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## WILDFLOWER RESTORATION PROJECT



Interpretive Wildflower Program

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**WILDFLOWER RESTORATION PROJECT**

# Interpretive Wildflower Program

## Theme

The native wildflowers we will see today are found in less than half of New York's forests due to the extensive farming that occurred over the past few centuries, but we can help them regain their long lost territory and restore our forests' natural beauty and diversity.

## Program type

nature walk

## Audience

all ages

## Length

45 minutes

## Supplies

NYS Wildflower Identification  
Guide

### Tangibles

- ▶ wildflowers
- ▶ farms
- ▶ soil
- ▶ sunlight
- ▶ seeds
- ▶ pollen
- ▶ fruit
- ▶ insects
- ▶ forest

### Intangibles

- ▶ pollination
- ▶ dispersal
- ▶ growth
- ▶ restoration
- ▶ home
- ▶ forest ecology
- ▶ diversity
- ▶ beauty
- ▶ health
- ▶ saving (the forest)

## Concepts covered

1. Agricultural effects on wildflowers
2. Wildflower identification
3. Plant life cycle
4. Wildflower recovery: what can we do?

### Universals

- ▶ beauty
  - ▶ health
  - ▶ saving
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# Program Outline

### Agricultural Effects on Wildflowers

- New England was heavily farmed in the 1800s, leading to an agricultural peak near 1900, and followed by a steady decline. Now, abandoned farmland covers over fifty percent of New York State. The land is reforested, but not entirely restored.
- Wildflowers are spreading into these lands, but the process is very slow; 70 to 100 years after abandonment, wildflowers are still missing from most of these forests.
- What could be preventing native flowers from spreading back through the forest? Tell the audience to keep this question in mind during the program.

### Wildflower Identification

- Throughout the walk, identify flowers as you come across them.
- Teach the audience how to identify the flowers by their size, petals, leaves, etc.

### The Plant Life Cycle

#### Early plant growth

- The proper conditions, including environmental factors such as temperature, water, oxygen, and sunlight, trigger a seed to germinate, or sprout.
- The roots grow downward to anchor the plant and absorb water and nutrients from the soil.
- The shoot grows upward to transfer water and nutrients to the leaves, which capture sunlight.
- Sunlight, water, and carbon dioxide are used to create sugar in the process of photosynthesis. This creation of food is necessary for plant growth.

#### Pollination and Fertilization

- Eventually, flowering plants “flower,” for the purpose of reproduction.
  - Find a flower with stamens and a pistil and describe the functions of these reproductive organs. Stamens produce pollen at their tips, called anthers, with the hope that these pollen grains will happen upon the pistil of another flower and stick to its tip, called a stigma.
  - Pollen is dispersed via wind, water, insects, and/or animals.
  - A pollen grain stuck to a stigma grows a long tube extending down to the ovary at the base of the pistil. Fertilization occurs and the ovary grows.
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- Eventually the petals dry up and fall off, and the fertilized ovary becomes a fruit containing seeds.

### Seed Dispersal

- Fruits entice insects and animals to eat the seeds and subsequently disperse them in their excrement. Ants play a significant role in the seed dispersal of many flowering plants.
- Some plants form dry fruits called burs that cling to animal fur and are dispersed in this way.
- Wind and water also play a role in some seed dispersal mechanisms.

### What Limits Wildflower Recolonization?

- Ask the audience what they think may be preventing wildflowers from growing on abandoned farmland. Possible answers include poor soil quality, a lack of nutrients or moisture, differences in terrain, and a lack of pollinators or dispersers.
- In reality, post-agricultural lands are not significantly different from primary forests. They have similar soils, nutrient availability, sunlight exposure, moisture, and terrains. These plants are just dispersed slowly.
- This is actually preferable to the alternative because it is easier for us to plant seeds than to change the environmental conditions within the post-agricultural lands.

### What Can We Do?

- We can help our forests recover by planting native wildflowers. This not only brings back the beautiful plants, but also the insects and animals that pollinate their flowers and disperse their seeds, including bees, butterflies, and mammals.
- Planting them is easy. Simply collect the fruits and seeds and take them to an area of the forest that lacks these flowers. Use a trowel to scrape the top soil away, place several seeds on the scraped area and cover them with a thin layer of soil. Remind the audience that they may only do this on their own property or with permission from the property owner.
- If you are participating in the Wildflower Restoration Program at a later date, give the audience the details: date, time, equipment they should bring, and length of the program.
- Thank the audience for attending.

Note: Modify the program depending on your audience. For example, the average volunteer group is probably not interested in the names of reproductive plant organs. This information is more relevant to high school and college biology students.

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