

SOIL AND WATER CONSERVATION PLAN

U. S. FISH & WILDLIFE SERVICE

Cooperator

Farm Planner Wm B. Maup
Soil Conservation Service
201 E. Washington
Pittsfield, Illinois
Phone 285-3315
Farm Plan No. Delair Unit

TOWNSHIP Ross
SECTION 16, 17, 20, 21, 27

PIKE

SOIL CONSERVATION DISTRICT

Assisted by

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

RECORD OF COOPERATOR'S DECISIONS
AND PROGRESS IN APPLICATION

COOPERATOR U. S. Fish and Wildlife Serv
ASSISTED BY W. B. Mays
DATE September 1964

FIELD NUMBER	PLANNED		APPLIED		LAND USE AND TREATMENT
	AMOUNT	YEAR	AMOUNT	MONTH AND YEAR	
1-14	900 ac.	1965			The Conservation Cropland System for these fields will be Corn, Beans and Small Grain with a Clover Catch Crop of Mammoth Clover 6# per acre and Alsike Clover 4# per acre. The low-lying wet areas in these fields will be seeded with wet-land crops for wildlife.
1-14	900 acres	1965			<p>The Wildlife Habitat Development will consist of the building of drainage ditches that can be pumped full of water from the Sny during the fall of the year. This measure and the grain crops along with the wetland wildlife crops will provide food and protection for beneficial forms of wildlife, that will inhabit the area.</p> <p>Goose graze will be maintained as noted in the recommendations from the Agronomy Specialist.</p> <p>The 260 acres of water and land in the farm that is not accounted for above will be managed to also provide food and protection for beneficial forms of wildlife.</p> <p>Access roads will be built or improved as indicated on the land use map.</p> <p>Total Acreage 1160</p>

SOIL AND CAPABILITY MAP LEGEND

The Soil Survey Map is colored to aid in pointing out the risk of soil damage, limitations and problems. The soils are classified into eight classes according to their continuing limitations after improvements have been made.

In accordance with the capability descriptions below, the colors on the Soil and Capability Map show the capability of the land for its best longtime use.

LAND SUITED FOR CULTIVATION AND OTHER USES



Soils in Class I (green) have few or no limitations or hazards. They may be used safely for cultivated crops.



Soils in Class II (yellow) have few limitations or hazards. Simple conservation practices are needed when cultivated.



Soils in Class III (red) have more limitations and hazards than those in Class II. They require more difficult or complex conservation practices when cultivated.



Soils in Class IV (blue) have greater limitations and hazards than Class III. Still more difficult or complex measures are needed when cultivated.

LAND GENERALLY NOT SUITED FOR CULTIVATION



Soils in Class V (uncolored) have little or no erosion hazard but have other limitations that prevent normal tillage for cultivated crops. They are suited to pasture, woodland, or wildlife.



Soils in Class VI (orange) have severe limitations or hazards that make them generally unsuited for cultivation. They are suited largely to pasture, woodland, or wildlife.



Soils in Class VII (brown) have very severe limitations or hazards that make them generally unsuited for cultivation. They are suited to grazing, woodland, or wildlife.



Soils and land forms in Class VIII (purple) have limitations and hazards that prevent their use for cultivated crops, pasture, or woodland. They may be used for recreation, wildlife, or water supply.

The Soil Survey Map shows the kind of soil, steepness of slope, and degree of erosion.

The symbols on this map are explained below:

Example: 34 or 34-B-1 = (34) Kind of soil, (B) Steepness of Slope,
 B (1) Degree of Erosion
 1

Slope (in percent)

A 0 - 2
B 2 - 4
C 4 - 7
D 7 - 12
E 12 - 18
F 18 - 30
G 30+

Degree of Erosion

+ - Recent deposition, more than plow depth.
0 - No apparent erosion.
1 - Slight erosion--7"- 14"topsoil remaining.
2 - Moderate erosion--3"- 7"topsoil remaining.
3 - Severe erosion--less than 3" topsoil remaining.
4 - Very severe erosion--gullied.

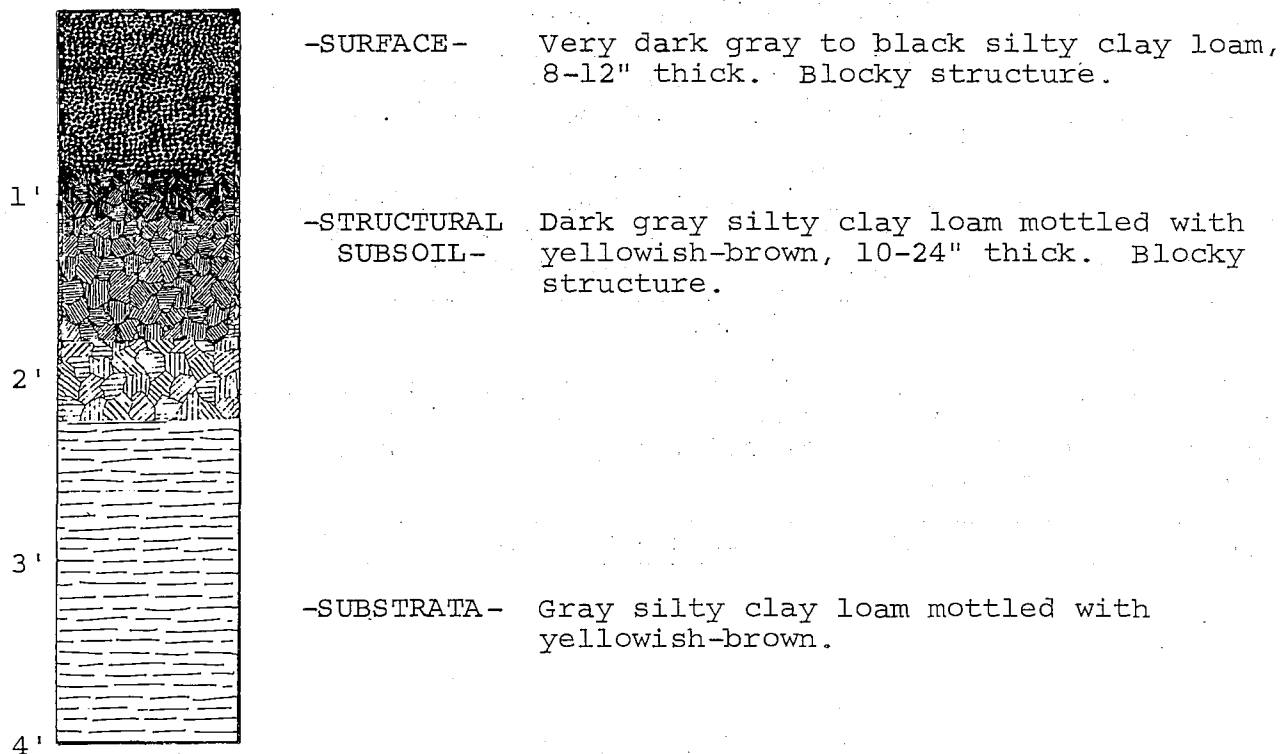
For a more complete description of the soils on your land refer to the Soil Description Sheets included in this folder.

S O I L D E S C R I P T I O N

BEAUCOUP SILTY CLAY LOAM

Symbol(s) on Soil Map: 70, W70, M70

W (wet) M (marsh)



Beaucoup silty clay loam is a deep, moderately dark colored, slightly acid to neutral bottomland soil derived from moderately fine textured waterlaid sediments. This soil is naturally poorly drained and unless drained it has a high water table during much of the year. Air and water movement in this soil is rather slow. It has a high water holding capacity and is very productive under good management.

This soil is generally suited for cropland, pastureland, woodland and wildlife.

PROBLEMS

1. Drainage and overflow.
2. Maintenance of tilth and fertility.

BEAUCOUP SILTY CLAY LOAM

GENERAL CONSERVATION MANAGEMENT

Drainage and Overflow

Surface ditches or tiling may be used to drain this soil if adequate outlets are available. In many places diversions may be used to prevent overflow from nearby hills. Unleveed areas often have a serious flooding hazard.

Maintenance of Tilth and Fertility

Even though this soil is medium to high in organic matter, fresh additions should be made by spreading manure and plowing under catch crops and crop residues. This, as well as timely cultivation practices and minimum tillage, will help maintain tilth.

This soil is slightly acid to neutral and seldom needs lime in large amounts. It is medium in phosphates and medium to high in potash. However, soil tests should be made with lime and fertilizer applied accordingly. Application of nitrogen in the form of fertilizers, manure, and legumes will help obtain higher crop yields.

Cropland

Good workability, essential to cropland, can be maintained by using minimum tillage, catch crops, and winter cover crops and by not cultivating when too wet. The following table shows the cropping system adapted to this soil.

Symbol(s) on Soil Map	Capability Class	Cropping System

R - row crop; G - small grain; M - meadow; (x) after G - green manure catch crop; (x) after R - cover crop.

Pasture

Beaucoup will produce good pasture if fertilized according to soil test, seeded to adapted varieties such as fescue, redtop, ladino and alsike, and managed well. Where this soil is very wet, reed canary grass can be used.

Woodland

This is a good soil for timber production. Good stands of desirable species, such as burr oak, sweet gum, sycamore, cottonwood, and soft maple should produce up to 700 board feet per acre per year. Protect from fire and grazing.

Wildlife

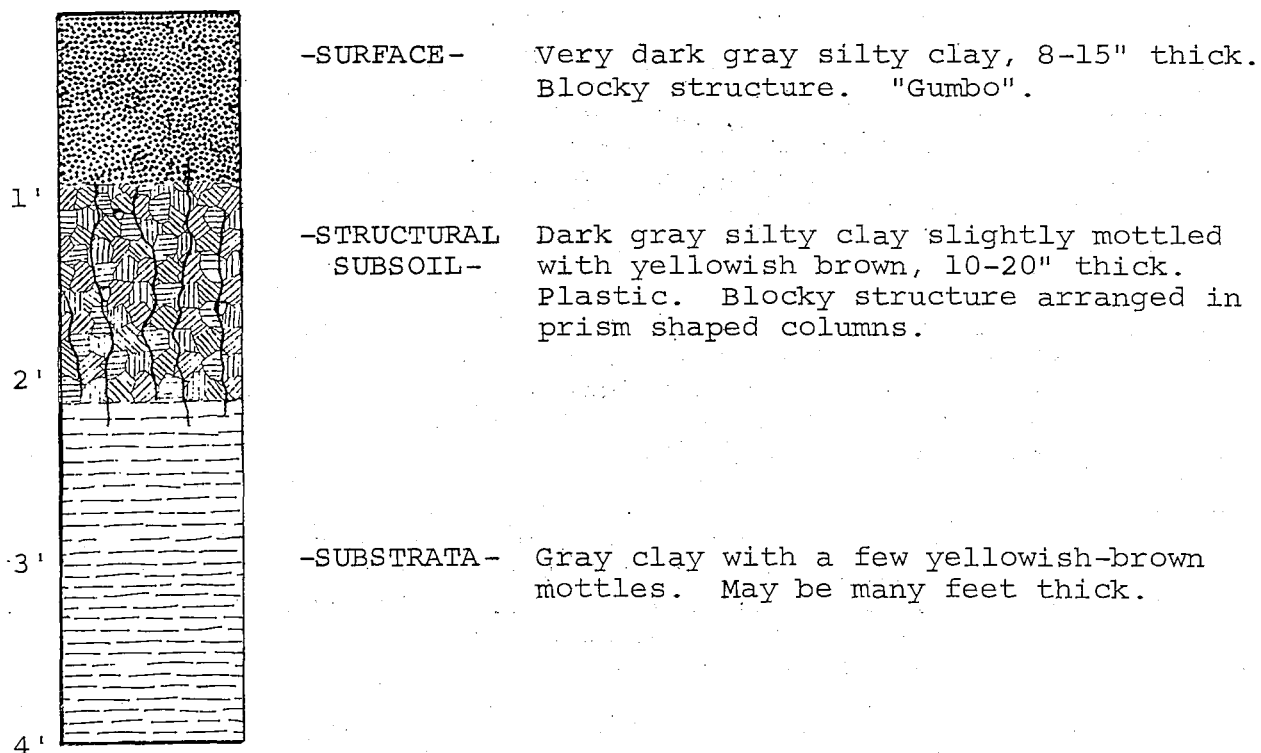
Wildlife may provide an additional crop on cropland, pasture or woodland, if provisions are made for food, cover and water. Plant odd areas, ditch banks, and field borders in adapted legumes and grasses to provide food and cover. Some areas may be flooded for waterfowl.

S O I L D E S C R I P T I O N

DARWIN SILTY CLAY TO CLAY

Symbol(s) on Soil Map: 71, W71, M71

W (wet) M (marsh)



Darwin silty clay to clay is a deep, moderately dark colored slightly acid to neutral bottomland soil derived from fine textured waterlaid sediments and occurring in low depressional areas. This soil is naturally poorly drained and contains a high water table during much of the year. Air and water move very slowly in this soil. It is low to medium in productivity, but responds well to good management.

This soil is generally suited for cropland, pastureland, woodland and wildlife.

PROBLEMS

1. Drainage and overflow.
2. Tilth.
3. Fertility.

DARWIN SILTY CLAY TO CLAY

GENERAL CONSERVATION MANAGEMENT

Drainage and Overflow

Surface ditching is the best system of drainage; however, providing adequate outlets for ditches may be a problem due to this soils low lying position. Tiling is impractical; however, mole drains have been used with some success. In many places diversions can be used to prevent overflow from nearby hills. Unleveed areas often have a serious flooding hazard.

Tilth

Due to the high clay content of this soil, seed beds tend to be cloddy, especially when this soil is plowed wet. Even though this soil is medium to high in organic matter, fresh organic matter should be added through the use of adapted cropping systems, manure and crop residues. This will help keep the surface soil open and porous and reduce cloddiness.

Fertility

Darwin is slightly acid to sweet with limestone seldom being needed. It is usually medium in phosphate and high in potash. However, this soil should be tested and lime and fertilizer applied accordingly. Addition of nitrogen in the form of fertilizer, manure, and legumes will help obtain higher crop yields.

Cropland

The success of this soil as cropland often depends entirely on the ability to remove excess water. Workability of this soil can be helped by not cultivating when too wet, using minimum tillage, returning crop residues, catch crops, and cover crops. The following table shows the cropping system adapted to this soil.

Symbol(s) on Soil Map	Capability Class	Cropping System

R - row crop; G - small grain; M - meadow; (x) after G - green manure catch crop; (x) after R - cover crop.

Pasture

Darwin will produce good pasture if plants adapted to wet conditions such as reed canary grass, fescue, redtop, alsike and ladino are used. Fertilize according to soil test and seed with recommended mixture.

Woodland

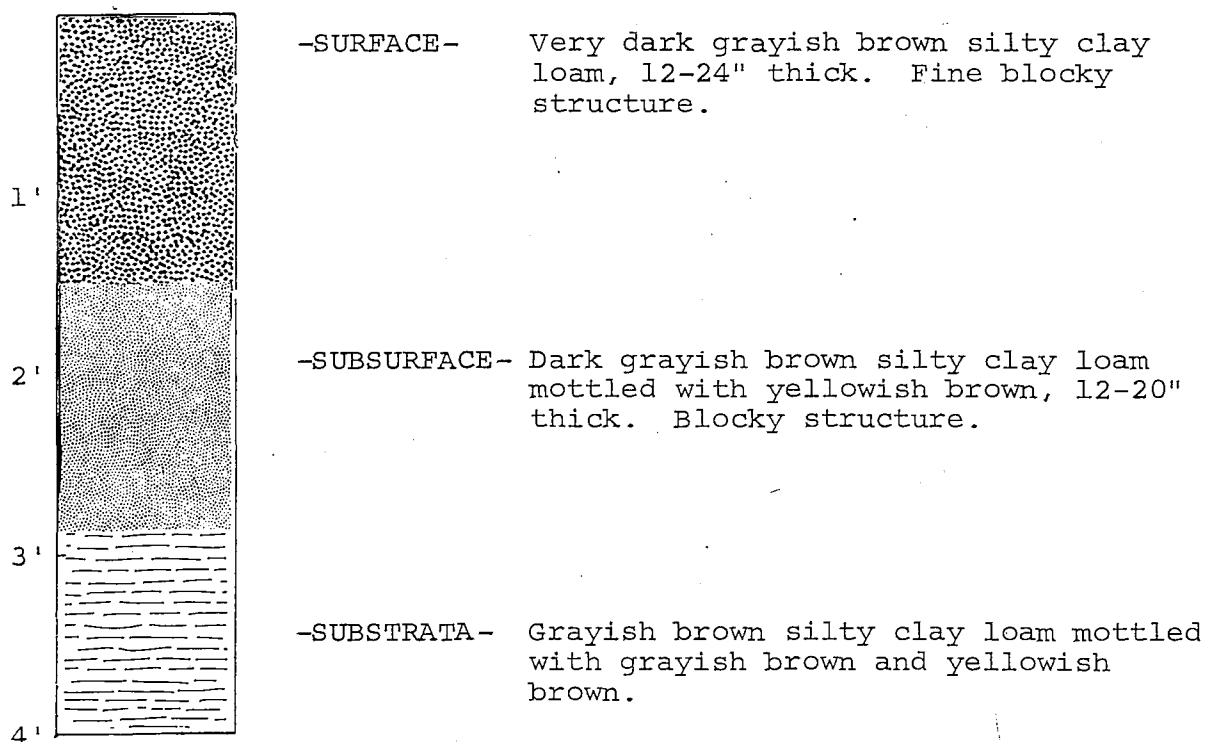
Areas of standing timber that are unprotected and very wet can best be managed for crops of cottonwood, cypress, soft maple, ash, sweet gum, and sycamore.

Wildlife

Wildlife may provide an additional crop. Plant odd areas and ditch banks in adapted grasses and legumes to provide food and cover. Some areas may be flooded for waterfowl.

S O I L D E S C R I P T I O N

TICE SILTY CLAY LOAM

Symbol(s) on Soil Map: 284

Tice is a deep, dark colored, bottomland soil occurring on level areas and slight ridges. It has a high available water holding capacity. It is high in productivity. The water table may be too high for short periods of time unless this soil is drained. Air and water move rather slowly through this soil.

This soil is suitable for cropland, pasture, woodland and wildlife use.

PROBLEMS

1. Fertility.
2. Overflow and drainage.
3. Maintenance of tilth and organic matter.

TICE SILTY CLAY LOAM

GENERAL CONSERVATION MANAGEMENT

Fertility

Apply limestone or fertilizer according to soil test. Addition of nitrogen by the use of fertilizer, manure, or legumes, will aid in obtaining high yields.

Overflow and Drainage

Areas of this soil not protected by levees may be subject to flooding. In leveed areas, low lying spots may be subject to overflow from adjacent higher ground. Tile or open ditch drainage may be used. Tile outlets are often difficult to obtain.

Maintenance of Tilth and Organic Matter

This is a moderately heavy soil and tilth is often a problem. Addition of organic matter through the use of catch crops at least once every four years, manure, crop residues and the use of minimum tillage will aid in maintaining good tilth and in reducing cloddiness.

Cropland

The following table shows the cropping system adapted to this soil.

Symbol(s) on Soil Map	Capability Class	Cropping System

R - row crop; G - small grain; M - meadow; (x) after G - green manure catch crop; (x) after R - cover crop.

Pasture

Tice will produce good pasture. Plants adapted to wet conditions, such as reed canary, fescue, redtop, timothy, ladino and alsike are best suited. Fertilize according to soil tests.

Woodland

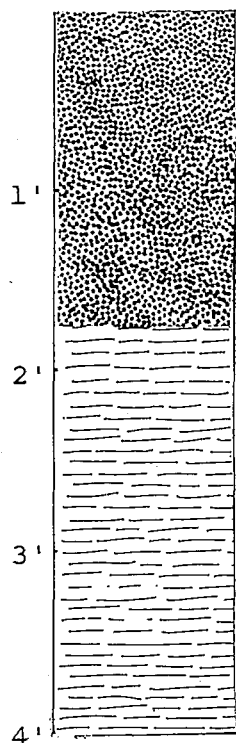
This is a good soil for timber production. Good stands of desirable species, such as cottonwood, ash, sweet gum, sycamore, and soft maple will produce up to 700 board feet per acre per year. Protect from fire and grazing.

Wildlife

Wildlife may provide an additional crop on cropland, pasture, or woodland, if provisions are made for food, cover, and water. Plant odd areas in adapted legumes, grasses, and shrubs to provide food and cover. Water is usually nearby.

S O I L D E S C R I P T I O N

COFFEEN SILT LOAM

Symbol(s) on Soil Map: 428

-SURFACE- Dark grayish brown silt loam, 18 to 20" thick. 6 to 18" of light colored deposition sometimes occurs on top of this layer (+ symbol).

-SUBSURFACE- Grayish-brown silt loam with some yellowish brown mottles. Coarser textured materials are often encountered between 40 to 60".

Coffeen silt loam is a deep dark colored soil, occurring on level to gently sloping bottomland areas. If this soil has not been drained, the water table is often too high during wetter seasons. The rate of air and water movement through this soil is good, and it has a very high water supplying capacity. It is a productive soil which responds well to treatment.

PROBLEMS

1. Drainage.
2. Overflow if not protected by levee.
3. Fertility.

COFFEEN SILT LOAM

GENERAL CONSERVATION MANAGEMENT

Drainage

Straightening, widening and deepening of stream channels may be needed in some areas. Surface ditching or tile drainage systems will give good results if adequate outlets are available. Occasional sand or gravel layers may be a problem when installing tile.

Overflow

Diversion channels with proper maintenance are helpful to intercept water from nearby hills. Levees can also be used to advantage in some areas to prevent overflow. When overflow and hill water are controlled, tile will provide satisfactory drainage.

Fertility

Coffeen usually is not acid and seldom requires the addition of limestone. However, soil tests and crop removal information should be used as a guide in determining limestone and fertilizer needs.

Cropland

Regular addition of organic matter will aid in maintaining favorable air and water movement and tilth. Plow-plant or minimum tillage operations will help in maintaining good soil structure.

The following table shows the cropping system adapted to this soil.

Symbol(s) on Soil Map	Capability Class	Cropping System

R - row crop; G - small grain; M - meadow; (x) after G - green manure catch crop; (x) after R - cover crop.

Pasture

Permanent pasture can be established quite economically since Coffeen quite commonly does not require large applications of fertilizer. Seed adapted legumes, control grazing, clip weeds, and top dress with fertilizer every few years to maintain quality and quantity of forage.


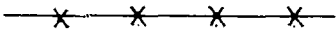
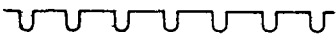

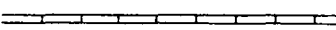

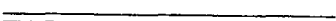

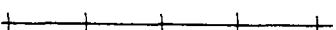

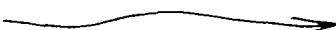


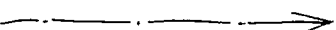



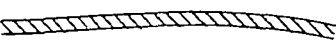

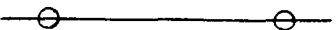


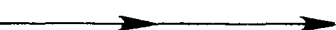

Woodland

Timber production can be very economical if properly managed. An adequately stocked, well managed stand may be expected to produce up to 700 board feet per acre per year of cottonwood, ash, soft maple and sycamore.

Wildlife

Coffeen silt loam is well suited for wildlife production as a secondary crop due to the availability of creeks or streams for water and nearness of hill land pasture or timber for cover. Cropland will produce grain for food.

LEGEND FOR LAND USE MAP

Farm boundary-----	
Fence-----	
Living fence-----	
Field boundary - no fence-----	
Improved road-----	Surfaced 
	Paved 
Unimproved road-----	
Private roads or lanes-----	
Railroad-----	
Field number-----	③
Farm buildings-----	
Continuous stream-----	Small  Large 
Intermittent stream - uncrossable-----	
Grass waterway - crossable-----	
Terrace-----	
Diversion-----	
Levee-----	
Terrace or diversion outlet-----	
Farm pond or lake-----	
Tile - existing-----	
Tile - proposed-----	
Permanent structure-----	
Open ditch-----	
Open ditch - proposed-----	



UNITED STATES
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife

State

District

Refuge

SOIL (and Water) CONSERVATION AGREEMENT

THIS AGREEMENT is made pursuant to the provisions of the Soil Conservation and Domestic Allotment Act of April 27, 1935 (49 Stat. 163), as amended, and Reorganization Plan IV, 5 F.R. 2421; 54 Stat. 1235, sec. 6, for the purpose of setting forth principles and procedures for coordinating and integrating the respective activities of the District, hereinafter referred to as the District, and the Bureau of Sport Fisheries and Wildlife, hereinafter referred to as the Bureau. The Soil (and Water) Conservation District has been organized pursuant to the Soil Conservation Districts Law of

as a governmental subdivision of the State and is authorized to cooperate with and obtain assistance from any private, State or Federal agency in carrying out soil and moisture conservation operations and in affecting wise land use on all private, State and Federal lands within its boundaries upon obtaining proper consent of the landowners or agencies having jurisdiction thereof. The agreement is for the purpose of utilizing the resources available to both parties for carrying out soil and moisture conservation plans, and in promoting wise use on all lands within the boundaries of the District: PROVIDED, however, That the District has completed a Memorandum of Agreement with the United States Department of the Interior, and:

A. DISTRICT RESPONSIBILITIES

1. The District will have developed a long range District program which is acceptable to the Bureau insofar as it pertains to or affects land administered by the Bureau within the District boundaries.
2. The District will encourage and assist landowners and operators to formulate and carry out conservation plans on all private lands within the District as rapidly as available resources, consent of landowners and operators, and other factors permit.
3. The District will collaborate with the Bureau, as requested and as facilities and assistance available permit, in developing and applying as rapidly as feasible a conservation plan for Bureau lands which is mutually acceptable. If requested by the Bureau for carrying out the plan, the District may (a) supply a soil map with needed interpretations; (b) make available technical assistance to help prepare and apply a basic conservation plan or to review necessary changes in the plan; and (c) supply equipment and materials, if available.
4. The District will collaborate with the local administrative official of the Bureau from time to time on problems of mutual concern and inform him of any known activity contemplated by the District or by other cooperating agencies that might affect lands under jurisdiction of the Bureau.

B. BUREAU RESPONSIBILITIES

1. The Bureau will make available to the District, upon request, such information as it may have from surveys or other studies which would be applicable in the formulation or revision of the District program and work plans.
2. The Bureau will, in consultation with District officials, formulate and carry out a program of soil and moisture conservation operations on all lands administered by the Bureau within the District boundaries as rapidly as time, available resources, and other factors will permit.
3. The Bureau will inform the District governing body from time to time concerning its activities on lands under its jurisdiction when such operations might affect private, State or other Federal lands within the District.
4. The Bureau agrees to pay the established rate for use of equipment on lands under the administration of the Bureau when furnished by the District at the request of the Bureau, and to use any conservation materials furnished by the District for the purposes specified in the conservation plan for the land.

IT IS FURTHER AGREED THAT:

1. (a) When lands administered by the Bureau within the District are a contributing source of damage to other lands or when other lands within the District are a contributing source of damage to lands administered by the Bureau, proper priority shall be given to the areas contributing to the damage and steps will be taken by the responsible agency to remove such damage sources as rapidly as possible.

(b) In cases of this kind the Bureau will assume the responsibility for performing the necessary work on lands administered by it and the District will assume the responsibility for urging landowners and operators to carry out such measures on private lands. All measures carried out in such cases and the contributions to be made by each agency to the cost thereof shall be in accord with a plan mutually agreed upon by the Bureau and the District.
2. This agreement shall not be construed to affect the jurisdiction of the Bureau over Federally owned lands administered by it within the boundaries of the District.
3. Neither the District nor the Bureau is bound by any obligation in this agreement which will involve the expenditure of funds or the furnishing of resources in excess of amounts available to it or for a period in excess of that authorized by law.
4. Neither the District nor the Bureau will be liable for damage on the other's property while the conservation measures are being carried out unless such damage is caused by negligence or misconduct on the part of employees of the respective agencies.
5. This agreement shall be effective when signed by both parties. It shall remain in effect unless terminated or modified by agreement of both parties or unless terminated by either party alone by giving 60 days' notice in writing to the other.

FOR SOIL (and Water) CONSERVATION DISTRICT:

__ September 16, 1964 __
(Date)

Silas M. Lumsden Chairman
(Supervisor's Signature)

FOR THE BUREAU OF SPORT FISHERIES AND WILDLIFE:

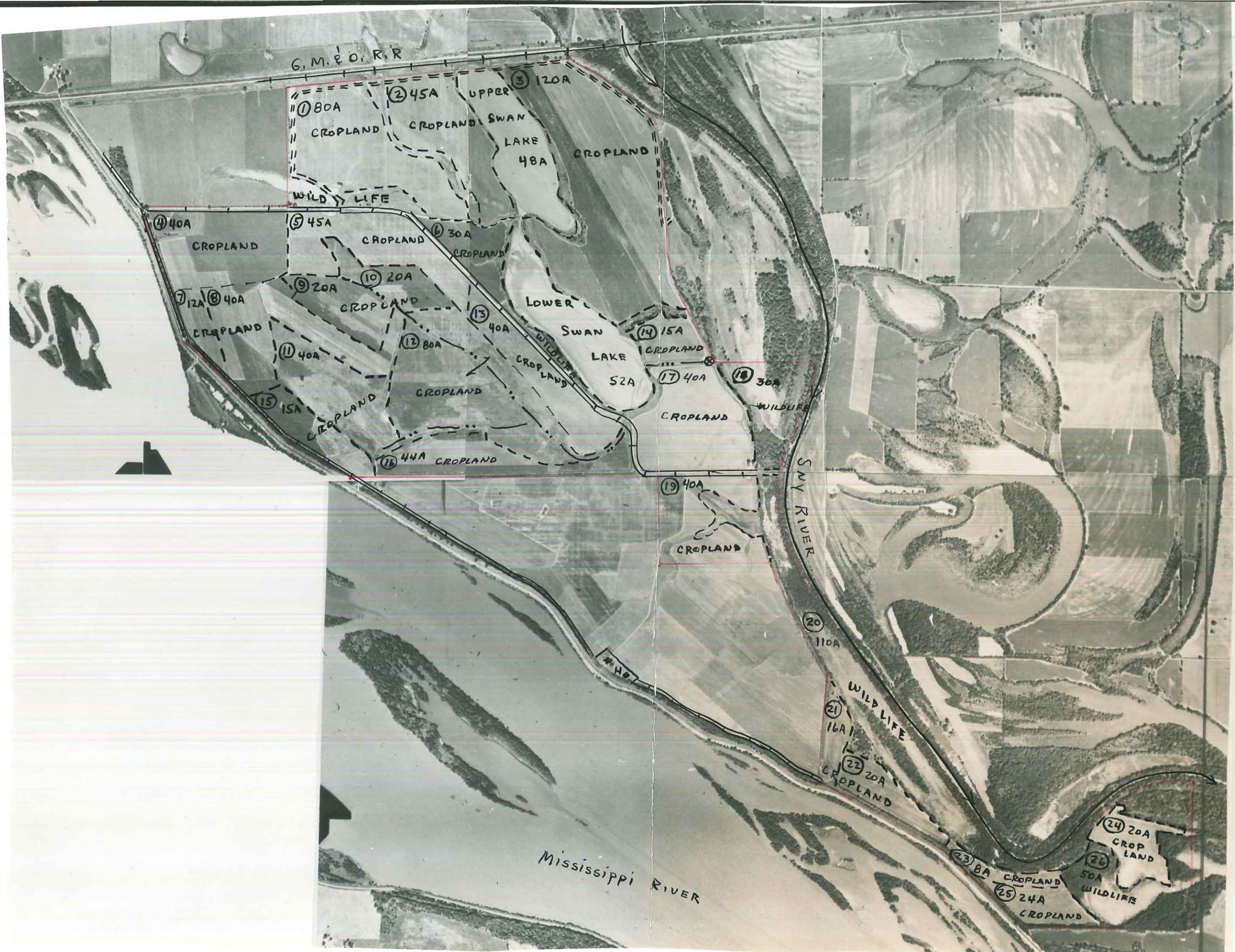
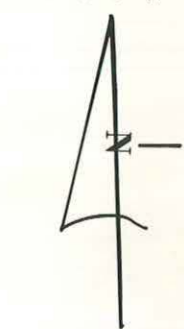
__ September 16, 1964 __
(Date)

Edward S. Craigie
(Bureau Official's Signature)

Refuge Manager
(Title)

Mark Twain National Wildlife Refuge
(Local Administrative Unit)

CONSERVATION PLAN MAP
 Pike County
 Soil Conservation District
 Owner U.S. Fish & Wildlife Service Operator Edward Crozier
 County Pike State Illinois Photo Nos. _____
 Date prepared _____ Approx. Scale " = 1 Mile



PIKE

SOIL AND CAPABILITY MAP

Soil Conservation District and
USDA, SCS cooperating.

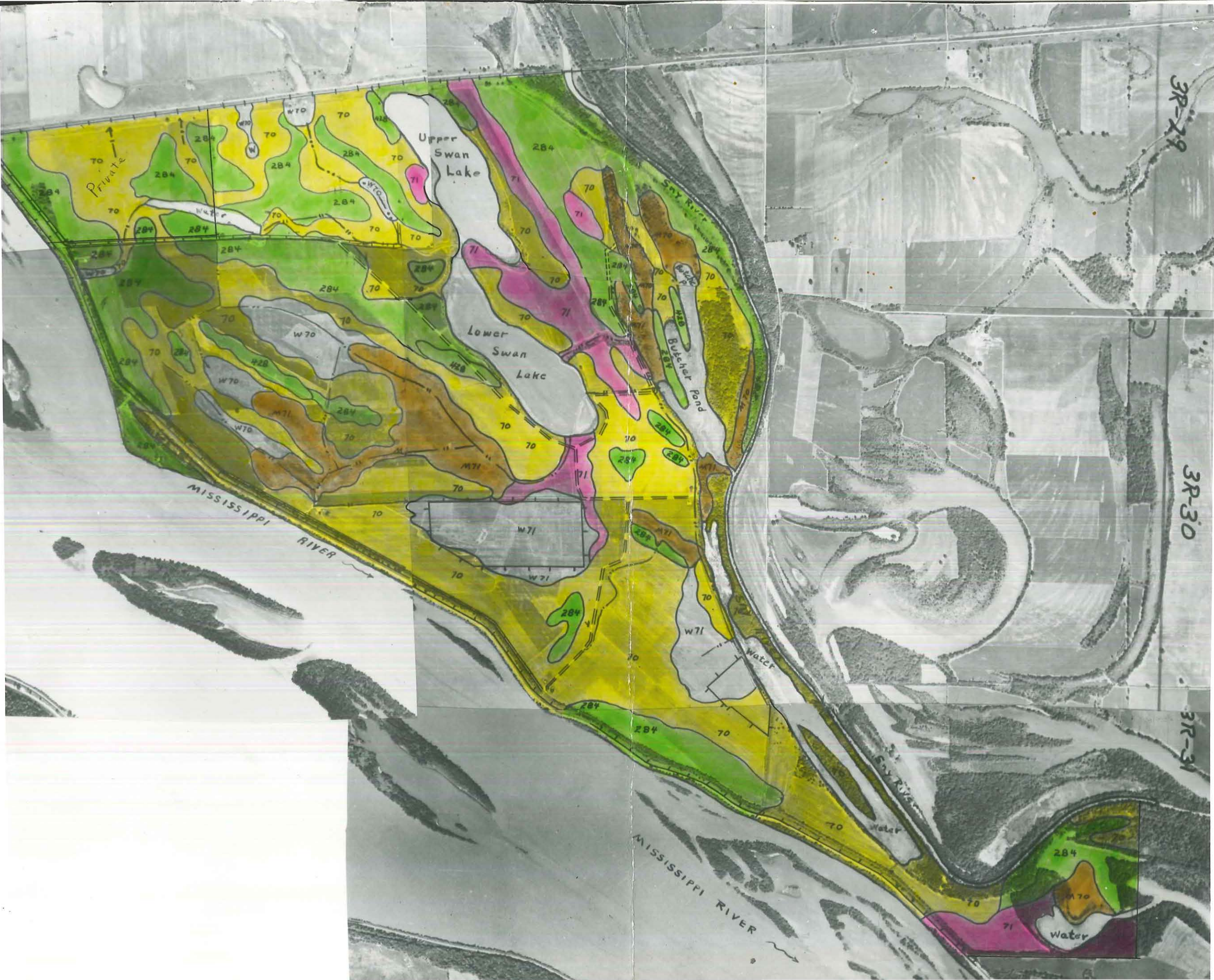
Owner U. S. FISH & WILDLIFE Operator ILL.

County PIKE State ILL.

Date prepared 7-64 Approx. Scale 4" = 1 Mile Photo Nos. AR-3R-38, 39,
40, 85 & 86

PREPARED BY U. S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

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CONSERVATION PLAN MAP

Soil Conservation District

Pike County

Owner U.S. Fish & Wildlife Service Operator SAW

County Pike State Arkansas Photo Nos. _____

Date prepared Sept 1964 Approx. Scale " = 1 Mile _____

PREPARED BY U. S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE



PIKE

SOIL AND CAPABILITY MAP

USDA, SCS Soil Conservation District and cooperating.

Owner U. S. FISH & WILDLIFE

Operator

County PIKE

State

ILL.

Photo Nos. AR-3R-38, 39

Date prepared

7-64

Approx. Scale 4" = 1 Mile

40, 85 & 86

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