

FINAL REPORT

C9994861-99-23

Herrington Lake – Dix River Clean Water Action Plan

M – 01008282

February 01, 2001 – November 30, 2005

submitted by the
Kentucky Heritage
Resource Conservation and Development Council, Inc.
227 Morris Drive
Harrodsburg Kentucky 40330-1086

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Funding for this project was provided in part by a grant from the U.S. Environmental Protection Agency (EPA) through the Kentucky Division of Water, Nonpoint Source Section to the Kentucky Heritage RC&D Council, Inc. via DOC as authorized by the Clean Water Act Amendment of 1987, Section 319(h) Nonpoint Source Implementation Grant # C9994861-99-23. mention of trade names or commercial products, if any, does not constitute endorsement. This document was printed on recycled paper.

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ACKNOWLEDGEMENTS

The Kentucky Heritage RC&D Council, Inc. would like to acknowledge the following persons or agencies that helped in the design, execution, and administration of this project:

USDA – NRCS. Through the action of the U.S. Secretary of Agriculture, the Kentucky Heritage RC&D Council was authorized in 1992. This action enabled the USDA-Natural Resources Conservation Service to provide Federal assistance to the Council to develop an Area Plan and Annual Plan of Work. These work plans continue to focus on the needs of local agricultural producers and their needs for technical and financial assistance. The support of the Natural Resources Conservation Service has enabled the Kentucky Heritage RC&D Council to obtain this special funding for producers within this watershed project.

Kentucky Division of Conservation. DOC has enabled the Kentucky Heritage RC&D Council to provide this service to local agricultural producers by administering the day to day billing and accountability of the project.

Kentucky Division of Water. DOW has the vision with which to help implement best management practices that will address water quality concerns across the state. Their vision, and partnership with the US Environmental Protection Agency has allowed the Kentucky Heritage RC&D Council the means to implement a project of this magnitude.

Project Oversight Committee. This group of local farmers, agency representatives and consultants has provided local guidance to project implementation. Their insight and assistance helped lead to the buy-in of local producers, and ultimately, the execution and completion of the project.

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EXECUTIVE SUMMARY

This Herrington Lake – Dix River Clean Water Action Plan Project targeted an expanded area of the 97-18 Section 319(h); Herrington Lake – Dix River Watershed Spears Creek – Mocks Branch. It originally included Cane Run and Hanging Fork, but was later expanded to include adjacent watershed between the named tributaries.

This project came at the right time – when interest was high in the 97-18 Section 319(h) project. This project afforded the RC&D the opportunity to install more BMPs that lead to a perceived improvement in water quality. It was a perceived improvement in that there was no monitoring associated with this project.

The purpose of this project was to address water quality by implementing whole-farm planning processes. Identifying, evaluating and implementing those agricultural BMPs for demonstration purposes that, when fully implemented, will permit sustained use of the material resources and meet specific water quality criteria. Through educational outreach, cooperators and landusers will attain a higher level of management by implementing proven technologies – sustaining economic viability while improving the water quality within the watershed.

A variety of BMPs were installed throughout this project. They primarily included waste storage facilities, alternative water systems, stream crossings, fence, and heavy use areas.

A watershed coordinator was employed at various times during this project. The coordinator helped producers install BMPs on their farms by showing them where and how the practices should be installed. The coordinator kept in contact with the farmers to keep local interest up. At the onset of the project, much of the coordinators time was spent evaluating and inventorying resources; targeting project work areas; and contacting producers within the watershed area.

Although water quality monitoring was not a part of this project, the 97-18 Section 319(h) project did entail monitoring. The amount of monitoring conducted at the funds available for monitoring did not seem adequate to show positive results. A copy of the 97-18 Section 319(h) monitoring report is available from the Kentucky Division of Water.

Lastly, two field days were hosted to show farmers how BMPs functioned on the ground, and to hear from other producers how the BMPs worked and their advantages. Farm field days are one of the most effective means of sharing and transferring information to local producers.

INTRODUCTION & BACKGROUND

This project was chosen to augment the successes we realized from the 97-18 Section 319(h) project. It expanded the project area by adding adjacent watersheds and hence counties. It opened the area up to include a small portion of Mercer County, (Cane Run) and a portion of Lincoln County (Hanging Fork). Success included producer interest and partner support.

The overall goal of the Herrington Lake – Dix River Watershed Restoration Project was to reduce nonpoint source pollution of Kentucky's waterways and improve the biological and chemical integrity of streams within the Herrington Lake – Dix River Watershed and Spears Creek – Mocks Branch – Cane Run – and Hanging Fork Sub Basins. The following hydrologic units were included in the project area: Cane Run Creek, HUC 05100205170-140; Hanging Fork, HUC 05100206180. Implementation of demonstration Best Management Practices (BMPs) on agricultural operations addressed resource concerns applicable to water quality within the project area. Application and installation of appropriate conservation practices were expected to reduce the nonpoint source pollution from agricultural operations.

The project's objectives are to address water quality issues including bacteria, nutrients, and sediment, as well as other pollutants from nonpoint sources including livestock operations and cropland. Dairy and beef cattle operations comprised the majority of farm operations within the 190,000 acre watershed. Kentucky Agricultural Statistics 1997-1998 data indicated 213 beef cattle operations in 1998 with 39 dairy cow operations. Cropland acres were reported for 1998 at 48,250. The project area is located in Boyle, Mercer, and Lincoln Counties.

The Kentucky Division of Water has been gathering physiochemical, bacteriological, and biological data to establish water quality conditions in the Herrington Lake – Dix River Watershed and identified sub-basins. Mocks Branch and Spears Creek are targeted for Total maximum Daily Load (TMDL) development.

The Kentucky Division of Conservation served as the lead agency for the project, administering the project and ensuring all project activities are completed. Cooperating agencies or entities included: USDA-NRCS, DOW, DOC, Boyle County Conservation District, Mercer County Conservation District, Lincoln County Conservation District, Cooperative Extension Service, Cumberland Environmental Group, and the Kentucky Heritage RC&D Council.

A Project Oversight Committee facilitated, directed, reviewed, and approved progress within the project area. This Committee included representatives from the cooperating agencies listed above. The Project Oversight Committee provided guidance for successful implementation and completion of this CWAP project.

MATERIALS & METHODS

DESCRIPTION OF PROJECT AREA

Spears Creek – Mocks Branch – Cane Run – Hanging Fork watersheds are all tributary to Herrington Lake – Dix River Watershed, and are contained in portions of Boyle, Mercer, and Lincoln Counties. Together they cover 190,000 acres. The drainages are in the Kentucky River Basin located in the Bluegrass physiographic region of the state. The ridgetops are karst, and some show evidence of old stream deposits. The area has undulating to rolling ridgetops and steep to very steep hillsides. Vertical limestone bluffs are along the river².

The 2003-04 Kentucky Agricultural Statistics³ book shows an average of 1068 farms in Boyle, Mercer, and Lincoln Counties in 1997. This figure fell to 1025 in 2002. The principle crops grown in the three counties are hay, corn, soybeans, and alfalfa. There are 123,000 cattle in the three county area, making this one of the highest concentrations of beef production in the state. The population of the area is 71,875.

The project area is underlain by plane, bedded sedimentary rock of Ordovician, Devonian, and Mississippian ages. The soils in this area formed from these deposits, through the interaction with five major factors: climate, vegetation, animal life, relief, and time¹.

Studies⁴ have shown that approximately one-half of the pasture and hayland in the project area is adequately treated. About 10 percent of the pasture and hayland needed reestablishment, and a large acreage needed improvement, brush control, and protection from overgrazing. Other management concerns include selecting adapted forage plants, maintaining or improving soil fertility, rotational grazing, managing brush, controlling weeds and insects, and maintaining adequate drainage. All of these items affect nonpoint pollution.

DESCRIPTION OF METHODS USED TO OBTAIN THE RESULTS OF YOUR PROJECT

Best Management Practices (BMPs) were installed on producer's farms as detailed in the BMP Implementation Plan at the discretion of the District Conservationist or his/her staff. Once these practices were installed, a field day was held showing local and area producers the advantages to these types of management practices. BMPs were installed to NRCS's standards and specifications. Cooperators agree to maintain the BMPs for the life of the practice⁵.

Water quality monitoring was not a component of this project.

A Field Day was held in Lincoln County on August 9, 2005 depicting BMPs available to local and area farmers. A copy of the announcement is included in the appendix.

Funds for Kentucky Farm Bureau's Agricultural Water Awareness Program (AWAP) were obligated through this project. As noted in Appendix A, these funds were later moved to the Contractual –BMP category, and not used in the AWAP program.

RESULTS & DISCUSSION

Below is a discussion on the type, location, and number of Best Management Practices installed during this project.

Twenty one producers, cooperators or farm units installed BMPs through this project. Total cost of these BMPs were \$302,809.36. BMPs included:

- 3 Alternative water systems consisting of one pond (approx. 0.25 acres in size) and two spring developments
- 5 pipeline tank systems (each averaging 1,100 feet in length)
- 6 waste storage facilities (generally 30 x 70)
- 3 fencing systems (1,400 feet, 5,484 feet and 750 feet)
- 2 stream crossings (generally 75 feet wide)
- 4 heavy use areas (average size is 30 x 70)
- 1 travel lane (870 feet)
- 1 critical area (approx. 0.34 acres)

Many of the practices installed using 319 funds augmented state cost-share practices and/or USDA farm bill programs such as CRP and EQIP. The effect of installing these BMPs should have a positive environmental benefit for many, many years to come.

The Freedom of Information Act prohibits the USDA-Natural Resources Conservation Service from identifying installed BMP locations.

To assist and guide producers through the BMP implementation process, a watershed coordinator was employed. At the onset of the project, the coordinator gathered basic resource data in the project area to determine where best to install BMPs. In the final year of the project, a coordinator was employed to help producers install BMPs. Total personnel costs for this project was \$17,965.26. The Watershed Coordinator's impact on the project kept producers aware of progress, and methods of properly installing BMPs.

In a discussion with the Extension Agent for Agriculture and Natural Resources, the field day was attended by approximately 175 persons. The field day helped to show other farmers the value of BMPs demonstrated by this project.

CONCLUSIONS

Section 319(h) is a great program that allows a means of addressing water quality concerns at a *local* level.

With the cooperation of local farmers, we were able to assist in the installation of over 20 BMPs in the project area. This lead to the reduction of the incidence of nonpoint source pollution and is making the farmer's operations more efficient. In this regard, the project should be considered a success.

LITERATURE CITED

¹USDA-NASS. Kentucky Agricultural Statistics 1997-1998. United States Department of Agriculture, National Agricultural Statistics Service.

²USDA-NRCS. Soil Survey of Boyle and Mercer Counties, Kentucky. United States Department of Agriculture, Natural Resources Conservation Service.

³USDA-NASS. Kentucky Agricultural Statistics 2003 – 2004. United States Department of Agriculture, National Agricultural Statistics Service.

⁴USDA-NRCS. Conservation Needs Inventory. United States Department of Agriculture, Natural Resources Conservation Service.

⁵USDA-NRCS. Field Office Technical Guide Section IV. United States Department of Agriculture, Natural Resources Conservation Service.

APPENDICES

Appendix A Financial and Administrative Closeout

Appendix B QAPP for Water Quality Monitoring : N/A

Appendix C BMP Implementation Plan

Appendix D Field Day

Appendix E Photo Documentation

APPENDIX A

FINANCIAL AND ADMINISTRATIVE CLOSEOUT

Workplan Outputs : Milestone Schedule

1. Finalize Workplan	Complete
2. Project Oversight committee establishes meeting schedule	Complete
3. Execute MOA	Complete
4. BMP Implementation Plan Development/Approval	Complete
5. Establish Project Committee	Complete
6. Employ Agriculture Water Quality (AWQ) Technician	Complete
7. Prepare Annual Reports	Complete
8. Submit Annual Reports to KDOW	Complete
9. Prepare BMP Inventory	Complete
10. Submit agendas, articles, and radio scripts to DOW	Complete
11. Photographic documentation	Complete
12. Public Affairs promotion (radio spots)	
13. Conduct two public meetings	
14. Implement AWAP Program	
15. Implement BMP Projects	Complete
26. Request current Final/Closeout Report Guidelines	Complete
27. Prepare Final and Close out Reports	Complete
28. Submit Final and Close out Reports	Complete

MILESTONE DISCUSSION

1. Finalize Workplan. Workplan was prepared and finalized by the Kentucky Division of Conservation. The Kentucky Heritage RC&D council partnered on the project, and was chosen as primary contact.
2. Project Oversight Committee established meeting schedule. The Project Oversight Committee met once MOAs were signed. The Committee agreed to meet on an "as needed" basis. Issues centered on fair and equitable system of administration as well as developing appropriate list of BMPs for installation.
3. Execute MOA. MOA signed by Kentucky Heritage RC&D Council on January 30, 2001.
4. BMP Implementation Plan Development/Approval. The BMP Implementation Plan was developed by project sponsors and approved in March 2001.
5. Establish Project Committee. As devised by the proposal's author, the Project Committee "will facilitate, direct, review, and approve progress within the project area. This Project Oversight Committee will include representatives from at least the following organizations: Natural Resources Conservation Service; Kentucky Division of

Conservation; Kentucky Division of Water; County Extension Service; Boyle, Lincoln, and Mercer County Conservation Districts; and may include others.” Committee meetings were strong and well attended at the onset of this project, and provided appropriate direction to carry out the project.

6. Employ Agriculture Water Quality (AWQ) Technician. Technician was employed in partnership with the Lincoln County Conservation District.
7. Prepare Annual Reports. Annual reports were prepared and presented as requested.
8. Submit Annual Reports to Kentucky Division of Water. Annual reports were submitted in a timely manner to appropriate partners.
9. Prepare BMP Inventory. District Conservationists maintained knowledge of what BMPs were installed using Section 319(h) funds. They are listed on page 3 of this report.
10. Submit agendas, articles, and radio scripts to Division of Water. Agendas and articles were submitted to DOW for their review prior to publication. “Radio scripts” were the responsibility of other partners.
11. Photographic documentation. Photographic documentation previously submitted as separate document.
12. Public Affairs promotion (radio spots). This milestone was developed by another partner. Status of its implementation was not divulged.
13. Conduct two public meetings. Other partners were responsible for this milestone, and a letter is included showing they took place.
14. Implement AWAP Program. The AWAP Program was implemented through other partnerships.
15. Implement BMP Projects. BMPs were well received by producers, and were implemented in a timely manner.
26. Request current Final/Closeout Report Guidelines. Final/Closeout Reports Guidelines were requested in September 2005. Those documents were followed to pen this final report.
27. Prepare Final and Closeout Reports. Final and Closeout Reports were prepared during the fall of 2005.
28. Submit Final and Closeout Reports. Final and Closeout Reports were submitted the first week in December 2005.

APPENDIX A CON'T.

BUDGET SUMMARY

Original Detailed Budget

	Section 319(h)	Non-Federal Match	Total
Personnel	\$63,000.00	\$42,000.00	\$105,000.00
Contractual -BMP	\$46,500.00	\$31,000.00	\$77,500.00
Contractual -AWAP	\$6,000.00	\$4,000.00	\$10,000.00
Other	\$5,500.00	\$3,666.67	\$9,166.67
TOTAL	\$121,000.00 (60%)	\$80,666.67 (40%)	\$201,666.67 (100%)

First Budget Revision

	Section 319(h)	Non-Federal Match	Total
Personnel	\$17,183.23	\$11,455.51	\$28,638.77
Contractual -BMP	\$103,816.74	\$69,211.16	\$173,027.90
TOTAL	\$121,000.00 (60%)	\$80,666.67 (40%)	\$201,666.67 (100%)

This budget revision (late spring 05) moved as much money as possible into the BMP category where funds could best be used before project ended.

Last Budget Revision

	Section 319(h)	Non-Federal Match	Total
Personnel	\$17,183.23	\$11,455.51	\$28,638.77
Contractual -BMP	\$151,257.16	\$100,838.11	\$252,095.27
TOTAL	\$168,440.39 (60%)	\$112,293.62 (40%)	\$280,734.01 (100%)

This last budget revision allowed for funds from an adjacent project to be transferred to this project to meet over-obligated expenses. This budget revision allowed for the addition of \$47,440.42 in Federal funds from 99-33 to this project's BMP category. August 2005.

Final Budget

	Section 319(h)	Non-Federal Match	Total	Final Expenditure
Personnel	\$17,183.23	\$11,455.51	\$28,638.77	0
Contractual -BMP	\$151,257.16	\$100,838.11	\$252,095.27	\$1,736.34
TOTAL	\$168,440.39 (60%)	\$112,293.62 (40%)	\$280,734.01 (100%)	\$1,736.34

Kentucky Heritage RC&D Council, Inc. was reimbursed \$168,440.39 in Federal funds (assuming that the final invoice will be paid without revisions and in a timely manner). A total of \$1,041.83 in Federal funds remains unspent. We couldn't get any closer than that!

APPENDIX A CON'T.

EQUIPMENT SUMMARY

n/a

APPENDIX A CON'T.

SPECIAL GRANT CONDITIONS

n/a

APPENDIX B

QAPP FOR WATER MONITORING

n/a

APPENDIX B

BMP IMPLEMENTATION PLAN

**Spears/Mocks/Cane/Hanging Sub-Basins
Clean Water Action Plan
BMP Implementation Plan
99-23**

List of Eligible BMPs:

A list of eligible BMPs and items eligible for cost share follows:

<u>Practice Name (NRCS)</u>	<u>Practice Code (NRCS)</u>
Critical Area Planting	342
Diversion*	362
Fence*	382
Filter Strip	393
Grassed Waterway	412
Heavy Use Area Protection	561
Livestock Exclusion	472
Nutrient Management	590
Pasture and Hayland Planting*	512
Pipeline*	516
Pond*	378
Prescribed Grazing*	528A
Riparian Forest Buffer	391A
Roof Runoff Management*	558
Sinkhole Protection	725
Spring Development*	574
Streambank and Shoreline Protection	580
Stream Crossing	576
Tank*	614
Tree/Shrub Establishment*	612
Waste Management System	312
Waste Storage Facility	313
Waste Treatment Lagoon	359
Waste Utilization*	633
Well*	642

Invoices submitted to DOC for reimbursement involving BMPs marked with an asterisk above will include a statement explaining how water quality will be improved by the BMP.

Other items eligible for funding:

Pumps, for transmission of water from ponds, wells, springs or streams to troughs or watering devices.

Ponds, must be fenced with a trough, or fenced with limited access area.

Chargers, for electrical fencing.

Extension of electrical service, for water pumps.

Water meters for municipal water sources.

Moving feeding areas away from creek.

Description of the BMP selection process:

Best Management Practices (BMPs) and technologies selected for the watershed project are oriented around reducing pathogens, nutrients, and sediment. The efforts will be centered primarily around encouraging the adoption of rotational grazing systems, the development of alternative water supplies or providing limited stream access to cattle, and the construction of well designed and sited animal feeding/waste storage areas. Other BMPs that address the target pollutants will be eligible for systems other than rotational grazing. Since this is a technology based demonstration project with primarily education objectives, at least one farm needing several of the referenced BMPs will be identified to facilitate demonstration of the BMPs by conducting a field day. BMPs will be selected that meet the needs of the operation while providing the best resource protection.

Relative Treatment Efficiency of BMPs

The focus of this project is on the adoption of demonstration BMPs that will educate producers on technologies available in protecting water quality. Emphasis will be on the adoption of a management system rather than individual BMPs; therefore, comparison of treatment efficiencies of individual BMPs is not needed.

Operation and Maintenance:

The project will compliment other state and federal funding programs in the watershed. Operation and maintenance agreements are required for both EQIP and State Cost Share funding. These agreements will be adopted for BMPs and eligible cost share items, as appropriate, funded by 319(h). BMPs must be maintained for the life of the project. This is seven years from the date of the signed MOA – March 14, 2001.

Description of BMP Targeting Process:

Targeting of BMPs will be limited by producer interest. Selection of farms for BMP implementation will be selected based on the following priority factors:

1. Conservation needs identified by District Conservationists and their staff in order to improve water quality, meet the needs, and receive the cooperation from the participating farmer.
2. The ensuing educational benefits that can be realized through educational tours and on farm field days.
3. Cost share contributions from other programs (EQIP, State Cost-Share, CRP).
4. Length or percentage of stream protected from unrestricted livestock access (higher percentages and greater lengths are higher in priority).
5. Overall cost of BMPs for rotational grazing systems per stream mile protected.

This CWAP project compliments other federal funding programs under which specific BMP locations are protected under the Freedom of Information Act. Therefore, the cooperating Conservation District will maintain the specific location of BMPs. Specific location information for BMPs funded by CWAP, matching State Cost Share funds, and/or other funding programs (as appropriate) will be provided to DOC, at a minimum, by 14 digit HUC.

Financial Plan of Action:

Existing state and federal programs will be utilized to the maximum extent possible, with most of these paying 75% of the cost of a BMP. CWAP funds will primarily be used to provide cost share for practices not covered by existing programs. CWAP cost share rate is 60%

Restrictions and exceptions include:

- Size of ponds will be based on reasonable livestock watering needs. Additional cost associated with larger pond capacity will be borne by the producer.
- Any BMP or system considered for funding under the CWAP must be reviewed for the potential to improve water quality. BMPs or systems that are primarily for improving production or efficiency of the producer's operation will not be eligible for CWAP funding.
- Costs for alternative water supplies are only eligible if livestock are excluded from streams or other water bodies.

State Cost-Share BMPs used as match.

Water Quality BMPs used as match and funded via the Kentucky Soil Erosion and Water Quality Cost Share Program will be installed per the current "*Kentucky Soil Erosion and Water Quality Cost-Share Program Manual.*" The manual, which cites the regulation KRS 146.110-121, states the intent of the cost-share program, and describes the eligibility process, application process, selection criteria, operation and maintenance requirements, etc. These BMPs will be demonstrated in accordance with guidance provided by the Division of Conservation.

APPENDIX D

FIELD DAYS

United States Department of Agriculture



Natural
Resources
Conservation
Service

Kentucky Heritage RC&D Office
227 Morris Drive
Harrodsburg KY 40330-1086
859-734-9601
859-734-5336 fax

April 12, 2005

Ms. Shelly Graves -- Program Coordinator
Kentucky Division of Conservation
663 Teton Trail
Frankfort, Kentucky 40601

Dear Shelly:

Enclosed are required documents from Mary Ann Sharp, District Conservationist in Danville, for the Spears Creek-Mocks Branch- Hanging Fork-Cane Run 99-23 319 project. The documents a) describe the winter meetings, b) document the field day, and c) provide photo documentation.

These documents should knock off a few more milestones!

A handwritten signature in black ink that reads "John D. Overing". The signature is fluid and cursive, with a large loop at the end of the last name.

JOHN D. OVERING
RC&D Coordinator

Enclosures

cc w/o encl: J. David Stipes, Area Conservationist, NRCS, Frankfort
Mary Ann Sharp, District Conservationist, NRCS, Danville
Bo Renfro, District Conservationist, NRCS, Stanford
Brandon Campbell, District Conservationist, NRCS, Harrodsburg

Reply to:

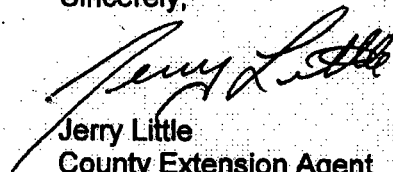
Boyle County Extension Office
446 N. Danville Bypass
Danville, Ky. 40422-2802
Phone: 859-236-4484
Fax: 859-236-8976
March 22, 2005

Natural Resource Conservation Service
3998 Danville Bypass South
Danville, Ky. 40422

There were five meetings held in Boyle County from 2000-2004, where I presented information concerning the money that was available through the 319 grant program that was administered by N.R.C.S. The information covered the BMP's that were to be used in the watershed. There were 243 local landowners involved in these educational meetings.

If you have any questions, please contact me.

Sincerely,



Jerry Little
County Extension Agent
For Agriculture/Natural Resources

JL/ckm

UK **COOPERATIVE EXTENSION SERVICE**
University of Kentucky - College of Agriculture

LEXINGTON, KY 40546

Reply to:

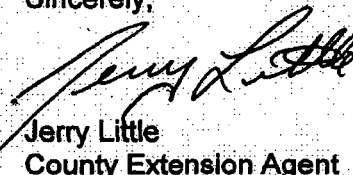
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If you have any questions, please contact me.

Sincerely,



Jerry Little
County Extension Agent
For Agriculture/Natural Resources

JL/ckm

Press Release
to
IS. (Advocate messenger, WHIR

All Farm Families invited to attend the 2005 FARMER-LENDER-EXTENSION FIELD DAY



Tuesday, August 9th

**John & Ginger Elliott Farm
Hwy. 198, Southwest of McKinney, Kentucky**

**-Registration Begins at 4:00 p.m.
-Tours & Programs Begin at 4:30 p.m.**

Tours, Discussions, & Demonstrations

**Fencing Demonstrations
Animal I.D. Rules
Corn Silage Varieties Demo
Corn Silage Harvest Management
Improving Water Facilities
Hay/Silage Preservative Demo**

**Rotational Grazing Benefits
NRCS/Feeding Facilities
Alfalfa Grazing Benefits
Cattle Market Forecast
Hay Bale Accumulator Demo
Beef & Forage Equipment Displays**

A Beef Burger Meal will be served. Please call to reserve meals for you and your family. Call by noon on Monday, August 8 on the 24 hour/day message line, 365-2447

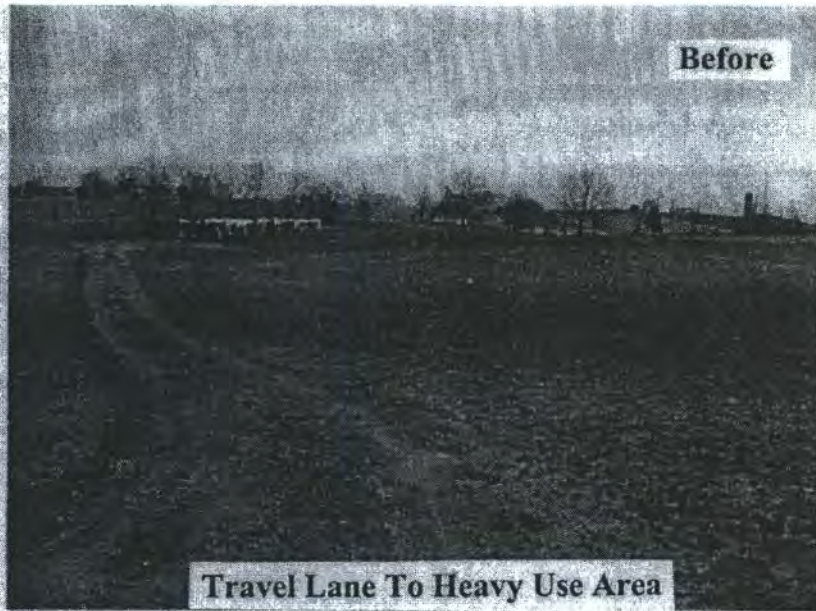
**Sponsored by:
Ag Credit, Farm Credit Services, Farmers Bank,
First Southern National Bank
& PBK Bank**



**Event conducted by:
The Lincoln County Office of the U.K. Cooperative Extension Service**

APPENDIX F

PHOTOS OF BEFORE AND AFTER BMPS



Travel Lane To Heavy Use Area



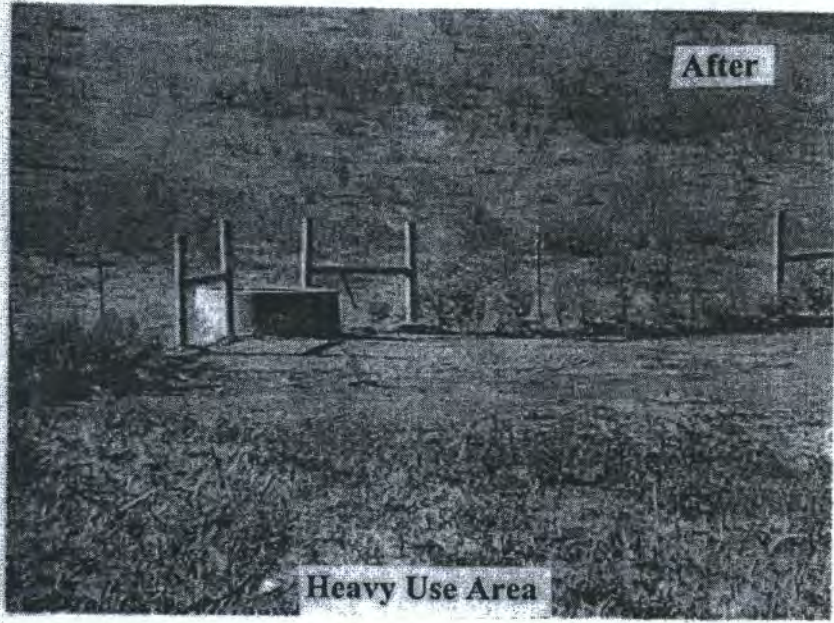
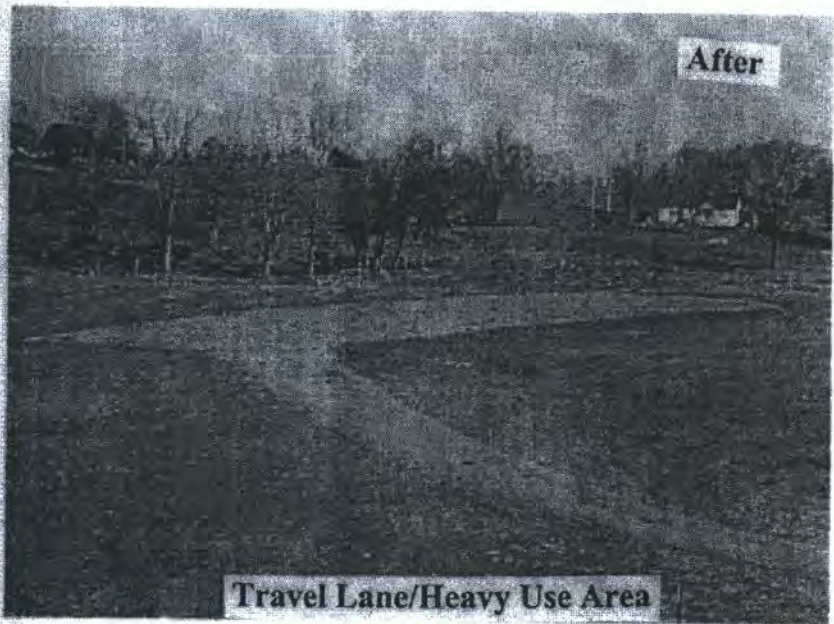
Heavy Use Area



Travel Lane

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Best Available Copy

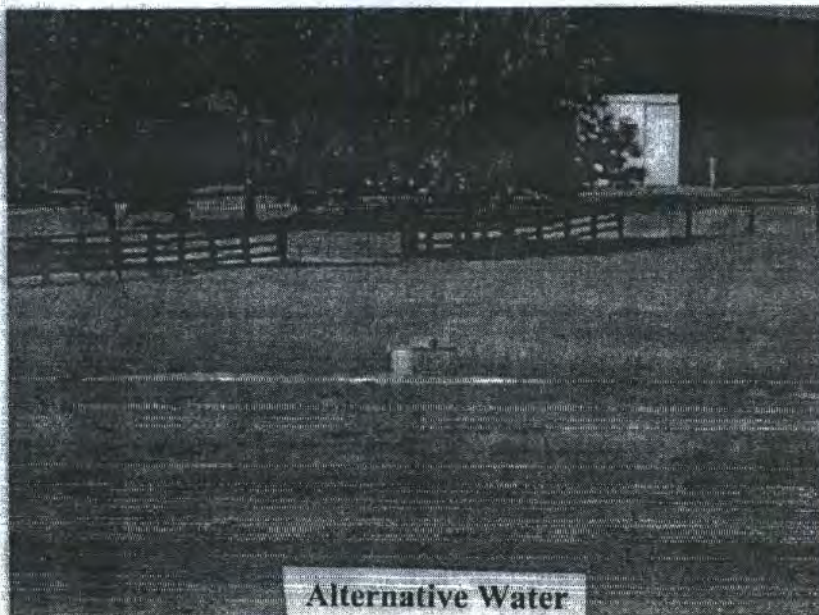




Riparian Area Protection



Restricted Cattle Access

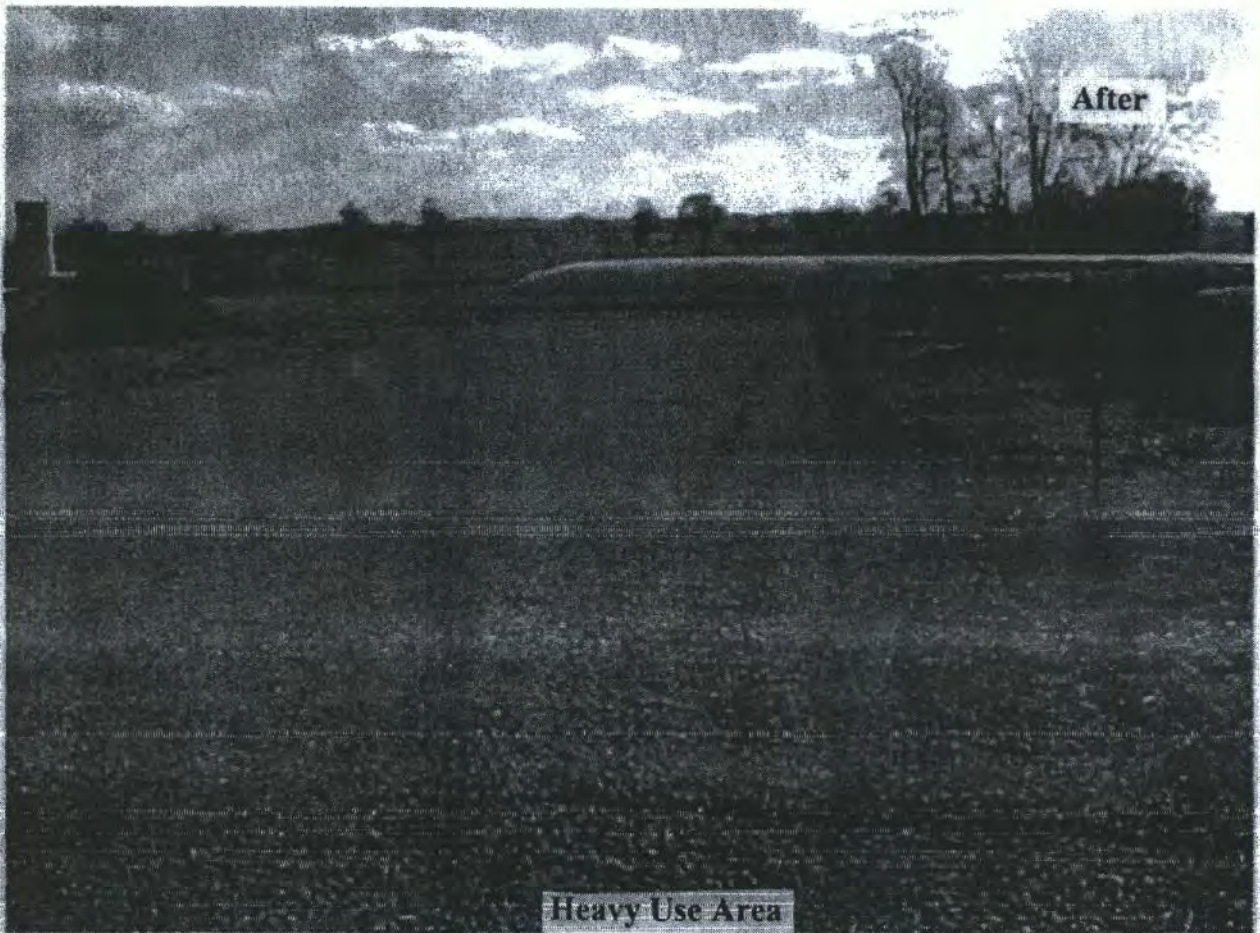


Alternative Water

Best Available Copy



Travel Lane



Heavy Use Area



After

Feeding and Heavy Use Area



Before

Best Available Copy



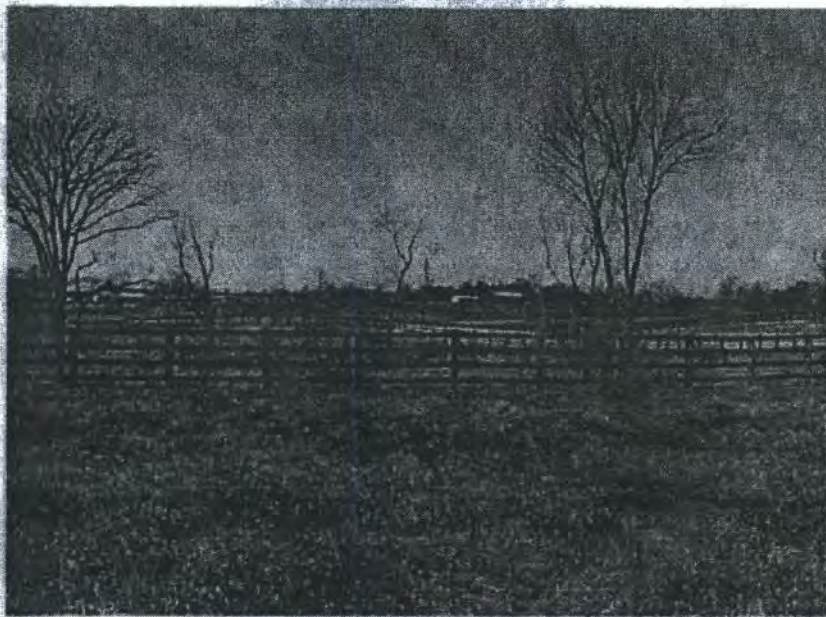
Sinkhole With Debris



000 220



Protected Sinkhole



Best Available Copy

Before

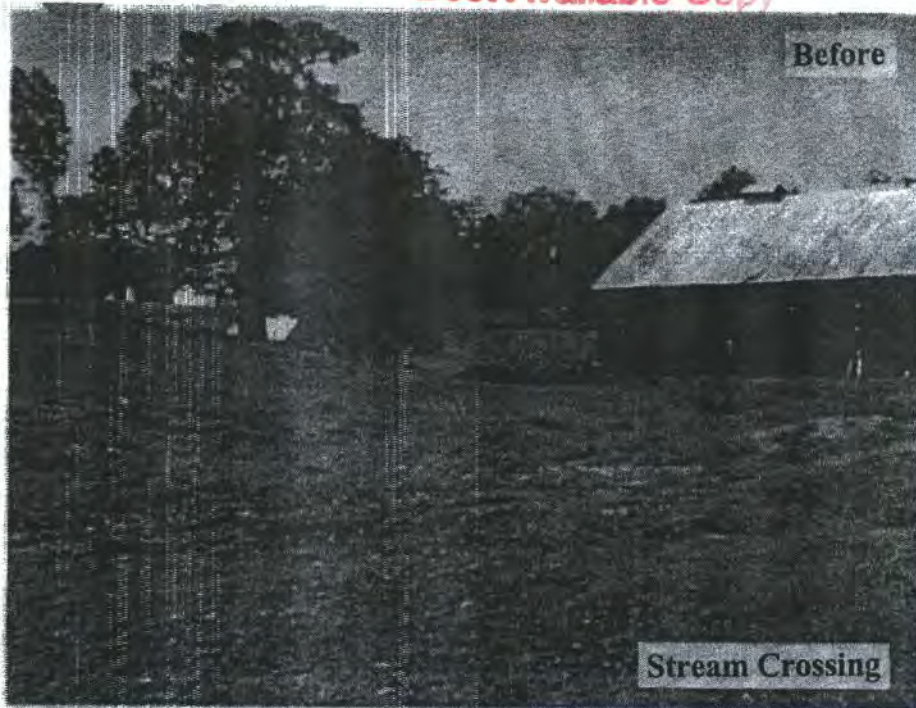


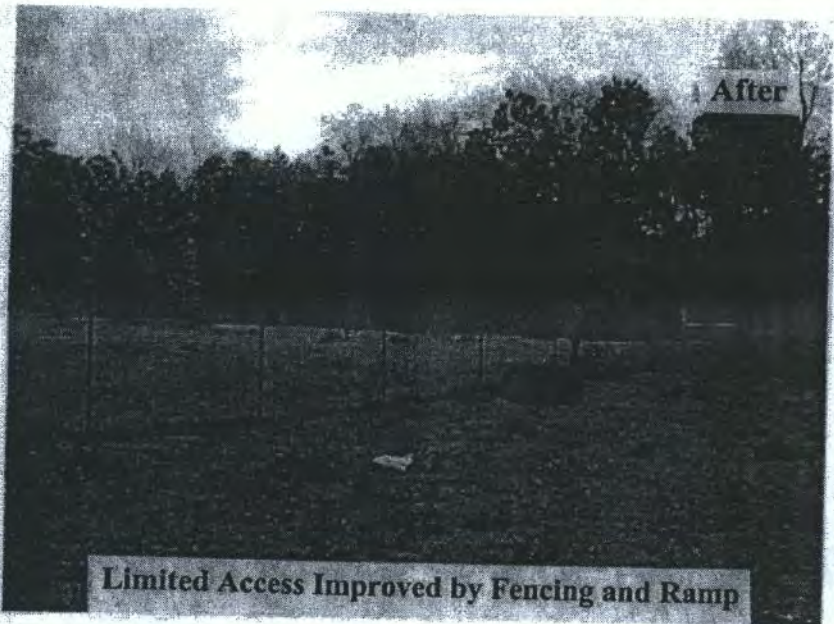
After



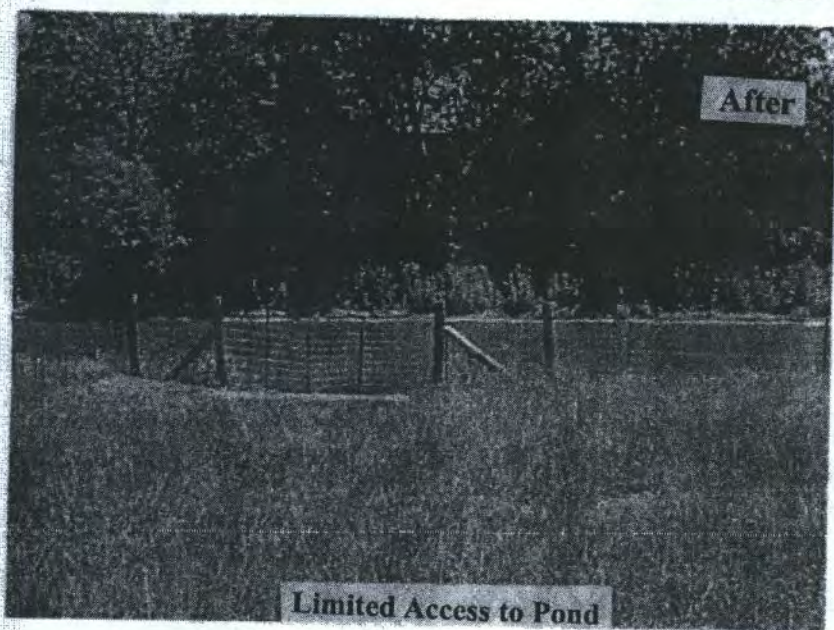
Improved Embankments

Restricted Access To Water





Limited Access Improved by Fencing and Ramp

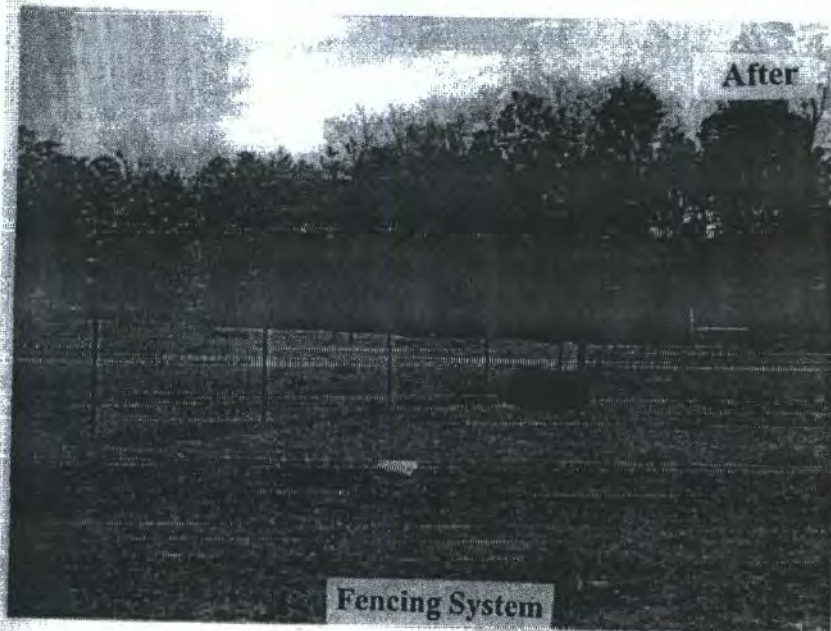
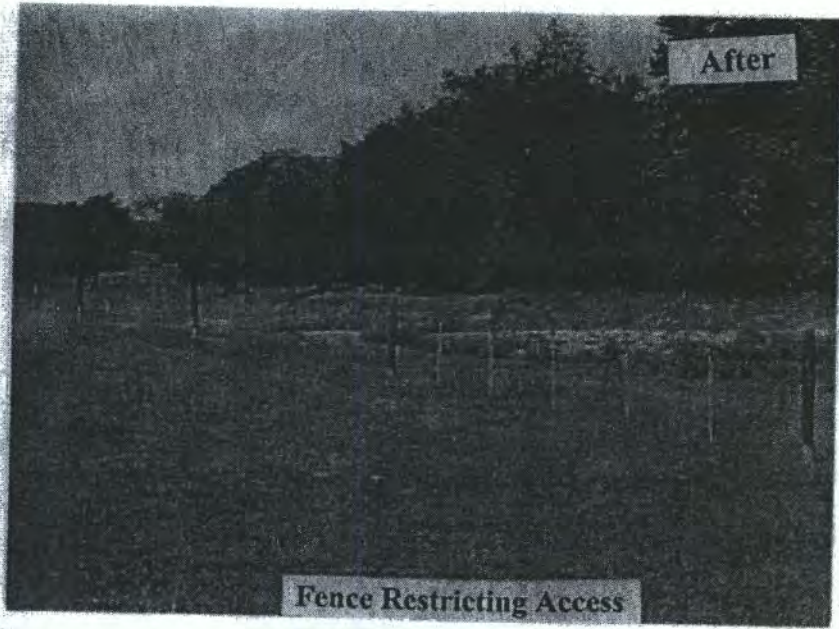


Limited Access to Pond



Stream Crossing

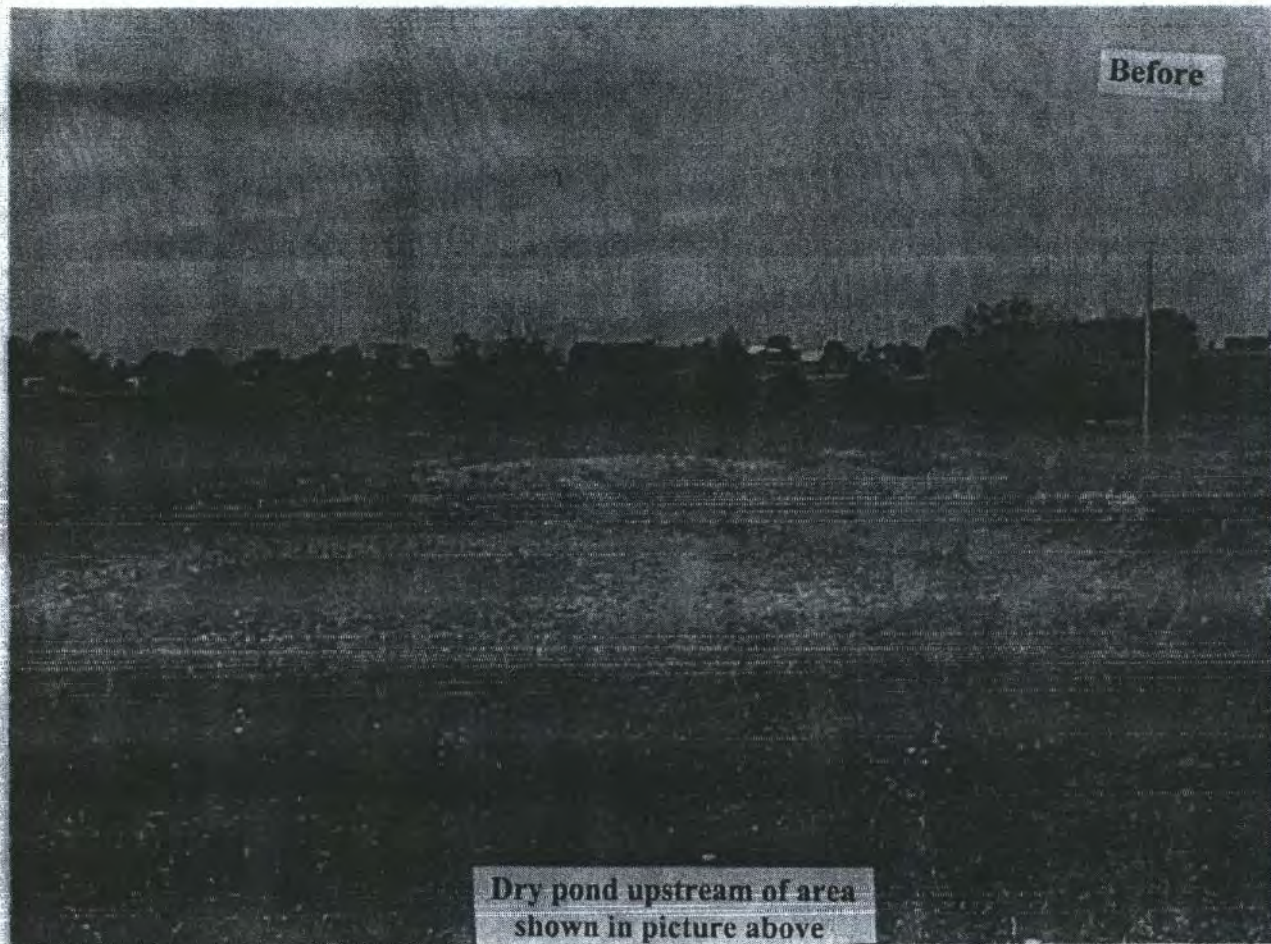
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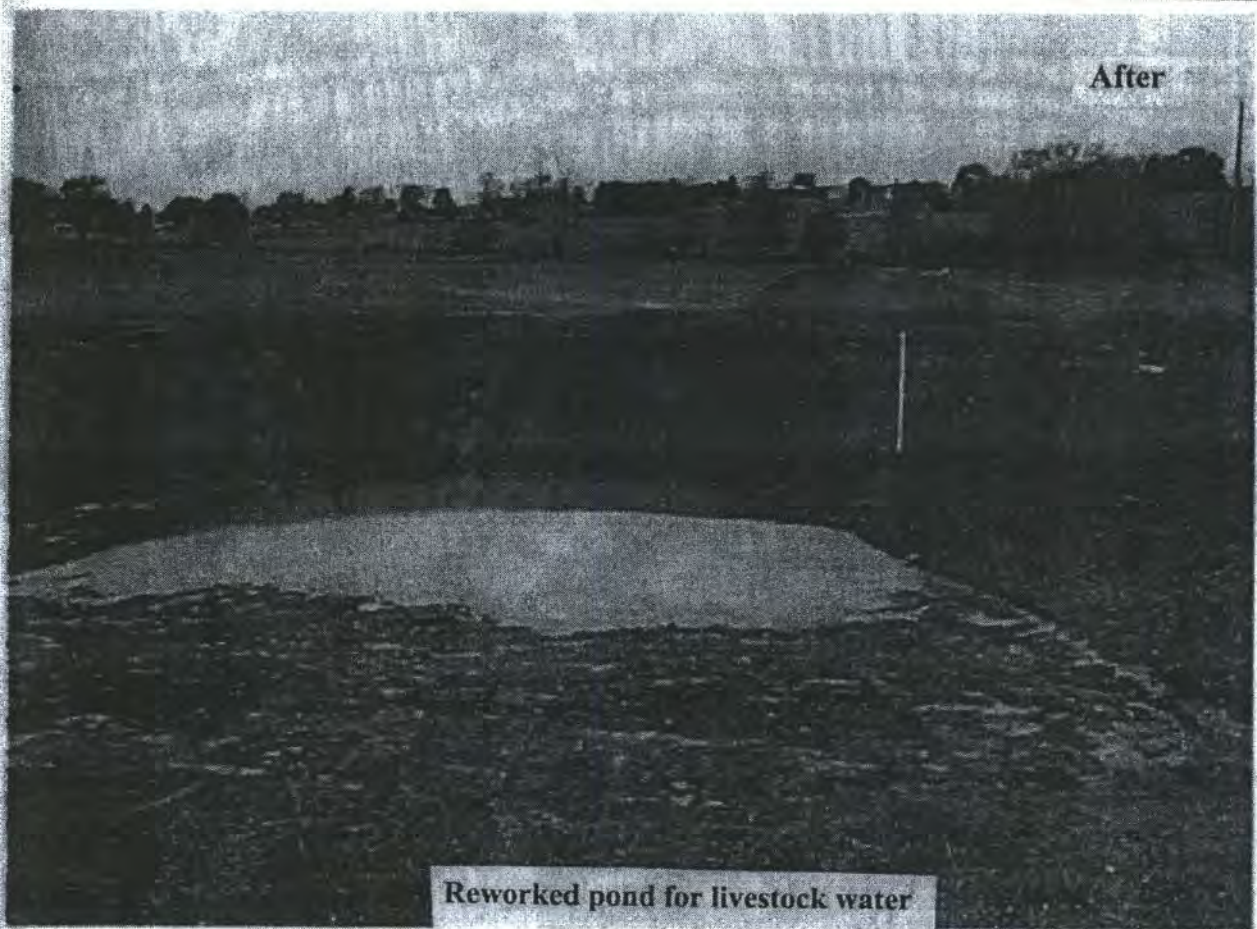
Best Available Copy



Cattle have full access to stream and stream crossing



Dry pond upstream of area shown in picture above



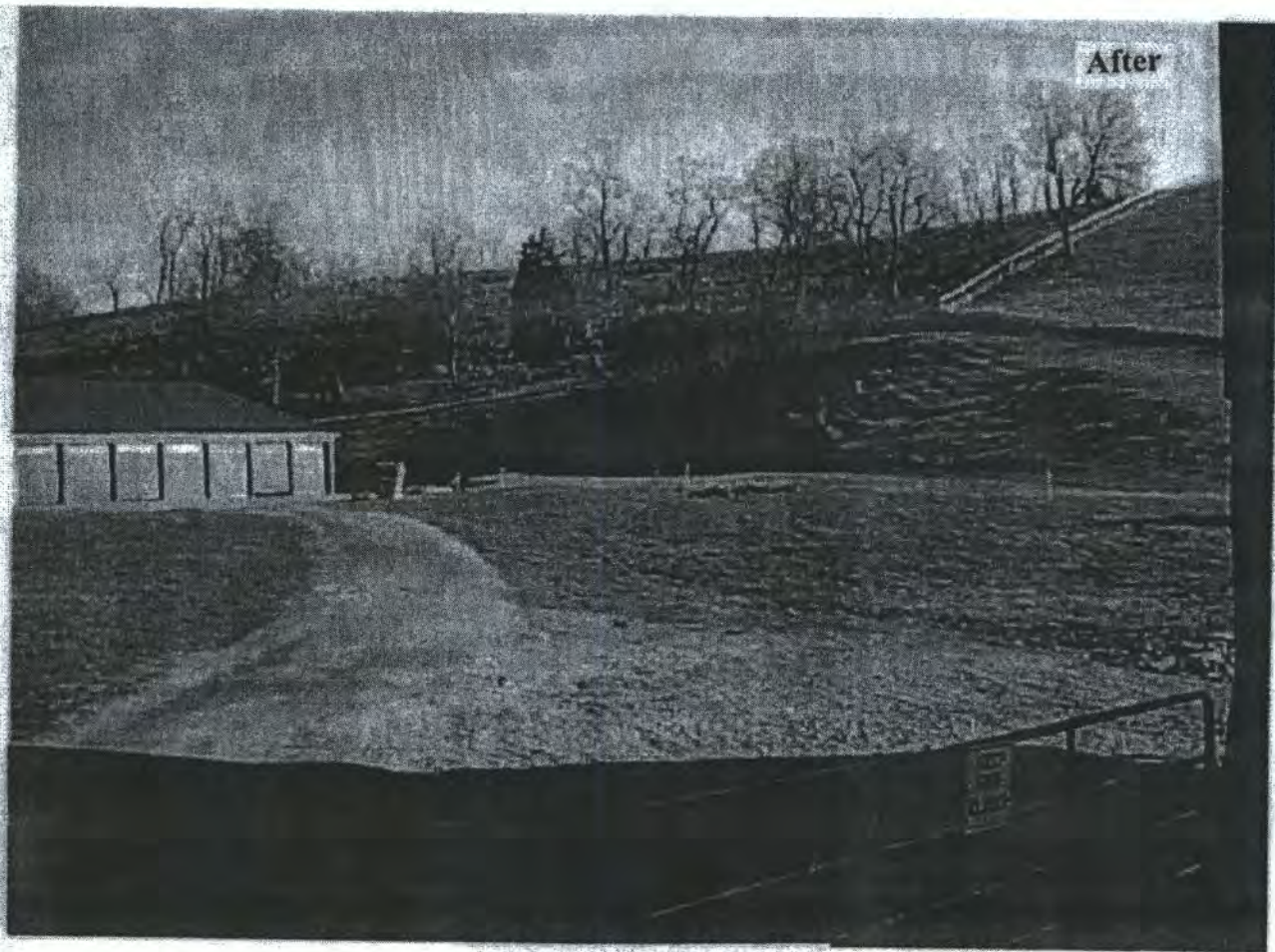
Reworked pond for livestock water



Pipeline tank system from pond. State Cost Share Program paid for stream crossing and fence.

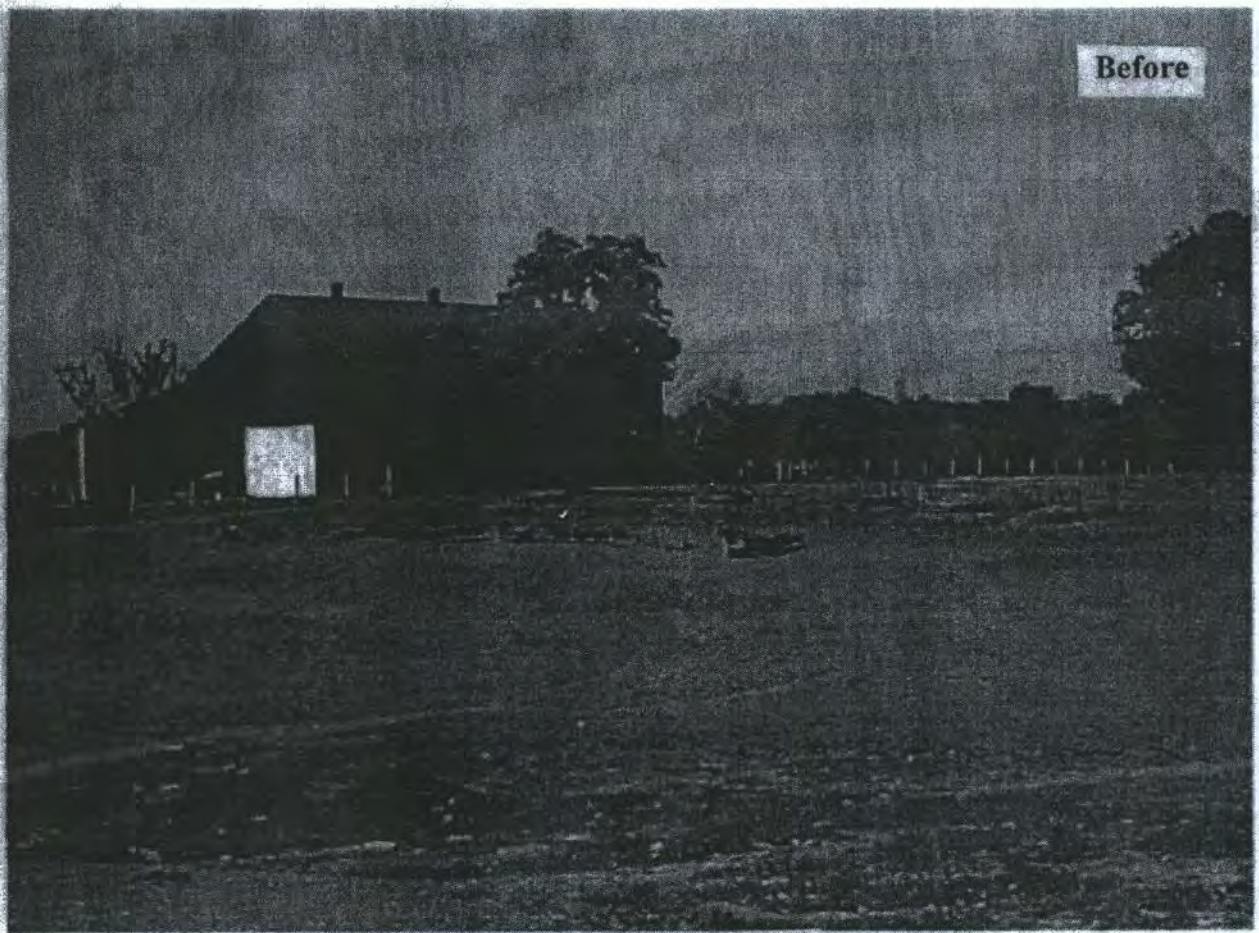


Best Available Copy



Critical Area Treatment





Heavy Use/Feeding Area

