

# Great Meadows National Wildlife Refuge

## Refuge Ranger



## Nature Journal

Turn this completed booklet in to the Billerica Recreation Department, or the Refuge headquarters in Sudbury, to receive your *Refuge Ranger* patch!

Name: \_\_\_\_\_



## Great Meadows National Wildlife Refuge



### Department of the Interior - U.S. Fish & Wildlife Service

This 3,600-acre refuge is situated along 12 miles of the Concord and Sudbury Rivers, portions of which are designated as Wild and Scenic. It is divided into three main units - Sudbury, Concord, and Billerica. Wetland, grassland, and forested areas provide habitat for a wide variety of wildlife, and provides visitors with excellent opportunities for wildlife viewing and nature study.

#### Sudbury Unit:

The trail at Weir Hill takes visitors on a  $\frac{3}{4}$ -mile long walk around marshes, uplands, woodlands, fields, river, brook, and pond. A Visitor Center is open Monday thru Friday from 8:00 a.m. until 4:00 p.m.

Directions: Follow Route 62 west into Concord Center. Take a left onto Walden Street. Go straight across Route 2 onto Route 126 south. In Wayland, 3.8 miles from Route 2, take a right onto Sherman's Bridge Road. After 1.4 miles, turn right onto Weir Hill Road. Entrance to the refuge is on the right.

#### Concord Unit:

Several trails are available for wildlife observation, including the Dike Trail, a 2.7-mile loop around one of the impoundments. Trailside interpretive signs and an observation tower provide visitors with additional views and information about the refuge, its management, and its wildlife.

Directions: Follow Route 62 west to Concord. Turn right onto Monsen Road. Entrance to the refuge is on the left, at the bend in the road.

#### Billerica Unit:

In 2000 this new trail and parking area were added to the refuge through cooperative efforts with the Sudbury Valley Trustees. This trail meanders along the Concord River, providing visitors with interesting views of the water.

Directions: Follow Route 4 south. Just over the Concord River bridge, turn right into the parking area.



A few things to remember to keep wildlife observation enjoyable for everyone:

- Trails are open from dawn until dusk
- Please stay on the marked trails
- Dogs are not allowed
- No bicycles

Enjoy exploring Great Meadows National Wildlife Refuge! For more information about the Eastern MA National Wildlife Refuge Complex, please visit our web site at [www.fws.gov/northeast/easternmanwrcomplex](http://www.fws.gov/northeast/easternmanwrcomplex). This program is made possible with funds from the Wild and Scenic River Small Grants.

## Food Chain

### Exploring Nature

Try to find both living and nonliving things. Please stay on the trails, and don't harm, move, or take away anything you find - animals and plants depend on them!

#### *Nonliving things:*

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| <input type="checkbox"/> dew drops   | <input type="checkbox"/> smooth rock |
| <input type="checkbox"/> shiny rock  | <input type="checkbox"/> sand        |
| <input type="checkbox"/> broken rock | <input type="checkbox"/> water       |
| <input type="checkbox"/> sunlight    | <input type="checkbox"/> clouds      |

#### *Living things:*

- |   |                                       |
|---|---------------------------------------|
| <input type="checkbox"/> flat green leaf          | <input type="checkbox"/> pine needles |
| <input type="checkbox"/> green leaf w/pointy edge | <input type="checkbox"/> insect       |
| <input type="checkbox"/> green leaf w/insect hole | <input type="checkbox"/> flower       |
| <input type="checkbox"/> mushroom                 | <input type="checkbox"/> moss         |
| <input type="checkbox"/> squirrel                 | <input type="checkbox"/> chipmunk     |
| <input type="checkbox"/> bird                     | <input type="checkbox"/> worm         |

#### *Signs of living things:*

- |                                       |  |
|---------------------------------------|--|
| <input type="checkbox"/> ant hill     | <input type="checkbox"/> nest              |
| <input type="checkbox"/> broken twigs | <input type="checkbox"/> fur or feathers   |
| <input type="checkbox"/> spider web   | <input type="checkbox"/> animal footprints |

Plants make food for all living things and use the sun's energy to grow. When animals eat plants, they get energy. You also get energy from eating food. Your food may be plants or animals.

A food chain shows how energy is passed from one living thing to another. All food chains start with plants. You can make your own food chain! Draw plants, small animals, and larger animals on slips of paper and join them together in the correct order to form a "food chain".

## It's All in the Details

Field scientists often sketch, draw, or photograph the plants and animals they study. Try your hand at drawing pictures of a plant or animal you can easily observe at *Great Meadows National Wildlife Refuge*. Use your pencil to capture details, such as shapes, colors, or design.

## Take a Closer Look

People use different tools to help them get a closer look at plants and animals. Use binoculars, a spotting scope, and magnifying glass to see a plant or animal up close. Make a sketch below.

## Animal Watcher

Scientists and nature lovers use field markings (special patterns, marks, or shapes found on the animal's body), behaviors, and a song or call to identify animals. Use these three things to identify at least three kinds of birds or other animals found at Great Meadows National Wildlife Refuge. Use field guides to help you.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

## How Was Your Day?

Field biologists learn a lot about animals by observing them doing everyday things, such as eating. Pick a wild animal that you can easily observe. Watch the animal for a while to try to discover three of the following:

- What does it like to eat?

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- Where does it spend most of its time?

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- How does it get around?

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- How does it keep clean?

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- How does it communicate?

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- How does it care for its young?

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## We Are Family

Scientists group all organisms (living things) according to characteristics that they share. Pick two of the wildlife groups listed here and learn what characteristics all of its members share. Use field guides, if you need help:

Amphibians  
Insects  
Plants

Birds  
Mammals

Fish  
Reptiles

Group 1:

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Shared Characteristics:

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Group 2:

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Shared Characteristics:

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## Creature Feature

All birds have a beak, but the shape and size of it depends on what the bird eats. For each of the following, choose the tool that best matches how each bird uses its beak as a tool to eat its food.

<u>Bird</u>	<u>Food</u>	<u>Tool</u>
Hawk	tears meat	_____
Duck	strains water for tiny plants	_____
Hummingbird	drinks nectar from long flowers	_____
Woodpecker	picks larvae hiding under tree bark	_____
Goldfinch	cracks seeds	_____

## What's a Habitat?

Unscramble the words below. The clue underneath the blanks will help you. Then you will discover the four most important things that a plant or animal needs in order to survive.

1. \_\_\_\_\_  
o f o d

Clue: When you're hungry and your stomach is growling, you need to find some of this.

2. \_\_\_\_\_  
t a w r e

Clue: When you're thirsty, this is the best liquid for you to drink, and it's not soda!

3. \_\_\_\_\_  
p a s e c

Clue: This one word means a place to live and it rhymes with place.

4. \_\_\_\_\_  
t e l h s e r

Clue: If you were outside and there was a bad storm, you would look for this type of place.

## Make a Habitat

Pick one animal you could find at Great Meadows National Wildlife Refuge and draw a complete habitat for it to live in. Don't forget to include food, water, and shelter for your animal!