FIELD SUMMARY REPORT

SW Indiana Extended

I. INTRODUCTION

Field reconnaissance was conducted during the period of May 4, 1987 through May 9, 1987 to ground truth aerial photography for the Indiana portions of the following 1:250K's Indianapolis, Vincennes, Louisville, Cincinnati.

A. 1:100,000

Indianapolis NW	(20 quads)
Indianapolis SW	(16 quads)
Vincennes NW	(18 quads)
Louisville NW	(29 quads)
Louisville NE	(4 quads)
Louisville SW	(8 quads)
Cincinnati NE	(8 quads)
Cincinnati SE	(8 quads)

B. Personnel:

George Eliason	Martel Laboratories, Inc.
Greg Pipkin	Martel Laboratories, Inc.
Karen Schultz	Martel Laboratories, Inc.
Nick Rowse	U.S.F.W.S. Region 3
*Jean Cochran	U.S.F.W.S. Bloomington Office

C. Date of Field Trip: May 4 - May 9, 1987
*Present only on May 6.

D. Photography:
Type: CIR
Scale: 1:58,000

Series	Date	% Coverage
339	4/16/83	13.0
63	4/21/83	1.3
199	5/15/84	25.0
197	5/15/84	11.0
201	5/16/84	8.0
427	4/17/85	2.0
419	4/18/85	2.0
247	3/22/86	8.0
439	3/30/86	28.0

E. Collateral Data:
1. 7'5" and 15' U.S.G.S. topographical quads.
2. 1:250K U.S.G.S. topographic maps.
3. Bailey, Robert G., Description of the Ecoregions of the United States, U.S. Department of Agriculture. Pub. 1980.
4. Hydric Soils of the State of Indiana, 1985. U.S. Department of Agriculture, Soil Conservation Service.

5. Wetland Plants of the State of Indiana; 1986 U.S. Department of the Interior, Fish and Wildlife Service.

6. Leland Herzberger, Refuge Manager at the Muscatuck National Wildlife Refuge.

7. Soil Surveys for the counties of Sullivan, Knox, Scott, Daviess, Fayette, Union, Ripley, Jennings, Dearborn, Ohio, Harrison, Clark, Floyd, Jefferson, Clay, Parke, Fountain and Vermillion.

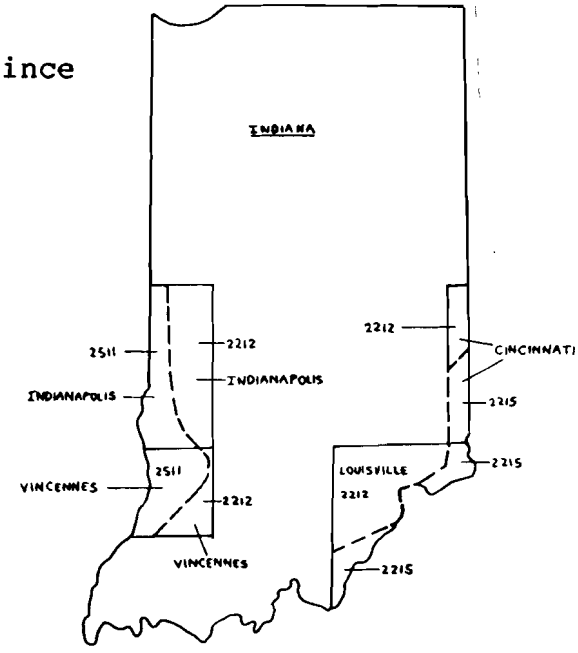
II. OVERVIEW

The project area consists of the Indiana portions of the Indianapolis and Vincennes 1:250,000's on the western side of the state and the Indiana portions of the Louisville and Cincinnati 1:250,000's on the eastern side of the state. Bailey's Ecoregions describes the project area as being in two distinct ecoregions: the Prairie Parkland Province and the Eastern Deciduous Forest Province. (See Appendix I)

APPENDIX I
ECOREGIONS OF SW INDIANA EXTENDED PROJECT AREA

Eastern Deciduous Forest Province
2212 - Beech/Maple Section
2215 - Oak/Hickory Section

Prairie-Parkland Province
2511 - Oak/Hickory/bluestem Section



The Indianapolis, Vincennes, Louisville and Cincinnati 1:250,000's fall on the western border of the Eastern Deciduous Forest Province. This province is characterized by rolling hills, dominated by tall broadleaf deciduous trees. The sections of the Eastern Deciduous forest that were present include the Beach-Maple Section and the Oak-Hickory Section.

The climate of the Eastern Deciduous Forest Province is a mid-continental climate, with cold winters and hot summers. The average winter temperature is 31°F with an average daily minimum of 21°F. The average summer temperature is 73°F with an average daily maximum of 85°F. The total precipitation is approximately 33 in.; 75% of this precipitation falls in the growing season (April-Sept.). The average seasonal snowfall is 14 to 18 in.

The Prairie-Parkland Province covers a section of the work area in the Indianapolis and Vincennes 1:250K's. This section of the work area is located on the eastern border of the Prairie-Parkland Province. This eastern border is a transitional zone where deciduous forest and prairie mix. In this province the deciduous forest experiences a richer growth on flood plains and moist hills.

The climate of the Prairie-Parkland Province is in the subhumid prairie division. The annual precipitation is 34 inches. Sixty percent of this falls in the growing season (April-September). The average winter and summer temperatures are 29°F and 75°F respectively. The average annual temperature is 53°F.

The Muscatatuck National Wildlife Refuge is an area of major importance within the project. This refuge is Indiana's only national wildlife refuge. It consists of approximately 3,000 acres of forest, 1,300 acres of permanent of seasonal water, 1,000 acres of grasslands/crop fields, and 2,400 acres of old farm fields reverting to forest. The purpose of the refuge is to provide nesting area for migratory birds and habitat for endangered species. These goals are accomplished by manipulation of water levels and providing food for wildlife (crops of corn and wheat). In addition, the refuge is used for research activities, including bird banding, nesting habits and reproduction studies.

III. BIOLOGICAL CHARACTERISTICS OF WETLAND

A. Marine: Not present

B. Estuarine: Not present

C. Lacustrine: The work area contains several lakes, most of which are impounded. The major reservoirs in the work area

are: the Cecil M. Harden Lake, Lake Shakamak, Acton Lake and Brookville Lake. These impounded reservoirs will be classified as (L1UBHh). The Cecil M. Harden Reservoir was 22' below normal pool at the time of field check. Normal pool is 662'; at the date of photgrpahy it was 661.21' and field pool was 640'. There are numerous strip mines in the work area and those over 20 acres will be classified L1UBHx. Sewage treatment ponds will be considered artifically flooded.

D. Riverine: The major river systems located in the project area are the Great Miami, Ohio, Wabash, Whitewater, Muscatatuck, White, Deshee, and Eel Rivers. All major rivers will be classified as R2UBH with appropriate modifiers where channelization has taken place. The West Fork of the Indian-Kentuck Creek (Canaan Quad) will be classified R3RBH, due to its steep gradiant and rock bottom.

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 in level areas and seasonal in sloping areas. Perennial drains will be classified as permanent. Drains will not be delineated if they are less than a line width.

One area of particular interest, "The Oxbow," is located at the confluence of the Greater Miami and Ohio Rivers. This area has a large flood plain tht is rich in wildlife. Thousands of migratory birds, particularly waterfowl and shore birds, depend on this area for resting and refueling on their long annual migrations.

E. Palustrine: The majority of forested wetlands are found along the floodplains of the many rivers and streams. The floodplains of these rivers contain some seasonally flooded bottomlands, sloughs and low pockets which support the following species: silver maple (*Acer saccharinium*), red maple (*Acer rubrum*), sycamore (*Platanus occidentalis*), eastern cottonwood (*Populus deltoides*) pin oak (*Quercus palustris*), willow (*Salix* sp.), river birch (*Betula nigra*), and green ash (*Fraxinus pennsylvanica*).

Temporarily flooded forests were dominant in the floodplains of the rivers and streams of the project area. Representative species include: elm, cottonwood, silver maple, oak (*Quercus* sp.), box elder (*Acer negundo*), hackberry (*Celtis occidentalis*) and sweetgum (*Liquidambar*

styraciflua).Common understory growth included: poison ivy (Rhus radicans), goldenrod (Solidago sp.), cleavers (Galium aparint), and stinging nettle (Urtica diolca). There are very few semipermanently flooded forests in the work area.

Scrub shrub wetlands were found in three conditions: temporary, seasonal and semipermanent. The species found most commonly in temporarily flooded areas was willow (Salix sp.). Seasonal communities include: willow, and buttonbrush (Cephalanthus occidentalis). Semipermanent areas contained buttonbrush.

Emergent wetlands were found in both temporary and seasonal conditions. Common temporary species included: golden rod (Solidago sp.), common ragweed (Ambrosia artemislifolia), smartweed (Polygonum sp.), sedge (Carex sp.), and stinging nettle. Species found in seasonally wet areas commonly included: cattail (Typha sp.), smartweed, scouring rush (Equisetum nyemale) and dock (Rumex sp.).

There are numerous farm ponds and strip mine pits in the study area under 20 acres in size. Farm ponds will be classified as eitner PUBGh or PUBGx. The semi-permanent water regime will be used on dot sized polygons. Strip mine pits will carry the excavated modified (PUBGx). Dot sized polygons will not be delineated for these features. Palustrine aquatic beds were common in the field though the imagery did not always show this. Duckweed (Lemna sp.) and green algae were the most common species. Large amounts of nutrient runoff are suspected for this condition. Sewage treatment ponds will be classified as artificially flooded, impounded (PUBKh).

IV. IMAGERY, PRELIMINARY DELINEATIONS (EXPECTED COVER TYPES), FIELD CHECKING.

A. Considerations of Imagery:

There were nine different dates of photography for the work area. These differences in dates result in a variation in emulsion and tone. The quality of resolution is acceptable for photointerpretation.

The photographics of series 221, 147, 339, 427, 439 were flown in early Spring, while series 63, 197, 199, 201, 233 were flown in late Spring. This presents a situation where the late Spring photography is well leafed out. This well leafed out photography is more difficult to interpret because the understory cannot be seen. It can be difficult at times to make a wetland-upland break; because of this, it is necessary to use collateral data such as soil surveys and contours of U.S.G.S. quads to delineate this photography.

The field trip was conducted in May 1987, while the photography was flown in March-May/1983-1986. Although the field trip was taken in approximately the same season as the photography, the field conditions are much drier. Standing water that appears on the photography was not present in the field. In general photo conditions will be mapped for consistency.

V. SUMMARY

Overall, the photography is acceptable. The most significant problem will be delineating the leafed out photography, to ensure the correct wetland-upland break. It is important to maintain consistency in the work area; therefore, careful attention will be paid in typing different dates of photography. In addition, soil surveys and topo information will be used.