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**The Noteworthy Vegetation Within the FAP 328 (US 45)
Illinois Department of Transportation Project Area
from Watson Y to South of Hord
Effingham and Clay counties**

**Endangered and Threatened Species and Natural Quality
Determination**

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Technical Report (21) 1996**

25 May 1996

**Prepared for:
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INTRODUCTION

The Illinois Department of Transportation (IDOT) made a request on February 2, 1996 for a botanical survey of FAP 328 (US 45) from Watson "Y" to south of Hord with a special emphasis on searching for *Carex communis* and *Veratrum woodii*. The survey was conducted on May 23 and 31, 1996. The study area is outlined on Hord and Louisville USGS 7.5 topographic maps and aerial photography. This report includes all endangered and threatened species found in the area and any sites that have noteworthy native vegetation.

MATERIALS AND METHODS

A search was conducted for rare, endangered and threatened plants and areas of quality native vegetation during the spring of 1996. Field work was conducted on May 23 and 31, 1996. The corridor was first searched for communities with natural integrity, and the areas with non-native vegetation were eliminated from further study. The areas with natural vegetation still present then were intensively searched. Areas of concern are on the Hord USGS 7.5 Minute Quadrangle Series and aerial photography. A copy of the map is included with the report. Botanical nomenclature follows Mohlenbrock (1986). To assess the quality of the vegetation of a given habitat, each area receives a grade from A to D following the methods described by White (1978). The following criteria are used to determine the status of each community.

1. The presence of endangered, threatened, and watch list species in the area.
2. The presence and abundance of exotic (non-native vegetation).
3. Disturbance factors in a community such as grazing, logging, or other man made disturbances.
4. Age of the community and successional stage.
5. If disturbance has ceased in the community and if the community appears to be recovering.
6. The presence and abundance of conservative plant species for a community type.
7. Size and position of the community in the landscape.

In addition to the A to D grade system, qualifiers of + and - are used to further segregate out communities. For example, many habitats are of grade C quality and fail to make INAI natural area status because of size restrictions, number of endangered, threatened, and watch listed species present, or severity of past disturbance. These areas may harbor rare flora and may be regionally important refuges for preserving biodiversity in the increasingly fragmented and disturbed landscape.

C+ = Indicates a community that has been disturbed in the past but the disturbance factors have been absent for an extended period of time and the community is recovering. Examples include a forest that had been grazed in the past but grazing was slight or ceased 10 to 15 years ago and the community has started to recover, or a prairie remnant that has been mowed or grazed in the past and has a few conservative plant species and which would improve with management such as controlled burning.

C- = Indicates a community that presently has disturbance factors and it appears that disturbance is going to continue in the future and recovery is unlikely. Areas may have endangered or threatened species, but they are in an isolated area. For example, a rare plant occurs on tall rock outcrops that are out of reach

of livestock and is reproducing but has little chance of repopulating the area because of grazing pressure.

All areas are also categorized as Statewide Significant, Statewide Exceptional, and Regionally Significant to Exceptional as described by White (1978). Definitions of the above terms are as follows.

Statewide Significant Natural Area - natural community or assemblage of natural communities that appears to meet the standards of the Natural Areas Committee with the Illinois Department of Natural Resources (IDNR) Division of Natural Heritage for inclusion to the Illinois Natural Areas Inventory (INAI). These sites qualify as Category I natural areas. Category I natural areas are high-quality terrestrial or wetland natural communities (White 1978). Category II natural areas support endangered species or concentrations of two or more threatened species as the significant feature(s) (White 1978; Mcfall 1988, pers. comm.). Category II areas may or may not also meet Category I criteria.

Statewide Exceptional Natural Area - natural community or assemblage of natural communities that may not meet the critical standards for the INAI, but nevertheless is an exceptional remnant of native vegetation. Reasons for not qualifying for the INAI may include not meeting size requirements, not meeting age-class requirements for forest tracts, or lacking proper vegetation management. Sites described as statewide exceptional in this report that are not restricted by size or age class requirements may qualify for the INAI following appropriate vegetation management such as prescribed burning or control of exotic vegetation.

Regionally Significant Natural Area - natural community or assemblage of natural communities that is regionally outstanding, but not characterized by a nearly undisturbed condition.

Regionally Exceptional Natural Area - natural community or assemblage of natural communities that supports a noteworthy assemblage of native species within a greatly degraded context. (e.g. degraded mesic prairie in railroad rights-of way).

PROJECT SITE DESCRIPTION

The project area occurs within the Effingham Plain Section of the Southern Till Plain Division of Illinois (Schwegman 1973). Most of the corridor is disturbed and the potential for endangered or threatened flora is remote. The project corridor included some forested tracts that are in good condition. Areas that still have noteworthy vegetation will be discussed in detail.

RESULTS AND DISCUSSION

Two populations of *Veratrum woodii* false hellbore, a threatened species in Illinois and one regionally significant natural area were located during the study. Both of these occur in the same area.

Threatened, Endangered, and Watch-list Species

Veratrum woodii Robbins false hellebore (Threatened in Illinois) *Veratrum woodii* is a species of mesic upland forests and ravines in southeastern Illinois. Plants rarely flower and remain sterile for extended periods of time (Herkert 1991). Two populations were

found in the project area approximately 50 meters west of the edge of the pavement. One on a south-facing mesic forested slope and the other on north-facing side of the same forest tract.

Demographics of *Veratrum woodii* populations in project corridor:

Population 1

Date Investigated: 6/31/96

Investigators: William C. Handel

Location: Effingham County, Hord 7.5 Quadrangle T. 6 N., R. 6 E. Section 5 SE1/4, SE1/4, NW1/4. Plants are scattered in a approximately 15 meter square area , 50 meters west of the pavement edge.

Size: 22 plants
Reproducing: undetermined
Vigor: excellent
Voucher Number: not collected

Habitat:

Type: Mesic upland forest, midsuccesional second growth (40 to 60 years of age), south to southeast-facing. The population of *V. woodii* occurs just above the stream terrace and continues 20 meters up the slope

Disturbance: No grazing or logging in recent history

Soil Type: Hickory soils are on convex slopes along drainageways in the strongly dissected parts of the Illinoian till plain. They formed primarily in Illinoian glacial till although the upper part of the solum in some pedons formed in as much as 20 inches of loess (USDA Natural Resource Conservation Service 1996)

Associated Plants:

Overstory:

Acer saccharum sugar maple
Quercus alba white oak

Quercus rubra red oak
Tilia americana basswood

Understory and shrub layers:

Asimina triloba paw paw

Herb layer:

Asarum canadense wild ginger
Mertensia virginica bluebells
Frasera caroliniensis American columbo

Cacalia atriplicifolia pale Indian plantain
Cystopteris protrusa fragile fern
Botrychium virginianum grape fern

Population 2

Date Investigated: 6/31/96

Investigators: William C. Handel

Location: Effingham County, Hord 7.5 Quadrangle T. 6 N., R. 6 E. Section 5 SE1/4, SE1/4, NW1/4. Plants are 60 meters west of the pavement edge along a steep north-facing slope.

Size: 7 plants
Reproducing: undetermined
Vigor: excellent
Voucher Number: not collected

Habitat:

Type: Mesic upland forest, midsuccesional second growth (40 to 60 years of age), north-facing. The population of *V. woodii* occurs along a steep forest slope dominated by sugar maple.

Disturbance: No grazing or logging in recent history

Soil Type: Hickory soils are on convex slopes along drainageways in the strongly dissected parts of the Illinoian till plain. They formed primarily in Illinoian glacial till although the upper part of the solum in some pedons formed in as much as 20 inches of loess (USDA Natural Resouce Conservation Service 1996)

Associated Plants:**Overstory:**

Acer saccharum sugar maple

Quercus rubra red oak

Quercus alba white oak

Understory and shrub layers:

Acer saccharum sugar maple

Herb layer:

Asarum canadense wild ginger

Cystopteris protrusa fragile fern

Polystichum acrostichoides Christmas fern

Noteworthy Plant Communitites**Site 1: Mesic to Dry Mesic Upland Forest Grade C+ to B-****Status: Regionally Significant Natural Area**

Location: Effingham County, Hord 7.5 Quadrangle T. 6 N., R. 6 E. Section 5 SE1/4, SE1/4.

This forest contains two populations of a *Veratrum woodii*, a state threatened species. It appears to relatively undisturbed with no logging or grazing occuring within recent history. The south facing slopes have a large population (>100) of *Frasera caroliniensis* American columbo. This species usually indicates that a forest was once open and usually flowers after a disturbance such as fire. Sugar maples are common on both slopes which is an indicator of fire suppression. The north-facing slope is steep with an overtory of sugar maple and red oak.

List of speicies that compose the majority of the vegetation:

<i>Acer saccharum</i>	sugar maple
<i>Arisaema triphyllum</i>	jack-in-the-pulpit
<i>Asarum canadense</i>	wild ginger
<i>Asimina triloba</i>	paw paw
<i>Botrychium virginianum</i>	grape fern
<i>Bromus pubescens</i>	Canada brome grass
<i>Cacalia atriplicifolia</i>	pale Indian plantain
<i>Carex jamesii</i>	sedge
<i>Carex pensylvanica</i>	sedge
<i>Carex rosea</i>	sedge
<i>Circaea lutetiana</i>	enchanter's nightshade
<i>Cystopteris protrusa</i>	fragile fern
<i>Elymus virginicus</i>	wild rye
<i>Festuca obtusa</i>	nodding fescue
<i>Frasera caroliniensis</i>	American columbo
<i>Fraxinus americanus</i>	white ash
<i>Mertensia virginica</i>	bluebells
<i>Monarda braduriana</i>	beebalm
<i>Polystichum acrostichoides</i>	christmas fern

<i>Quercus alba</i>	white oak
<i>Quercus rubra</i>	red oak
<i>Silene stellata</i>	starry campion
<i>Smilacina racemosa</i>	false solomon seal
<i>Tilia americana</i>	basswood
<i>Tradescantia virginiana</i>	spiderwort
<i>Uvularia grandifolia</i>	bellwort
<i>Viola pubescens</i>	hairy yellow violet

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