Field Summary Report

Vincennes SW (30 quads)
Vincennes SE (2 quads)

I. INTRODUCTION

A. Personnel:

George Eliason	- Martel Laboratories
Cindy Bohn	- Martel Laboratories
Renee Whitehead	- Martel Laboratories
Nick Rowse	- USFWS - Region 3
Charlie Storrs	- USFWS - Region 9
*Dave Houdak	- USFWS - Region 3

* Present October 28 only

B. Date of Field Trip: Oct. 26 - Oct. 31, 1986

C. Photography:

Type	Scale	Date	Percent Coverage
CIR	1:58K	5-15-84	53
CIR	1:58K	3-22-86	27
CIR	1:58K	4-25-85	20

F. Collateral Data:

1. USGS 7 1/2 topographic quads.
2. Soil Surveys for Vanderburgh, Dubois, Knox, Warrick, Spencer, Sullivan, Daviess, and Posey counties.

II. GEOGRAPHY

The project area is located in south western Indiana with its western border being the Illinois/Indiana state line down the middle of the Wabash River. The eastern boundary is roughly at 87°00' West latitude. The northern and southern limits are between 38°00' and 38°30' North longitude.

The Wabash River is the largest river system in the mapping area though only the Indiana portion will be mapped on this project. The White River just enters the work area in the NW corner and empties into the Wabash near Mt. Carmel Illinois. Other major drainages include the Patoka River and Pigeon Creek. Smaller intermittant and perennial streams are abundent in this gently sloping area and many act as tributaries to these large rivers.

Coal strip mines are abundant to the east, providing many open water ponds and a landscape of elongate ridges (spoil mounds). Oil rigs also litter the area.

Bailey's Ecoregion Classification (1980) classifies the area as the Eastern Decidious Forest province, which is further divided into two sections; Beech-Maple and Oak-Hickory.

The Beech-Maple Section covers a lobed shaped area which runs along the northern edge and dips down into the map on the east central portion. Strip mine activity is heaviest in this section.

To the west, and along the southern border, Bailey recognizes the Oak-Hickory section.

Climate

Bailey describes the area as having a continental climatic regime. There is adequate precipitation in all months, with most moisture falling in the summer. Evapotranspiration creates a slight water deficit in the summer in spite of the greater precipitation. There is usually a surplus of water in the spring. Precipitation averages 24 inches for the year.

Average winter temperature is 32°F. Average summer temperature is 73°F.

III. BIOLOGICAL CHARACTERISTICS OF WETLAND HABITATS

Marine: Not Present

Estuarine: Not Present

Riverine

Major river systems within the project area include the White, Wabash and Potoka rivers and Pigeon Creek. U.S.G.S. topographic quads will be relied upon for classifying perennial and intermittant drainages. All intermittant streams will be classified as having semipermanent flow. Most perennial drainages will be classified as having permanent flow . There were a few ditches which were perennial on U.S.G.S. topos but ground truthed as being intermittantly exposed (G). The use of the G water regime will be restricted to those areas checked. Excavated modifiers will be used where applicable. Riverine systems will not be identified if they are less than line width. Exceptions to this are where they make a hydrologic connection between wetlands or where they are similar in flow to other drainages identified but are narrow, usually due to deep excavation.

Dave Houdak (USFWS) feels that the Patoka River floods often and much of its floodplain remains wet on a seasonal basis. Some reasons for the seasonal flooding may be due to large beaver populations and control of water from Patoka Lake Reservoir, located upstream from the project area.

Lacustrine

No Lacustrine water bodies were encountered in the field. Imagery along the Wabash River was not available for ground truthing. Any oxbows greater than 20 acres will be considered limnetic unless contour information is available. Strip mine pits greater than 20 acres will be considered limnetic and permanent. Sewage treatment ponds greater than 20 acres will carry the artificial water regime (K) and are considered impounded (h), as they are often lined with artificial bottom and surrounded by an impounding wall. Reservoirs for power plant cooling water will also carry the impounded modifier.

Palustrine

The majority of forested wetlands occure along the floodplains of rivers and streams. Major floodplains supporting bottomland hardwoods are the Wabash, White, and Patoka Rivers and Pigeon Creek.

The Patoka River floodplain contains some large areas of seasonally flooded swamp, supporting river birch (*Betula nigra*), green ash (*Fraxinus pennsylvanica*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*) silver maple (*Acer saccharinum*) and cottonwood (*Populus deltoides*). Similar species were found in sloughs and low pockets along Pigeon Creek.

Temporarily flooded trees were most common along the majority of streams and tributaries. Representative species here include elm (*Ulmus* spp.), sycomore (*Platanus occidentalis*), sweetgum, red maple, cottonwood, sugarberry (*Celtis lavigata*) hickory (*Carya* spp.) and various oaks (*Quercus* spp.). Most understories were shrubby or with a dense herbaceous growth. Common understory growth includes poison ivy (*Rhus radicans*) stinging nettle (*Urtica dioica*), moneywort and various saplings representing the woodland. No semipermanent forested areas were encountered in the field. As most semipermanent shrub areas supported willow and buttonbush, it would be expected that semipermanent forest would be willow.

Scrub shrub wetlands were found in temporary, seasonal and semipermanent conditions. Common temporarily flooded species include elm, red bud (*Catalpa* spp.) rose (*Rosa* spp.) and the vine greenbriar (*Smilax* spp.). Seasonal and semipermanent shrub communities include green ash, willow (*Salix* spp.) and buttonbush (*Cephalanthus occidentalis*).

Most emergent wetlands were either being worked by agriculture or showed evidence of tillage in the past. Soil samples at 12 inches did not always show evidence of a fluctuating water table as tillage disrupts and aerates the soil. Field conditions were very dry. This allowed some farmers to go in and clear and till seasonal areas that are not accessable in most years. Though these low spots would show soil mottling, indicating hydric conditions, few if any plant species could be found to aid in classifying the wetland. Most photography was flown in the spring and appears to reflect a normal spring high water. Close attention to land use patterns will aid in proper classification of emergent wetlands as both temporary and seasonal areas are holding water on the imagery.

Common temporarily wet emergent species include smartweed (Polygonum spp.) Aster spp., dock (Rumex spp.), ragweed (Ambrosia spp.), and goldenrod (Solidago spp.). Seasonally wet indicators include cattail (Typha latifolia), reed-canary grass (Phalaris aruninacea), sedge (Carex spp.), and Juncus spp. Cattail was the dominant semipermanent emergent, though flooding to this degree was not often encountered.

Palustrine aquatic beds were not common. They appeared in farm ponds and occasionally in stagnant backwaters of swamps or marshes. Common species here include duckweed (Lemna spp.) and arrow arum (Peltandra virginica). Duckweed is the most common invader of small ponds.

IV. CONSIDERATIONS OF IMAGERY

Imagery was flown in the spring of 1984, 1985 and 1986. Ground truthing was conducted October 26 through October 31, 1986 and conditions appeared to be abnormally dry. This made ground truthing difficult. The dry year made lowlands more accessable to farmers. Some wet signatures on spring imagery showed no evidence of hydrophytes in the field. These areas were often tilled or planted with cover or crops. These conditions made the identification of temporary emergent basins difficult. Repeated tillage of temporary areas can cause a soil to lose its 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.

All photography is of good resolution and colors are uniform throughout the frame. Outside of the high spring water, interpretations should be consistant throughout the project area.