FIELD SUMMARY REPORT

Decatur	NW	(32 quads)
Decatur	SW	(32 quads)
Peoria	NW	(32 quads)
Peoria	SW	(32 quads)
Burlington	SE	(32 quads)

I. Introduction

This field trip was conducted to ground truth aerial photography to facilitate mapping of wetlands in Illinois.

A. Personnel:

George Eliason	Martel Laboratories, Inc.
Renee Whitehead	Martel Laboratories, Inc.
Greg Pipkin	Martel Laboratories, Inc.
Nick R. Rowse	U.S.F.W.S. region 3
*Karen High	D.O.C. State of Illinois

B. Date of Field Trip: December 8-December 19, 1986

* Present only 12-11 and 12-12

C. Photography:

Type	Scale	Date	%Coverage
CIR	1:58k	4-25-83	2.0
CIR	1:58k	5- 8-83	24.0
CIR	1:58k	4-10-84	1.0
CIR	1:58k	4-28-84	7.0
CIR	1:58k	3-17-85	4.0
CIR	1:58k	3-21-86	50.5
CIR	1:58k	4- 8-86	6.5
CIR	1:58k	4-10-86	5.0

D. Collateral Data:

1. 7.5" and 15' U.S.G.S. topographic quads.
2. 1:250k U.S.G.S. topographic quads.
3. Ecoregions and Land-Surface Form maps (1:250k).
4. Hydric Soils of the State of Illinois 1985 (S.C.S.)
5. Wetland Plants of the State of Illinois 1986 (U.S.F.W.S.)
6. Soil surveys of Adams, Bond, Logan, Menard, Montgomery, and Sangamon counties.
7. Meeting with Steve Havar of the Illinois Natural History Survey about the Illinois River and it's associated floodplains.
8. Illinois Natural History Survey, Biological No. 57, Urbana, Illinois, June 1966.

II. Geographic Overview

The project area is located in central and west central Illinois. It's eastern and western limits are between 89°00' and 91°00' west latitude. The northern and southern limits are between 39°00' and

and 41°00' north longitude.

The Illinois River is the largest river system in the mapping area with the Sangamon, South Fork Sangamon, Mackinaw, Spoon, LaMoine, and Kaskaskia Rivers being other major rivers. Numerous intermittent and perennial creeks and streams are throughout the area which act as tributaries to these larger rivers. There are also numerous reservoirs located in the southern portion of the survey area.

Bailey's Ecoregions (1980) classifies the area in the northern portion of the Prairie-Parkland Province, Oak-Hickory Bluestem Parkland Section. The topography consists predominantly of gently rolling plains with steep bluffs bordering most stream valleys. Some areas of the province are nearly flat while other areas are noted to have high rounded hills. The project area has been glaciated.

See figures 1 and 2.

Glacial and Interglacial Stages of North America

North American Stages (North-central U.S.)

Wisconsin glacial
Sangamon interglacial
Illinoian glacial
Yarmouth interglacial
Kansan glacial
Aftonian interglacial
Nebraskan glacial

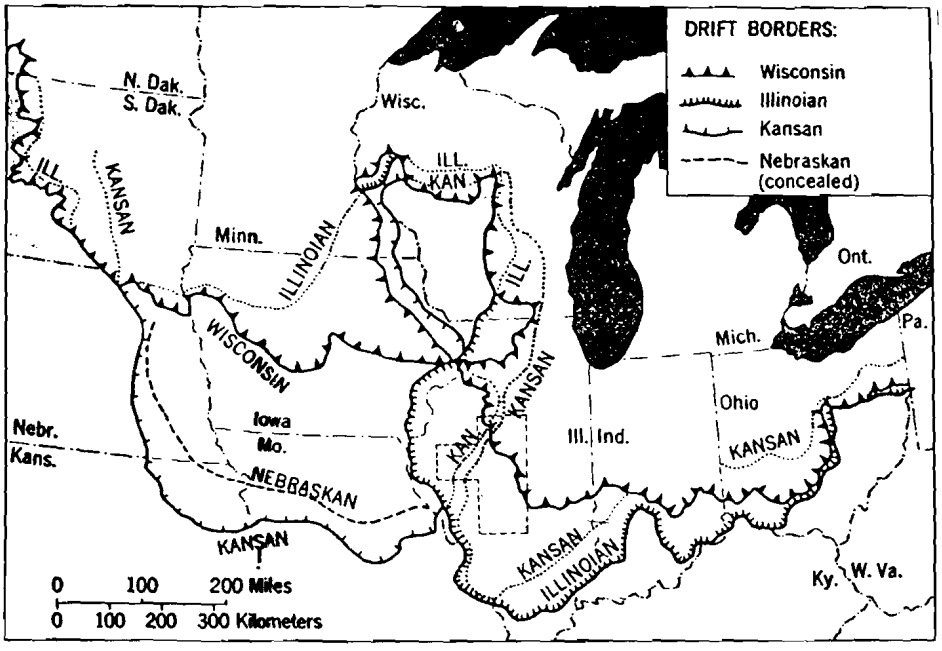

Figure 1 & 2 **Drift borders in the north-central United States. In each glacial stage, the ice sheet reached a different line of maximum advance. (After R. F. Flint, *Glacial and Pleistocene geology.*)**

The climate in the study area is classified by Bailey's (1980) as being the Subhumid Prairie Division in the Humid Temperature Doman. The average annual precipitation is 34 inches. Sixty percent of this falls in April through September which is the growing season. The average winter and summer temperatures are 29 and 75 degrees F respectively. The average annual temperature is 53 degrees F.

Vegetation in the project area is classified by Bailey's (1980) as forest-steppe. Trees grow commonly near streams and on north facing slopes. The upland forest is dominated by oak and hickory while the floodplains are dominated by a fertile forest of deciduous trees. Prairie vegetation consists primarly of grasses.

Soil is considered to be the most important natural resource in Illinois. According to Goodes World Atlas, the predominant soil is mollisol. There are small oil wells scattered throughout the eastern portion of the area with coal mines and strip mines located mainly in the central portion of the area.

III. Biological Characteristics of Wetland Habitats

Marine: Not present

Esturine: Not present

Riverine: The major river systems located in the project area are the Illinois, Sangamon, South Fork Sangamon, Mackinaw, Spoon, LaMoine, and Kaskaskia Rivers and Salt Creek. The Illinois River has been described as a sluggish river, primarily due to it's nearly level floodplain and relatively insignificant volume. (Mills, Starrett and Belrose) This is largely due to the extensive lock and dam systems and that the river is located in the Illinois Valley, a glacial feature. The other streams and rivers in the mapping area flow at a much steeper gradient, are usually deeply cut and are not impounded.

U.S.G.S. topographic quads will be used for classifying the break between perennial and intermittent streams. Intermittent drains will be classified as semipermanent and perennial drains will be classified as permanent. Excavated and impounded modifiers will be used where applicable. Drains will not be delineated that are less than a line width. Exceptions will be made for hydrologic connections between wetlands, where a stream is similar in flow to other drainages mapped or where a stream is narrow, often due to channelization, but drains a large water shed.

Lacustrine: The Illinois River will be classified as Lacustrine limnetic unconsolidated bottom permanently flooded impounded (L1UBHh). This is due to the previously mentioned lock and dam system. Approximately twenty bottomland lakes are associated with the Illinois River in the mapping area. These bottomland lakes will be classified as Lacustrine littoral unconsolidated bottom permanently flooded impounded (L2UBHh). Chain Lake, Lake Chautauqua, Clearlake, Peoria Lake, Upper Peoria Lake, and Goose Lake are a few of the major bottomland lakes found in the project area. According to Steve Havar, top soil erosion from surrounding agriculture has greatly increased the sediment loads in the Illinois River. Over a thirty year time period, with the frequent flooding of the Illinois, the silt has filled the lakes making them very shallow. Depths in some areas are less than three feet.

There are also many impounded reservoir lakes in the project area. Their classification will be (L1UBHh). Strip mines greater than 20 acres will be classified limnetic and permanent. Sewege treatment plants with impoundments greater than 20 acres will be considered artificially flooded. Power plant reservoirs which are also larger than 20 acres will carry the impounded modifier and be classified limnetic.

Palustrine: The majority of forested wetlands are found along the floodplains of the many rivers and streams. Many of these major river floodplains supporting bottomland forests were previously mentioned in the riverine section. The floodplains of these rivers contain some seasonally flooded bottomlands, sloughs and low pockets which support the following species: silver maple (Acer saccharinum), elm (Ulmus spp.), cottonwood (Populus deltoides), willow (Salix spp.), sycamore (Platanus occidentalis), red maple (Acer rubrum), river birch (Betula nigra), and green ash (Fraxinus pennsylvanica).

Temporarily flooded forests were dominant in the floodplains of the rivers and streams in the project area. Representative species include: elm, cottonwood, silver maple, sycamore, oak (Quercus spp.), hackberry (Celtus ssp.), honeylocust (Gleditsia triacanthos), green ash, hickory (Carya spp.), box elder (Acer negundo), osage orange (Maclura pomifera), and overcup oak (Quercus lyrata). Common understory growth included poison ivy (Rhus radicans), stinging nettle (Urtica dioica), greenbriar (Smilax spp.), common ragweed (Ambrosia artemisiifolia), wild onion (Allium spp.). One site did include a semipermanent forested area within the Sanganois State Conservation Area. Species found included silver maple, green ash and cotton wood. Other semipermanent forests could be found further along the Illinois River and around it's lakes.

Scrub shrub wetlands were found in three conditions: temporary, seasonal and semipermanent. The specie found most commonly in temporarily flooded areas was willow (Salix spp.). Seasonal communities included willow, green ash, and silver maple. Semipermanent areas contained buttonbush (Cephalanthus occidentalis) and willow.

Emergent wetlands were found in both temporary and seasonal conditions. Common temporary species included smartweed (Polygonum spp.), reed canary grass (Phalaris arundinacea), sedge (Carex spp.), giant ragweed (Ambrosia trifida), common ragweed, velvet leaf (Abutilon theophrasti), foxtail (Setaria spp.), poison ivy, green briar, stinging nettle, cocklebur (Xanthium spp.), golden rod (Solidago spp.), evening primrose (Oenthera biennis), and pigweed (Chenopodium album). Species found in seasonally wet areas commonly included cattail (Typha spp.), reed canary grass, smartweed, spike rush (Eleocharis spp.), sedge, golden rod, and foxtail.

Farmed emergent wetlands will be indicated by the farmed (f) modifier. These areas were either being worked by agriculture or showed signs of tillage in recent years. Soil samples did not always show evidence of a fluctuating water table. This is primarily due to the common practice of tilling the fields which causes the soil to loose some hydric characteristics. Field conditions were somewhat wet as the project area received approximately an inch and a half of rain a week before the field trip. If there was any evidence of hydric conditions in the basins, they would be mapped as temporarily flooded, farmed (PEMAf).

Also, as indicated by Steve Havar, hunting clubs own some areas along the Illinois River. The hunting clubs raise corn and artifically flood and drain these areas as needed. These areas will be classified as artifically flooded impounded (PEMKh). Sewege treatment ponds less than 20 acres will be classified as artifically flooded impounded (PUBKh). Farm ponds will be classified as either impounded or excavated. Strip mine pits less than 20 acres will be classified with the excavated modifier. An oil retention pond was ground truthed. It will be classified as semipermanently flooded artifical substrate and excavated (PUBFrx). It's substrate was vinyl lined. Palustrine aquatic beds were not common. They did appear in some farm ponds and occasionally in stagnant backwaters of swamps and marshes. The only specie found was duckweed (Lemna spp.).

IV. Considerations of Imagery

The imagery was flown in the spring of 1983, 1984, 1985 and 1986. Ground truthing was conducted from December 8 through December 13, 1986. Field conditions were somewhat wet as the mapping area received approximately an inch and a half of rainfall the week before. The 5-83 imagery has a considerable amount of standing water on it. Although, this condition makes the identification of emergent wetlands difficult, consideration will be taken not to map any ephemeral water through the use of topographic maps and soil surveys. Many of these areas were often tilled and showed little to no evidence of hydrophytes in the field. Repeated tillage of temporary areas can cause a soil to lose it's hydric characteristics (eg. mottling, indicating a fluctuating water table). The lack of vegetation and soil indicators may lead to a conservative interpretation of temporary and seasonal emergent basins.

Some spring photography shows woody vegetation well leafed out, masking the understory. This makes identification of seasonal and temporary areas difficult. Topos and soil surveys should be consulted when mapping these areas as well.

All photography is of good resolution with the exception of the 4-86 imagery, which is somewhat blurry. Colors are uniform throughout all frames. Outside of the high spring water, interpretation should be consistant throughout the project area.

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