

FIELD SUMMARY REPORT

MISSISSIPPI RIVER ROUNDOUT

I. INTRODUCTION

Field reconnaissance was conducted during the period of November 9, 1987 through November 20, 1987, to ground truth aerial photography for seven 1:100,000 maps located in Iowa and Missouri.

- A. 1:100,000: Dubuque NW (32 quads)
Dubuque SW (32 quads)
Davenport NW (32 quads)
Davenport NE (30 quads)
Davenport SW (32 quads)
Davenport SE (3 quads)
Burlington NW (30 quads)
- B. Personnel: George Eliason Martel Laboratories, Inc.
Karen Schultz Martel Laboratories, Inc.
Tom Ries Martel Laboratories, Inc.
Pat Townsend-Pratt Martel Laboratories, Inc.
Nick Rowse U.S.F.W.S. Region 3

C. Date of Field Trip: November 9 - November 20, 1987

D. Photography:

Type: CIR
Scale: 1:58,000

<u>Series</u>	<u>Date</u>	<u>% Coverage</u>
113	9/15/83	2.0
115	4/24/83	1.7
153	4/6/84	1.7
155	4/6/84	2.0
157	4/6/84	4.2
173	3/15/85	1.4
175	3/15/85	2.0
311	4/19/83	24.0
313	4/24/83	23.6
315	4/25/83	2.8
317	4/25/83	0.7
325	5/8/83	8.3
515	4/28/84	12.0
517	4/28/84	12.5
539	10/29/84	0.7

E. Collateral Data:

1. 7'5" and 15' U.S.G.S. topographical quads.

2. 1:250,000 U.S.G.S. topographical maps.
3. Bailey, Robert G., Description of the Ecoregions of the United States, U.S. Department of Agriculture. Published 1980.
4. Hydric Soils of the State of Iowa, 1985.
Hydric Soils of the State of Missouri, 1985.
U.S. Department of Agriculture, Soil Conservation Service.
5. Wetland Plants of the State of Iowa,
Wetland Plants of the State of Missouri; 1986.
U.S. Department of the Interior, Fish and Wildlife Service.
6. Wayne Stanley, Refuge Manager at the Louisa National Wildlife Refuge.
7. Soil Surveys for the counties of Cedar, Clayton, Fayette, Benton, Linn, Clinton, Des Moines, Keokuk, Iowa, Van Buren, Johnson, Scotland, Knox, Monroe, Shelby, Marion, Ralls, Montgomery, Saint Louis, Saint Louis City, Saint Charles, Saint Francis, Saint Clair and Saint Genevieve.

II. OVERVIEW

The project area consists of the Iowa portions of the Dubuque and Davenport 1:250,000's and the Iowa and Missouri portions of the Burlington NW 1:100,000. Bailey describes the project area as being in three distinct ecoregions: the Prairie Parkland Province, the Tall Grass Prairie Province, and the Eastern Deciduous Forest Province (see Appendix I).

Dubuque NW, Dubuque SW and Davenport NE fall on the western border of the Eastern Deciduous Forest Province. This western border extends just west of the Mississippi River. The province is characterized by rolling hills, dominated by tall broadleaf deciduous trees. The section of the Eastern Deciduous Forest represented in the work area was the Maple-Basswood/Oak Savanna 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 30°F with an average daily minimum of 21°F. The average summer temperature is 75°F. The total precipitation is approximately 33 inches; 75% of this precipitation falls in the growing season (April-September). The average seasonal snowfall is 30 inches.

The Prairie-Parkland Province covers the largest part of the work area. (see Appendix I) This province is characterized by alternating prairie and deciduous forest (Bailey). The vegetation is forest-steppe, characterized by the intermingling of prairie, groves and strips of deciduous trees (Bailey). On floodplains and moist hillsides, there is a richer forest of deciduous trees. The land surface is generally flat or gently rolling.

The climate of the Prairie-Parkland Province is in the subhumid prairie division. The annual precipitation is 30 inches. 75% of this falls in the growing season (April-September). The average season snowfall is 20-40 inches. The average summer temperature is 75°F. A temperature of 90°F is reached at least 20 days during the warmest summer months. Average winter temperature is 29°F.

The Tall Grass Prairie Province covers a small portion of the eastern edge of Dubuque NW. The province is characterized by flat and rolling plains, which have been glaciated. Because of the generally favorable conditions of climate and soil, most of this area is cultivated and little original vegetation remains (Bailey).

The climate of the Tall Grass Prairie Province is in the subhumid prairie division, as was the Prairie-Parkland Province.

A portion of the Mississippi flyway is located in the work area. This flyway is one of the nation's most important bird migration routes. A chain of refuges exist along the flyway. The purpose of these refuges is to provide migratory birds with food, water and undisturbed resting areas. One of these refuges was check-sited (Lake Louise National Wildlife Refuge). At this refuge we noted thousands of Canadian geese, many species of ducks and three bald eagles were sited.

III. BIOLOGICAL CHARACTERISTICS OF WETLANDS

- A. Marine: Not present.
- B. Estuarine: Not present.
- C. Lacustrine: Lakes were encountered in both natural and man-made systems. Most of these systems, though, are the result of impoundment or excavation. Lakes twenty acres and greater were classified as L1UBHh. The Mississippi River will also be classified L1UBHh due to its lock and dam system.

The Coralville Reservoir, a major reservoir in the work area, was 19' above normal pool at the time of photography. Normal pool is 680'; at the date of photography it was 699.35' and field pool was 683'. For this reason emergent vegetation noted at the time of field reconnaissance was under water at the time of photography. For interpretation purposes, wetlands within the 700 foot contour will carry the impounded modifier. In addition, areas within the 700 foot contour that appear flooded and without vegetation will be classified as PEMFh.

- D. Riverine: The major river systems located in the project area are the Turkey, Volga, Maquoketa, Wapsipinicon, Cedar, Skunk, Iowa, English, Des Moines and Fox Rivers. These river systems flow eastward, emptying into the Mississippi River.

In general, major rivers were classified as lower perennial, although two smaller perinneal streams in the Dubuque NW 100,000 were field checked as upper perennial, due to springs, fast flowing water and the presence of trout.

- E. Palustrine: The majority of forested wetlands in the work area are found along the floodplains of the many rivers and streams. There are few areas of extensive forest. Farming has replaced many wetland systems adjacent to alluvial or depositional areas.

Temporarily flooded forests were dominant in the floodplains of the rivers and streams of the project area. Representative species include: silver maple (Acer saccharinum), eastern cottonwood (populus deltoides), pin oak (Quercus palustris), American elm (Ulmus americana), black willow (Salix nigra) red maple (Acer rubra), box elder (Acer negundo), sycamore (Platanus occidentalis) and hackberry (Celtis occidentalis). Common understory growth included: giant ragweed (Ambrosia trifida), smilax, golden rod (Solidago sp.), Virginia waterleaf (Hydrophyllum virginianum) and stinging nettle (Urtica dioica).

Seasonally flooded forests were found in sloughs and low pockets of the floodplain. These areas tended to have little or no understory, buttressing of tree trunks, high water marks on tree trunks and debris on the forest floor. Typical species of seasonal forest included: river birch (Betula nigra), black willow (Salix nigra), swamp white oak (Quercus bicolor) and pin oak (Quercus palustris).

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 included: willow and buttonbush (Cephalanthus occidentalis). Semipermanent areas contained buttonbush.

Emergent wetland systems occurring in the study area include semipermanently, seasonally, saturated and temporarily flooded water regimes. Temporary, seasonal and semipermanent conditions were found on floodplains, in reservoir backwaters and in farm basins. Common species found in semipermanent and seasonal conditions included: smartweed (Polygonum sp.), cattail (Typha latifolia), dock (Rumex crispus), cut grass (Leersia sp.), reed canary grass (Phalaris arundinacea) and river bullrush (Scirpus fluviatilis). Common species found in temporary conditions included: goldenrod (Solidago sp.), sedges (Carex sp.), giant ragweed (Ambrosia trifida) and stinging nettle (Urtica dioica).

A unique aspect of the project area is the presence of numerous seeps and areas with perched and high water tables (most numerous in Dubuque NW and SW). These saturated emergent areas have a characteristic mottled green signature and are found on both flat and sloping ground. This signature combined with soil survey information can be used to interpret the photography with accuracy.

There are numerous farm ponds and strip mine pits in the study area under 20 acres in size. Farm ponds will be classified as either PUBGh or PUBGx. The semipermanent water regime will be used on dot size polygons. Strip mine pits will carry the excavated modifier (PUBGx).

Palustrine aquatic beds were common in the field though imagery did not always show this. Those areas identified on the photography will be classified as intermittently exposed or semipermanent common indicator species included duckweed (Lemna sp.) and green algae.

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

A. Considerations of Imagery

There were fifteen 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 photo interpretation.

The high water conditions of photography series 313 (4/24/83) creates some difficulty in making seasonal - temporary breaks and wetland - upland breaks. Difficulty occurred when this photography was tied with much drier photography in series 539 (10/29/84). Areas that appeared seasonally wet in series 313 appeared as temporarily wet, or as upland in series 539 (October). As the October photography had no flooding, breaks were easier to determine, and ties based on the October photography will be more accurate. Another unusual situation was the occurrence of emergent signatures appearing on slopes. These emergents are the results of seeps. The only other problem encountered was the alteration of wetlands. These included areas that have been farmed or drained since the time of photography. Note was made of these areas on the checksite form but in general photo conditions will be mapped for consistency.

V. SUMMARY

Overall, the photography is acceptable. The most significant problems will be determining the upland-wetland breaks in flooded photography and identifying emergent signatures overlying seeps. It will be important to use topo information and soil surveys as well as photo signature for interpretation. It is also important to maintain consistency in the work area; therefore, careful attention must be paid in tying different dates of photography.

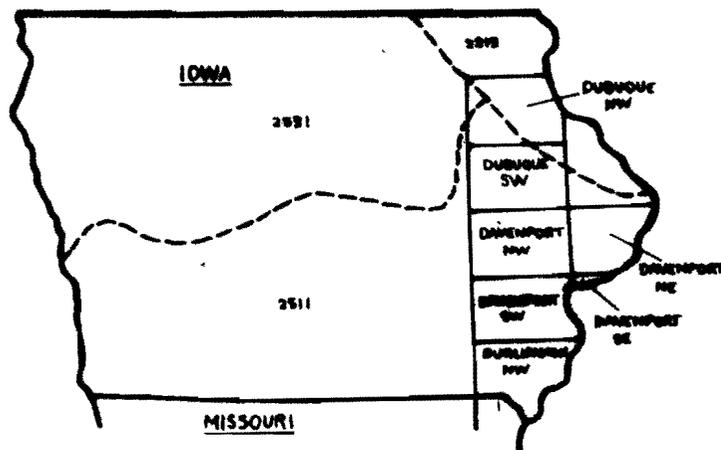
APPENDIX I

ECOREGIONS OF THE MISSISSIPPI RIVER ROUNDOUT PROJECT AREA

Prairie Parkland Province
2511-Oak-Hickory-Bluestem
Parkland section

Tall Grass Prairie Province
2531-Bluestem Prairie section

Eastern Deciduous Forest Province
2213-Maple-Basswood/Oak Savanna section



sh/AWP