

MORE THAN YIELDS

Cultivating
Biodiversity
on Your Farm



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Vermont Organic Farmers and **Audubon Vermont** have created this field guide to help producers assess existing habitats on their farm. This guide is intended to supplement our farm biodiversity beneficial practices document, *More Than Yields: Cultivating Biodiversity on Your Farm* (scan the QR code on this page), and can be carried as you walk your farm to evaluate habitats and consider opportunities for enhancement.



As you flip through this guide, you'll find information about each habitat type. Each habitat is briefly defined, followed by management questions to consider and a list of characteristics associated with healthy, well-functioning habitat. Your answers may

not always align with the ideal habitat characteristics—and that’s okay! These differences are opportunities to identify ways to enhance habitat and support biodiversity on your farm. When you notice areas for improvement, refer to our beneficial practices document for more detailed information and practical ideas.

You may find the Seek or iNaturalist apps to be useful additional tools while assessing your land. These apps allow users to take or upload photos of plants, animals, or fungi in order to identify and learn about them. They may help you to identify both native and invasive plants or animals on your property.

*Scan this QR Code
to download Seek*



*Scan this QR Code
to download iNaturalist*



Grasslands

Open fields dominated by grasses and other non-woody plants.





Grasslands

WHAT TO LOOK FOR IN THE FIELD

Vegetation Composition

How much of this habitat consists of grasses? How much consists of forbs like milkweed, goldenrod or woody plants?

Are there invasive plants in the grassland, such as parsnip, knapweed, or bedstraw?

Hint: Seek or iNaturalist can help you here!

Size and Shape

Approximately how large is this field?

Is the field square/rectangular, long and narrow, and/or irregular in shape?

Location on the Landscape

What kind of habitats are nearby? Am I next to another grassland or surrounded by forest? Did I walk by a crop field to get here?

Do my neighbors have any land that looks similar to what I'm seeing?

Other

Where, if anywhere, have I created trails through or around this area? Through the middle? Along the edges?

When was the last time this field was cut or pastured?

CHARACTERISTICS OF HIGH-QUALITY HABITAT

50–75% grass cover with the remaining vegetation consisting of forbs such as goldenrods, red clover, milkweed, and few to no woody plants

Few or no invasive species (including but not limited to wild/poison parsnip, spotted knapweed, or red canary grass)

At least 10–25 acres

Square, rectangular, or circular in shape

Located near other open fields

Few to no trails, only along edges if necessary

Regularly cut or pastured to maintain as grassland (see *More Than Yields: Cultivating Biodiversity on Your Farm* for info on timing)

Shrublands

Dominated by short, weedy plant species, with trees, grasses, and forbs also present.





Shrublands

WHAT TO LOOK FOR IN THE FIELD

Vegetation Composition

How much of this habitat is covered by shrubs versus other plants?

How many of those shrubs are non-native or invasive? *Hint: Seek or iNaturalist can help you here!*

When looking at the shrubland boundary, do I see a smooth transition from grasses, to forbs, to shrubs, to young trees, to the canopy? Or do grasses and small shrubs make a hard stop against a tall wall of forest?

Size and Shape

Am I looking at a narrow strip of habitat? Or a large, wide area?

Roughly how many acres is this area?

Location on the Landscape

What kind of habitats or areas are nearby: Can I see the edge of a forest from here? Am I next to a grassland? Did I walk by a crop field to get here?

Are my neighbors' lands made up of similar habitats, or are they developed?

Other

When was the last time I mowed or brush cut here and how much of the area did I cut?

CHARACTERISTICS OF HIGH-QUALITY HABITAT

30–90% patchwork shrub cover, interspersed with trees and grasses or forbs

Few to no invasive species (including but not limited to honeysuckle, multiflora rose, and buckthorn)

“Feathered” forest edges and structural (vegetation height) gradient

Loosely rectangular or square, rather than narrow or linear

At least 5 acres

Near other shrublands as well as older forest

Distant from developed areas

Periodic mowing or brush cutting (see *More Than Yields: Cultivating Biodiversity on Your Farm* for info on timing)

Riparian Buffers

Transition zones along edges of rivers, streams, lakes, and other water bodies.





Riparian Buffers

WHAT TO LOOK FOR IN THE FIELD

Vegetation Composition

What plant species do I see in the buffer?

Do I recognize any invasive non-native plant species like Japanese Knotweed or Japanese Honeysuckle in the buffer area?

Hint: Seek or iNaturalist can help you here!

Do I see plants of different sizes and heights?

Size and Shape

How wide is the buffer?

Is the entire length of the waterway buffered?
Are there spots without vegetation?

Location on the Landscape

Does the riparian habitat connect to other habitats like grasslands, shrublands, or forests?

Other

Does the buffer area have logs on the ground or within the waterway?

CHARACTERISTICS OF HIGH-QUALITY HABITAT

Resembles a natural ecosystem that contains a variety of native plant species, ages, and sizes

Contains native trees, shrubs, grasses, and wildflowers in a complex vegetation structure

Have few to no stands of invasive vegetation such as Japanese knotweed

A minimum of 50 feet wide along the entire length of the waterbody

Wider buffers provide greater biodiversity benefits

Riparian buffers can act as corridors to connect patches of other habitat types that allow wildlife to move safely across the landscape

Contains dead woody material on the ground within the buffer and also within the waterway

Production Areas



Use this set of questions to evaluate your management practices within crop areas and pastures that simultaneously increase biodiversity and maintain or improve farm productivity.



Organic Farming Practices

- Could I use cover crops, crop residue, mulch, or reduced tillage to provide additional habitat and reduce bare soil?
- Could I add more diversity to my crop rotation?
- Could I reduce pesticide use through crop rotation, cover crops, intercropping, or other preventative practices?
- When pesticide applications are necessary, can I choose products and application methods that minimize impacts on non-target organisms?

Plant Cover Crops That Support Pollinators and Birds

- Could I adjust the timing of planting, mowing or incorporating cover crops to maximize flowering as a food source for pollinators?
- Could I use diverse cover crop mixes instead of a single species cover crop?
- Are there opportunities to maintain cover crops through the fall and winter to provide habitat for birds and other wildlife?

Create Diversity in Cropland

- Is there an opportunity to add perennial plantings (either cash crops or insectary strips) into production spaces as habitat for pollinators?
- Could I add cover crops or perennials to maintain flowering throughout the growing season?
- Where would trees and shrubs complement existing habitat without displacing important open grassland habitat?
- Do my pastures contain a diversity of grasses, legumes, and forbs?
- Could I increase the diversity of plant structures, root systems and flowering times in my pasture?

Greenhouse Production

- Are there ways to provide additional habitat for beneficial insects in my greenhouse through intercropping or growing more than one cash crop in the greenhouse?
- Do insects and birds have ways to escape my greenhouse if they enter?
- If I use commercial pollinators am I following practices that minimize risk to wild pollinators?



PHOTOS

Page 4: Long Pond Grassland, NOFA-VT

Page 8: Shrubland, Audubon Vermont

Page 12: Riparian Restoration, Shawn White/University of Vermont

Page 16: Earth Sky Time Farm, NOFA-VT

Page 19: Common Eastern Bumble Bee, Judy Gallagher/Flickr CC BY 2.0

*Page 20: Eastern Meadowlark, Christopher Baker/Audubon
Photography Awards*

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