

26



A



I like drawing things that are hard to see like like wind blowing through the trees or over an open field. When outside my senses are wide open to this sometimes quiet, sometimes stormy movement of air and once back in my studio I make drawings of those experiences.

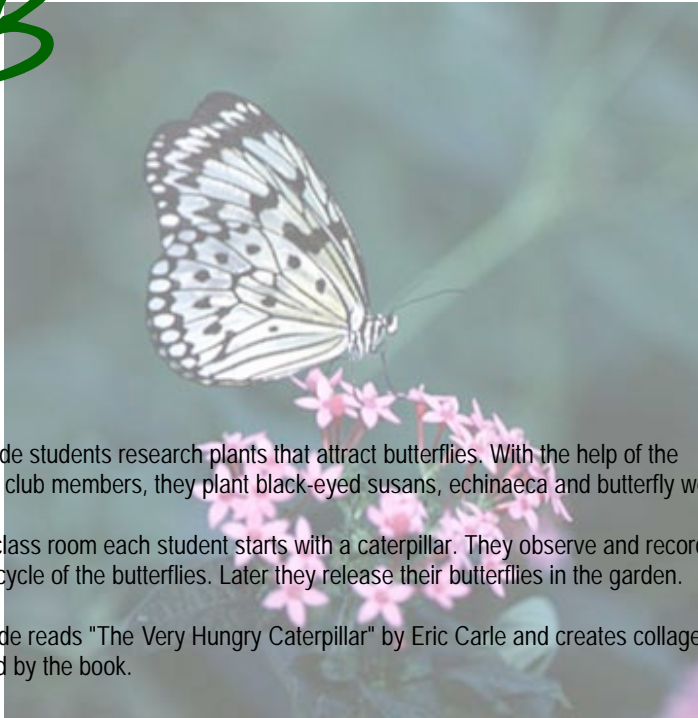
Try standing still in any spot outdoors (why not right here in the garden?), close your eyes and detect any movements of air around you and try drawing it later.

Jaanika Peerna, local artist and mother of Umru 5th grade

Things To Explore
in the Haldane Garden

Air

B



4th grade students research plants that attract butterflies. With the help of the garden club members, they plant black-eyed susans, echinacea and butterfly weed.

In the class room each student starts with a caterpillar. They observe and record the lifecycle of the butterflies. Later they release their butterflies in the garden.

1st grade reads "The Very Hungry Caterpillar" by Eric Carle and creates collages inspired by the book.

C



Dave Llewellyn and Lise from Glynwood looked at the garden site and offer help on a planting schedule.

Philipstown Garden Club and Highlands Garden Club have partnered with the school garden to bring three generations working together and learning from each other.

Glynwood Farms, a local sustainable farm, Stonecrop Gardens, and Hudson Highland Land Trust donate time and expertise to help plan the garden and educate our children.

Cornell Cooperative Extension will help with integrating curriculum into the garden.

The middle school kids have a large combined garden plot encouraging teamwork. The produce harvested in this plot can be donated to the local food pantry, senior center and the school for healthy snacks.

Local wildlife educator Pete Salmansohn with the help of Melissa Angier, mother of Sonya and Rowen, takes 1-5th graders exploring in the Nelsonville Forest adjacent to the school.

Butterflies

Community

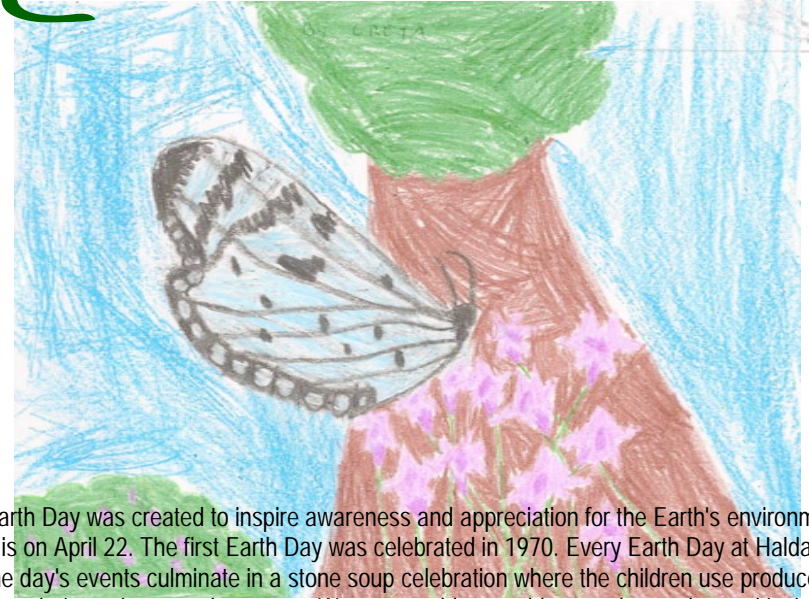
D



We observe, investigate and describe the world around us in drawing.

Drawing

E



Earth Day was created to inspire awareness and appreciation for the Earth's environment. It is on April 22. The first Earth Day was celebrated in 1970. Every Earth Day at Haldane, the day's events culminate in a stone soup celebration where the children use produce from their garden to make a soup. We set up tables outside near the garden and invite the community to feast.

Earth Day drawing by Roisin 3rd grade
Recycle drawing by Greta 3rd grade

Earth Day

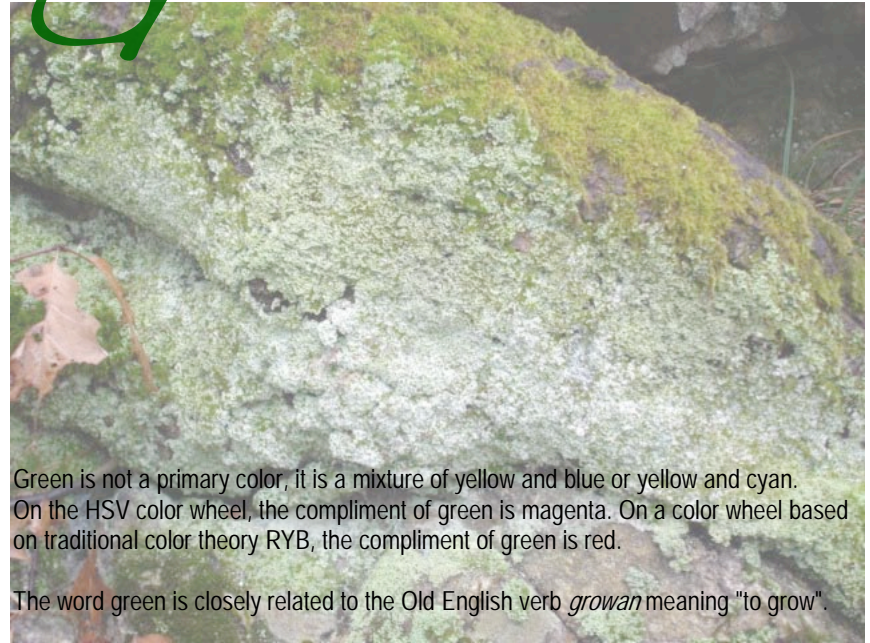
F



The middle school students grow salad greens and tomatoes to use in the school lunch program.

Sandy Mckelvey, mother of Joia kindergarten and Robert pre-k, helps implement a Farm to School program. Haldane partners with local farms, and throughout the year, fresh, seasonal fruits and vegetables are included in the school lunch program. Students organize taste tests and tried all sorts of new vegetables. Classes visit the farms at different times of the year and learn about the growing cycle of the food they eat.

G



Green is not a primary color, it is a mixture of yellow and blue or yellow and cyan. On the HSV color wheel, the compliment of green is magenta. On a color wheel based on traditional color theory RYB, the compliment of green is red.

The word green is closely related to the Old English verb *growan* meaning "to grow".

Several minerals have a green color, including emerald, which is colored green by chromium. Reptiles, amphibians, fish, insects and bird can be green. By far the largest contributor to green in nature is chlorophyll, the chemical by which plants photosynthesize.

Farm to School

Green

H



Theo 6th grade, Sonya 8th grade and Freya 3rd grade use their hands.

I



Cassie and Hallie 5th grade Eco-Explorers find a newt in James Pond with local wildlife educator Pete Salmansohn.

Hands Indigenous Species

J

The 1st grade read "Jack in the Beanstalk" and grow a bean teepee. Later they can use part of their harvest to make a bean seed necklace.

Older student dissect a bean seed.

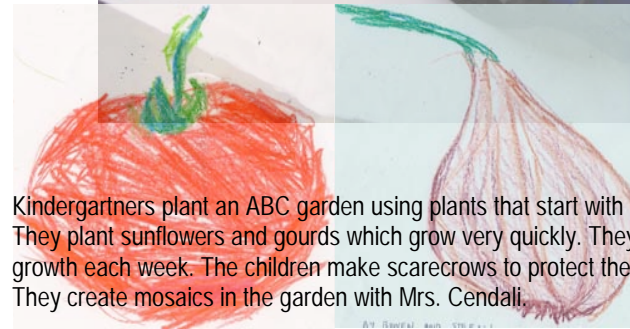
All students read legends, myths, stories and fables in the garden.



Jack and

the Beanstalk

K



Kindergartners plant an ABC garden using plants that start with each letter of the alphabet. They plant sunflowers and gourds which grow very quickly. They measure and chart their growth each week. The children make scarecrows to protect the garden. They create mosaics in the garden with Mrs. Cendali.

Tomato and onion drawings by Rowen pre-k and his father Stefan

Kinder Garden

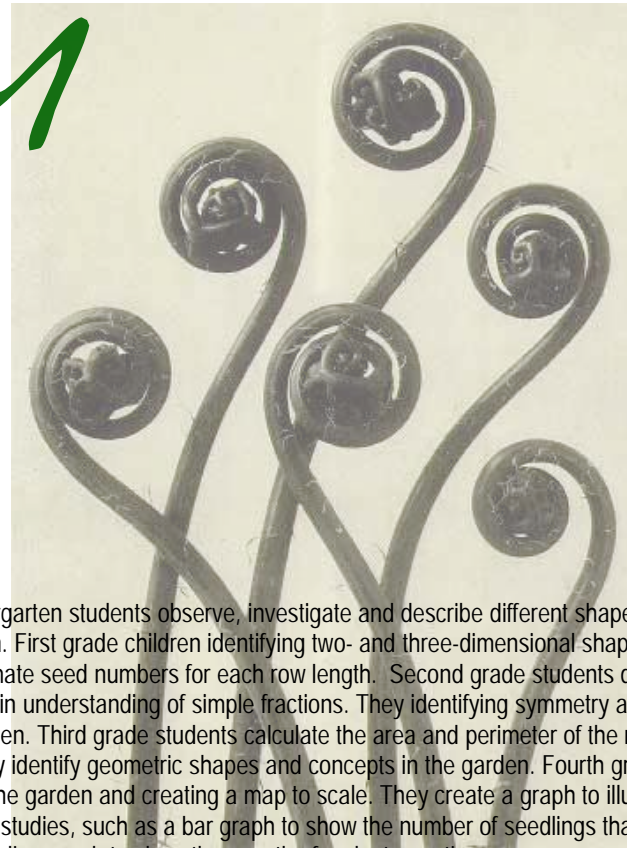
L



The children observe, investigate and describe the life cycle of a plant from seed to germination to plant development (roots, stems and leaves) to flowering to pollination to seed production to plant decomposition. The children make a seed viewer to observe the process. They collect the seeds for the next generation.

Life Cycles

M



The kindergarten students observe, investigate and describe different shapes they found in the garden. First grade children identifying two- and three-dimensional shapes in the garden. They estimate seed numbers for each row length. Second grade students divide garden beds to gain understanding of simple fractions. They identifying symmetry and asymmetry in the garden. Third grade students calculate the area and perimeter of the raised garden beds. They identify geometric shapes and concepts in the garden. Fourth grade students measure the garden and creating a map to scale. They create a graph to illustrate data from plant studies, such as a bar graph to show the number of seedlings that sprout or a line graph to show the growth of a plant over time.

Math

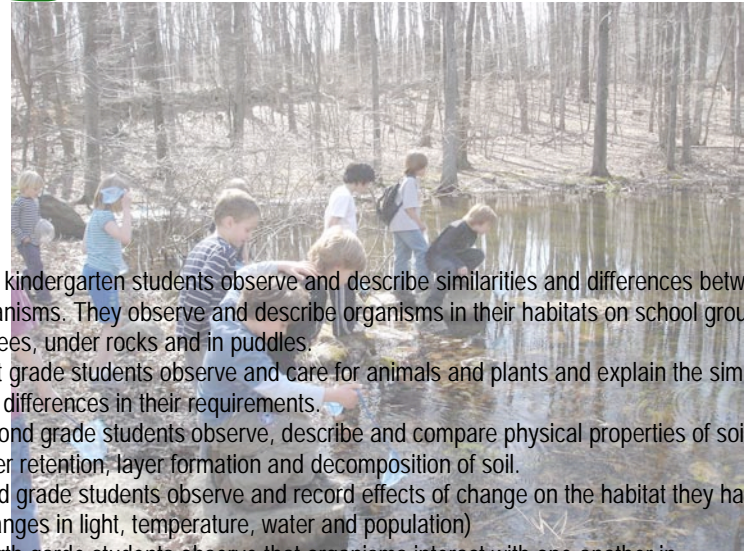
N



Native plants (also called indigenous plants) are plants that have evolved over thousands of years in a particular region. They have adapted to the geography, hydrology, and climate of that region. Native plants occur in communities, that is, they have evolved together with other plants. As a result, a community of native plants provides habitat for a variety of native wildlife species such as songbirds and butterflies.

Native Plants

O



The kindergarten students observe and describe similarities and differences between organisms. They observe and describe organisms in their habitats on school grounds, in trees, under rocks and in puddles.
First grade students observe and care for animals and plants and explain the similarities and differences in their requirements.
Second grade students observe, describe and compare physical properties of soil, water retention, layer formation and decomposition of soil.
Third grade students observe and record effects of change on the habitat they have created. (changes in light, temperature, water and population)
Fourth grade students observe that organisms interact with one another in various ways besides providing food. They investigate ways that many plants depend on animals for carrying their pollen to their plants or dispersing their seeds.
Fifth grade students observe, investigate, describe and classify living things; explain life cycles, diversity, adaptation, structure and function of cells and systems reproduction, heredity, interdependence, behavior, flow of energy and matter and changes over time.

Observation

P



We plant ingredients for our pizza, tomatoes, peppers, onions, basil and oregano. The kids make pizza themselves and there are no leftovers at lunch.

They research the history of pizza and the tomato learning about Old World and New World plants. Did you know the first pizzas were Old World and did not include tomatoes, which are a new world plant?

Pizza

Q



If no questions are asked- nothing is learned.

"What is a weed?" The answer is not so simple.

The term weed is a subjective one, since a "weed" is not a weed when growing where it belongs or is wanted.

Questions

R



Recycling processes used materials into new products preventing waste, reducing use of new materials, reducing use of energy and reducing pollution.

Composting reuses garden and food waste turning it into rich soil that can be reused in the garden. The kids make their own compost and use it in the garden.

Recycled tire planters were used in the garden to plant perennials.

Recycling

S



The students use their senses of sight, hearing, taste, smell and touch in the garden.

Senses

T



Sixth grade students learn about the Three Sisters tradition used by Native Americans. They plant corn, squash and beans close together to assist each other in taking in nutrients, pest control and pollination. They research companion planting as a way to reduce pesticides and promote biodiversity.

2nd Grade plants marigolds to deter aphids and to attract hoverflies.

U



The Cherokee word for South. It also means warm. South is the direction from which we get the most sun. The color for South is white which is equated with peace and happiness.

The students make a sundial in the garden. They find the latitude of the garden's location. Using a compass, they find due North. They read the time by observing where the shadow is cast on the dial.

Three Sisters U-GA-NO-WA

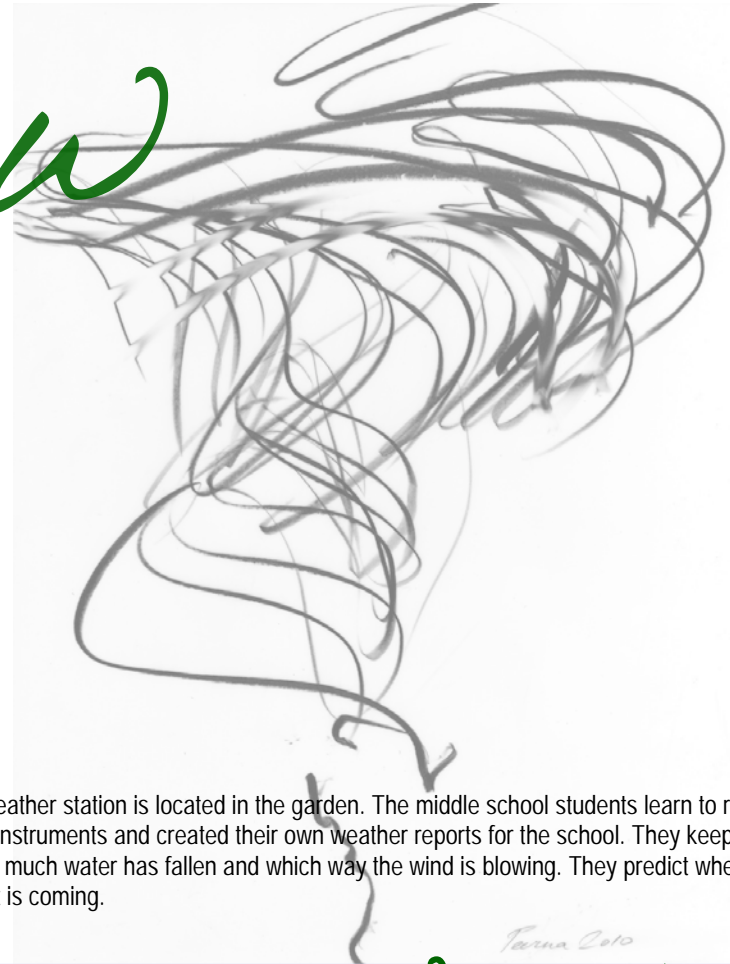
✓



We plant fruits and vegetables that have a wide range of vitamins. Plants of every color represent a healthy diet. The kids learn how the different plants grow, a carrot in the ground, beans on a vine, and brussel sprouts on a stalk. We learn to respect and take care of the soil where our food comes from.

Vegetables

W



A weather station is located in the garden. The middle school students learn to read the instruments and created their own weather reports for the school. They keep track how much water has fallen and which way the wind is blowing. They predict when a frost is coming.

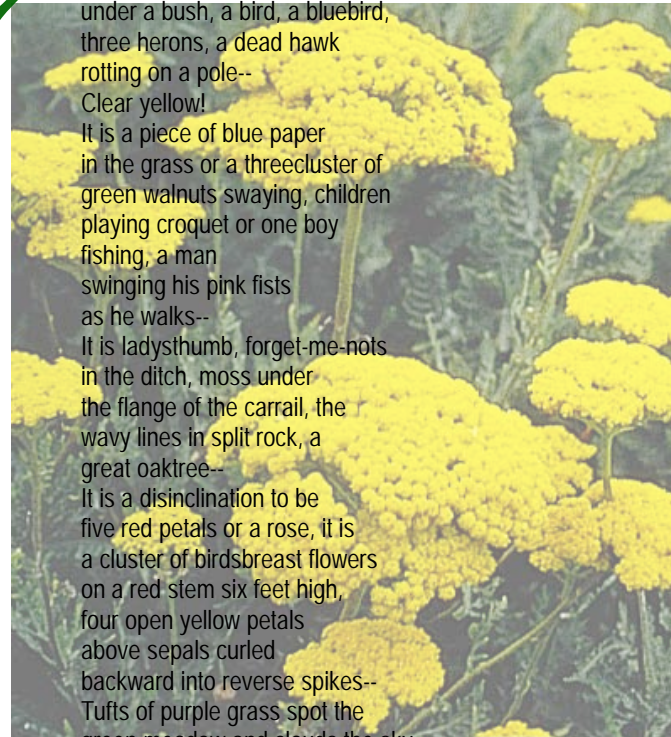
Weather

X



Kindergarten students design a geometric garden. Shapes included are squares, triangles, and hexagons. First grade students examine symmetry. Middle school students create a border around a triangular garden spot which they know measurements for two sides. They use the Pythagorean Theorem to calculate the third side and complete the garden.

Y



Yellow, yellow, yellow, yellow!

It is not a color.

It is summer!

It is the wind on a willow,
the lap of waves, the shadow
under a bush, a bird, a bluebird,
three herons, a dead hawk
rotting on a pole--

Clear yellow!

It is a piece of blue paper
in the grass or a threecluster of
green walnuts swaying, children
playing croquet or one boy
fishing, a man
swinging his pink fists
as he walks--

It is ladysthumb, forget-me-nots
in the ditch, moss under
the flange of the carrail, the
wavy lines in split rock, a
great oaktree--

It is a disinclination to be
five red petals or a rose, it is
a cluster of birdsbreast flowers
on a red stem six feet high,
four open yellow petals
above sepals curled
backward into reverse spikes--

Tufts of purple grass spot the
green meadow and clouds the sky.

-William Carlos Williams

X

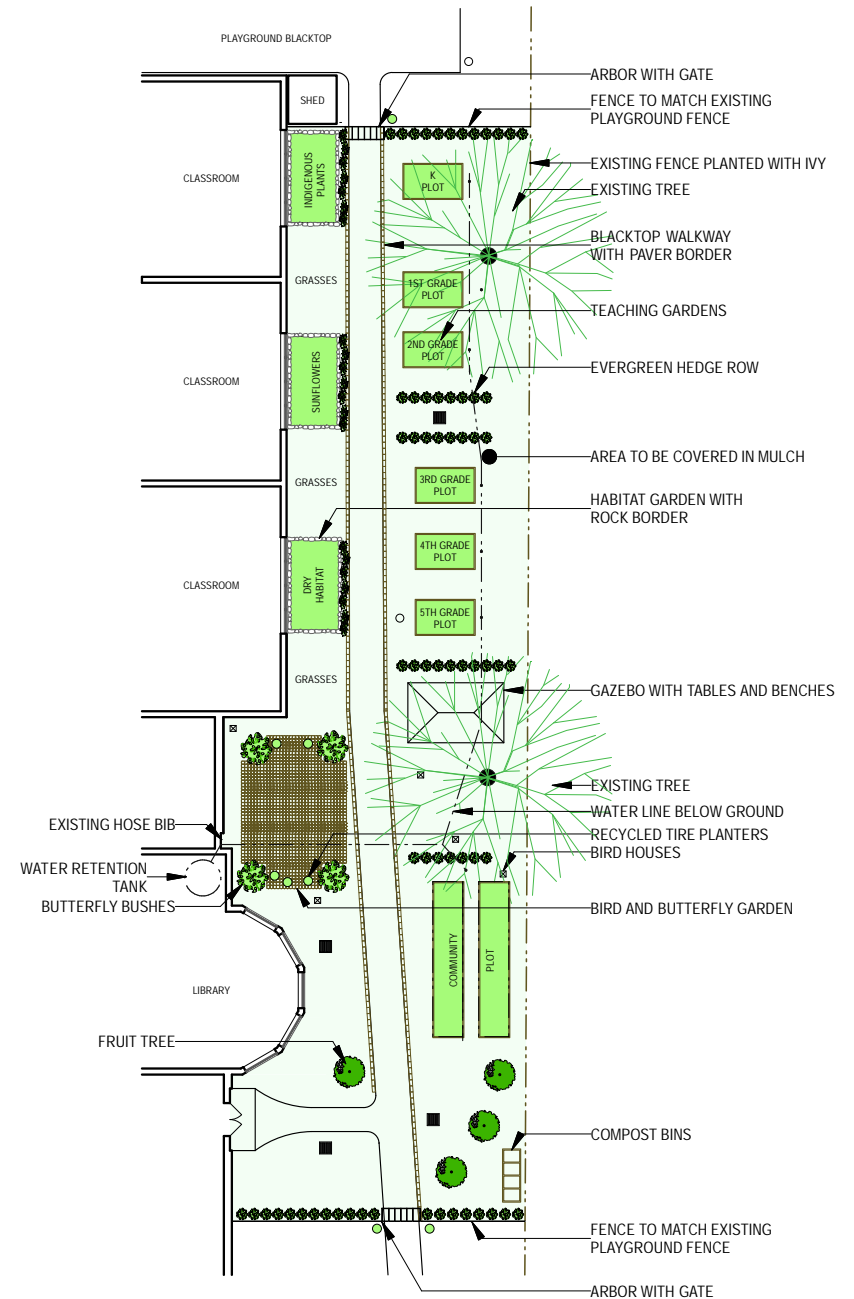
Yellow

Z



Zizia Aurea is the scientific name for Golden Alexanders. The flowers are attractive to many kinds of insects seeking pollen or nectar, especially short-tongued bees, wasps, flies, and beetles. Among the short-tongued bees are such visitors as Green Metallic bees, Masked bees, and Andrenid bees. Wasp visitors include Eumenine wasps, Spider wasps, Ichneumonid wasps, and Crabronine wasps. Bumblebees, Nomadine Cuckoo bees, small butterflies, and plant bugs also visit the flowers. Notwithstanding all of these visitors, this plant is capable of self-pollination. The caterpillars of the butterfly *Papilio polyxenes asterius* (Black Swallowtail) eat the leaves and flowers.

Zizia Aurea



HALDANE'S HABITAT

A space dedicated to the study and reflection of our environment, its impact on us and our impact on it.