATE OR REGION	PROGRAM TITLE
North Carolina	Exploratory Analysis of Market Potential for Native Woody Ornamentals

1. PERSONNEL:	RESEARCH COMPONENT (MYE)	RESEARCH COMPONENT AMOUNT	EXTENSION COMPONENT (MYE)	EXTENSION COMPONENT AMOUNT
(A) PROFESSIONAL-SCIENTIST RESEARCH (NAME AND TITLES)		$		$
Harry Silver (or technician from that office)			.08	1800
A. J. Coutu	.1	3000		
M. A. Cohen			.1	1900
(B) PROFESSIONAL SUPPORT				
(C) TECHNICAL SUPPORT (TECHNICIANS--PARA-PROFESSIONAL)				
(D) CLERICAL LABOR AND OTHER	.10	1000	.08	500
2. PERSONNEL SUBTOTAL		$ 4000		$ 4200
3. TRAVEL		300		300
4. EQUIPMENT				
5. OTHER OPERATING EXPENSES (IDENTIFY LARGE ITEMS)				
Communications, supplies, facilities & other expenses		2500		1500
Employee benefits (17%)		170		391
6. SUBTOTAL		$ 2970		$ 2191
7. COOPERATIVE AGREEMENTS, CONTRACTS OR GRANTS WITH OTHER INSTITUTIONS:				
INSTITUTION SALARY MYE TRAVEL EQUIP. OTHER				
EXT				
RES				
EXT				
RES				
EXT				
RES				
8. GRAND TOTAL		$ 6970		$ 6391

FORM AD 458 (8-73)

A PROPOSAL

FOR

TITLE V FUNDS

RURAL DEVELOPMENT ACT OF 1972

FOR PROJECT ENTITLED

THE DEVELOPMENT OF A MOBILE RECREATION UNIT FOR THE DELIVERY OF RURAL RECREATION SERVICES

Covering the Period 1/1/77 to 12/31/77

Requesting Support in the Amount of $ 4,000 Research

$ 10,000 Extension

$ 14,000 Total

Submitted by

Robert E. Sternloff

Dr. Robert E. Sternloff, Professor, Recreation Resources Administration

Thomas I. Hines

Thomas I. Hines, Head
Department of Recreation Resources
Administration

Eric L. Ellwood

Eric L. Ellwood, Dean
School of Forest Resources

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INTRODUCTION

The attempt to provide public recreation services to rural residents of North Carolina counties has shown dramatic increasing growth in the past seven years. In 1970 only one county had a full-time, year-round director of public recreation. At present approximately fifty or one-half of the total one hundred counties have employed a full-time county recreation director.

As a land-grant institution, North Carolina State University is vitally concerned with overall problems of rural development in North Carolina. The North Carolina State University Department of Recreation Resources Administration is, therefore, similarly concerned with rural recreation development and stands ready to provide technical assistance to those involved in providing rural county recreation services.

As an initial step in this direction, the Department attempted to identify basic unique problems which confront those responsible for providing rural recreation services in North Carolina. This determination was made by means of:

1. A called conference of ten North Carolina county recreation directors in 1974, the purpose of which was to have those directors identify problems unique to their rural recreation situations.
2. A 1975 open-end mail questionnaire survey of all county recreation directors (total of 30 directors at that date) requesting that they identify problems unique to their rural recreation situations.

The result of the conference and mail survey provided remarkably similar but predictable results; these being a general lack of permanent rural recreation facilities, transportation problems for program participants, and difficulties in providing recreation services in those unincorporated rural county areas inhabited by small clusters of citizens.

All of this pointed to an obvious need to provide technical assistance in the form of a practical method by which scattered rural county residents might be provided with recreation facilities, equipment and programs.

It was concluded that an important means for such technical assistance must be accomplished through the development of an economical mobile recreation unit program designed to bring a diverse program of recreation activities primarily to children between the ages of four and fourteen within walking or bicycling distance of their homes in rural areas of the county.

The following research proposal is designed to accomplish this overall objective.

SPECIFIC OBJECTIVES AND PROPOSED PROCEDURES

Objective One: Identify and inventory the North Carolina, South Carolina, Virginia, and Georgia Recreation Departments employing mobile facilities for recreation services.

Procedure:

1. Telephone survey of all recreation departments.
2. Identify target population of counties served.
3. Data Collection:
   a. type of equipment and programs offered
   b. costs of equipment and programming
   c. location of mobile units and travel distances
   d. number of participants utilizing programs.

Objective Two: Develop an index of efficiency for mobile recreation programs, with index based upon information gathered from objective one.

Procedure:

This efficiency index will be determined by unit cost pricing: the number of daily participants divided by total program costs. Scaled to departmental budgets and the target population and demands, success can be measured in terms of the unit cost index.

Objective Three: Determine user and departmental characteristics of a selected county area and evaluate the existing mobile program with the information of objective two and the user criteria.

Procedure:

1. With information from objective one identify a sample recreation department mobile program for evaluation.
2. From the target population of the sample department select a sample of user participants.
3. Survey the department and sample users:
   a. Mailed questionnaire to gather information concerning average user characteristics: location, income, recreation demands, satisfaction with mobile program, etc.
   b. Mailed questionnaire to gather information about department using mobile programs: classify available services (i.e. scaled to budgets, objectives, etc.)
4. With survey data determine program efficiency along unit cost index scaled to departmental programs.

Objective Four: Begin the initial stages of development and construction of the mobile unit prototype.

Procedure:

1. Discuss prototype plans with various disciplines to meet standards of efficiency. Evaluate various plans with a committee of:
   a. recreation specialist
   b. engineer
   c. product designer
2. With committee establish prototype objectives:
   a. flexibility and manueverability
   b. simplicity and designed to user needs
   c. inexpensive components.

FUNCTION	MONTHS OF PROJECT																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	22	23	24
Telephone Survey	x	x	x																				
Determine Cost Index				x																			
Study Departments				x	x																		
Select Department					x																		
Select Sample Users						x																	
(Six-month Evaluation)						x																	
Prepare Survey						x	x	x															
Pre-Test Survey							x																
Revise Survey								x															
Distribute Survey									x														
Collect Results									x	x	x	x	x										
Analyze Results												x	x	x	x								
(Evaluation)													x										
Write-up results of Survey																x	x	x					
Evaluate project																			x	x			
Prototype Plan																					x	x	x
(Evaluation)																							x

WORK PLAN

PERSONNEL QUALIFICATIONS

The principal investigators for the research project have backgrounds in recreational administration, supervision, management, maintenance, economics, cost accounting, and computer science. We consider a combination of expertise in these areas necessary to carry out an effective research study. A brief description of the principal investigators' backgrounds follows:

1. ROBERT E. STERNLOFF, Ph.D., Educational Administration
   a. Current Title: Professor of Recreation Resources, NCSU
   b. Experience: His great interest and concern for rural recreation program management has risen out of his observed need for assistance to rural county recreation directors in North Carolina. Dr. Sternloff conducted a Public Hearing and Inquiry as to the feasibility of recreation for rural Hoke County in North Carolina in 1974. He was coordinator of a consultant and proposal team which determined the feasibility of public recreation for Orange County, North Carolina in 1974. In January of 1975 he conducted a survey to identify basic critical problems confronting rural county recreation directors. This research proposal is specifically directed at developing a solution for the most frequently reported problem, i.e., "the lack of physical facilities in rural areas to serve the needs and desires of rural county residents."
2. CHRYSTOS D. SIDERELIS, Ph.D., Recreation and Park Administration
   a. Current Title: Assistant Professor of Recreation Resources, NCSU
   b. Experience: Dr. Siderelis has worked for municipal recreation and park departments as a practitioner. He has worked with recreation agencies as a consultant while employed with the Institute of

Community and Area Development at the University of Georgia. This experience coupled with his past work at the Institute for Research and Social Development, University of New Mexico, included questionnaire design, data collection, statistical analysis, processing, and publication. His current work has been in the field of recreation/park management systems, which are being implemented by many recreation and park departments throughout the United States and Canada.

Coordinating the proposed research will be facilitated because all of the research team members are located on the North Carolina State University campus. A number of Graduate students will be given Assistantships to carry out the tasks assigned to each research team member. Research team members will be responsible for the quality of the work assigned.

SEARCH OF THE LITERATURE

Within the state of North Carolina, as well as the rest of the nation, there is recognized a growing need for recreation services and programming which caters to the rural communities. In 1970 there was only one formal county recreation department in North Carolina, and in 1976 the number has grown to forty-six departments with full-time directors and year-round programs (Stevens, 1976).

The rural mobile recreation facility is a unit designed to carry quality, structured, recreation programming to areas where there is no proximal access to the urban areas with recreation programming(Nicolas, 1974).

Only a few recreation departments in North Carolina are known to be employing the mobile recreation equipment. In particular the Henderson-Vance Recreation Department is currently offering programs for its urban and rural residents which total 38,000. In 1973 this Department recognized that their permanent rural recreation programs were consistently decreasing in attendance. Problems of transportation to available permanent sites, boredom with the facilities, and unmotivated directors and helpers were related to the static playground programming. As enthusiasm and attendance continued to decline, the Henderson-Vance recreation directors decided on an alternative means to deliver recreation programs. It was decided to attempt to reach a large portion of the rural children through the provision of three mobile units. With city and county commission approval, a summer program was initiated.

Having operated the program for two years, the Henderson-Vance County Department has determined through informal survey, registration, and evaluation efforts, that the mobile program is increasingly meeting the needs of the rural residents. (See Appendix for more detail of this Henderson-Vance program.)

The National Recreation and Park Association conducted a survey of mobile recreation facilities (Frieswyk, 1966). This publication foresaw the growing trend in mobile recreation and strongly encouraged the use of such facilities.

> It is hoped that the presentation of mobile units which follows will be of value in speeding along more adequate provisions of mobile facilities to meet program needs and opportunities. p.15

Barbara Keller (1974) claims mobility in the delivery of recreation programs is crucial to the improvement of leisure services. She suggests emphasis is needed in rural areas, as mobile programs have gradually been concentrating on urban areas, and tending to ignore services for rural residents.

The infancy of the concept is recognized, and yet its inevitable and total integration into recreation departments is also recognized according to William H. Ridinger who developed the first center for mobile recreation at Southern Illinois University (Keller, 1974).

Durham, North Carolina has instigated a successful urban mobile recreation program. Ed Nicolas, former Assistant Director of the Durham Recreation Department suggests that the increase in mobile recreation is due to the stagnation and loss of appeal of the conventional permanent playground (Nicolas, 1975). Nicolas views mobile programming as a part of the pattern of the nation's playground development.

A New York county has published a guide for recreation directors for developing mobile programs (Fitch). The county recognized "that there were deprived pockets of residents scattered throughout the county who were in dire need of leisure services".

In addition, Recreation Magazine has published a number of articles ranging from mobile pools to foldaway theaters (September,1960; January, 1962; December, 1963).

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RELATED PROGRAMS AND ACTIVITIES OF THE PROPOSING ORGANIZATION

The Recreation and Resources Department has had much interest in rural recreation problems and research toward those problems. Beginning in 1975 with a survey, Dr. Sternloff isolated thirty rural recreation departments to discover their unique problems. Continued efforts have been made with the results of this survey which identified the following:

1. Problems created by the lack of physical facilities in rural areas to serve recreation needs of rural county residents.
2. Difficulties of communication with recreation programming for scattered unincorporated clusters of rural residents.
3. Transportation of potential recreation participants to central recreation facilities with specific locations.

Following the survey Dr. Sternloff met with rural county recreation departments in connection with the 1976 Municipal and County Directors Conference at Chapel Hill. During this meeting the directors requested assistance toward solution of their problems, inparticular they pointed to the need for rural recreation mobile facilities. It is hoped that the proposed research will help to solve this problem of rural recreation services.

EVALUATION OF PROJECT IMPACT

In order to evaluate the impact of the mobile recreation project, it will be necessary to have input from those recreation departments who have had experience with the mobile recreation unit. A panel of members from these departments will be set up to objectively evaluate plans for the development and construction of a mobile unit prototype.

Responses from panel members will be recorded as to their perceived importance of the evaluative criteria. The list of criteria that will be undergoing evaluation has been developed from a review of literature and will be refined through consultation with personnel at park and recreation agencies employing mobile recreation programs. At present, it is expected that the list of criteria would include:

1. Program cost ratio - number of participants divided by recreation program cost.
2. Operational cost ratio - number of participants divided by costs attributable to transportation of unit and daily upkeep of unit.
3. Safety ratio - number of participants divided by number of participant accidents in connection with mobile unit use.
4. Variety of program elements - number of different recreational activities delivered in Mobile Recreation Program.
5. Diversity of equipment - number of different types of recreational equipment featured by mobile unit.
6. Maneuverability of unit - number of traffic accidents and accidents to the unit incurred in maneuvering unit in and out of program location sites.

7. Mobile unit original cost - original cost of mobile unit as measured in current dollars.
8. Aesthetic characteristics of units - appearance of unit while traveling as well as set-up on site. This will be judged by panel members from color photographs of mobile units set up and in travel.

Criteria will be rated as to their relative importance measured by means of a Likert-type scale ranging in value from the number one, "not important", to the number ten, "extremely important." Responses by panel members to each of the eight evaluative criteria will be pooled to obtain an average "criterion" weight. In interpreting the average weight, the higher the pooled value, the more important the perceived value of the criterion.

The resulting average weights assigned to evaluative criteria will be multiplied by raw scores obtained from those places employing mobile recreation units as displayed in Figure 1. In interpreting the results, the higher the resulting score, the greater the ability of the Mobile Recreation Program in meeting the evaluative criterion.

The matrix, displayed in Figure 1, will be inspected to ascertain those places scoring the highest on the evaluative criteria. In cases of ties, features of mobile units in several or more places will be studied for incorporation into the initial stage of the development plan for the construction of a prototype mobile recreation unit.

Figure 1. Evaluative Criteria Matrix Scores

		Places Employing Mobile Units[b]			
Evaluative Criteria	Weight[a]	A	B	C	..... N
Program cost ratio	x_1	x_1y_A[c]	x_1y_B	x_1y_C	.....x_1y_N
Operational cost ratio	x_2	x_2y_A	x_2y_B	x_2y_C	.....x_2y_N
Safety ratio	x_3	x_3y_A	x_3y_B	x_3y_C	.....x_3y_N
Variety of program elements	x_4	x_4y_A	x_4y_B	x_4y_C	.....x_4y_N
Diversity of equipment	x_5	x_5y_A	x_5y_B	x_5y_C	.....x_5y_N
Maneuverabiliy of unit	x_6	x_6y_A	x_6y_B	x_6y_C	.....x_6y_N
Mobile unit cost	x_7	x_7y_A	x_7y_B	x_7y_C	.....x_7y_N
Aesthetic characteristics	x_8	x_8y_A	x_8y_B	x_8y_C	.....x_8y_N

[a]Weight refers to the importance placed on the evaluative criterion as expressed by taking the mean score of responses by panel members.

[b]$y_A \ldots y_N$ refers to the raw score measured on the evaluative criterion at places employing mobile recreation units.

[c]$x_1y_A \ldots x_8y_N$ are simply the expression of "weight" multiplied by the raw score. The higher the matrix score, the greater was the attainment of the mobile recreation program in meeting the evaluative criterion.

U.S. DEPARTMENT OF AGRICULTURE

Title V Funds Only FY 1977

BUDGET STATEMENT RESEARCH AND EXTENSION SERVICE
TITLE V RURAL DEVELOPMENT ACT OF 1972 (P.L. 92-419)

STATE OR REGION	PROGRAM TITLE
North Carolina	The Development of a Mobile Recreation Unit for the Delivery of Rural Recreation Services.

1. PERSONNEL:	RESEARCH COMPONENT (MYE)	RESEARCH COMPONENT AMOUNT	EXTENSION COMPONENT (MYE)	EXTENSION COMPONENT AMOUNT
(A) PROFESSIONAL-SCIENTIST RESEARCH (NAME AND TITLES)		$		$
Robert E. Sternloff			.25	5114
(B) PROFESSIONAL SUPPORT				
(C) Graduate Research Assistant	.5	3800		
(D) CLERICAL LABOR AND OTHER (Temporary Labor)			.25	1440
2. PERSONNEL SUBTOTAL		$ 3800		$ 6554
3. TRAVEL				1600
4. EQUIPMENT				
5. OTHER OPERATING EXPENSES (IDENTIFY LARGE ITEMS)				
Fringe Benefits				725
Supplies, communication, printing		200		1121
6. SUBTOTAL		$ 200		$ 3446
7. COOPERATIVE AGREEMENTS, CONTRACTS OR GRANTS WITH OTHER INSTITUTIONS:				
INSTITUTION SALARY MYE TRAVEL EQUIP. OTHER				
EXT				
RES				
EXT				
RES				
EXT				
RES				
8. GRAND TOTAL		$ 4000		$ 10,000

FORM AD 458 (8-73)

U.S. DEPARTMENT OF AGRICULTURE

FUNDS FROM OTHER SOURCES FY 77
BUDGET STATEMENT RESEARCH AND EXTENSION SERVICE

TITLE V RURAL DEVELOPMENT ACT OF 1972 (P.L. 92-419)

STATE OR REGION	PROGRAM TITLE
North Carolina	The Development of a Mobile Recreation Unit for the Delivery of Rural Recreation Services

	RESEARCH COMPONENT		EXTENSION COMPONENT	
1. PERSONNEL:	(MYE)	AMOUNT	(MYE)	AMOUNT
(A) PROFESSIONAL-SCIENTIST RESEARCH (NAME AND TITLES)		$		$
Dr. Chrystos D. Siderelis, Assistant Professor	.08	1625.00		
(B) PROFESSIONAL SUPPORT				
(C) TECHNICAL SUPPORT (TECHNICIANS--PARA-PROFESSIONAL)				
(D) CLERICAL LABOR AND OTHER				
2. PERSONNEL SUBTOTAL		$ 1625.00		$
3. TRAVEL				
4. EQUIPMENT				
5. OTHER OPERATING EXPENSES (IDENTIFY LARGE ITEMS)				
Fringe Benefits (17%)		276.25		
6. SUBTOTAL		$ 276.25		$
7. COOPERATIVE AGREEMENTS, CONTRACTS OR GRANTS WITH OTHER INSTITUTIONS:				
INSTITUTION SALARY MYE TRAVEL EQUIP. OTHER				
EXT				
RES				
EXT				
RES				
EXT				
RES				
8. GRAND TOTAL		$ 1901.25		$

FORM AD 458 (8-73)

PUBLICATION OF RESULTS

Upon completion of the study a thesis will be written in partial fulfillment of the requirements set by the Graduate School for a Master of Science degree. A project completion report will be submitted within sixty days of termination of the project. Articles based upon the findings will be submitted to Park and Recreation and The Journal Of Leisure Research. It is hoped that further papers might be presented at conferences and workshops to disseminate the information to Directors of rural county recreation programs.

This research proposal entitled: "The Development Of A Mobile Recreation Unit For The Delivery Of Rural Recreation Services", has not been submitted to any other organization requesting financial support.

APPENDIX

(Henderson-Vance County, North Carolina
Mobile Recreation Program)

County Wide Mobile Recreation Program Helps Increase Participation

In recent years most recreation departments in North Carolina have experienced a decline in participation by children in their summer playground programs. As has been pointed out many times, there are many reasons which have contributed to this decline, such as substandard pay for good leaders, complacency and/or boredom on the part of the leaders, breakdown of communications, inadequate equipment and supplies, and lack of sufficient funds to construct attractive outdoor areas for playground sites, among others. We at the Henderson-Vance Recreation Department felt that the time had come for us to combat these problems by more innovative programming or cease to operate the summer playground program.

The Durham Recreation Department in trying to solve the problems of summer playgrounds turned to the mobile recreation concept in the summer of 1974. Durham was the first recreation department in North Carolina to adopt the mobile concept, and according to Ed Nicholas of the Durham Recreation Department, "the mobile recreation concept has rejuvenated our summer playground program. It has proven to be very successful."

Durham is a fairly large city with a population of 105,000 people, and the mobile program is ideally suited for municipalities. The Henderson-Vance Recreation Department, however, is a joint city-county department serving a total population of 38,000 people. Therefore, when we decided to adopt the mobile recreation concept for our summer playground program, we encountered many problems that are not present, (or are present to a lesser degree) in a municipal situation such as Durham.

To begin with, we have only three fulltime program staff members and a limited budget. Consequently, when we went the mobile route it was on a much smaller scale than Durham. There were enough funds available to purchase three mobile units (as illustrated in photograph). We decided to use one unit exclusively in the urban and suburban areas, and the other two units in the rural areas of the county.

Our program was set up on a revolving schedule for eight weeks with each unit going to a new location each week. Therefore, eight urban and suburban areas would be covered, and sixteen rural areas would be reached. This posed our next problem — determining which locations in the City and County would be advantageous for conducting a program whereby thirty-five to fifty children, ages four to sixteen, would be in walking or bicycling distance of the location. This was solved through consultation with the Director of the local school Transportation Department. Then came the problem of selling the concept to the churches and private landowners whose property we needed to lease for sites. School grounds were utilized wherever possible.

Our liability insurance program, both with the City and County, made it mandatory that we do an on-site study of each location and submit a statement to the insurance company including dimensions and any possible hazards which may be present before the program could be included in the blanket liability insurance coverage of both government units. Also, we were required to secure a signed consent agreement from each landowner allowing us to operate a program on their property at a specified time, but relieving us of any liability for accidents or damage occurring at other times when a program was not in operation there.

The stage was set for organization and staffing. Since we have only three fulltime program staff people, the program director also had to serve as mobile program supervisor, equipment manager, and liaison between unit directors and office, unit directors and landowners, and unit directors and specialists.

Each of our units was staffed with a unit director, who was in charge of the unit, its transportation to and from the various locations, any disciplinary problems which might arise, the implementation of the overall program capabilities of his unit, and all reports concerning activities and attendance. Working with the director on each unit was an arts and crafts specialist, a sports and games specialist, a music and drama specialist, a pre-school activities specialist and two playground helpers (Neighborhood Youth Corps employees).

(Continued)

The recruitment and selection of good summer playground leaders is always a problem, but we had to be very specific and technical, to a certain extent, and this complicated the matter even more. After processing and discussing numerous applications, we first selected our three unit directors, and then we selected what we felt were the three best applicants in each of the specialized areas, then finally we selected the six best applicants who would qualify on the Neighborhood Youth Corps program as the playground helpers. We then successfully integrated each unit according to age, sex, race, skill and background, thereby assuring that each unit was capable of serving any location in the City and County.

We felt also that since the recruitment and selection of summer playground staff had been more extensive than in the past, we should make sure our orientation of these people was more extensive than in previous summers. The department sponsored a two-day workshop just prior to the beginning of the program in which all prospective playground employees were required to attend. We brought in local professionals in arts and crafts, music and drama, sports and games, and pre-school activities to conduct sessions in each of their fields. We also emphasized the departments' basic philosophies, objectives for the program, and approaches we felt would be pertinent in obtaining these objectives.

Finally, we were ready to put the program into operation. Without elaborating on all the seemingly endless little problems that arise out of the everyday routine of operating a new program, no serious problems or handicaps arose. In terms of accomplishing our basic objective — to provide a wholesome, well-rounded recreational program to as many of the youth of Hendersion and Vance County as possible within our time and expense allocation — the mobile summer playground program was considered successful.

The eight urban and suburban areas were all heavily attended and well received by the parents and children, while in the rural areas the program was well received by those who participated, but in some locations we never reached the thirty five to fifty quota that we had set out to obtain. However, in many of these areas we reached youth that we had never reached before in any type of activity. Also, it was refreshing to see children of all socio-economic backgrounds participating together.

Another major problem in the rural areas is that if a child is old enough to attend a playground program, many times he or she is old enough to help with the farming chores at home. After July 4 when tobacco season came in, it was virtually impossible to attract teenagers until late afternoon. And, no matter how well we publicized the program, by radio, newspaper, posters, and mail box fliers, many people still did not understand or appreciate the program.

The only other major problem stemmed from the fact that a large majority of the participants, both urban and rural, did not respond to music and drama as we had anticipated they would.

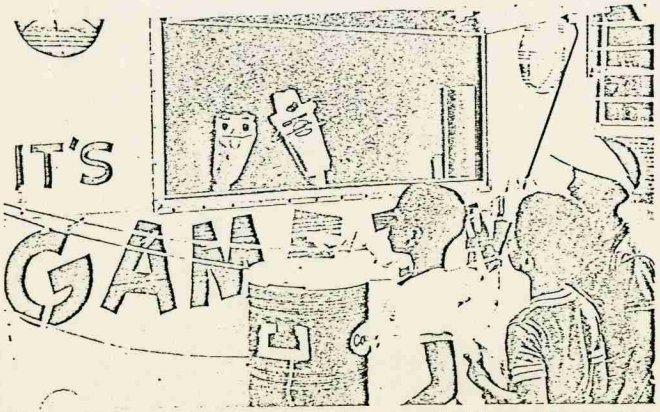
Even though it seems I have painted a dull picture of unsuccessfulness with our playground program, it should not be construed that way. The 1975 summer playground program featuring the mobile concept was the best that we have done yet, (in 1974 with six permanent playground facilities we had 1,580 participants; in 1975 we had over 2,300 total participants), and we plan to again administer the same type program in 1976, but with some changes.

First of all, we will strive to increase our advertisement of the program in an effort to reach and better explain the program to more people. Secondly, we will delete the music and drama specialists from each unit and hire two music and drama specialists to visit all three units once or twice per week. Thirdly, we will again locate a unit inside the urban areas in eight different neighborhoods; however, we will place one unit in eight different locations in the fringe or suburban areas and one unit in eight different communities in the outlying rural areas.

Also, we plan to hire a nature specialist to visit each of the units once or twice a week, similar to the roving music and drama specialists. Of course, we will strive to upgrade the program in the other three specialized areas. Finally, in the rural areas we plan to go to a split shift, operating from 9:00-1:00 in the morning for pre-schoolers and the younger children who do not have to farm and opening back up at 4:00 in the afternoon and operating until 8:30 for the working children.

In conclusion, the first year of operation of a mobile playground program in Henderson and Vance County did not solve all of the problems contributing to the deterioration of summer playground programs; however, it is more successful than the permanent playground setting and has the potential to develop into a great program which will eventually solve most of our problems.

Ralph Peace
Henderson-Vance Recreation Department



The puppet show is always an entertaining aspect of the mobile recreation

Henderson - Vance County
Recreation & Parks Department
P. O. Box 1556
Henderson, N. C. 27536

CONSENT AGREEMENT

I, _____ hereby agree and consent to allow the Henderson-Vance Recreation Department to operate a mobile playground unit on said property specified below for the period of _____ through _____ from the times 8:30 a.m. through 5:30 p.m. Be it understood that the Henderson-Vance Recreation Department will at its discretion and/or when necessary transfer certain equipment and/or facilities to the site on the Friday afternoon prior to the dates specified above.

Further it be understood that _____ will incur no liability or responsibility for any occurance arising out of the activities of the City of Henderson or County of Vance under the terms of this agreement.

The Henderson-Vance Recreation Department will assume liability for any personal injury and/or property damage during hours of operation specific . to the extent provided by law or the terms of its insurance coverage.

Description and location of property _____

_____

_____

Date _____

Signed _____

Witness _____

Henderson - Vance County
Recreation & Parks Department

SUMMER PLAYGROUND LOCATIONS 1976

URBAN AREAS

1.	June 21-21	Salvation Army Center
2.	June 28-July 2	E.M. Rollins School
3.	July 5-9	Radio Lane
4.	July 12-16	Young St. Apts.
5.	July 12-16	Eaton St. Playgrounds
6.	July 26-30	Eaton-Johnson School
7.	August2-6	Cheatham Estates
8.	August 9-13	Flint Hill Recreation Area

FRINGE AREAS

1.	June 21-25	Pinkston St. School
2.	June 28-July 2	James Harris Farm (Cokesburry)
3.	July5-9	Nutbush Church
4.	July 12-16	Dabney School
5.	July 19-23	Lelia B. Yancey School
6.	July 26-30	North Henderson School
7.	August 2-6	South Henderson School
8.	August 9-13	Fox Pond Park

RURAL AREAS

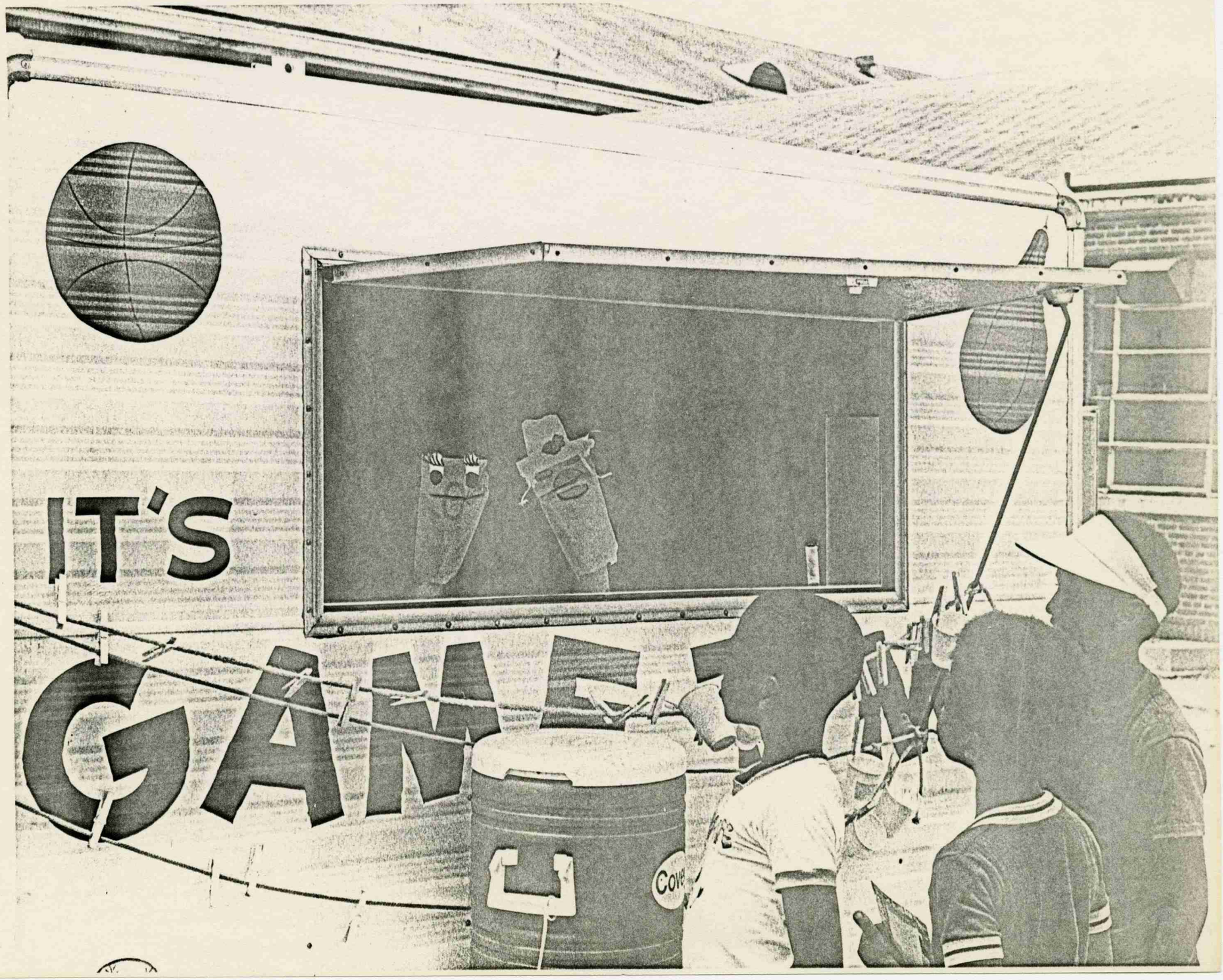
1.	June 21-25	Egypt Mt. (J. Hoyle Davis Farm)
2.	June 28-July2	Rehoboth Church (Wakins)
3.	July 5-9	Nutbush School (Drewry)
4.	July12-16	Middleburg School (Williamsburo
5.	July 19-23	L. S. Ball Field (Williamsburo)
6.	July 26-30	Ayoock School
7.	August 2-6	Zeb Vance School
8.	August 9-13	Kerr Lake School (Townsville)

Monday-Thursday 9:00-5:00

Friday 9:00- 1:00

(preschoolers 9:00-11:00 Mon.-Fri.)


IT'S
GAME


IT'S
GAME