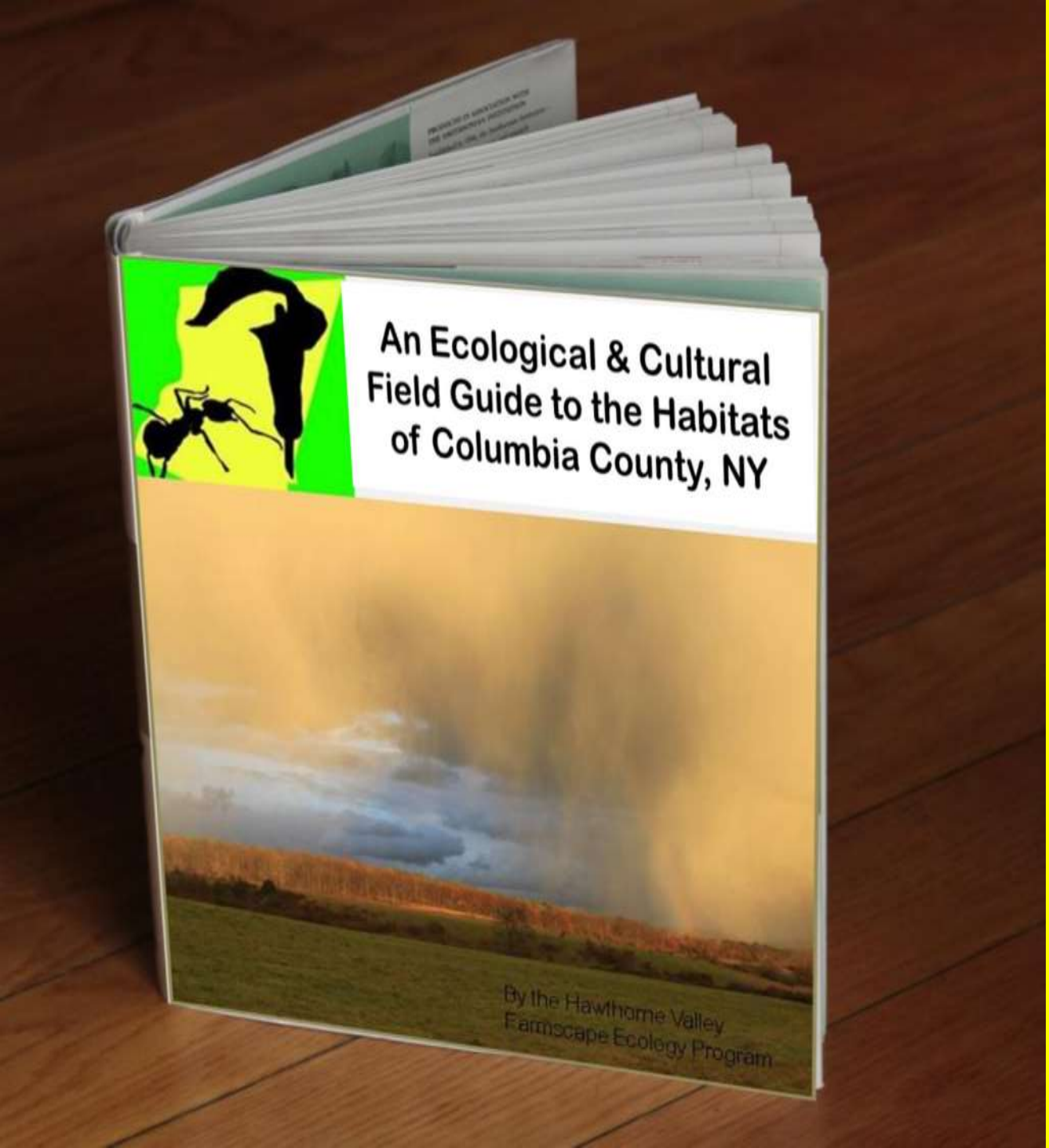
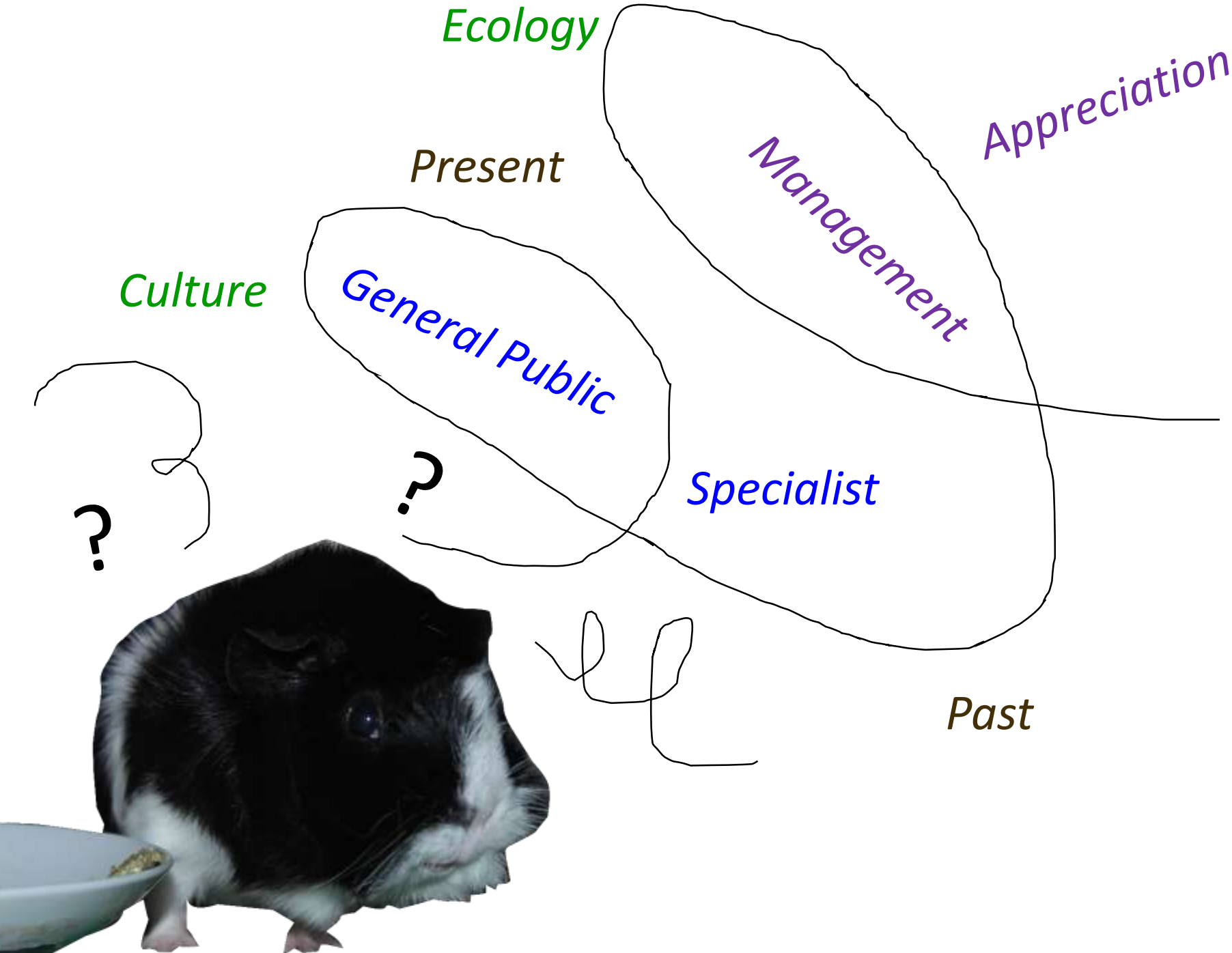


Goal:

Provide a tool that is both stimulating for the general public and useful for the specialist.

Encourage people to explore the ecology, history and human perceptions of their surroundings.

Enable them to identify the types of habitats they're standing in and understand the conservation values and stewardship recommendations for those sites.


Ecology
Appreciation
Present
Management
Culture
General Public
?
?
Specialist
Past

DRAFT OUTLINE OF THE FIELD GUIDE

Preface

Goal of this guide
The Living Land Project: how the data were gathered.

Background

The Physical Foundation: Columbia County general topography, geology, soils, hydrology and climate.

The Ecological Palette: Generalized discussion of county ecology and biogeography.

The Human Overlay: General description of county history in relation to human land use; the human role in creating and destroying habitats.

Biodiversity & conservation

Biodiversity Results
Activities impacting that
Stewardship suggestions

Factors affecting human perception of the land.

- Use value
- Emotional Value
- Access

How to use this guide

- Habitat key
- Icon descriptions
- Habitat description sections

Habitats

- Section Introductions
  - Habitat Descriptions

Appendices

- Common/scientific names of organisms and their native/non-native and rarity status.
- A classification cross-walk (i.e., how does our habitat classification compare to that of others)

Index, Acknowledgements, Credits.

Factors affecting human perception of the land.

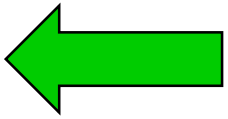
- Use value
- Emotional Value
- Access

How to use this guide

- Habitat key
- Icon descriptions
- Habitat description sections

Habitats

- Section Introductions
  - Habitat Descriptions



Appendices

- Common/scientific names of organisms and their native/non-native and rarity status.
- A classification cross-walk (i.e., how does our habitat classification compare to that of others)

Index, Acknowledgements, Credits.

Habitat Descriptions

UPLANDS

ROCKY OUTCROPS
- Gravel Pit and Quarry
- Wooded Outcrops

WOODED UPLANDS
Ancient Forests
- Hemlock Forest
- Northern Hardwood(-Hemlock) Forest
- Mature Sugar Maple Forest
- Rich Oak Forest
- Oak-Hickory Forest

Young Forests
- Young Sugar Maple Forest
- White Pine Forest
- Black Locust Forest
- Red Cedar Forest
- Conifer Plantation
- Mixed Young Forest

OPEN UPLANDS
- Oak Heath Barrens
- Blueberry Heath
- Successional Shrubland
- Old Field
- Dry Meadow
- Upland Hayfield/Pasture
- Cemetery
- Utility Corridor
- Lawn

WETLANDS

FRESHWATER TIDAL HABITATS
- Tidal Marsh
- Tidal Mudflat
- Tidal Shrub Swamp
- Tidal Swamp Forest

WOODED WETLAND (non-tidal)
- Floodplain Forest
- Swamp Forest
- Wooded Seep
- Intermittent Woodland Pool
- Headwater Stream

OPEN WETLANDS (non-tidal)
- Shrub Swamp
- Marsh
- Wet Meadow
- Bog
- Calcareous Fen
- Circumneutral Bog Lake
- Beaver Pond
- Constructed Pond

Habitat Descriptions

UPLANDS

ROCKY OUTCROPS
- Gravel Pit and Quarry
- Wooded Outcrops

WOODED UPLANDS

Ancient Forests
- Hemlock Forest
- Northern Hardwood(-Hemlock) Forest
- Mature Sugar Maple Forest
- Rich Oak Forest
- Oak-Hickory Forest

Young Forests
- Young Sugar Maple Forest
- White Pine Forest
- Black Locust Forest
- Red Cedar Forest
- Conifer Plantation
- Mixed Young Forest

OPEN UPLANDS
- Oak Heath Barrens
- Blueberry Heath
- Successional Shrubland
- Old Field
- Dry Meadow
- Upland Hayfield/Pasture
- Cemetery
- Utility Corridor
- Lawn

WETLANDS

FRESHWATER TIDAL HABITATS
- Tidal Marsh
- Tidal Mudflat
- Tidal Shrub Swamp
- Tidal Swamp Forest

WOODED WETLAND (non-tidal)
- Floodplain Forest
- Swamp Forest
- Wooded Seep
- Intermittent Woodland Pool
- Headwater Stream

OPEN WETLANDS (non-tidal)
- Shrub Swamp
- Marsh
- Wet Meadow
- Bog
- Calcareous Fen
- Circumneutral Bog Lake
- Beaver Pond
- Constructed Pond

Section introductions with overviews of where in the landscape these habitats occur and their general ecology as a group.

Habitat Descriptions

UPLANDS

ROCKY OUTCROPS
- Gravel Pit and Quarry
- Wooded Outcrops

WOODED UPLANDS
Ancient Forests
- Hemlock Forest
- Northern Hardwood(-Hemlock) Forest
- Mature Sugar Maple Forest
- Rich Oak Forest
- Oak-Hickory Forest

Young Forests
- Young Sugar Maple Forest
- White Pine Forest
- Black Locust Forest
- Red Cedar Forest
- Conifer Plantation
- Mixed Young Forest

OPEN UPLANDS
- Oak Heath Barrens
- Blueberry Heath
- Successional Shrubland
- Old Field
- Dry Meadow
- Upland Hayfield/Pasture
- Cemetery
- Utility Corridor
- Lawn

WETLANDS

FRESHWATER TIDAL HABITATS
- Tidal Marsh
- Tidal Mudflat
- Tidal Shrub Swamp
- Tidal Swamp Forest

WOODED WETLAND (non-tidal)
- Floodplain Forest
- Swamp Forest
- Wooded Seep
- Intermittent Woodland Pool
- Headwater Stream

OPEN WETLANDS (non-tidal)
- Shrub Swamp
- Marsh
- Wet Meadow
- Bog
- Calcareous Fen
- Circumneutral Bog Lake
- Beaver Pond
- Constructed Pond

The MEAT!

The MEAT?

Wet Meadow

DRAFT 10/30

Page 1 – The full-page, ‘typical landscape’ shot.

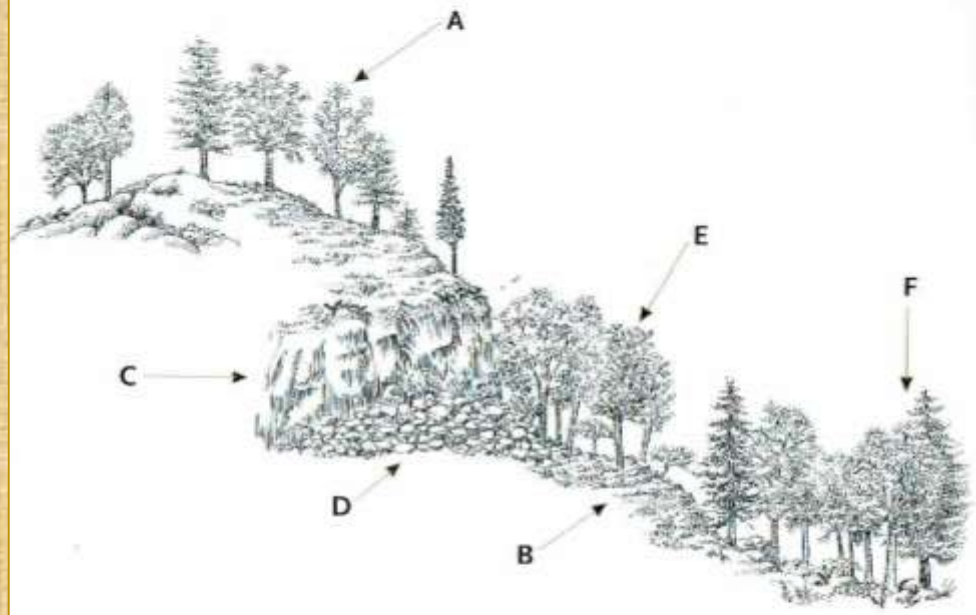
The relative value of photo vs. drawing?

Habitats of Britain

LAKESIDE FLOODPLAIN FOREST

Wetland, Woodland, Wildland

ROCKY GROUND NATURAL COMMUNITIES (SOUTHERN NEW HAMPSHIRE)



A. **Appalachian oak - pine rocky ridge**
Upper slopes, ridges, and summits with many bedrock outcrops and oaks

B. **Red oak - ironwood - Pennsylvania sedge woodland**
Open, lawn-like understories on mid to upper slopes

C. **Temperate acidic cliff**
Steep, sparsely-vegetated rock outcrops

D. **Temperate lichen talus barren**
Scattered vascular plants among lichen-covered rocks

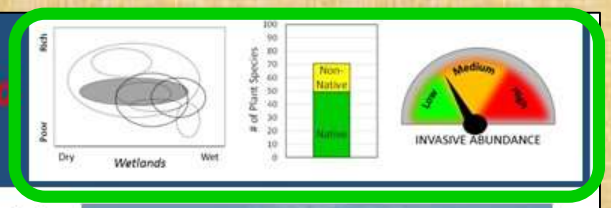
E. **Red oak - black birch wooded talus**
Talus slopes with oaks, birches, shrubs, vines, and herbs

F. **Hemlock - beech - oak - pine forest**
Forest communities on and below stabilized talus slopes

The Nature of New Hampshire

Wetland: Wet Meadow

DRAFT 10/30



Summary Icons

A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely-cropped hayfields or pastures.

Location

Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

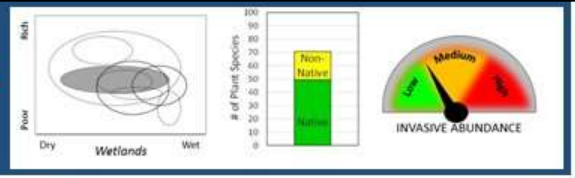
Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.

Visiting

Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.

Wetland: Wet Meadow

DRAFT 10/30



A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely-cropped hayfields or pastures.

Location

Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

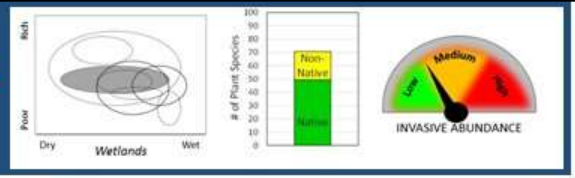
Visiting

Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.

Basic Definition – Simplest description with the basis for distinction and ecological location.

Wetland: Wet Meadow

DRAFT 10/30



A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely cropped hayfields or pastures.

Location

Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

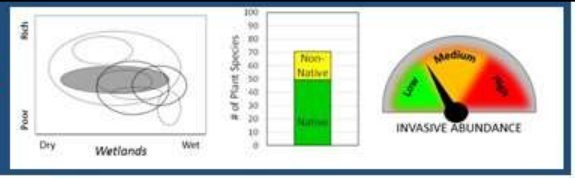
Visiting

Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.

A more emotive, touchy-feely description of the habitat. What does it feel like to be standing in this habitat?

Wetland: Wet Meadow

DRAFT 10/30



A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely-cropped hayfields or pastures.

Location

Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.

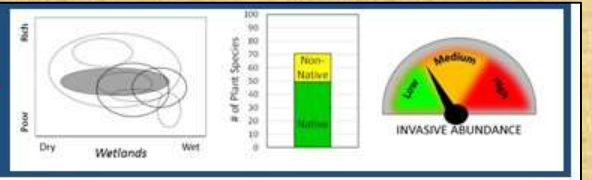
Visiting

Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.

The location both in terms of geography and landscape position

Wetland: Wet Meadow

DRAFT 10/30



A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely-cropped hayfields or pastures.

Location

Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.

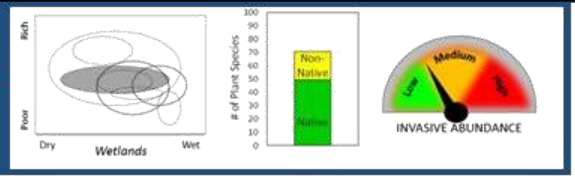
Visiting

Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.

Another habitat image slot (this would be the space for a habitat drawing).

Wetland: Wet Meadow

DRAFT 10/30



A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

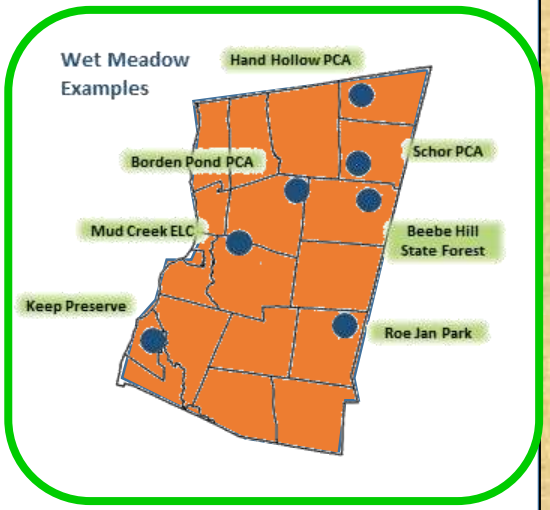
Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely-cropped hayfields or pastures.

Location

Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.



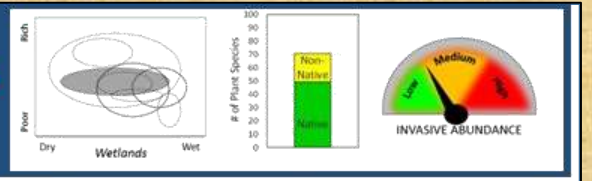
Visiting

Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.

Public locations and, when appropriate, habitat distribution.

Wetland: Wet Meadow

DRAFT 10/30



A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

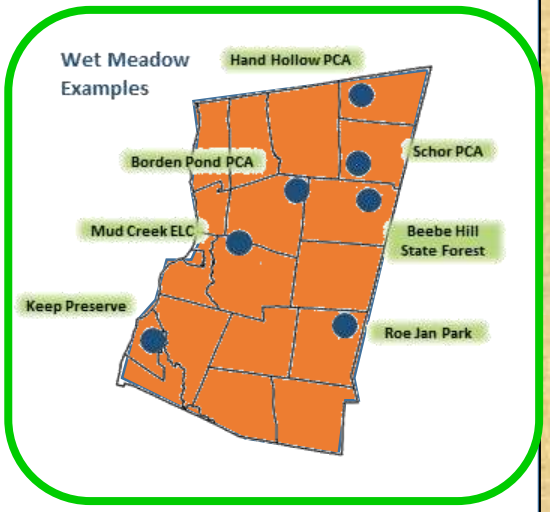
Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely-cropped hayfields or pastures.

Location

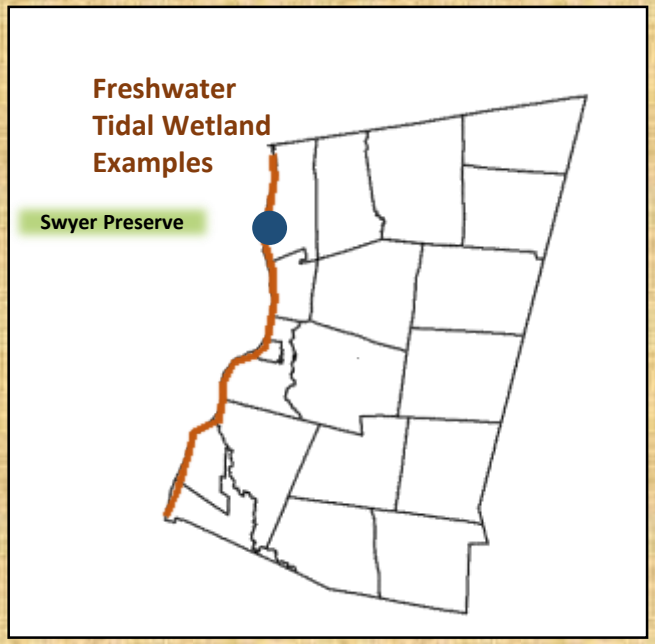
Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.



Visiting

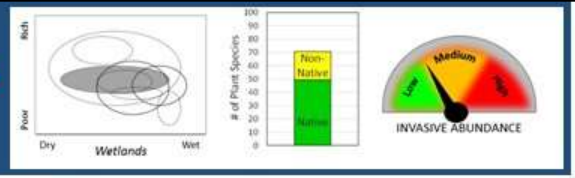
Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.



Public locations and, when appropriate, habitat distribution.

Wetland: Wet Meadow

DRAFT 10/30



A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely-cropped hayfields or pastures.

Location

Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.

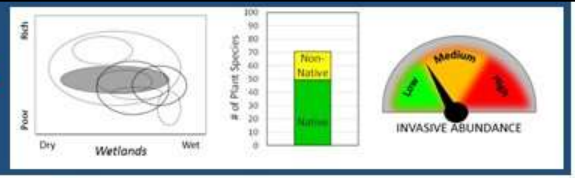
Visiting

Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.

When & where to visit.

Wetland: Wet Meadow

DRAFT 10/30



A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely-cropped hayfields or pastures.

Location

Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

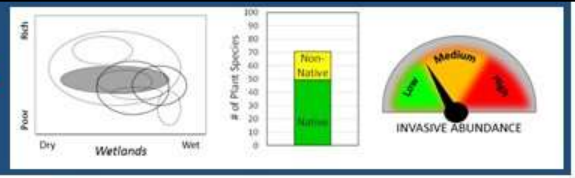
Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.

Visiting

Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.

Wetland: Wet Meadow

DRAFT 10/30



A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely-cropped hayfields or pastures.

Location

Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.

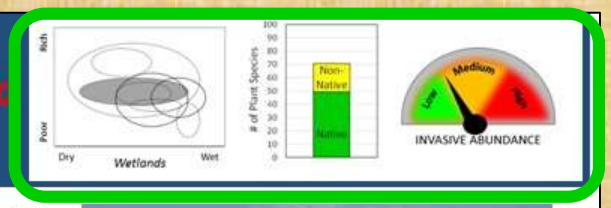
Visiting

Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.

Guinea Pig?

Wetland: Wet Meadow

DRAFT 10/30



Summary Icons

A wet meadow is an open wetland habitat with soils that are saturated for part or all of the growing season. They have predominantly herbaceous (non-woody) plants that may include any combination of grasses, sedges, rushes, ferns, and forbs. The vegetation may be low and sparse, or tall and dense, depending on a variety of environmental factors.

Although standing water may be present at times—especially in winter or spring or after rainstorms—it does not persist for long, and many wet meadows have little if any standing water through much of the growing season. Like other kinds of meadows, many wet meadows are on active or inactive farmland.

How to Recognize It

As the name implies, the key characteristics are both the wet soils and open, meadow-like conditions. However, during drier parts of the year, the ground underfoot can crunch rather than squelch. Wet meadows can also be as inconspicuous as a small, short patch of bristly sedges in the middle of a July pasture or as flowery as a late-summer purple burst of chest-high Purple Loosestrife, Joe-Pye Weed and Blue Vervain.

Because of the periodic soggy ground, wet meadows are often not cut or grazed as frequently and closely as drier fields. Thus, scruffy meadows occurring in local low spots on the landscape are likely candidates as are 'roughs' around landscaped ponds, where lawn mowers have been deterred by soft ground.

If allowed to flourish later in the year, those abundant flowers attract a diversity of animals, including the last pulse of bee life; butterflies searching for hibernation or migration resources; and dragonflies, spiders and birds looking to cash in on the herbivores. On warm September days, this flurry of animal life can stand in sharp contrast to the relative quiet of adjacent, closely-cropped hayfields or pastures.

Location

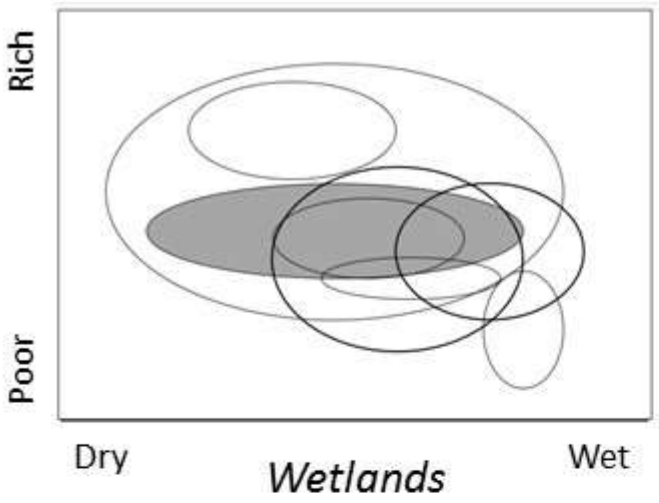
Wet meadows can be found throughout Columbia County, and can occur at any elevation— in small or large depressions or swales, along stream terraces and floodplains, on the slopes of seepy hillsides, and even perched near the summits of rocky hilltops.

Confirming that this scruffy Claverack pasture was wet meadow would require taking a closer look at the plants.

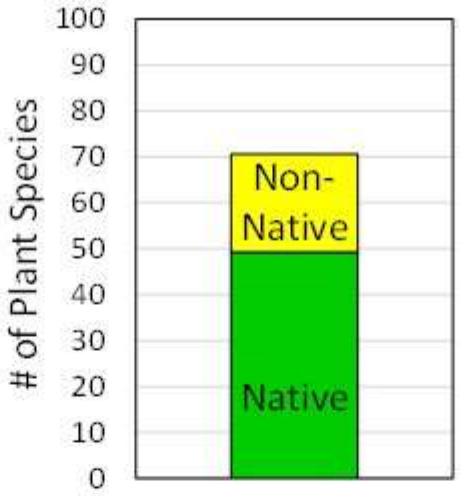
Visiting

Visit wet meadows throughout the County and at any time of year, though May-September are the best times for viewing wildflowers and butterflies. In March or early April, you might be lucky enough to witness the wonderful courtship ritual of the American woodcock in some wet meadows as well as certain upland meadows.

Synecological Coordinates



Per plot species richness and nativeness



Wet Meadow

Invasive Abundance

Provisional List of Synecological Coordinates and Selected Ecographs of Forest and Other Plant Species in Minnesota [1/]

by

Egolfs V. Bakuzis and Vilis Kurmis [2/]

December 1, 1978

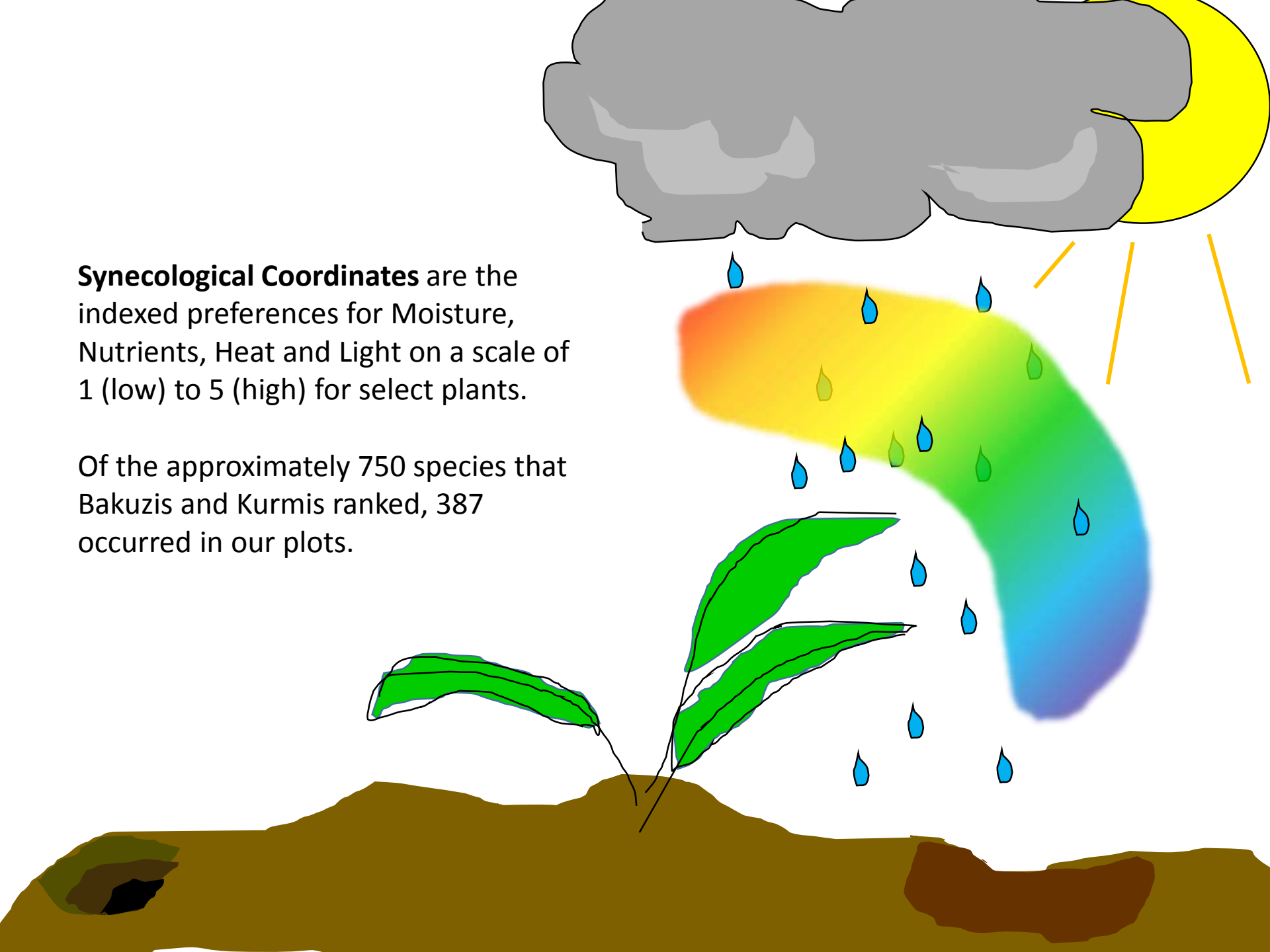
STAFF SERIES PAPER NUMBER 5

[1/] Research supported by the College of Forestry and the Agricultural Experiment Station, Institute of Agriculture, Forestry, and Home Economics, University of Minnesota, St. Paul.

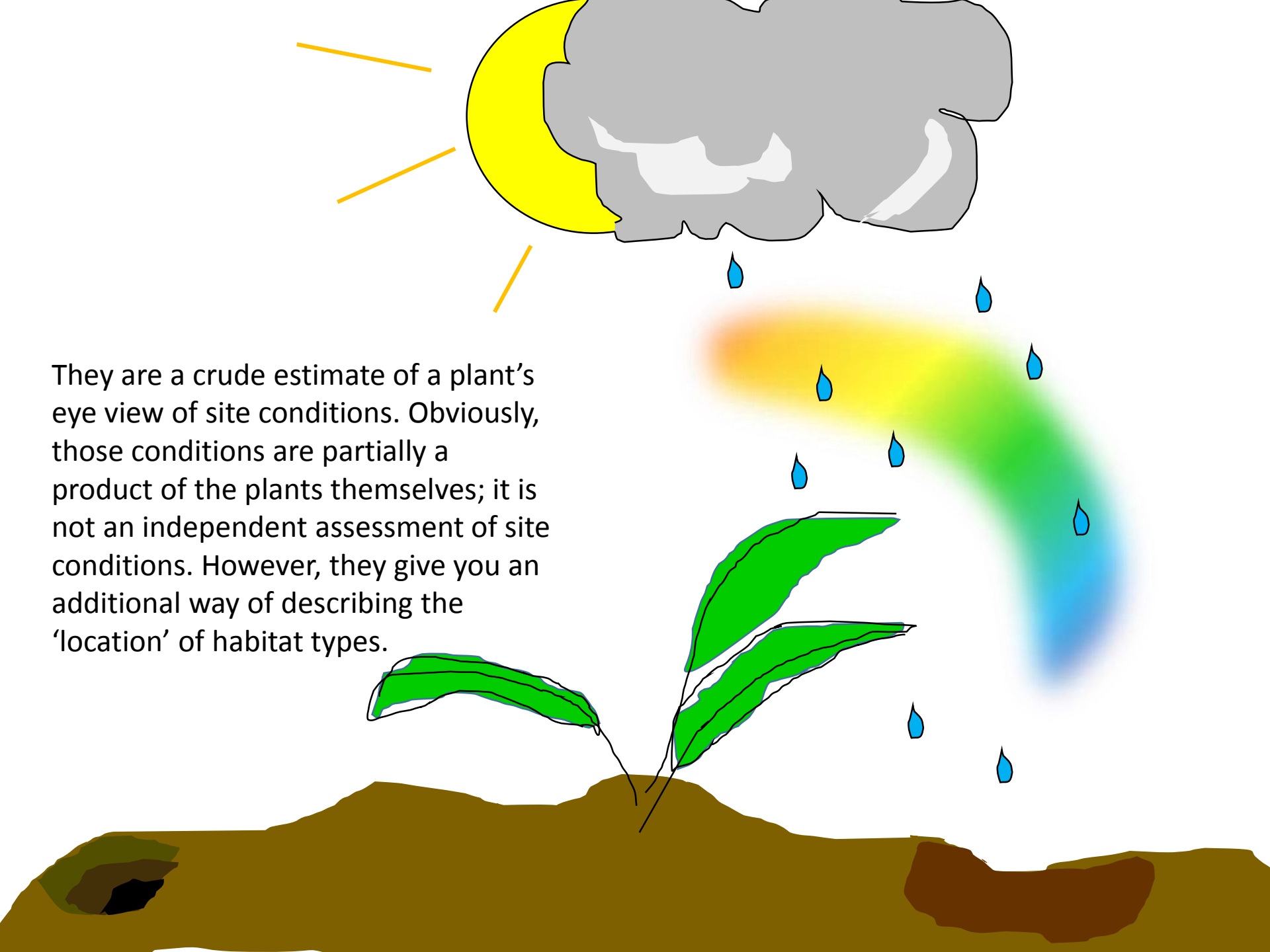
[2/] Professor and Associate Professor, respectively, Department of Forest Resources

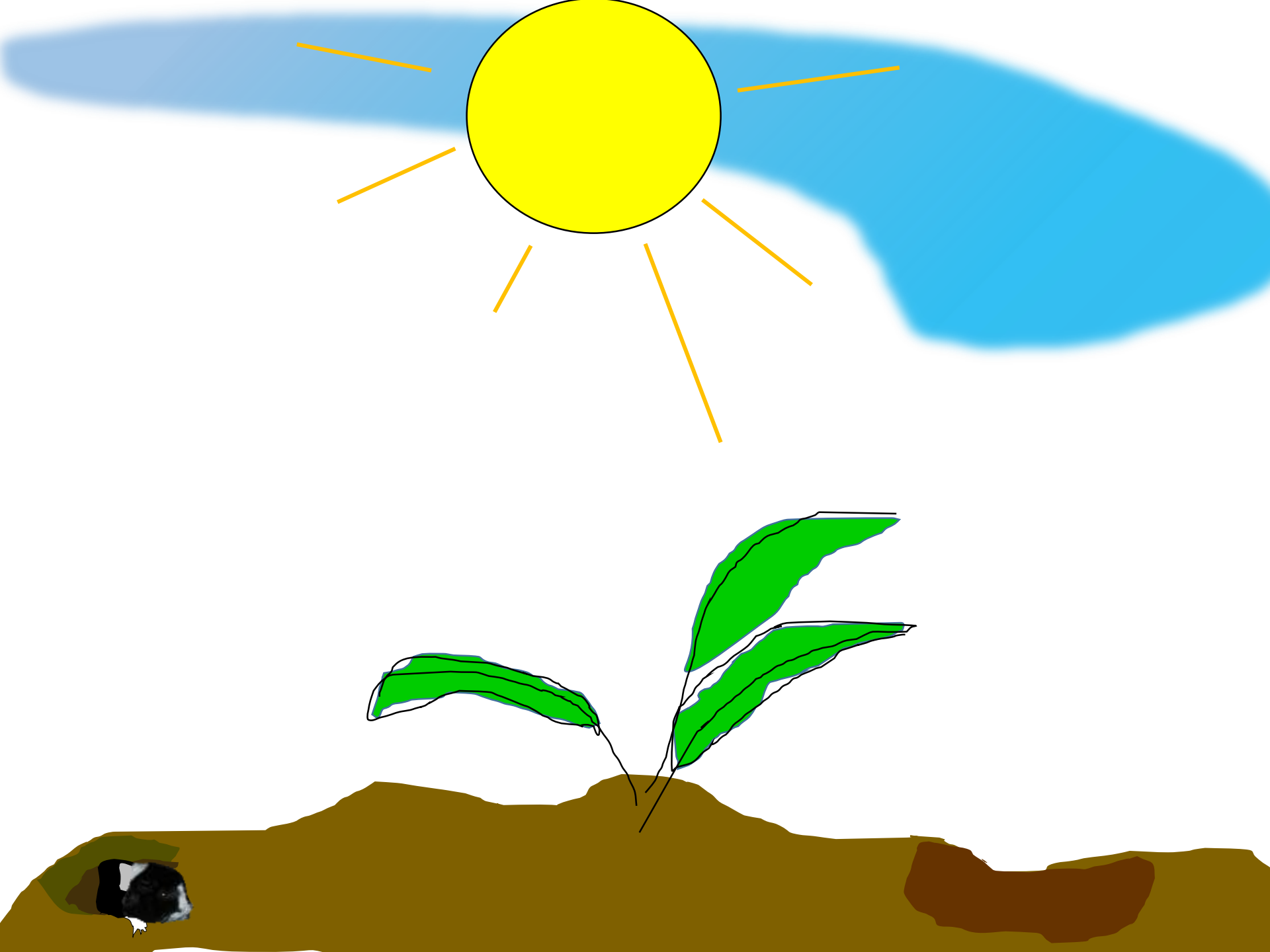
Synecological Coordinates are the indexed preferences for Moisture, Nutrients, Heat and Light on a scale of 1 (low) to 5 (high) for select plants.

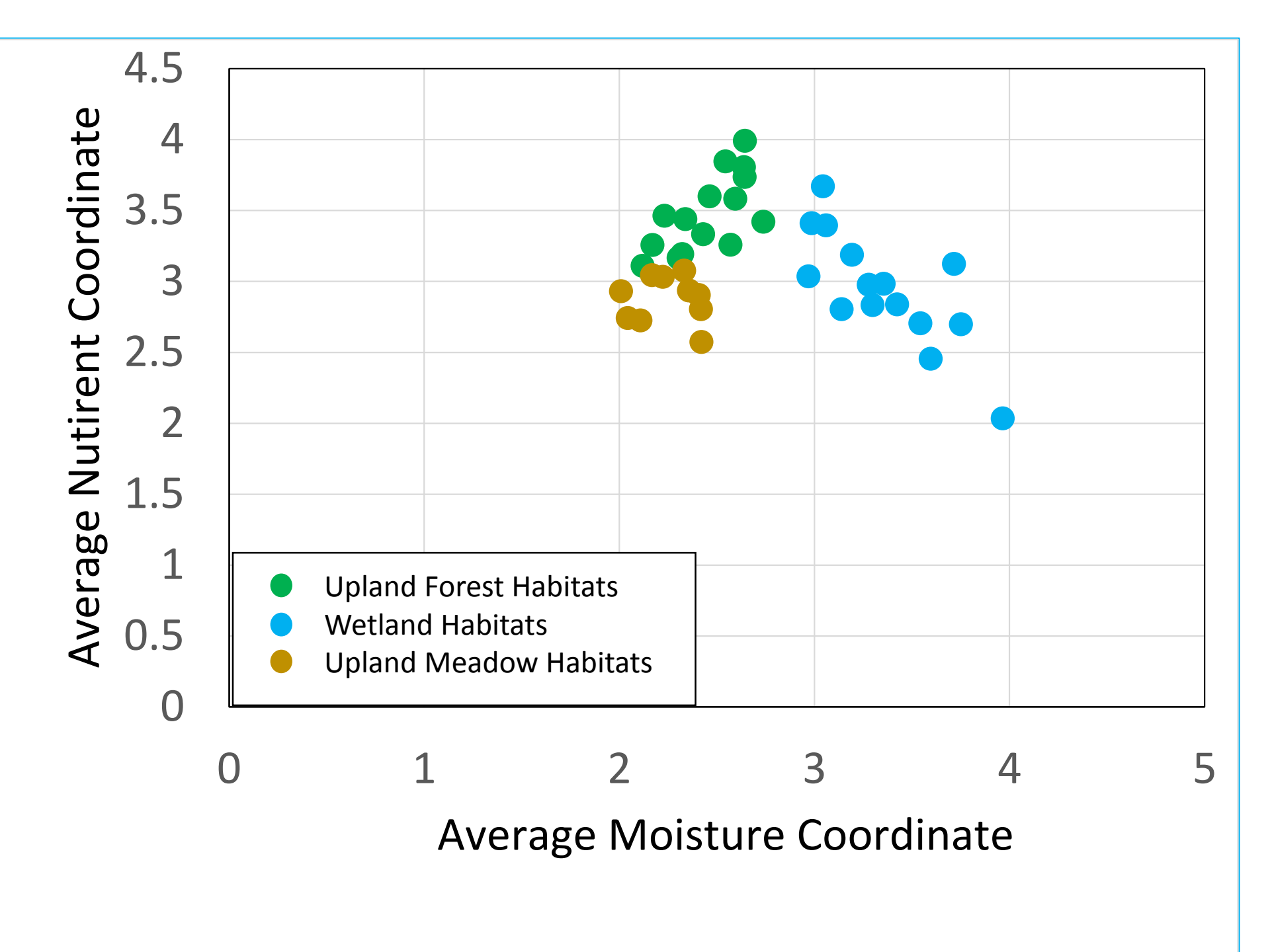
Of the approximately 750 species that Bakuzis and Kurmis ranked, 387 occurred in our plots.

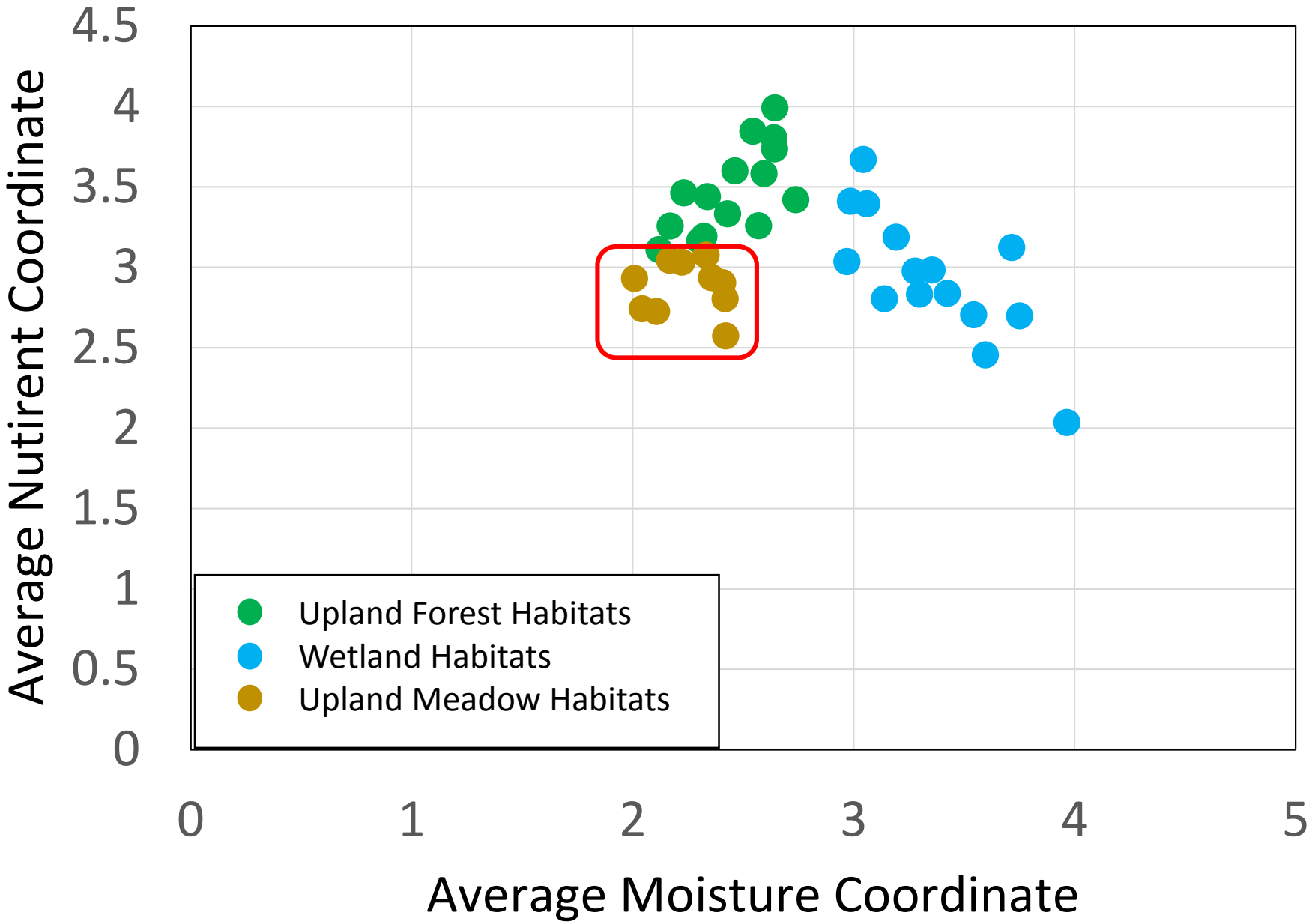


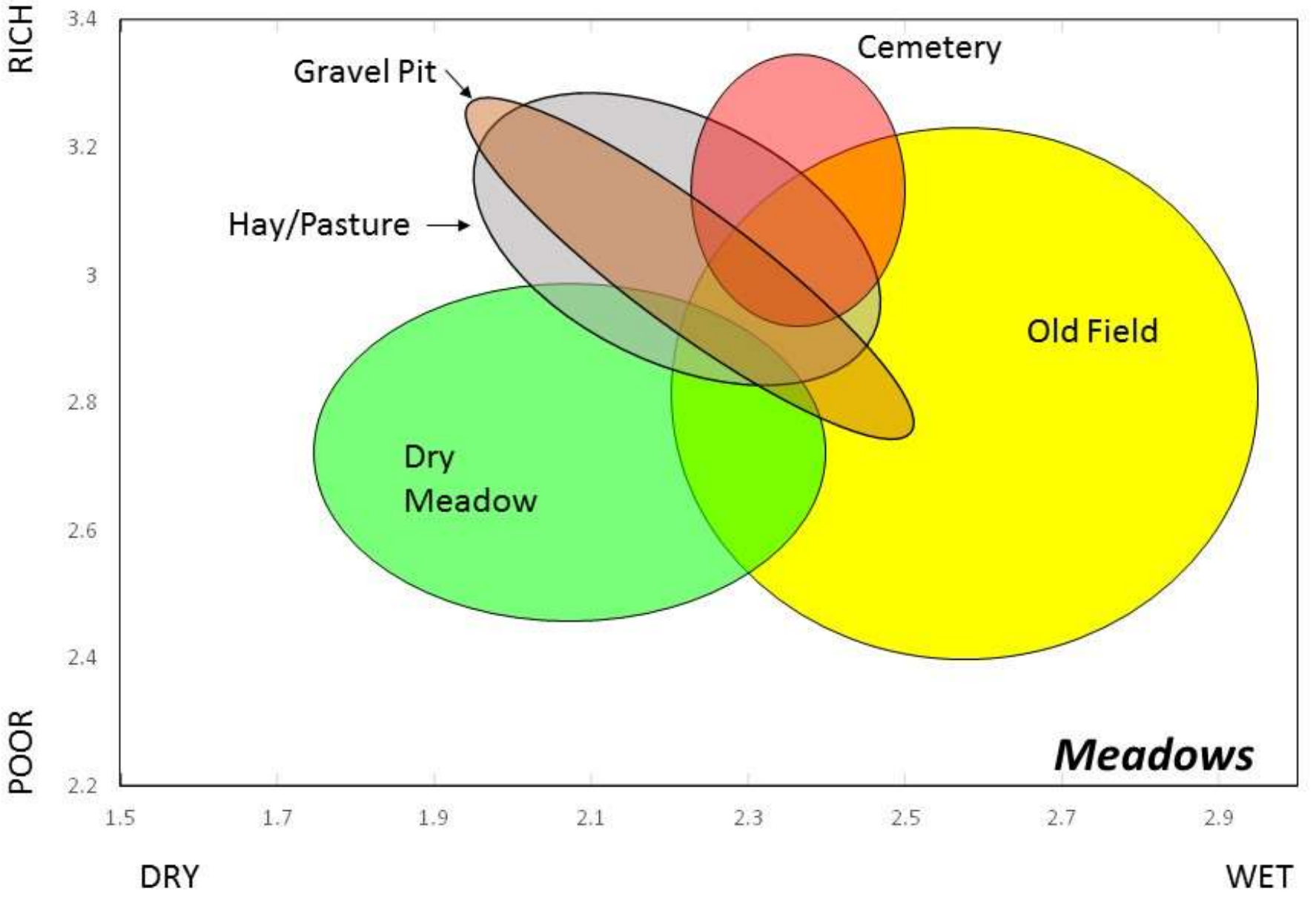
They are a crude estimate of a plant's eye view of site conditions. Obviously, those conditions are partially a product of the plants themselves; it is not an independent assessment of site conditions. However, they give you an additional way of describing the 'location' of habitat types.

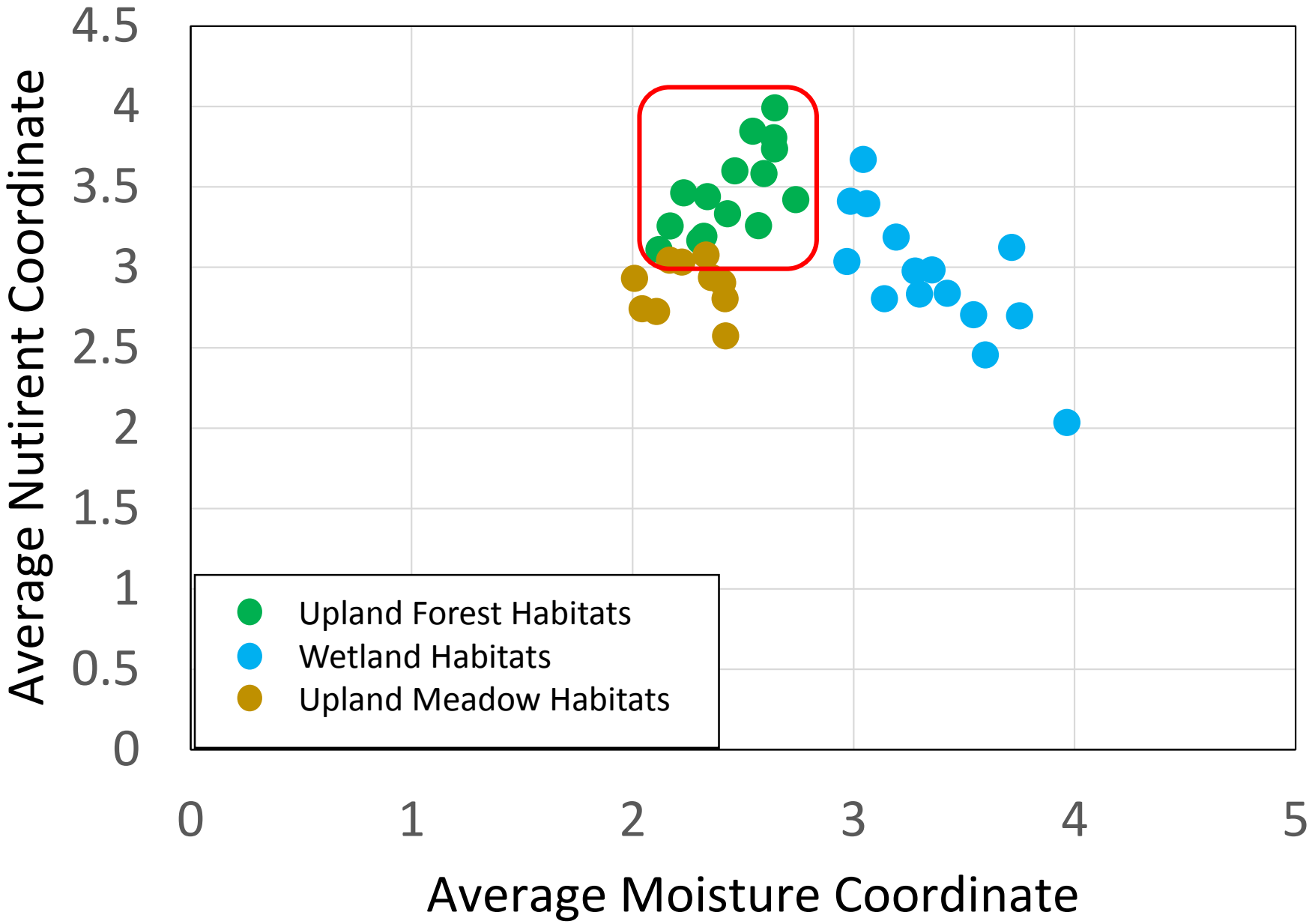


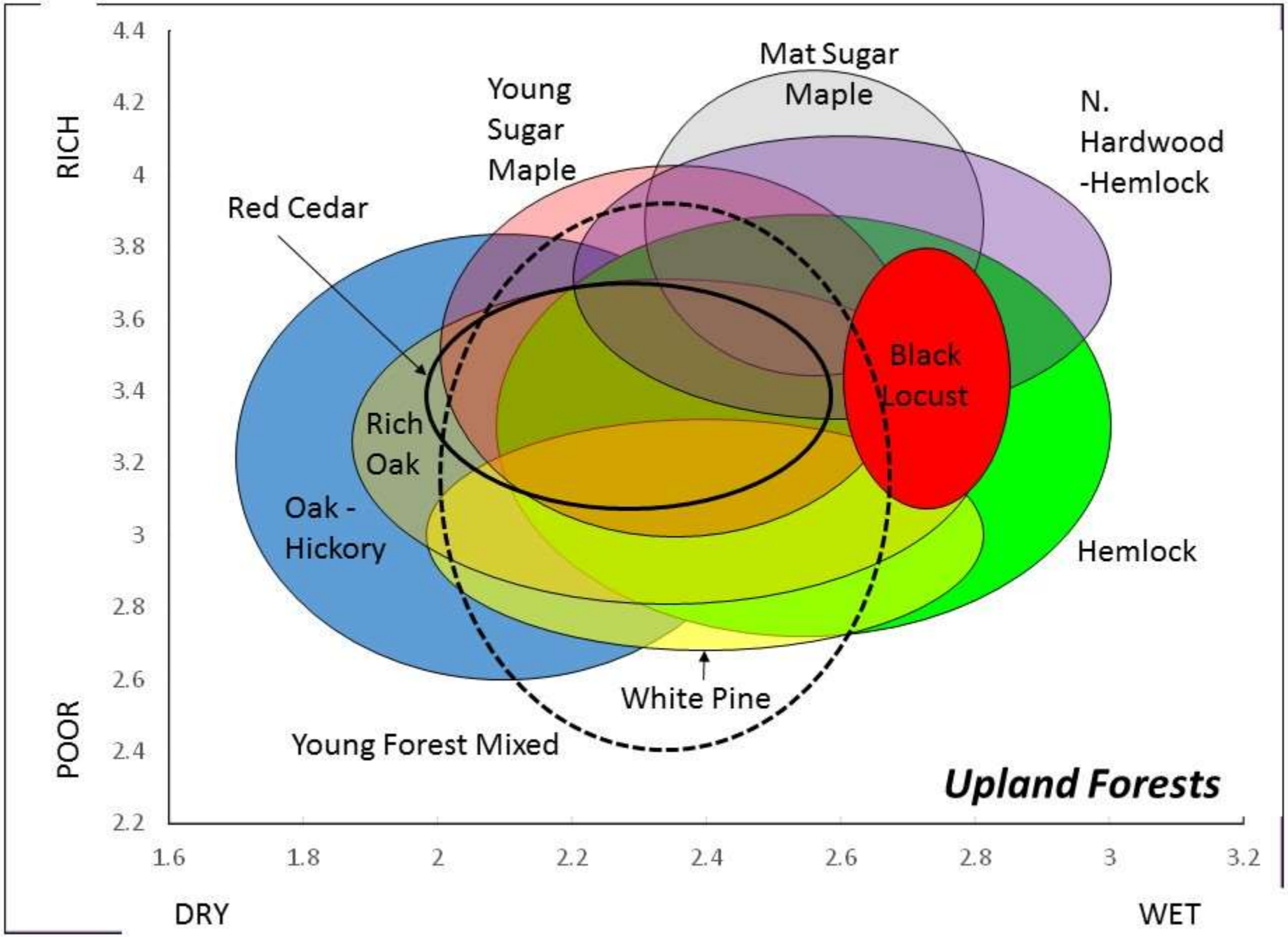


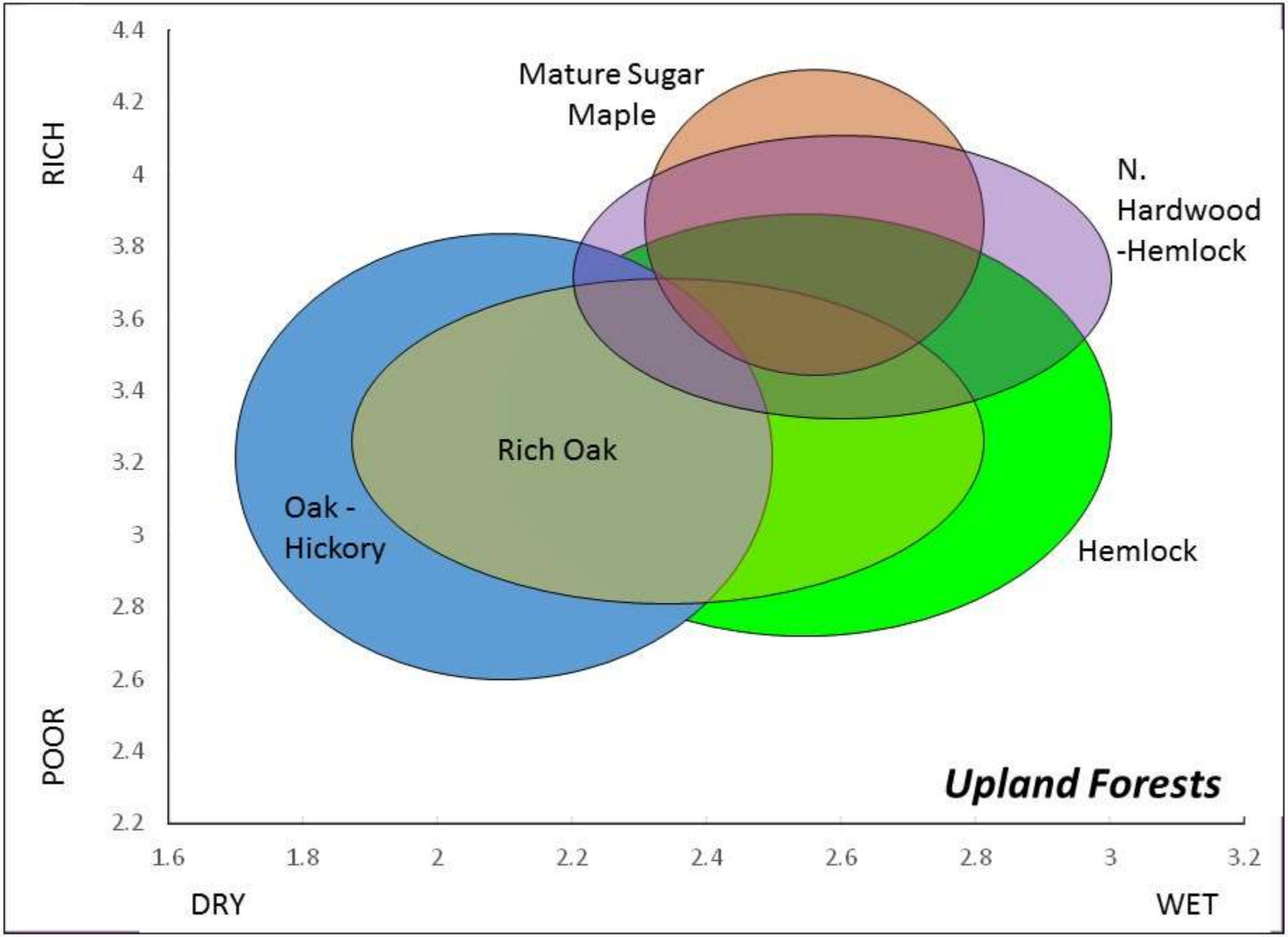

Average Nutirent Coordinate
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
Average Moisture Coordinate
Upland Forest Habitats
Wetland Habitats
Upland Meadow Habitats

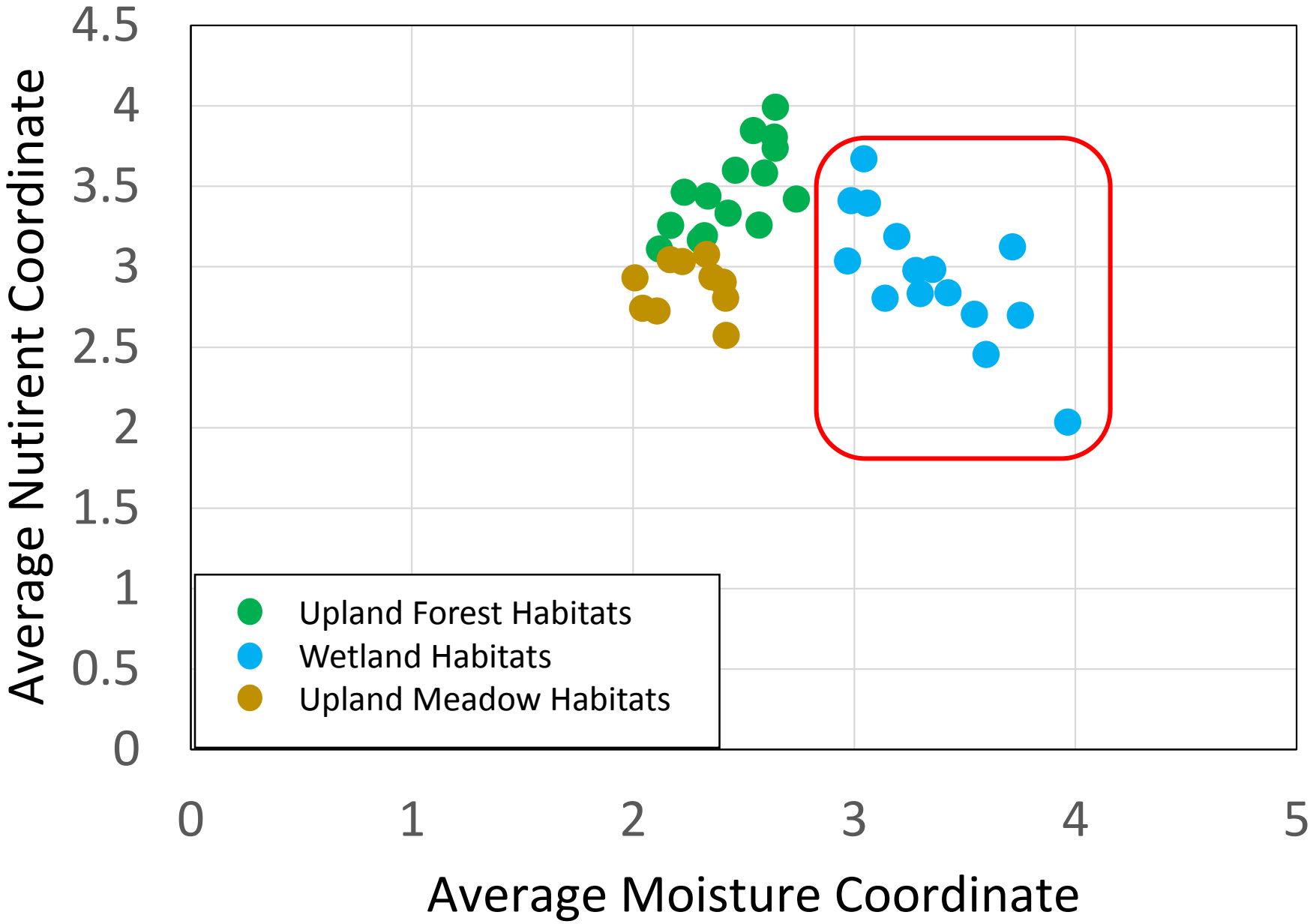

Average Nutirent Coordinate
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
Average Moisture Coordinate
Upland Forest Habitats
Wetland Habitats
Upland Meadow Habitats

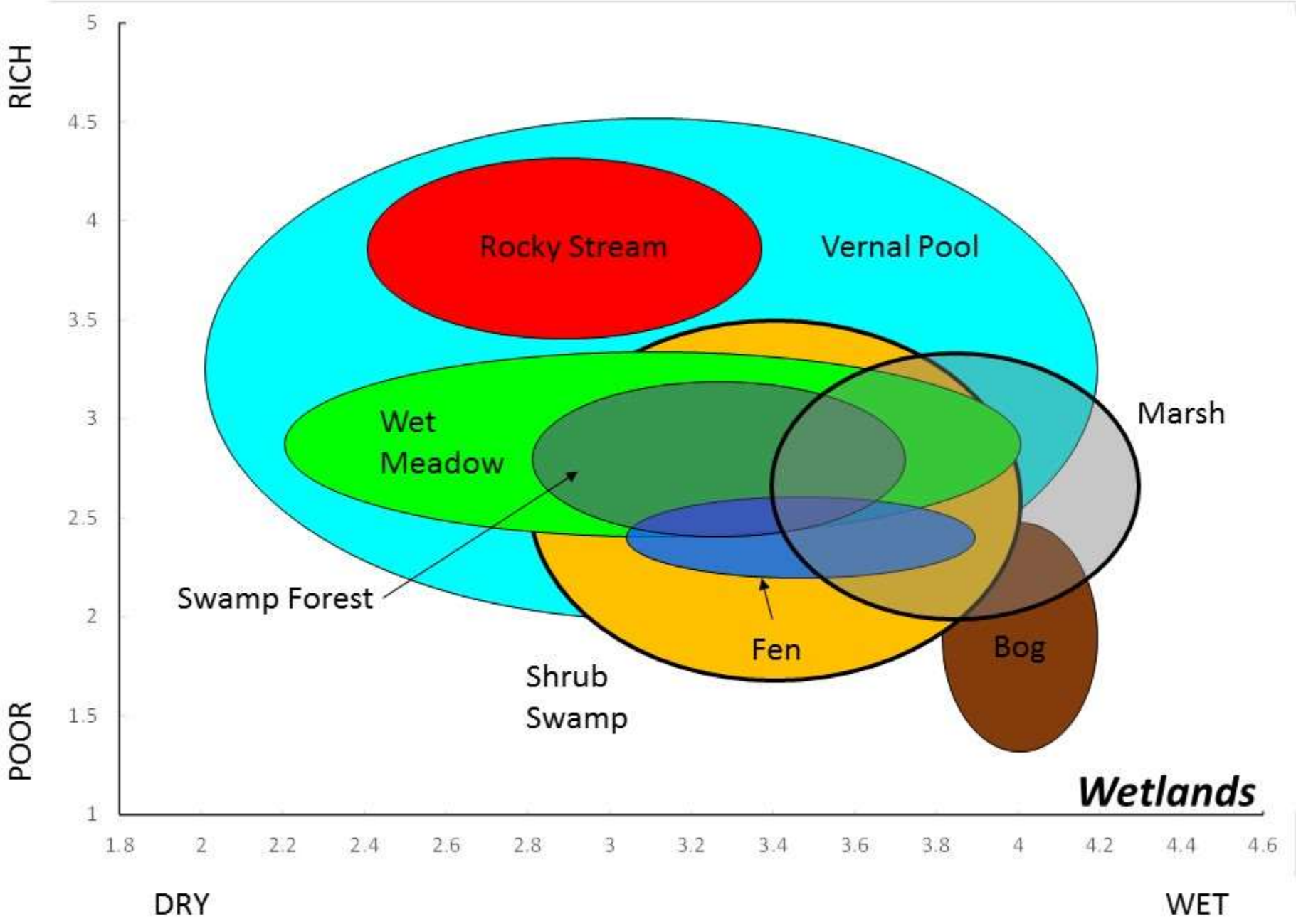

RICH
POOR
3.4
3.2
3
2.8
2.6
2.4
2.2
1.5
1.7
1.9
2.1
2.3
2.5
2.7
2.9
DRY
WET
Gravel Pit
Cemetery
Hay/Pasture
Old Field
Dry
Meadow
Meadows


Average Nutirent Coordinate
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
Average Moisture Coordinate
Upland Forest Habitats
Wetland Habitats
Upland Meadow Habitats

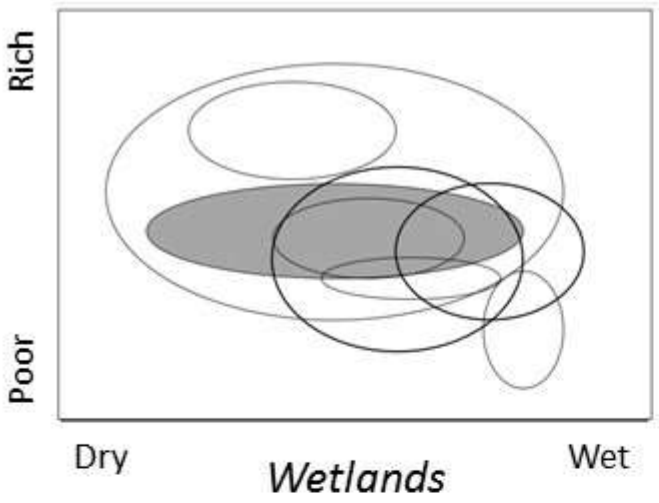

RICH
POOR
4.4
4.2
4
3.8
3.6
3.4
3.2
3
2.8
2.6
2.4
2.2
1.6
1.8
2
2.2
2.4
2.6
2.8
3
3.2
DRY
WET
Mat Sugar Maple
Young Sugar Maple
N. Hardwood -Hemlock
Red Cedar
Black Locust
Rich Oak
Oak - Hickory
Hemlock
White Pine
Young Forest Mixed
Upland Forests


RICH
POOR
4.4
4.2
4
3.8
3.6
3.4
3.2
3
2.8
2.6
2.4
2.2
1.6
1.8
2
2.2
2.4
2.6
2.8
3
3.2
DRY
WET
Mature Sugar Maple
N. Hardwood -Hemlock
Rich Oak
Oak - Hickory
Hemlock
Upland Forests

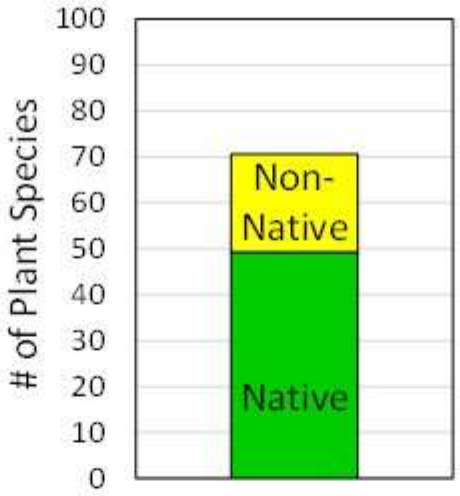

Average Nutirent Coordinate
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1
2
3
4
5
Average Moisture Coordinate
Upland Forest Habitats
Wetland Habitats
Upland Meadow Habitats


RICH
POOR
5
4.5
4
3.5
3
2.5
2
1.5
1
Rocky Stream
Vernal Pool
Wet
Meadow
Marsh
Swamp Forest
Fen
Bog
Shrub
Swamp
Wetlands
1.8
2
2.2
2.4
2.6
2.8
3
3.2
3.4
3.6
3.8
4
4.2
4.4
4.6
DRY
WET

Synecological Coordinates

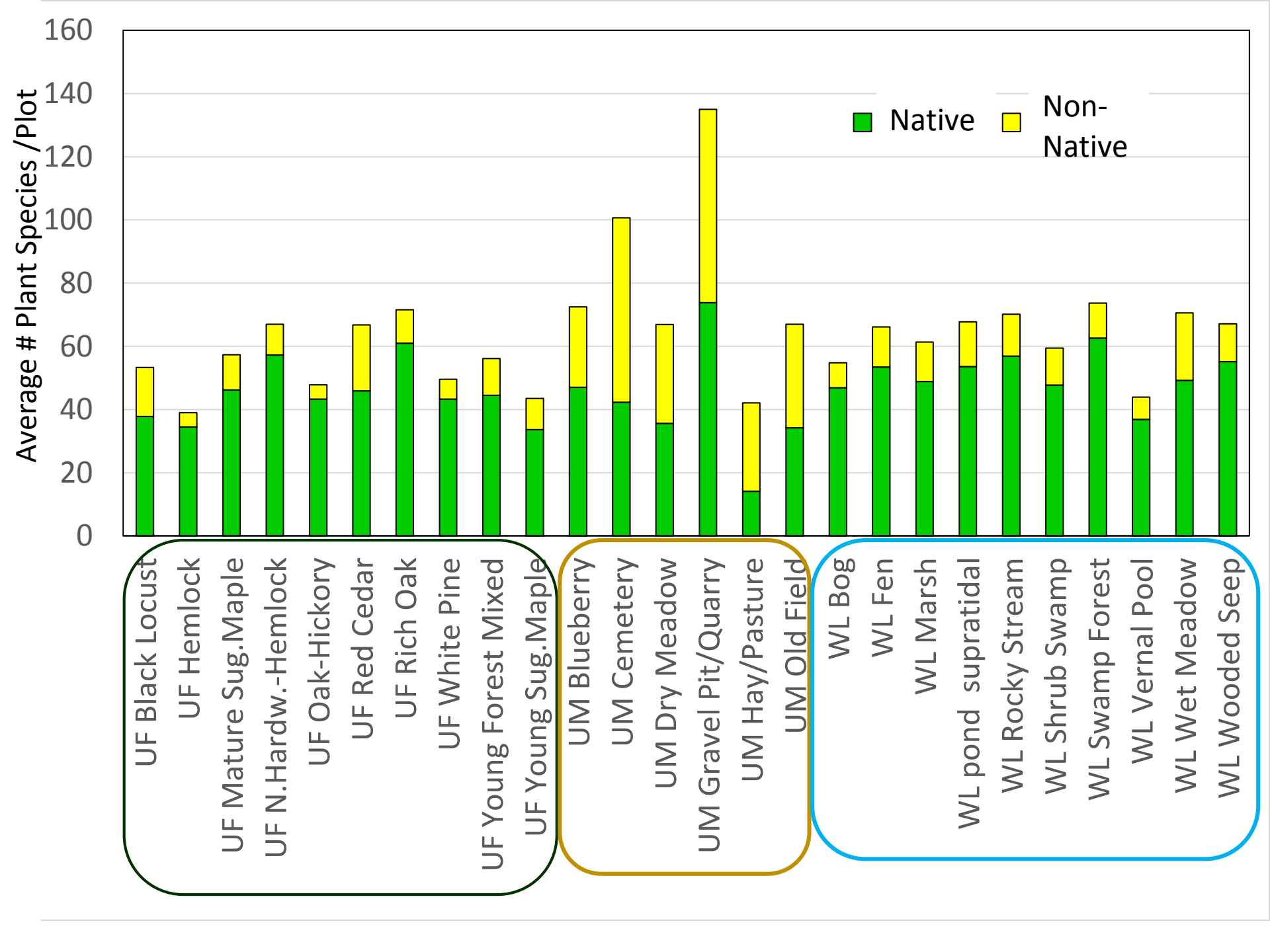


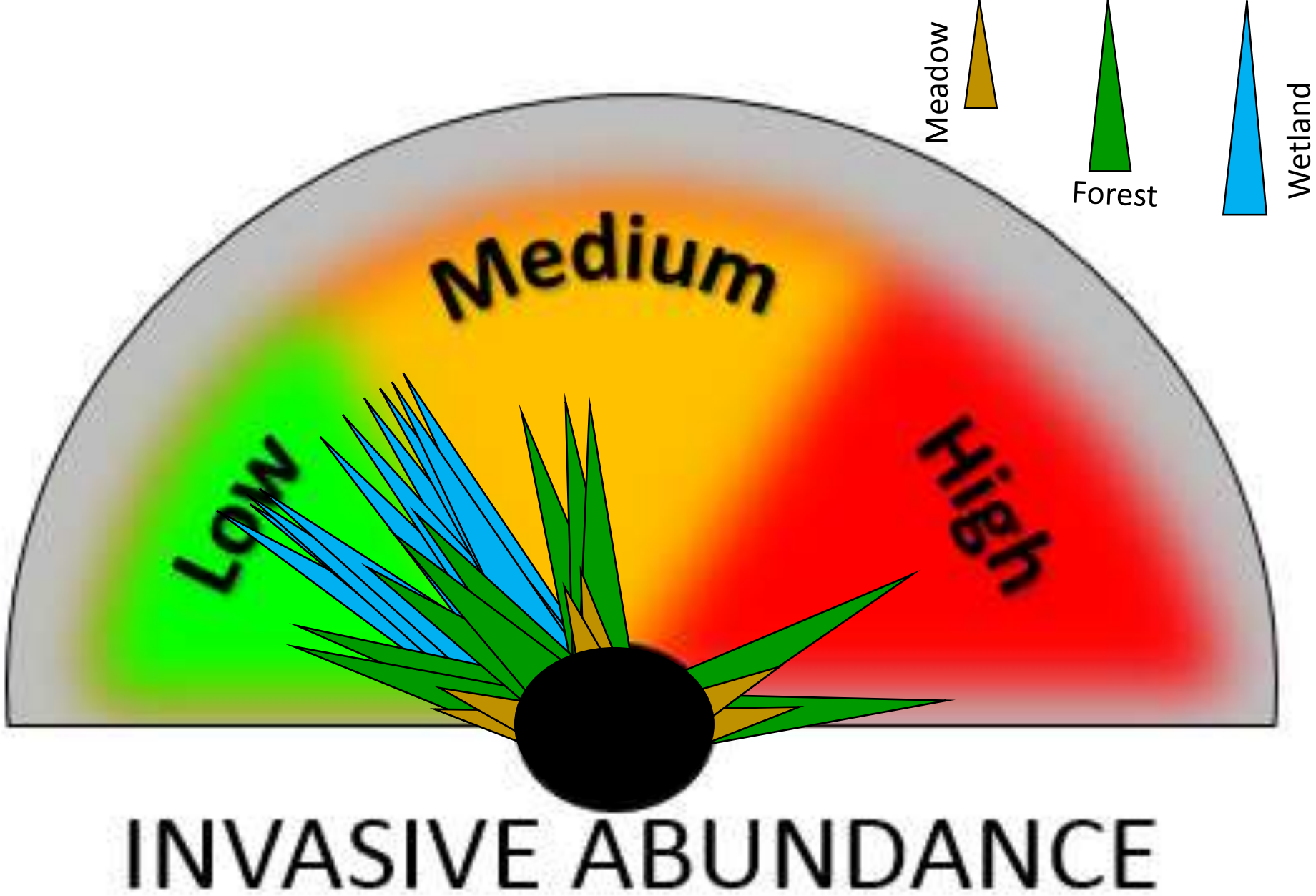
Per plot species richness and nativeness

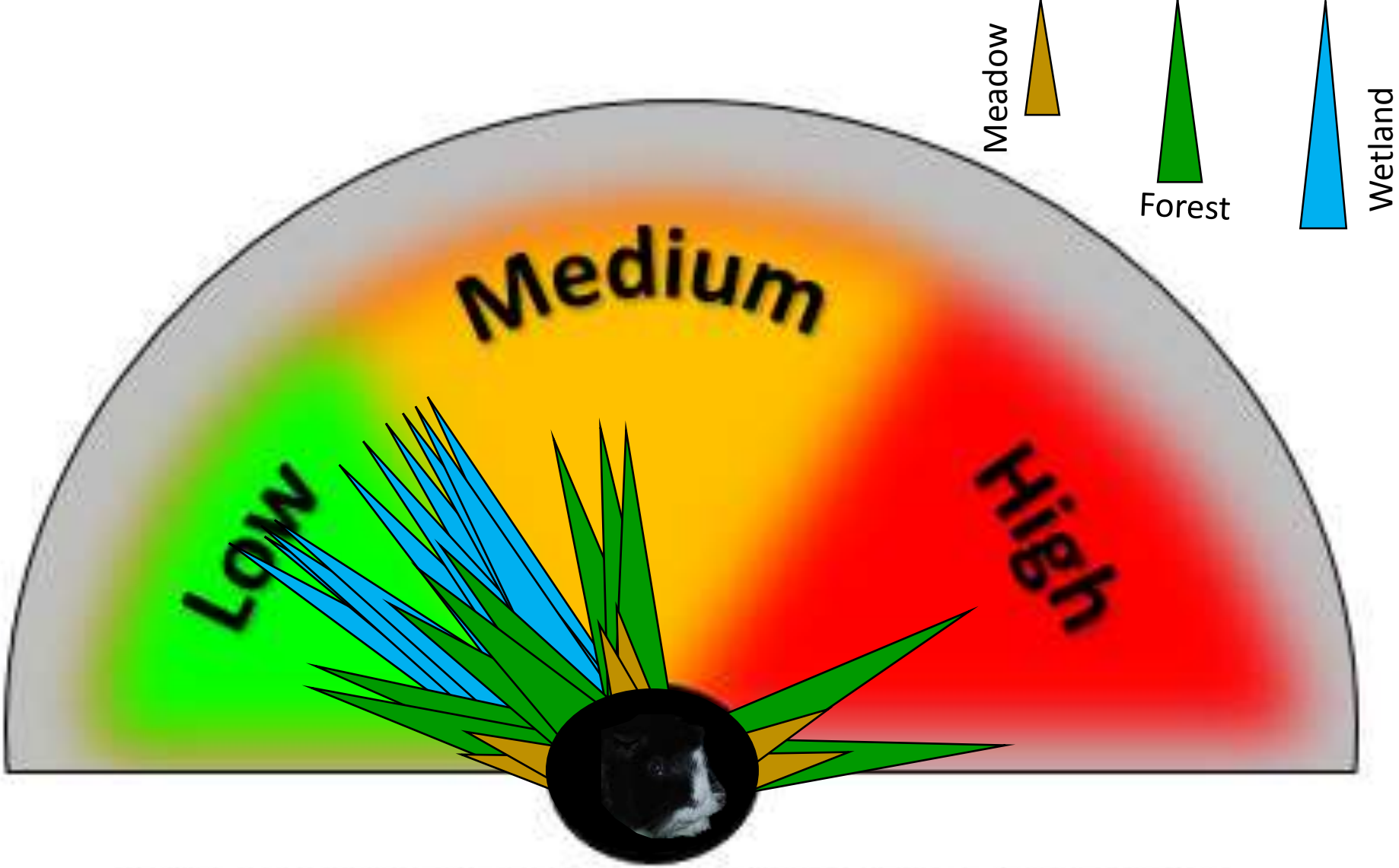


Wet Meadow

Invasive Abundance


Average # Plant Species /Plot
160
140
120
100
80
60
40
20
0
Native
Non-Native
UF Black Locust
UF Hemlock
UF Mature Sug.Maple
UF N.Hardw.-Hemlock
UF Oak-Hickory
UF Red Cedar
UF Rich Oak
UF White Pine
UF Young Forest Mixed
UF Young Sug.Maple
UM Blueberry
UM Cemetery
UM Dry Meadow
UM Gravel Pit/Quarry
UM Hay/Pasture
UM Old Field
WL Bog
WL Fen
WL Marsh
WL pond supratidal
WL Rocky Stream
WL Shrub Swamp
WL Swamp Forest
WL Vernal Pool
WL Wet Meadow
WL Wooded Seep


Meadow
Forest
Wetland
Low
Medium
High
INVASIVE ABUNDANCE



INVASIVE ABUNDANCE

What to Look For

Plants: Wet meadows are sometimes dominated by invasive species, such as Purple Loosestrife and/or Reed Canary Grass and contain many species not unique to this habitat (see table of Characteristic Species and the 'Similar Habitats' below). However, at the same time, they harbor a high diversity of native plant species, including some uncommon native wildflowers, such as Swamp Candle, Common Beardtongue, Monkeyflower, Common and Swamp Milkweed, Small-flowered Agrimony, Joe-Pye-Weed, American Groundnut, and New England Aster, which can be very conspicuous during their respective flowering seasons. Less conspicuous at first glance, but just as noteworthy is the diversity of native wetland sedges and grasses, including Rice Cutgrass, Fowl Mannagrass, Rattlesnake Grass, and Bluejoint.

Insects: The plentiful late-summer flowers of wet meadows mean that butterflies are some of the most characteristic organisms of wet meadows. The abundant nectar (and occasional Milkweed) attract migrating Monarchs and many of our common butterflies. Least Skippers, while not limited to wet meadows, are typical of them. Certain rarer butterfly species are closely tied to wet meadows and similar habitats because their caterpillars feed on wetland plants such as sedges (Black Dash, Mulberry Wing, Dion Skipper, or the Browns), Turtlehead (Baltimore Checkerspot) and Water Docks (Bronze Copper).

Wet meadows, together with old fields, also provide important late-season nectar and pollen sources for various native bees and wasps. Despite its status as an 'invasive' (because of its competition with native wetland plants), Purple Loosestrife flowers will often be literally humming.

Ground Beetles in general prefer moist areas and are moderately abundant in wet meadows. In our area, *Pterostichus patruelis,* a mediums-sized, admittedly non-descript black beetle, seems to favor wet meadows over other habitats. Ants are not especially common in wet meadows, but the habitat is frequented by several species of *Myrmica*, which prefer moist soils. While distinguishing among *Myrmica* species is a chore, the prominent ridges on their exoskeleton give Myrmica ants as a whole an almost shriveled appearance.

Characteristic Plants

The following species are common in this habitat, but not necessarily unique to it. Those with an asterisk (*) are good indicator species; non-native species are printed in purple, invasives in bold.

Shrubs

Multiflora Rose
Meadowsweet
Gray dogwood
Arrow-wood
Pussy Willow
Eurasian Honeysuckle

Purple Loosestrife

Ground Flora

Sensitive Fern
Giant Goldenrod
Soft Rush*
Purple Loosetrife
Reed Canary-Grass
Rough-Leaved Goldenrod
Arrow-leaved Tearthumb
Blue Vervain*
Grass-leaved Goldenrod
Canada Goldenrod
Boneset*
Broom Sedge*
Common Bedstraw
Spotted Touch-Me-Not
Woolgrass
Kentucky Bluegrass
Purplestem Aster*
Marsh Fern
Fowl Meadowgrass
Willowherb

Purplestem Aster

The abundant insect life of wet meadows lures various predators, including dragonflies. Because wet meadows are usually dry for at least part of the year, they do not provide breeding habitat for dragonflies, however such colorful species as the Ruby Meadowhawk and Halloween Pennant often come to forage. Spiders also abound, and in August and September, the orb webs of the striking Black and Yellow Garden Spider are conspicuous. A dangling butterfly usually means that a Crab Spider (or an Ambush Bug) has caught a meal.

What to Look For

Plants: Wet meadows are sometimes dominated by invasive species, such as Purple Loosestrife and/or Reed Canary Grass and contain many species not unique to this habitat (see table of Characteristic Species and the 'Similar Habitats' below). However, at the same time, they harbor a high diversity of native plant species, including some uncommon native wildflowers, such as Swamp Candle, Common Beardtongue, Monkeyflower, Common and Swamp Milkweed, Small-flowered Agrimony, Joe-Pye-Weed, American Groundnut, and New England Aster, which can be very conspicuous during their respective flowering seasons. Less conspicuous at first glance, but just as noteworthy is the diversity of native wetland sedges and grasses, including Rice Cutgrass, Fowl Mannagrass, Rattlesnake Grass, and Bluejoint.

Insects: The plentiful late-summer flowers of wet meadows mean that butterflies are some of the most characteristic organisms of wet meadows. The abundant nectar (and occasional Milkweed) attract migrating Monarchs and many of our common butterflies. Least Skippers, while not limited to wet meadows, are typical of them. Certain rarer butterfly species are closely tied to wet meadows and similar habitats because their caterpillars feed on wetland plants such as sedges (Black Dash, Mulberry Wing, Dion Skipper, or the Browns), Turtlehead (Baltimore Checkerspot) and Water Docks (Bronze Copper).

Wet meadows, together with old fields, also provide important late-season nectar and pollen sources for various native bees and wasps. Despite its status as an 'invasive' (because of its competition with native wetland plants), Purple Loosestrife flowers will often be literally humming.

Ground Beetles in general prefer moist areas and are moderately abundant in wet meadows. In our area, *Pterostichus patruelis,* a mediums-sized, admittedly non-descript black beetle, seems to favor wet meadows over other habitats. Ants are not especially common in wet meadows, but the habitat is frequented by several species of *Myrmica*, which prefer moist soils. While distinguishing among *Myrmica* species is a chore, the prominent ridges on their exoskeleton give Myrmica ants as a whole an almost shriveled appearance.

Characteristic Plants

The following species are common in this habitat, but not necessarily unique to it. Those with an asterisk (*) are good indicator species; non-native species are printed in purple, invasives in bold.

Shrubs

Multiflora Rose
Meadowsweet
Gray dogwood
Arrow-wood
Pussy Willow
Eurasian Honeysuckle

Ground Flora

Sensitive Fern
Giant Goldenrod
Soft Rush*
Purple Loosetrife
Reed Canary-Grass
Rough-Leaved Goldenrod
Arrow-leaved Tearthumb
Blue Vervain*
Grass-leaved Goldenrod
Canada Goldenrod
Boneset*
Broom Sedge*
Common Bedstraw
Spotted Touch-Me-Not
Woolgrass
Kentucky Bluegrass
Purplestem Aster*
Marsh Fern
Fowl Meadowgrass
Willowherb

Purple Loosestrife

Purplestem Aster

The abundant insect life of wet meadows lures various predators, including dragonflies. Because wet meadows are usually dry for at least part of the year, they do not provide breeding habitat for dragonflies, however such colorful species as the Ruby Meadowhawk and Halloween Pennant often come to forage. Spiders also abound, and in August and September, the orb webs of the striking Black and Yellow Garden Spider are conspicuous. A dangling butterfly usually means that a Crab Spider (or an Ambush Bug) has caught a meal.

Nifty Plants & Cool Critters: both an overview of the common organisms and a highlighting of the more unusual or unique

What to Look For

Plants: Wet meadows are sometimes dominated by invasive species, such as Purple Loosestrife and/or Reed Canary Grass and contain many species not unique to this habitat (see table of Characteristic Species and the 'Similar Habitats' below). However, at the same time, they harbor a high diversity of native plant species, including some uncommon native wildflowers, such as Swamp Candle, Common Beardtongue, Monkeyflower, Common and Swamp Milkweed, Small-flowered Agrimony, Joe-Pye-Weed, American Groundnut, and New England Aster, which can be very conspicuous during their respective flowering seasons. Less conspicuous at first glance, but just as noteworthy is the diversity of native wetland sedges and grasses, including Rice Cutgrass, Fowl Mannagrass, Rattlesnake Grass, and Bluejoint.

Insects: The plentiful late-summer flowers of wet meadows mean that butterflies are some of the most characteristic organisms of wet meadows. The abundant nectar (and occasional Milkweed) attract migrating Monarchs and many of our common butterflies. Least Skippers, while not limited to wet meadows, are typical of them. Certain rarer butterfly species are closely tied to wet meadows and similar habitats because their caterpillars feed on wetland plants such as sedges (Black Dash, Mulberry Wing, Dion Skipper, or the Browns), Turtlehead (Baltimore Checkerspot) and Water Docks (Bronze Copper).

Wet meadows, together with old fields, also provide important late-season nectar and pollen sources for various native bees and wasps. Despite its status as an 'invasive' (because of its competition with native wetland plants), Purple Loosestrife flowers will often be literally humming.

Ground Beetles in general prefer moist areas and are moderately abundant in wet meadows. In our area, *Pterostichus patruelis,* a mediums-sized, admittedly non-descript black beetle, seems to favor wet meadows over other habitats. Ants are not especially common in wet meadows, but the habitat is frequented by several species of *Myrmica*, which prefer moist soils. While distinguishing among *Myrmica* species is a chore, the prominent ridges on their exoskeleton give Myrmica ants as a whole an almost shriveled appearance.

Characteristic Plants

The following species are common in this habitat, but not necessarily unique to it. Those with an asterisk (*) are good indicator species; non-native species are printed in purple, invasives in bold.

Shrubs

Multiflora Rose
Meadowsweet
Gray dogwood
Arrow-wood
Pussy Willow
Eurasian Honeysuckle

Ground Flora

Sensitive Fern
Giant Goldenrod
Soft Rush*
Purple Loosetrife
Reed Canary-Grass
Rough-Leaved Goldenrod
Arrow-leaved Tearthumb
Blue Vervain*
Grass-leaved Goldenrod
Canada Goldenrod
Boneset*
Broom Sedge*
Common Bedstraw
Spotted Touch-Me-Not
Woolgrass
Kentucky Bluegrass
Purplestem Aster*
Marsh Fern
Fowl Meadowgrass
Willowherb

Purple Loosestrife

Purplestem Aster

The abundant insect life of wet meadows lures various predators, including dragonflies. Because wet meadows are usually dry for at least part of the year, they do not provide breeding habitat for dragonflies, however such colorful species as the Ruby Meadowhawk and Halloween Pennant often come to forage. Spiders also abound, and in August and September, the orb webs of the striking Black and Yellow Garden Spider are conspicuous. A dangling butterfly usually means that a Crab Spider (or an Ambush Bug) has caught a meal.

Common flora with the indicators and non-natives highlighted.

What to Look For

Plants: Wet meadows are sometimes dominated by invasive species, such as Purple Loosestrife and/or Reed Canary Grass and contain many species not unique to this habitat (see table of Characteristic Species and the 'Similar Habitats' below). However, at the same time, they harbor a high diversity of native plant species, including some uncommon native wildflowers, such as Swamp Candle, Common Beardtongue, Monkeyflower, Common and Swamp Milkweed, Small-flowered Agrimony, Joe-Pye-Weed, American Groundnut, and New England Aster, which can be very conspicuous during their respective flowering seasons. Less conspicuous at first glance, but just as noteworthy is the diversity of native wetland sedges and grasses, including Rice Cutgrass, Fowl Mannagrass, Rattlesnake Grass, and Bluejoint.

Insects: The plentiful late-summer flowers of wet meadows mean that butterflies are some of the most characteristic organisms of wet meadows. The abundant nectar (and occasional Milkweed) attract migrating Monarchs and many of our common butterflies. Least Skippers, while not limited to wet meadows, are typical of them. Certain rarer butterfly species are closely tied to wet meadows and similar habitats because their caterpillars feed on wetland plants such as sedges (Black Dash, Mulberry Wing, Dion Skipper, or the Browns), Turtlehead (Baltimore Checkerspot) and Water Docks (Bronze Copper).

Wet meadows, together with old fields, also provide important late-season nectar and pollen sources for various native bees and wasps. Despite its status as an 'invasive' (because of its competition with native wetland plants), Purple Loosestrife flowers will often be literally humming.

Ground Beetles in general prefer moist areas and are moderately abundant in wet meadows. In our area, *Pterostichus patruelis,* a mediums-sized, admittedly non-descript black beetle, seems to favor wet meadows over other habitats. Ants are not especially common in wet meadows, but the habitat is frequented by several species of *Myrmica*, which prefer moist soils. While distinguishing among *Myrmica* species is a chore, the prominent ridges on their exoskeleton give Myrmica ants as a whole an almost shriveled appearance.

Characteristic Plants

The following species are common in this habitat, but not necessarily unique to it. Those with an asterisk (*) are good indicator species; non-native species are printed in purple, invasives in bold.

Shrubs

Multiflora Rose
Meadowsweet
Gray dogwood
Arrow-wood
Pussy Willow
Eurasian Honeysuckle

Ground Flora

Sensitive Fern
Giant Goldenrod
Soft Rush*
Purple Loosetrife
Reed Canary-Grass
Rough-Leaved Goldenrod
Arrow-leaved Tearthumb
Blue Vervain*
Grass-leaved Goldenrod
Canada Goldenrod
Boneset*
Broom Sedge*
Common Bedstraw
Spotted Touch-Me-Not
Woolgrass
Kentucky Bluegrass
Purplestem Aster*
Marsh Fern
Fowl Meadowgrass
Willowherb

Purple Loosestrife

Purplestem Aster

Photos of typical plant or animal species.

The abundant insect life of wet meadows lures various predators, including dragonflies. Because wet meadows are usually dry for at least part of the year, they do not provide breeding habitat for dragonflies, however such colorful species as the Ruby Meadowhawk and Halloween Pennant often come to forage. Spiders also abound, and in August and September, the orb webs of the striking Black and Yellow Garden Spider are conspicuous. A dangling butterfly usually means that a Crab Spider (or an Ambush Bug) has caught a meal.

Wetland: Wet Meadow

DRAFT 10/30

More 'What to Look For'

Reptiles & Amphibians: Snakes and frogs are among the vertebrate predators of wet meadows. Various species of snakes will wander through wet meadows; aside from the widespread Eastern Garter Snake, the more rarely seen Green and Ribbon Snakes may also be found here. Pickerel and Green Frogs sometimes stray through, while the rarer Northern Leopard Frog, who seems to be uncommon in the County, is generally associated with wet meadow habitat.

A pair of turtle species are also part of the predatory contingent and are at least partially associated with wet meadows. Spotted Turtles use wet meadows and a variety of other wetland and upland habitats for foraging, resting and even over-wintering. Bog Turtles uses calcareous wet meadows that are adjacent to their core fen habitats.

Rare Species

Plants

Bush's Sedge *(Regionally Uncommon)*
Cattail Sedge *(Regionally Scarce)*
Squarrose Sedge *(Regionally Uncommon)*
Canada Lilly *(Regionally Scarce)*
Ragged Fringed Orchid *(Regionally Scarce)*
Shrubby St. Johnswort *(NYS Threatened)*
Winged Monkeyflower *(NYS Rare)*
Andrew's Bottle Gentian *(Regionally Scarce)*

Animals

Appalachian Brown
Eyed Brown *(Regionally Rare)*
Dion Skipper *(Regionally Rare)*
Mulberry Wing *(Regionally Rare)*
Black Dash *(Regionally Rare)*
Spotted Turtle *(NYS Special Concern)*
Bog Turtle *(NYS Endangered)*
Wood Turtle *(NYS Special Concern)*
Eastern Ribbon Snake *(Reg. Uncommon)*

Eastern Ribbon Snake in Hillsdale

Birds & Mammals: Nesting Red-Winged Blackbirds are raucous, early-season inhabitants of uncut wet meadows and similar habitats. Swamp Sparrows nest in wet meadows and marshes. American Goldfinchs, Song Sparrows, and Eastern Bluebirds may nest in wet meadows that have scattered trees or shrubs. The uncommon Virginia Rail and Sora nest in dense grass- or sedge-dominated wet meadows, if there are adjacent areas of open water.

A Mulberry Wing (left) and Spotted Turtle from Hillsdale (top).

The winding trails of Meadow Voles, punctuated by grass-lined nests, are often conspicuous beneath the thatch of taller wet meadows or, in spring, as doodles in the melting snow atop the now-flattened meadow vegetation. Meadow Voles occur in a range of field types, but are able swimmers and don't seem to mind wet feet. Mink and other mammals together with hawks and owls hunt for the voles and other creatures.

Similar Habitats

Wet meadows share some of their plants with upland meadows, especially old fields, and with marshes. For example, all of the goldenrod species commonly found in wet meadows, are also important components of upland old fields. To distinguish a wet meadow from an old field (which is not always easy), look for the wet meadow's wetland indicator plants, such as sedges, as well as Purple Loosestrife, Reed Canary Grass, Sensitive Fern, Marsh Fern, Soft Rush, Blue Vervain, Boneset, and Purplestem Aster. Some of these common wetland plants are also found in marshes. However, a marsh tends to have standing water of longer-duration in the growing season, and hence harbor plants—such as Cattail, Common Reed, Bur-reed, Pickerelweed, and Arrowhead—that are well-adapted to those wetter conditions and rarely found in wet meadows.

More of the same.

Wetland: Wet Meadow

DRAFT 10/30

More 'What to Look For'

Reptiles & Amphibians: Snakes and frogs are among the vertebrate predators of wet meadows. Various species of snakes will wander through wet meadows; aside from the widespread Eastern Garter Snake, the more rarely seen Green and Ribbon Snakes may also be found here. Pickerel and Green Frogs sometimes stray through, while the rarer Northern Leopard Frog, who seems to be uncommon in the County, is generally associated with wet meadow habitat.

A pair of turtle species are also part of the predatory contingent and are at least partially associated with wet meadows. Spotted Turtles use wet meadows and a variety of other wetland and upland habitats for foraging, resting and even over-wintering. Bog Turtles uses calcareous wet meadows that are adjacent to their core fen habitats.

Rare Species

Plants

Bush's Sedge *(Regionally Uncommon)*
Cattail Sedge *(Regionally Scarce)*
Squarrose Sedge *(Regionally Uncommon)*
Canada Lilly *(Regionally Scarce)*
Ragged Fringed Orchid *(Regionally Scarce)*
Shrubby St. Johnswort *(NYS Threatened)*
Winged Monkeyflower *(NYS Rare)*
Andrew's Bottle Gentian *(Regionally Scarce)*

Animals

Appalachian Brown
Eyed Brown *(Regionally Rare)*
Dion Skipper *(Regionally Rare)*
Mulberry Wing *(Regionally Rare)*
Black Dash *(Regionally Rare)*
Spotted Turtle *(NYS Special Concern)*
Bog Turtle *(NYS Endangered)*
Wood Turtle *(NYS Special Concern)*
Eastern Ribbon Snake *(Reg. Uncommon)*

Eastern Ribbon Snake in Hillsdale

Birds & Mammals: Nesting Red-Winged Blackbirds are raucous, early-season inhabitants of uncut wet meadows and similar habitats. Swamp Sparrows nest in wet meadows and marshes. American Goldfinchs, Song Sparrows, and Eastern Bluebirds may nest in wet meadows that have scattered trees or shrubs. The uncommon Virginia Rail and Sora nest in dense grass- or sedge-dominated wet meadows, if there are adjacent areas of open water.

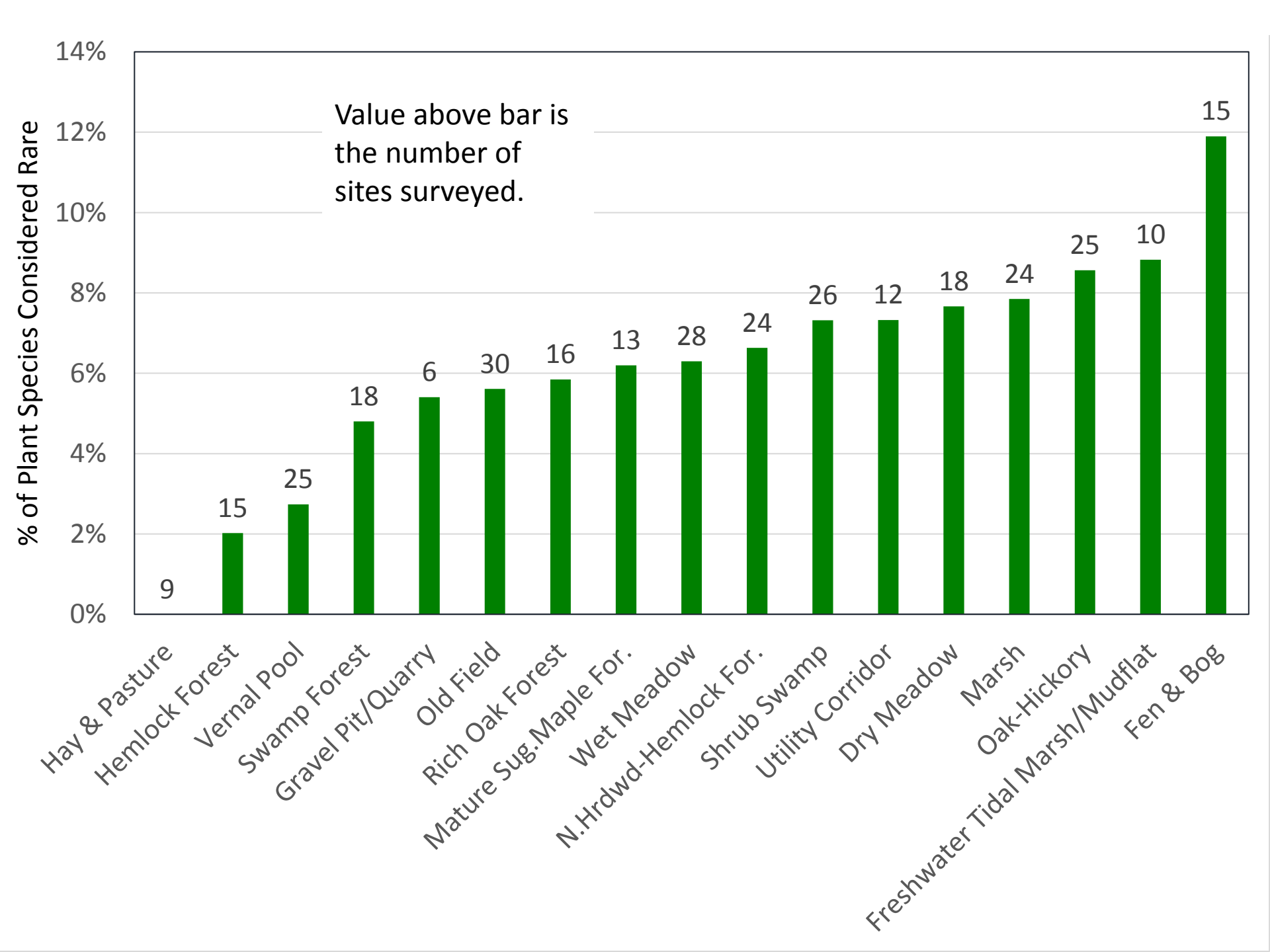
A Mulberry Wing (left) and Spotted Turtle from Hillsdale (top).

The winding trails of Meadow Voles, punctuated by grass-lined nests, are often conspicuous beneath the thatch of taller wet meadows or, in spring, as doodles in the melting snow atop the now-flattened meadow vegetation. Meadow Voles occur in a range of field types, but are able swimmers and don't seem to mind wet feet. Mink and other mammals together with hawks and owls hunt for the voles and other creatures.

Similar Habitats

Wet meadows share some of their plants with upland meadows, especially old fields, and with marshes. For example, all of the goldenrod species commonly found in wet meadows, are also important components of upland old fields. To distinguish a wet meadow from an old field (which is not always easy), look for the wet meadow's wetland indicator plants, such as sedges, as well as Purple Loosestrife, Reed Canary Grass, Sensitive Fern, Marsh Fern, Soft Rush, Blue Vervain, Boneset, and Purplestem Aster. Some of these common wetland plants are also found in marshes. However, a marsh tends to have standing water of longer-duration in the growing season, and hence harbor plants—such as Cattail, Common Reed, Bur-reed, Pickerelweed, and Arrowhead—that are well-adapted to those wetter conditions and rarely found in wet meadows.

Formally and informally recognized rare species at the national, state, regional or local levels.


% of Plant Species Considered Rare
14%
12%
10%
8%
6%
4%
2%
0%
Value above bar is the number of sites surveyed.
9
15
25
18
6
30
16
13
28
24
26
12
18
24
25
10
15
Hay & Pasture
Hemlock Forest
Vernal Pool
Swamp Forest
Gravel Pit/Quarry
Old Field
Rich Oak Forest
Mature Sug.Maple For.
Wet Meadow
N.Hrdwd-Hemlock For.
Shrub Swamp
Utility Corridor
Dry Meadow
Marsh
Oak-Hickory
Freshwater Tidal Marsh/Mudflat
Fen & Bog

Wetland: Wet Meadow

DRAFT 10/30

More 'What to Look For'

Reptiles & Amphibians: Snakes and frogs are among the vertebrate predators of wet meadows. Various species of snakes will wander through wet meadows; aside from the widespread Eastern Garter Snake, the more rarely seen Green and Ribbon Snakes may also be found here. Pickerel and Green Frogs sometimes stray through, while the rarer Northern Leopard Frog, who seems to be uncommon in the County, is generally associated with wet meadow habitat.

A pair of turtle species are also part of the predatory contingent and are at least partially associated with wet meadows. Spotted Turtles use wet meadows and a variety of other wetland and upland habitats for foraging, resting and even over-wintering. Bog Turtles uses calcareous wet meadows that are adjacent to their core fen habitats.

Rare Species

Plants

Bush's Sedge *(Regionally Uncommon)*
Cattail Sedge *(Regionally Scarce)*
Squarrose Sedge *(Regionally Uncommon)*
Canada Lilly *(Regionally Scarce)*
Ragged Fringed Orchid *(Regionally Scarce)*
Shrubby St. Johnswort *(NYS Threatened)*
Winged Monkeyflower *(NYS Rare)*
Andrew's Bottle Gentian *(Regionally Scarce)*

Animals

Appalachian Brown
Eyed Brown *(Regionally Rare)*
Dion Skipper *(Regionally Rare)*
Mulberry Wing *(Regionally Rare)*
Black Dash *(Regionally Rare)*
Spotted Turtle *(NYS Special Concern)*
Bog Turtle *(NYS Endangered)*
Wood Turtle *(NYS Special Concern)*
Eastern Ribbon Snake *(Reg. Uncommon)*

Eastern Ribbon Snake in Hillsdale

Birds & Mammals: Nesting Red-Winged Blackbirds are raucous, early-season inhabitants of uncut wet meadows and similar habitats. Swamp Sparrows nest in wet meadows and marshes. American Goldfinchs, Song Sparrows, and Eastern Bluebirds may nest in wet meadows that have scattered trees or shrubs. The uncommon Virginia Rail and Sora nest in dense grass- or sedge-dominated wet meadows, if there are adjacent areas of open water.

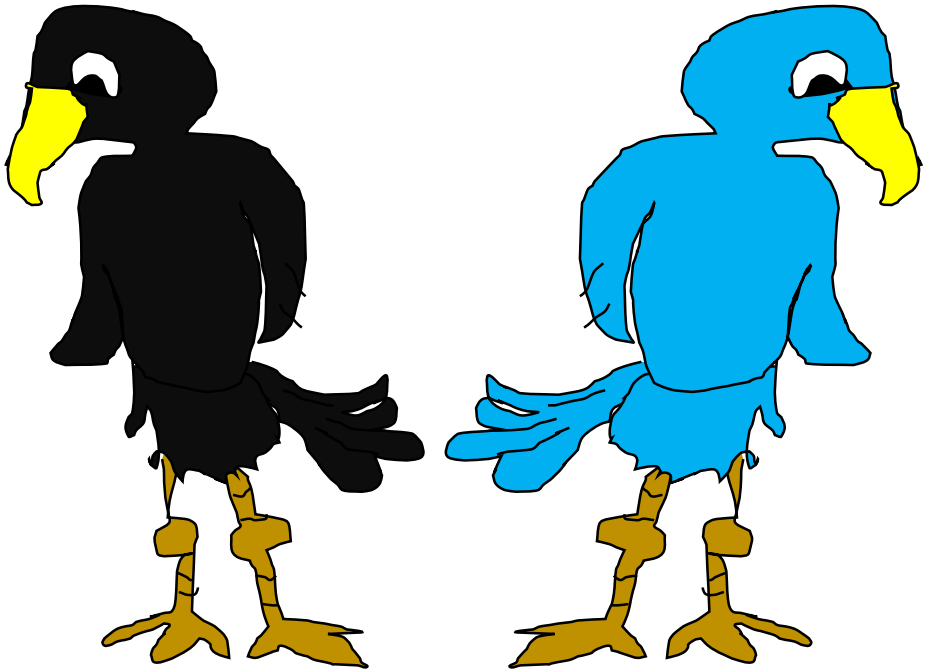
A Mulberry Wing (left) and Spotted Turtle from Hillsdale (top).

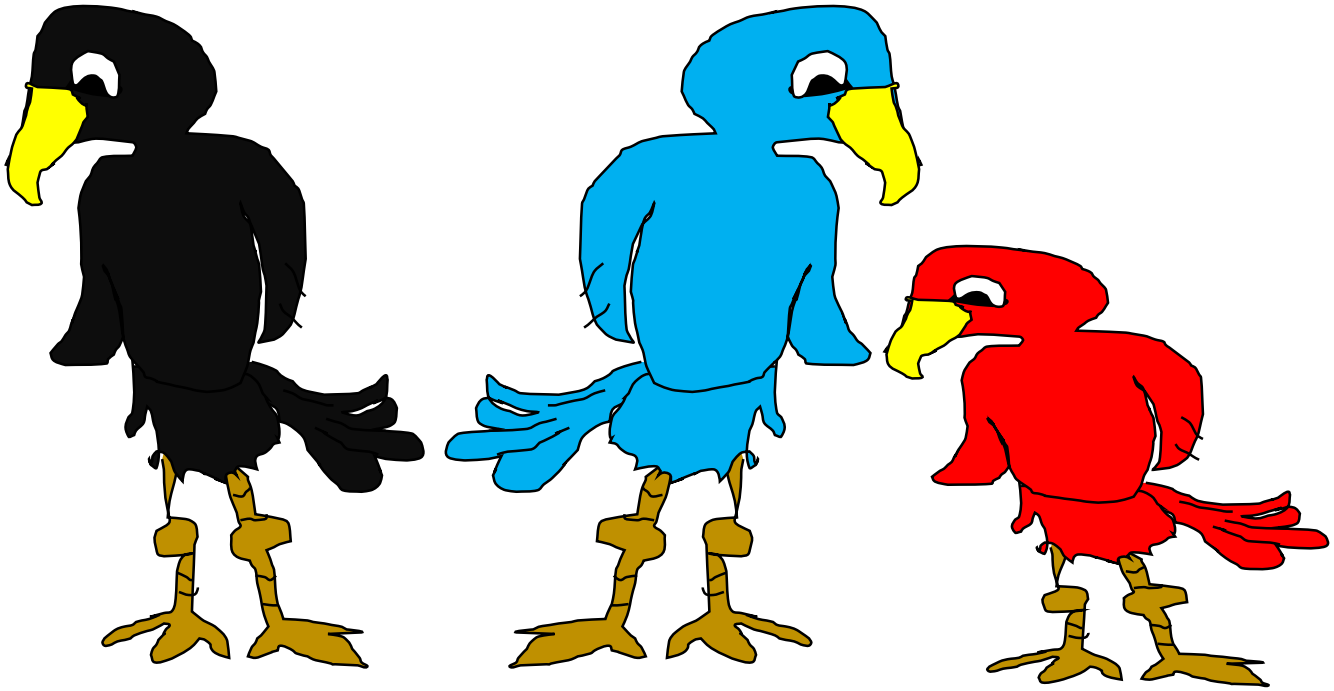
The winding trails of Meadow Voles, punctuated by grass-lined nests, are often conspicuous beneath the thatch of taller wet meadows or, in spring, as doodles in the melting snow atop the now-flattened meadow vegetation. Meadow Voles occur in a range of field types, but are able swimmers and don't seem to mind wet feet. Mink and other mammals together with hawks and owls hunt for the voles and other creatures.

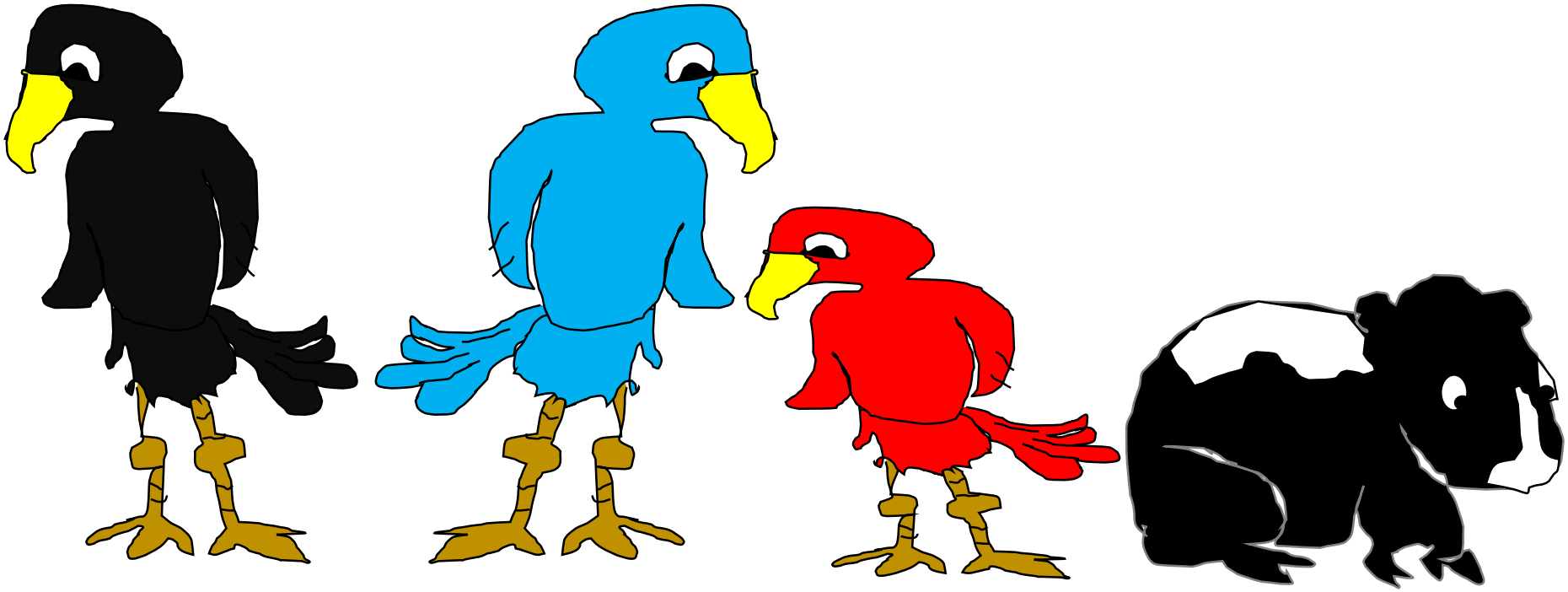
Similar Habitats

Wet meadows share some of their plants with upland meadows, especially old fields, and with marshes. For example, all of the goldenrod species commonly found in wet meadows, are also important components of upland old fields. To distinguish a wet meadow from an old field (which is not always easy), look for the wet meadow's wetland indicator plants, such as sedges, as well as Purple Loosestrife, Reed Canary Grass, Sensitive Fern, Marsh Fern, Soft Rush, Blue Vervain, Boneset, and Purplestem Aster. Some of these common wetland plants are also found in marshes. However, a marsh tends to have standing water of longer-duration in the growing season, and hence harbor plants—such as Cattail, Common Reed, Bur-reed, Pickerelweed, and Arrowhead—that are well-adapted to those wetter conditions and rarely found in wet meadows.

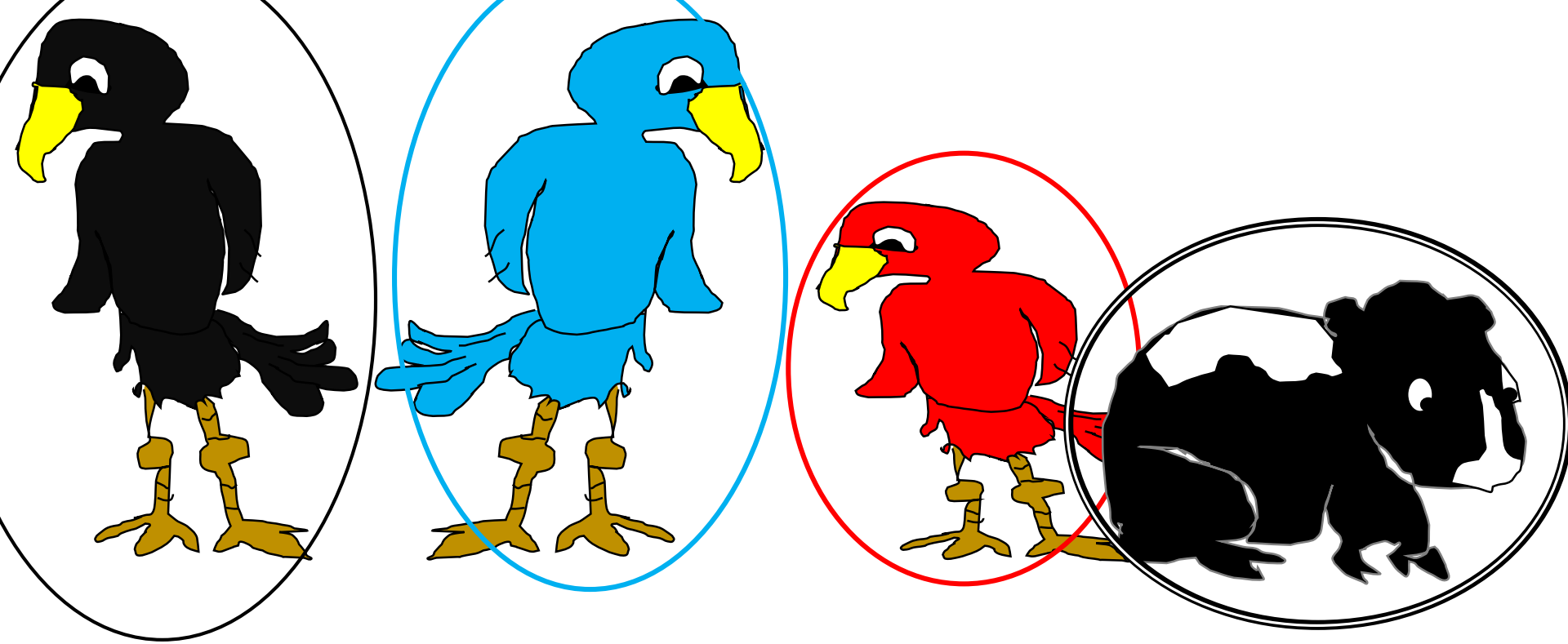
Which other habitats you're likely to mistake this for.

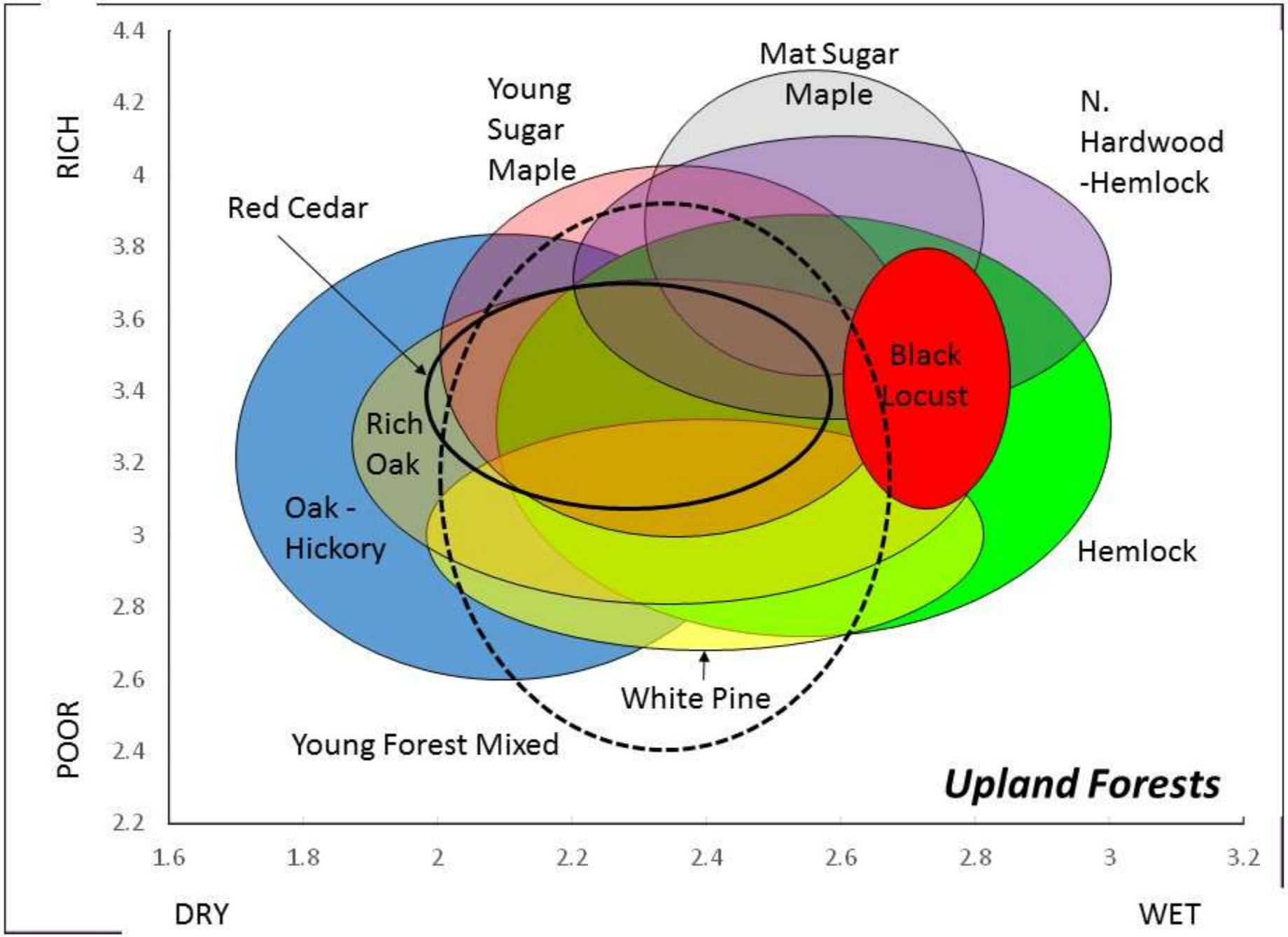


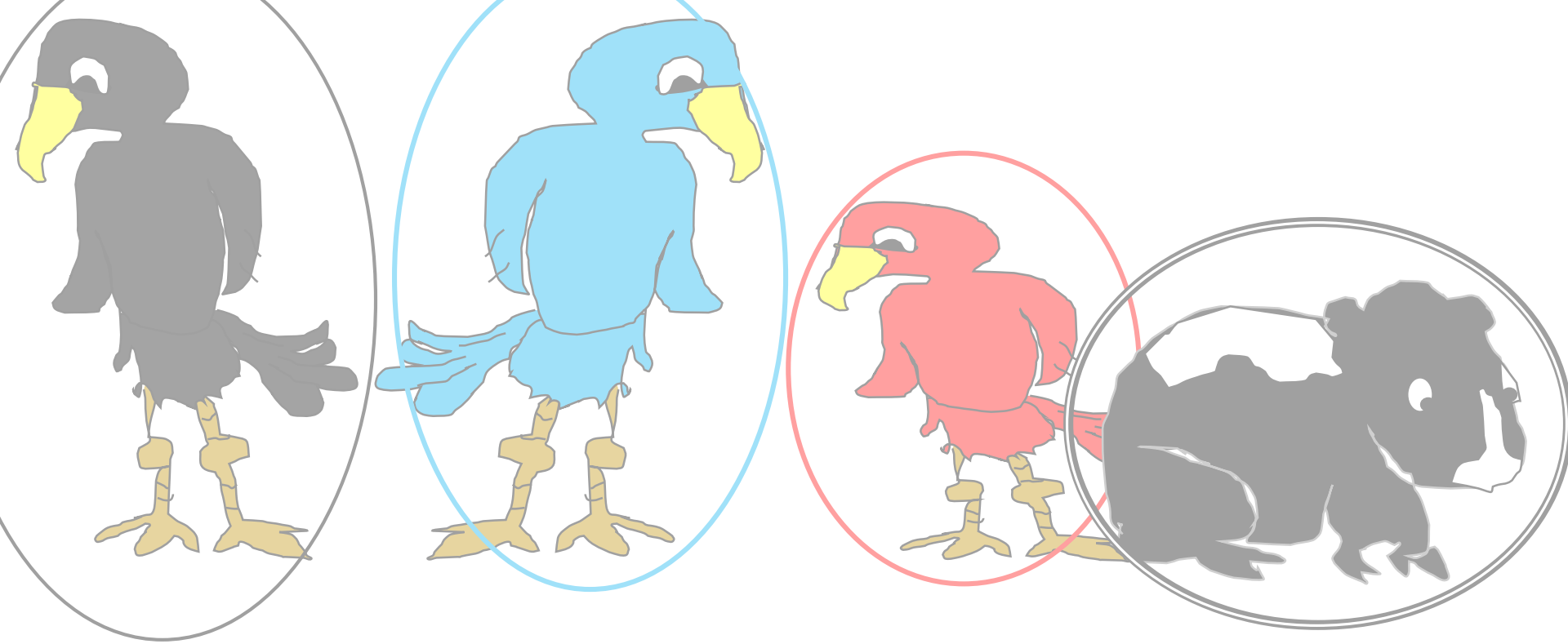


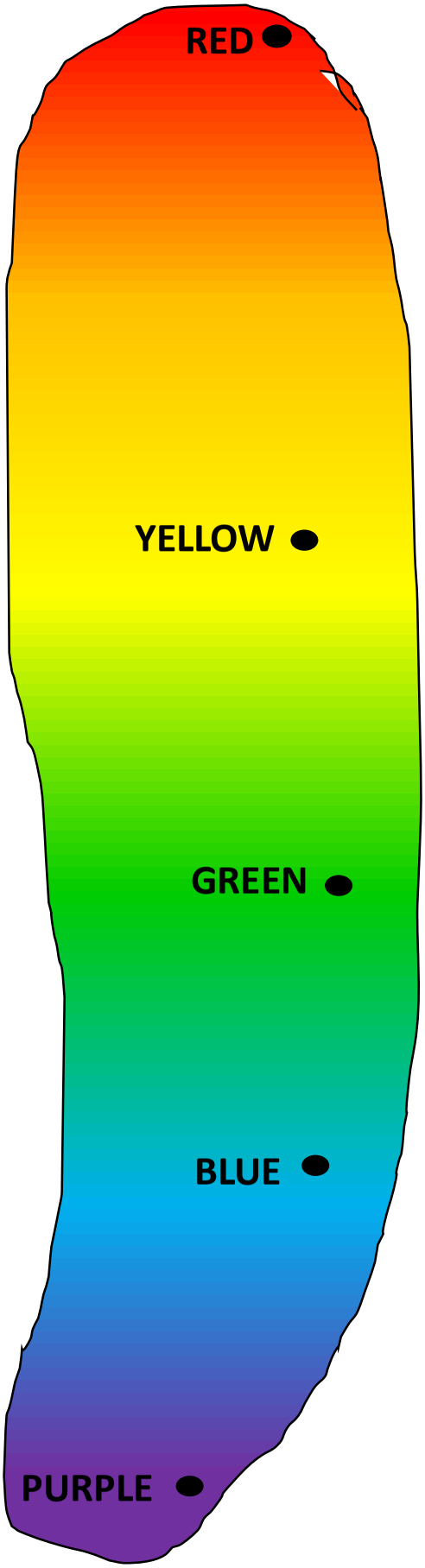


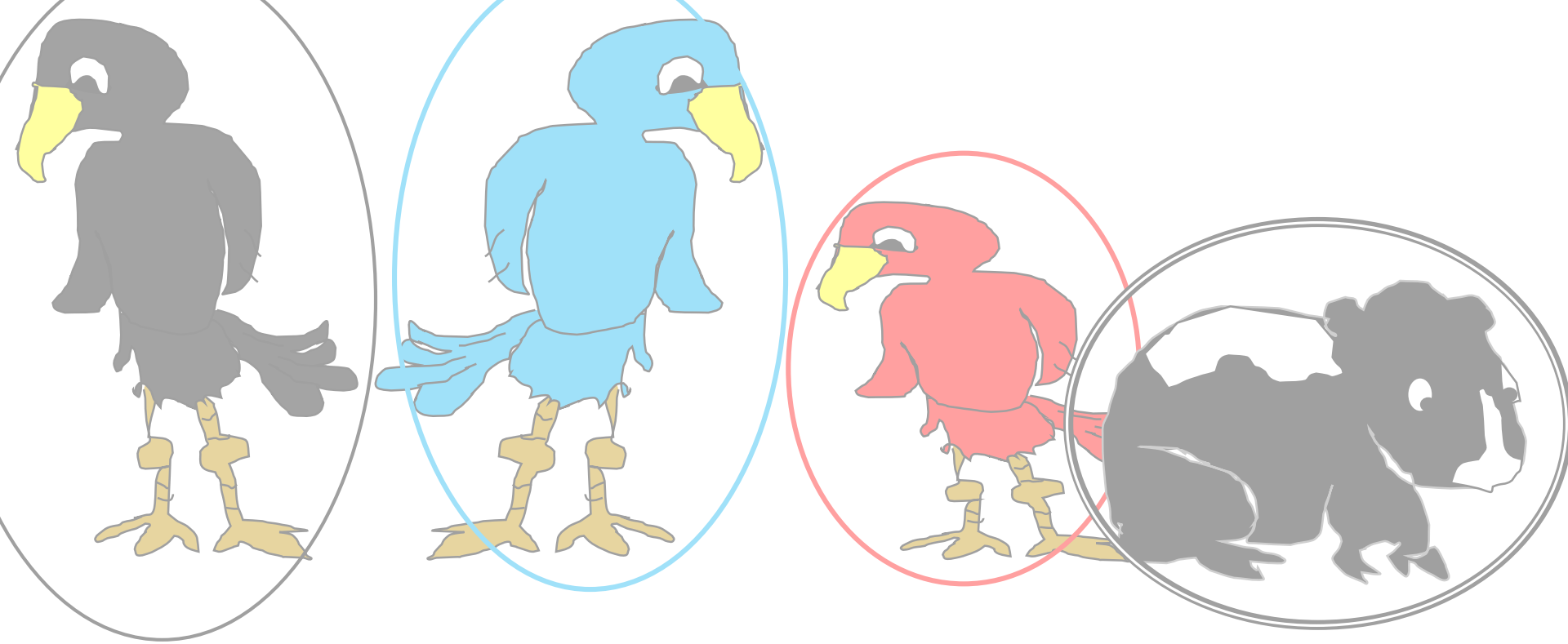

PETERSON FIELD GUIDES
EASTERN
Birds
x Guinea Pigs
Roger Tory Peterson

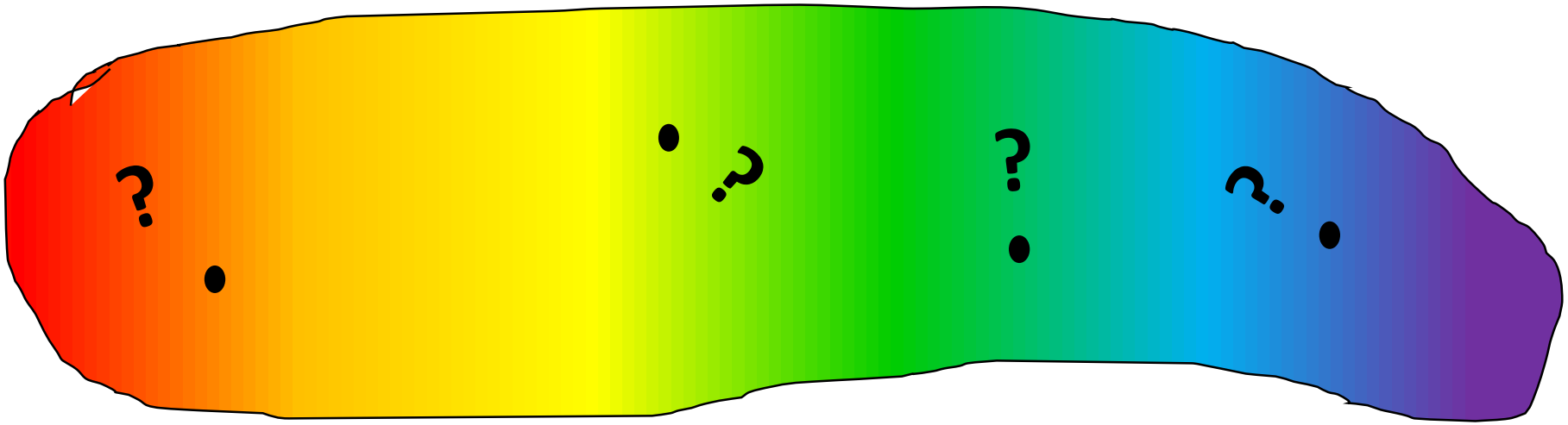



RICH
POOR
4.4
4.2
4
3.8
3.6
3.4
3.2
3
2.8
2.6
2.4
2.2
1.6
1.8
2
2.2
2.4
2.6
2.8
3
3.2
DRY
WET
Mat Sugar Maple
Young Sugar Maple
N. Hardwood -Hemlock
Red Cedar
Black Locust
Rich Oak
Oak - Hickory
Hemlock
White Pine
Young Forest Mixed
Upland Forests




RED
YELLOW
GREEN
BLUE
PURPLE





Categorizing habitats is like parsing a rainbow.

Wetland: Wet Meadow

DRAFT 10/30

More 'What to Look For'

Reptiles & Amphibians: Snakes and frogs are among the vertebrate predators of wet meadows. Various species of snakes will wander through wet meadows; aside from the widespread Eastern Garter Snake, the more rarely seen Green and Ribbon Snakes may also be found here. Pickerel and Green Frogs sometimes stray through, while the rarer Northern Leopard Frog, who seems to be uncommon in the County, is generally associated with wet meadow habitat.

A pair of turtle species are also part of the predatory contingent and are at least partially associated with wet meadows. Spotted Turtles use wet meadows and a variety of other wetland and upland habitats for foraging, resting and even over-wintering. Bog Turtles uses calcareous wet meadows that are adjacent to their core fen habitats.

Rare Species

Plants

Bush's Sedge *(Regionally Uncommon)*
Cattail Sedge *(Regionally Scarce)*
Squarrose Sedge *(Regionally Uncommon)*
Canada Lilly *(Regionally Scarce)*
Ragged Fringed Orchid *(Regionally Scarce)*
Shrubby St. Johnswort *(NYS Threatened)*
Winged Monkeyflower *(NYS Rare)*
Andrew's Bottle Gentian *(Regionally Scarce)*

Animals

Appalachian Brown
Eyed Brown *(Regionally Rare)*
Dion Skipper *(Regionally Rare)*
Mulberry Wing *(Regionally Rare)*
Black Dash *(Regionally Rare)*
Spotted Turtle *(NYS Special Concern)*
Bog Turtle *(NYS Endangered)*
Wood Turtle *(NYS Special Concern)*
Eastern Ribbon Snake *(Reg. Uncommon)*

Eastern Ribbon Snake in Hillsdale

Birds & Mammals: Nesting Red-Winged Blackbirds are raucous, early-season inhabitants of uncut wet meadows and similar habitats. Swamp Sparrows nest in wet meadows and marshes. American Goldfinchs, Song Sparrows, and Eastern Bluebirds may nest in wet meadows that have scattered trees or shrubs. The uncommon Virginia Rail and Sora nest in dense grass- or sedge-dominated wet meadows, if there are adjacent areas of open water.

A Mulberry Wing (left) and Spotted Turtle from Hillsdale (top).

The winding trails of Meadow Voles, punctuated by grass-lined nests, are often conspicuous beneath the thatch of taller wet meadows or, in spring, as doodles in the melting snow atop the now-flattened meadow vegetation. Meadow Voles occur in a range of field types, but are able swimmers and don't seem to mind wet feet. Mink and other mammals together with hawks and owls hunt for the voles and other creatures.

Similar Habitats

Wet meadows share some of their plants with upland meadows, especially old fields, and with marshes. For example, all of the goldenrod species commonly found in wet meadows, are also important components of upland old fields. To distinguish a wet meadow from an old field (which is not always easy), look for the wet meadow's wetland indicator plants, such as sedges, as well as Purple Loosestrife, Reed Canary Grass, Sensitive Fern, Marsh Fern, Soft Rush, Blue Vervain, Boneset, and Purplestem Aster. Some of these common wetland plants are also found in marshes. However, a marsh tends to have standing water of longer-duration in the growing season, and hence harbor plants—such as Cattail, Common Reed, Bur-reed, Pickerelweed, and Arrowhead—that are well-adapted to those wetter conditions and rarely found in wet meadows.

OR,
"**Other Primary Colors that Sometimes Bleed into this One**"

(How does one revel in the uncertainty rather than be frustrated by it?)

History of the Habitat

Open wet meadows may rarely be self-sustaining, being instead the product of recent or on-going natural or human-caused disturbances. Many of our wet meadows form in slight depressions or wet swales in active or abandoned pastures, hayfields or cropland, and have been kept open (i.e., without woody vegetation) by frequent or occasional grazing, mowing, or tilling. Other anthropogenic origins include recent clearing of shrublands or forests, partial draining of marshes, or partial wetland filling.

Wet meadows also develop in Beaver meadows (after a Beaver dam has been breached), frequently-flooded riparian meadows, tree-fall gaps in forested swamps, or seepage areas or perched wetlands on rocky hillsides or summits. Marshes and other wetland habitats often have narrow or broad wet meadow zones at their perimeters where the marsh transitions to a surrounding upland habitat.

The last 400 years of human history has probably meant a roller coaster ride for wet meadows. Prior to European settlement, such meadows slowly blinked on and off in a landscape shaped by the Beaver. The arrival of the Dutch and French heralded extensive trapping of Beaver, and this species was probably effectively extinct in the County by around 1700 thereby stifling one important force of wet meadow creation.

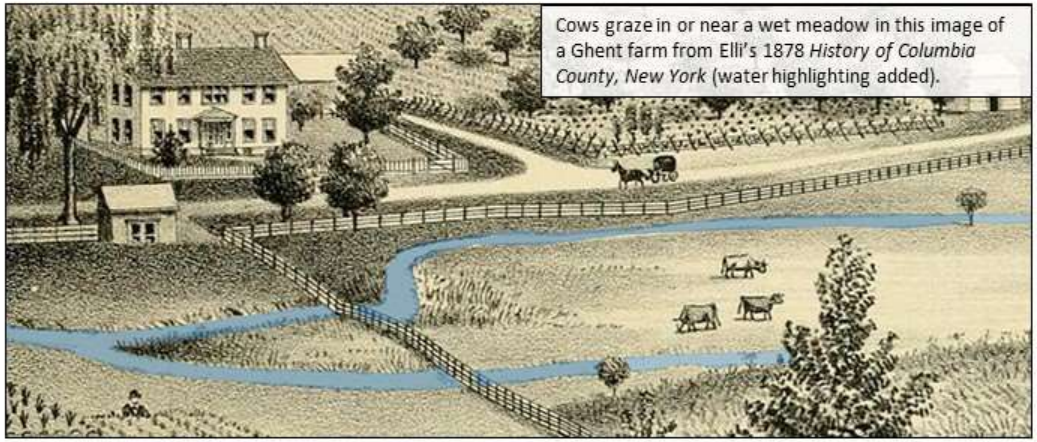
However, at the same time, farmers were opening up previously-forested wet areas for agriculture and so were often creating wet meadows. Indeed, before the

An American Beaver swims across a Gallatin pond.

advent of upland hayfields in the second half of the 18th century, those wet meadows which were regularly flooded and thereby replenished were a core component of the grass-based colonial farming system.

With the establishment of European upland grasses and other forage, farmers became less tied to their wet meadows and, because wetness at the wrong time could hamper plant growth or complicate machine work, many wet meadows were drained and/or had their flooding controlled. In Columbia County, drainage was probably especially common on wet clay meadows, where natural water percolation was slow.

Recent landscape history has likely seen a continuing decline in wet meadows because the dam making of the resurgent Beaver is often controlled, because some wetland draining does still occurs, and, perhaps most importantly, because the continued abandonment of agricultural land means that meadows regularly grow back into forest. The popularity of ponds in residential landscaping may counteract this decline slightly, since a fringe of wet meadows sometimes occurs around such constructions.



Cows graze in or near a wet meadow in this image of a Ghent farm from Elli's 1878 *History of Columbia County, New York* (water highlighting added).

What we know about where this habitat came from and the human influence upon it…. a link to our previous 'story of the land'-style book.

Together with related images.

Wetland: Wet Meadow

DRAFT 10/30

Perspectives on Wet Meadow

"Field not cut for the season" was how one participant in our photo survey described the image of a wet meadow.

Aside from this agricultural lens, wet meadow seems to be a habitat that few people have much of a perspective on. No children that we interviewed spoke of the joy of running through the tall vegetation, nor did they depict wet meadows in their photographs and drawings of favorite places. Foragers and hunters largely left out these parts of the landscape in their descriptions of places to look for edible plants or game. Recreationists could think of few activities that would make sense in such a place.

Walking the Living Land participants explore a wet meadow at RoeJan Park.

"Most of the other places in the park seem more malleable, bendable to human will and use, but the wet meadow seems to belong to itself."

This sense of a shelter and wonder was echoed by other participants, such as one who explained, "It was so amazing to be where you couldn't really see out. You were really inside this magical space. I really liked that, because we don't [usually] go in there."

Another explained, "I liked not being able to see where I was and hearing the grass hitting each other and against my face. It was my favorite." And still others highlighted the encompassing quality of the elements: "I felt immersed in a water element...I heard the wind in the wetlands, and it was just an experience – the sky, the light."

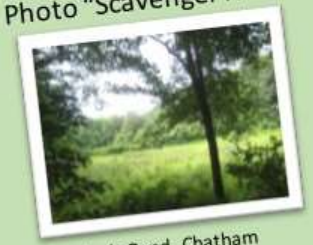
In general, except for agriculture, people don't often seem to venture into wet meadows. It was for these reasons that we led a group of Walking the Living Land participants straight into the dense, spongy heart of the wet meadow at RoeJan Park to gain a rare perspective – the middle of a wet meadow. How do people view a place they would never think to go?

Of the 14 different habitats that we brought Walking the Living Land groups into, the wet meadow stood out as a favorite. Wrote one participant, "I would not, on my own, have pushed into the wetlands, but it was lovely to feel how sheltered we were in the tall grasses – and to experience their rustling embrace as the wind passed through."

Leaving the mowed paths for such an immersive experience in a habitat that few venture into can understandably make it seem like a rare and wild habitat. One participant described, "What I liked about it was a place that seemed untamed and probably untameable by humans...I really enjoyed that. It's a rare experience."

This is, however, likely more a matter of perspective than landscape ecology. Wet meadows are by nature a transitional habitat, and these days they are often both created and maintained by human activity. The person who saw in a wet meadow a "field not cut for the season" was in many ways quite right – a wet meadow, to remain as such, is often a meadow not yet cut.

Photo "Scavenger Hunt"



Borden's Pond, Chatham

Rich in Species

As part of our cultural research we provided visitors to public parks with cameras and sent them on "photo scavenger hunts." One of their tasks was to take a photo of a place they thought was particularly rich in native plants and animals. This wet meadow at Borden's Pond was identified by several scavenger hunt participants as such an ecologically rich place.

In responding to photos of wet meadows, people generally did consider them to be rich in ecological value and they elicited one of the highest number of named species amongst the different habitats in the photo survey. These included butterflies, purple loosestrife, red-winged blackbirds, and snakes.

Quotes from interviews with land users and habitat explorers, together with other relevant highlights from the cultural work

Stewardship

If left alone (i.e., unmowed) most wet meadows in agricultural or post-agricultural settings will become shrubby and then forested wetlands—valuable habitats in their own right! To maintain a wet meadow habitat, however, mowing at least every few years may be necessary to prevent it from being overtaken by woody vegetation. In the near term, mowing of wet meadows reduces the usable habitat for butterflies, bees, and other pollinators that depend on nectar, and for butterfly and moth larvae that feed on live foliage.

The formation of a wet meadow band around constructed ponds should be encouraged by making at least part of the shoreline gradual and by limiting the mowing of such areas. Although this may seem counterintuitive, since wet spots can hamper human use and management, pond owners will usually be rewarded with a nice floral display.

Because some insects are year-around residents, being active throughout much of the growing season and dormant but present throughout the winter, there may be no ideal time for mowing. If the entire meadow must be mowed, then it's best to delay mowing until late fall or winter, so that the late summer- and fall-blooming plants and early spring plants will be available to insects that need food sources in those seasons when few other sources are available. If mowing cannot be limited to those periods, an alternative practice is to leave unmowed sections or to rotate the areas mowed each year so that some habitat is always available.

In any case, mowing or grazing should be undertaken only when the wet meadow soils are dry enough that they will not be damaged. Compaction of wet soils by farm equipment or grazing livestock can harm the soil structure, impede the root growth of plants, impair plants' ability to take up nutrients and water, and reduce productivity long into the future.

Wet meadows that are part of large or diverse habitat complexes may provide habitat components valuable to the many animals-- such as Spotted Turtle and Wood Turtle--that use an array of habitats to fulfill their life history needs. Maintaining landscapes unfragmented by roads, driveways, and other developed uses will help to preserve safe routes for animals moving between habitats

Interact with this Habitat

Track signs of spring and fall

Wet meadows are a fascinating place to observe through the seasons. For those interested in phenology, or the noting of seasonal occurrences in nature, below are two fun examples of phenological observations that can be made in wet meadows, one an early sign of spring and the other an indication that the growing season is winding down.

March-April: The Amorous Flight of the American Woodcock

The courtship rituals of the American Woodcock are a spectacular harbinger of spring that often occurs in or near wet meadows. To observe this display is a real treat. Seek out low open areas just before dusk, and listen for the distinctive buzz-like "beep" of the male woodcock, then watch for his slow spiral ascent high into the sky. He completes this feat with a stunning dive descent accompanied by a distinctive chirping noise, then repeats. An attractive display for female Woodcocks and humans alike!

August-September: Fall Flowers

Late summer and fall brings a richly-colored palate to the wet meadow as many flowers come into bloom. As you visit wet meadows throughout the fall, what flowerings do you observe? How many different flowers and colors do you see, and how do these change over the course of the season?

Our thoughts on how the biodiversity of these habitats can be maintained.

Stewardship

If left alone (i.e., unmowed) most wet meadows in agricultural or post-agricultural settings will become shrubby and then forested wetlands—valuable habitats in their own right! To maintain a wet meadow habitat, however, mowing at least every few years may be necessary to prevent it from being overtaken by woody vegetation. In the near term, mowing of wet meadows reduces the usable habitat for butterflies, bees, and other pollinators that depend on nectar, and for butterfly and moth larvae that feed on live foliage.

The formation of a wet meadow band around constructed ponds should be encouraged by making at least part of the shoreline gradual and by limiting the mowing of such areas. Although this may seem counterintuitive, since wet spots can hamper human use and management, pond owners will usually be rewarded with a nice floral display.

Because some insects are year-around residents, being active throughout much of the growing season and dormant but present throughout the winter, there may be no ideal time for mowing. If the entire meadow must be mowed, then it's best to delay mowing until late fall or winter, so that the late summer- and fall-blooming plants and early spring plants will be available to insects that need food sources in those seasons when few other sources are available. If mowing cannot be limited to those periods, an alternative practice is to leave unmowed sections or to rotate the areas mowed each year so that some habitat is always available.

In any case, mowing or grazing should be undertaken only when the wet meadow soils are dry enough that they will not be damaged. Compaction of wet soils by farm equipment or grazing livestock can harm the soil structure, impede the root growth of plants, impair plants' ability to take up nutrients and water, and reduce productivity long into the future.

Wet meadows that are part of large or diverse habitat complexes may provide habitat components valuable to the many animals-- such as Spotted Turtle and Wood Turtle--that use an array of habitats to fulfill their life history needs. Maintaining landscapes unfragmented by roads, driveways, and other developed uses will help to preserve safe routes for animals moving between habitats

Interact with this Habitat

Track signs of spring and fall

Wet meadows are a fascinating place to observe through the seasons. For those interested in phenology, or the noting of seasonal occurrences in nature, below are two fun examples of phenological observations that can be made in wet meadows, one an early sign of spring and the other an indication that the growing season is winding down.

March-April: The Amorous Flight of the American Woodcock

The courtship rituals of the American Woodcock are a spectacular harbinger of spring that often occurs in or near wet meadows. To observe this display is a real treat. Seek out low open areas just before dusk, and listen for the distinctive buzz-like "beep" of the male woodcock, then watch for his slow spiral ascent high into the sky. He completes this feat with a stunning dive descent accompanied by a distinctive chirping noise, then repeats. An attractive display for female Woodcocks and humans alike!

August-September: Fall Flowers

Late summer and fall brings a richly-colored palate to the wet meadow as many flowers come into bloom. As you visit wet meadows throughout the fall, what flowerings do you observe? How many different flowers and colors do you see, and how do these change over the course of the season?

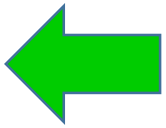
Hands-on ways to 'taste' this habitat.

DRAFT OUTLINE OF THE FIELD GUIDE

Factors affecting human perception of the land.

- Use value
- Emotional Value
- Access

How to use this guide



Tools for knowing where you are.

- Habitat key
- Icon descriptions
- Habitat description sections

Habitats

- Section Introductions
  - Habitat Descriptions

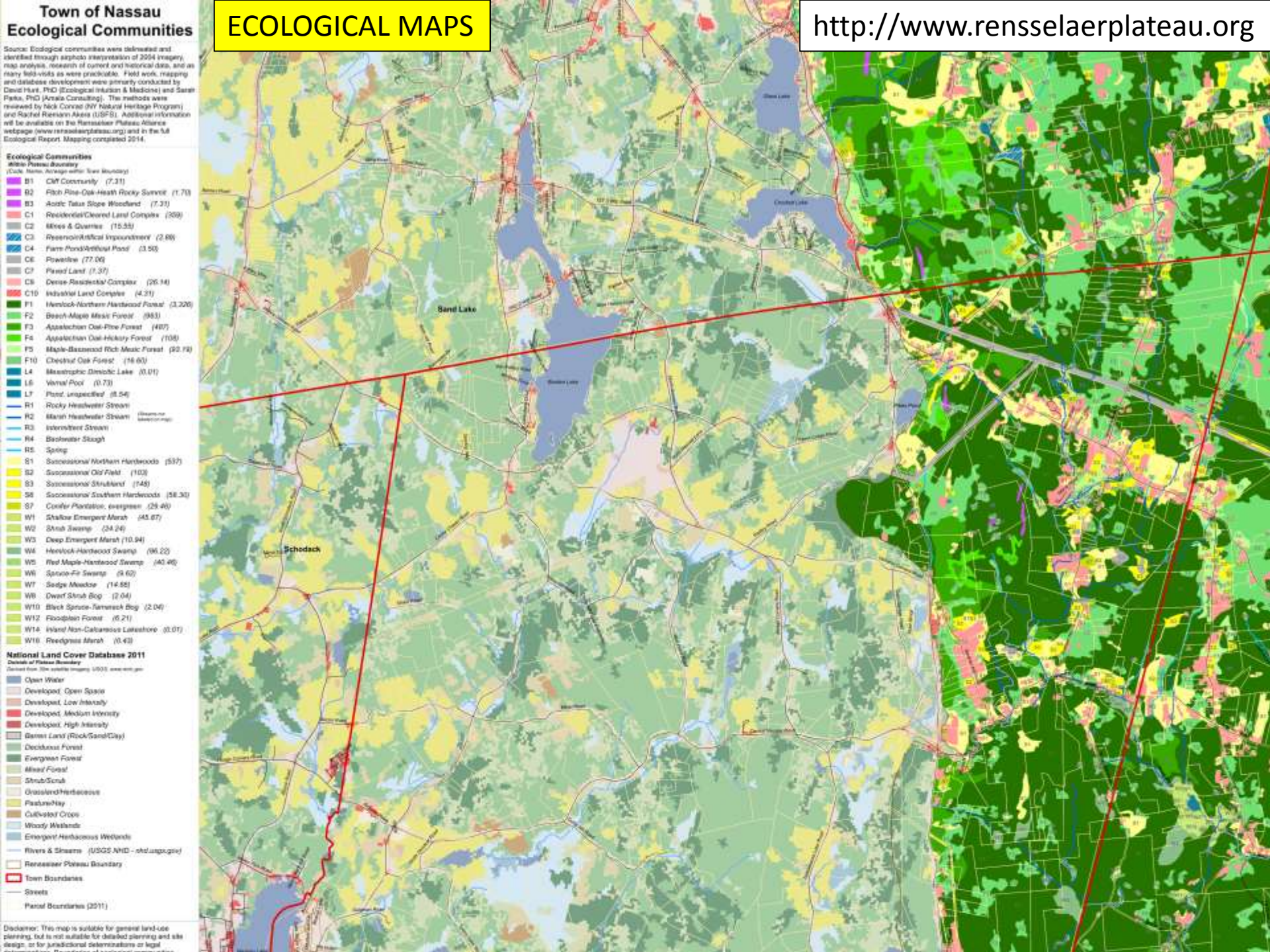
Appendices

- Common/scientific names of organisms and their native/non-native and rarity status.
- A classification cross-walk (i.e., how does our habitat classification compare to that of others)

Index, Acknowledgements, Credits.

ECOLOGICAL MAPS

http://www.rensselaerplateau.org



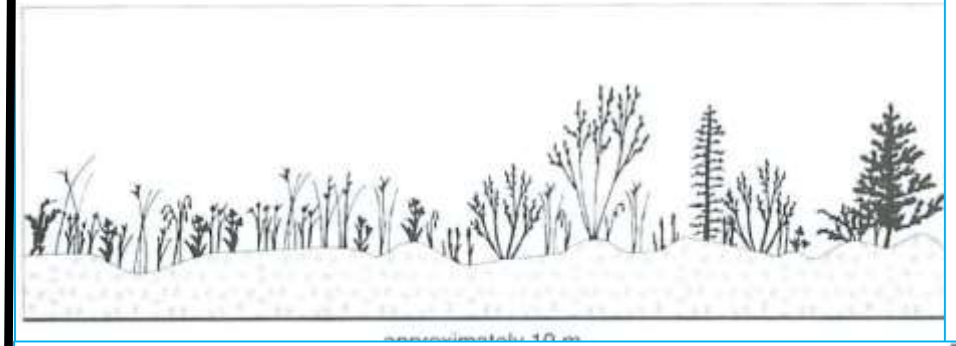
Comparative Schematics

Rich Swamp:
Black Ash (Other Hardwood): Organic–Mineral Soil

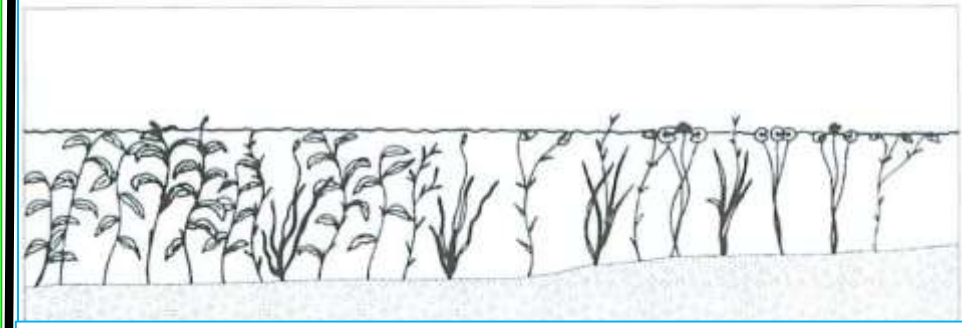
Hardwood–Fir–Spruce Mixedwood:
Sandy Soil

Red Pine–White Pine:
Fresh, Coarse Loamy Soil

Open Poor Fen:
Ericaceous Shrub–Sedge / *Sphagnum*: Organic Soil



Open Water Marsh: Submergent /
Floating-leaved: Sedimentary Peat Substrate

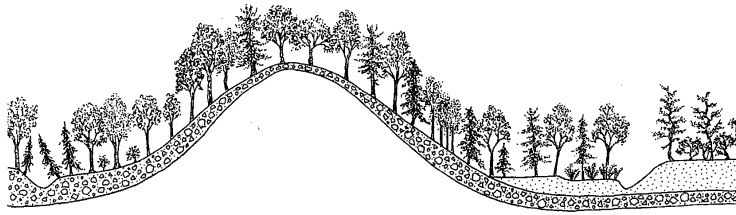


Thicket Swamp:
Organic–Mineral Soil


Annotated Landscape Images
bing.com

Annotated Landscape Schematics

FOREST NATURAL COMMUNITIES (CENTRAL AND SOUTHERN NH)



Parent Material

Coarse rocky till	Fine, mesic till (basal or ablation) or colluvium	Shallow or rocky, dry till	Mesic or dry-mesic till (basal or ablation)	Mesic or dry-mesic alluvium	Wet alluvium	Dry, coarse alluvium (sand and gravel)

Natural Communities

Central New Hampshire below 2,000 ft. elevation					
A or **B**	**C** or **D**	**E**	**B** or **F**	**G**	**H** or **I**
Southern New Hampshire below 1,000 ft. elevation					
A	**J** or **K**	**L**	**F** or **K**	**G**	**H**

A. **Hemlock forest** – Mostly in rocky ravines and on shallow rocky slopes

B. **Hemlock - oak - northern hardwood forest** – Rocky slopes and till soils up to 2,000 ft.

C. **Semi-rich mesic sugar maple forest** – Fine, mesic till soils and colluvial sites

D. **Sugar maple - beech - yellow birch forest** – Fine, mesic till soils mostly above 1,500 ft.

E. **Dry red oak - white pine forest** – Shallow, rocky till soils between 1,000 and 2,000 ft.; also on sand plains

F. **Hemlock - beech - oak - pine forest** – Very common in central and southern New Hampshire on mesic and dry-mesic till and alluvial soils; mostly below 1,500 ft.

G. **Hemlock - cinnamon fern forest** – Till or alluvial soils with a seasonally high water table

H. **Pitch pine - scrub oak woodland** – Fire-maintained community on coarse sand plain soils

I. **Mixed pine - red oak woodland** – Fire-maintained community on coarse sand plain soils in central New Hampshire

The Nature of New Hampshire

Dichotomous Keys

Draft Key to Habitats of Columbia County (still incomplete and in need of revisions)
(Oct. 30, 2015)

1. Habitats that have wet soils all year or typically have wet soils for at least 1-3 consecutive weeks during the growing season ..... (Wetland Habitats) 2

1. Habitats on soils that are drier..... (Upland Habitats) 4

2. Tidal wetland habitats with some direct hydrological connection to the Hudson River, and with regular water level fluctuations caused by ocean tides.....**Key to FRESHWATER TIDAL HABITATS** (NOT YET DEVELOPED FURTHER)

2. Non-tidal wetland habitats that are not directly connected to the Hudson River, or if directly connected, then upstream from regular tidal influence.....3

3. Wetland habitats that are dominated by trees (either with ≥ 30% tree canopy closure throughout the habitat, or by trees surrounding a *vernal pool* or *seep* with an open canopy above).....**Key to WOODED WETLANDS** (Page V)

3. Wetland habitats that are not dominated by trees (i.e. with < 30% tree canopy closure) .....**Key to OPEN WETLANDS** (Page V)

4. Upland habitats that have significant portions without topsoil.....5

4. Upland habitats with at least a thin layer of topsoil.....6

5. Naturally occurring bedrock outcrops .....**Key to ROCKY OUTCROPS** (NOT YET DEVELOPED FURTHER)

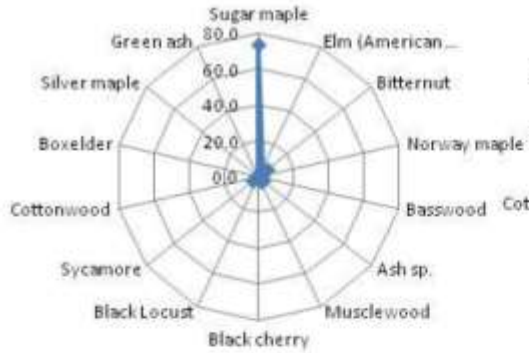
5. Bedrock or gravel beds exposed by mining activity.....**Gravel Pits and Quarries**

6. Upland habitats that have ≥ 30% tree canopy closure.....**Key to WOODED UPLANDS** (Page II)

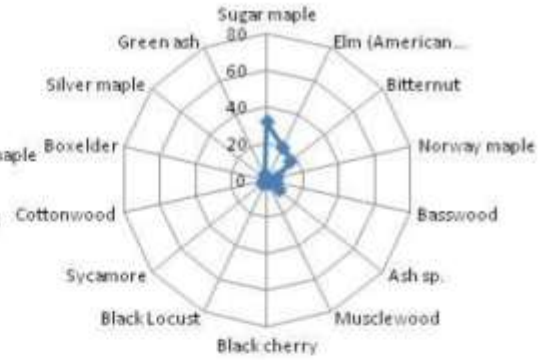
6. Upland habitats that have < 30% tree canopy closure.....**Key to OPEN UPLANDS** (Page IV)

Tabular Comparisons

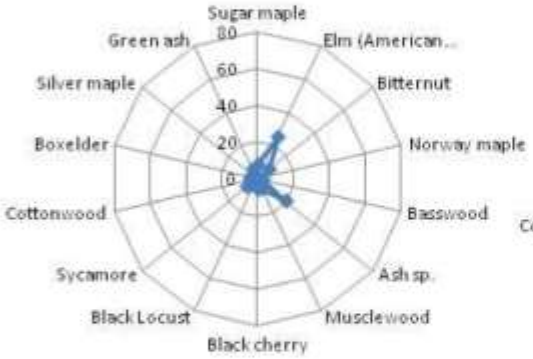
	FOREST TYPES									
	ancient					young				
	Hemlock	NrthernHardwood-Hemlock	Oak-Hickory	Rich Oak	Mature Sugar Maple	Young Sugar Maple	White Pine	Red Cedar	Dredge Spoil	Black Locust
TREE SPECIES	n=17	n=28	n=16	n=8	n=15	n=15	n=7	n=8	n=7	n=6
Hemlock	***	**	~	~	~	~	~	~	~	
Red Oak	**	**	***	***	**	**	*	*	*	~
Red Maple	**	**	**	***	~	*	**	~	*	~
Black Birch	**	**	*	**	~	~	~	~	~	~
Chestnut Oak	**	~	*	*	~			~		
Sugar Maple	*	***	~	**	***	***	**	*	~	*
Hop-hornbeam	*	**	*	*	*	*	~	**	~	
White Oak	*	*	**	*	*	~	~	~	~	
White Pine	*	~	~	*	~	*	***	*	~	*
Basswood	~	**	~	~	~	~				
Beech	~	**	~	~	~	~	*			
Yellow Birch	~	*	~			~				
White Ash	~	*	~	~	*	*	~	~	~	**
Musclewood	~	*	~	~	~		*	~		
Serviceberry	~	~	~	*	~		~			
Black Cherry	~	~	~	~	~	**	**	*	*	***
White Birch	~	~	*	*	~	*	***			
Red Cedar		~	~	~	~	~		***	*	~
Cottonwood	~	~			~				***	~
Black Locust	~	~			~	~		~	**	***
+ many others...										



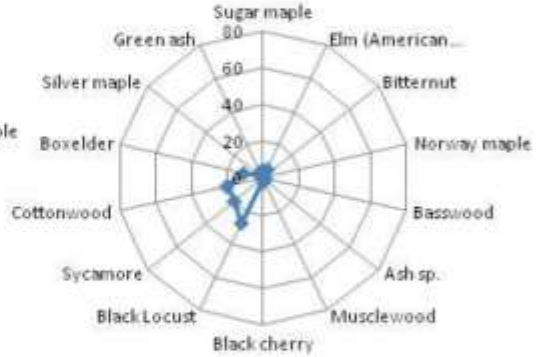
Sugar Maple - Dominated



Elm - Sugar Maple - Bitternut

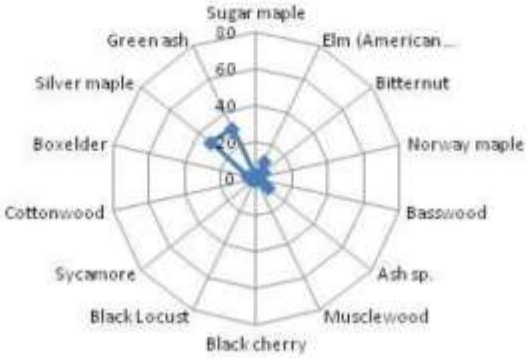


Elm – Ash - Black Cherry



Black Locust –
Sycamore - Cottonwood

Common Trees of Regional Types of Floodplain Forest



Green Ash – Silver Maple

Abstract Graphic Summaries


Nyaa, so, what works for you?