

POD³ Triangle Regional Symposium
Healthy Early Childhood Outdoor Learning Environments
June 21st, 2013
Bird and Butterfly Wildlife Gardens



Creating Wildlife Gardens in Child Care



The Natural Learning Initiative • College of Design • NC State University

Benefits of Wildlife Gardens

- Creates dynamic outdoor classroom.
- Expands educational opportunities for teachers and children.
- Creates positive change in local environment.
- Supports children's natural curiosity.
- Promotes children's sense of stewardship and a sense of place.



Children and Wildlife

- Stimulate caring and responsible attitude toward other living things.
- Children will interact with, talk to, invest in emotionally.
- Requires supervision, management, policies.



Wildlife in Childcare Centers

In and around the outdoor space

- Birds
- Butterflies
- Small animals, amphibians, reptiles
- Fish, frogs, pond life



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Creatures and Bugs



Row 1: Garden snail, Black White Orange Caterpillar, Worms, Grasshopper,
 Row 2: Red-eared Turtle, Dragonfly, Orb Spider, Lady Bug

Ecosystem



- A whole community of living things, non-living elements, and their interrelationships.
- A complex, shared habitat.

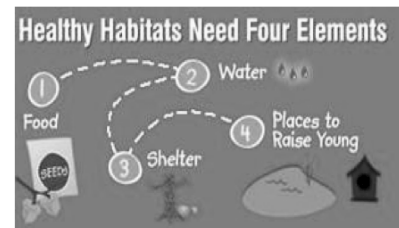
What is Habitat?

- A place where species get what they need to survive.
- A plant or animal's home.



Wildlife Habitat Basic Requirements

- Food
- Water
- Shelter
- Places to Raise Young



<http://www.nwf.org/How-to-Help/Garden-for-Wildlife/Gardening-Tips.aspx>

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Food

- Use Native Plants for local and migrating wildlife.
- Natural Sources of Food
 - Foliage
 - Nuts, seeds
 - Fruit
 - Sap
 - Nectar, pollen
 - Roots
- Feeders are OK as supplemental sources of food.



Water

- For drinking, bathing, breeding.
- Sources
 - Birdbaths
 - Streams, creeks, ponds
 - Lakes, rivers, coast
 - Wetlands
- Combination of sources.
- Change water frequently.



Cover

- Feeding, hiding, courting, nesting.
- Protective from the heat, cold, wind, rain and predators.
- Sources
 - Living and dead trees
 - Dense shrubs
 - Grasses
 - Rocks and brush piles
 - Constructed nesting boxes



Places to Raise Young

- Examples
 - Areas for nesting
 - Plants for butterfly larvae
 - Pond water for tadpoles
- Sources
 - Trees and bushes
 - Holes in the ground
 - Water and rain gardens
 - Host plants for caterpillars



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Native Plants

All about the plants

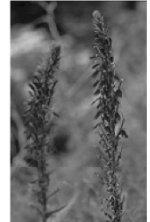
- Promote diversity of plant species in our communities.
- Provide the best overall support for local wildlife species.
- Produce more pollen (bees), nectar (butterflies), seeds (birds).
- Require less water and overall maintenance.



Plant Selection

- Choose native plants.
- Choose plants to fit your site.
- Plan for summer.
- Interest in every season.
- Variety of textures and foliage.

NCSU Cooperative Extension
<http://www.ncsu.edu/goingnative/index.html>



Sustainable Gardening Practices

- Work in harmony with nature – environmentally friendly.
- Improve the health of the garden.
- Minimize negative impact on environment.
- Practices
 - Mulching to conserve moisture
 - Use native, drought-tolerant plants
 - Reduce/eliminate use of chemicals
 - Composting
 - Water conservation



Maintain Your Schoolyard Habitat

Regular and Ongoing Maintenance

- Watering
- Cleaning and Refilling
- Weeding
- Cleaning Feeders
- Maintaining compost pile



Involve students, parents, teachers and community

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Let's Visit Some Wildlife Habitats

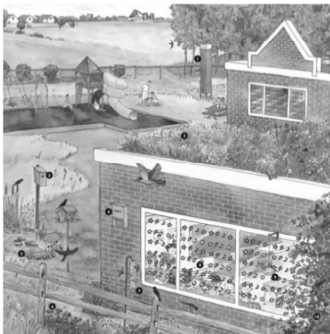


Simple Ways to Create Habitats

- Planter with native plants
- Bird baths
- Logs and rocks
- Dead Trees
- Fruit bearing shrubs
- Compost pile



Attracting Birds



An Invitation to a Healthy Schoolyard www.audobonathome.org/birdstohelp

Attracting Birds

- Flowers
- Trees
- Shrubs
- Grasses
- Feeders



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BIRD BATHS

- Sloped sides, rough surface.
- Locate near bird cover.
- Change the water every few days.
- Keep the bath scrubbed clean.
- Running water and a drip or misting feature will increase the number of visitors.
- Water heaters will keep the water free of ice during winter months in colder climates.



Birds Nests

- Birds nest to raise their young.
- Natural sources
 - Ledges, trees, shrubs, ground,
- Supplemental sources –
 - Nest Box, Gourds
 - 5 feet above ground
 - Ventilation and drainage holes



Butterfly Garden

- Choose a sunny location.
- Scented, colorful plants.
- Plant two types of plants
 - Host plants provide nutrition for hatched caterpillars
 - Nectar flowers for adult butterflies
- Flat rocks for resting places.
- Water for “puddling”.
- Avoid pesticides.



Milkweed is attractive to all butterflies as a nectar food source, but only Monarch caterpillars can eat the plant.

Plants to Attract Butterflies in NC

Annuals	Perennials
Alyssum	Asters
Marigold	Butterfly Bush
Salvia	Purple Coneflower
Sunflower	Black-eyed Susan
Zinnia	Phlox
Verbena	Milkweed
Snapdragon	Joe Pye Weed



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**Top Ten Easy-to-Grow Perennials and Shrubs
 for Attracting Butterflies and Hummingbirds**

1. Butterfly bush *Buddleja davidii*
2. Anise hyssop *Agastache* spp.
3. Beebalm *Monarda didyma*
4. Black-Eyed Susan *Rudbeckia hirta*
5. Cardinal flower *Lobelia cardinalis*
6. Salvia *Salvia greggii*
7. Liatris *Liatris spicata*
8. Aster *Aster* spp.
9. Yarrow *Achillea millefolium*
10. Goldenrod *Solidago* spp.



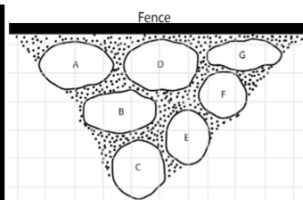
Natural Learning Initiative, Green Desk Post on

**Top Ten Easy-to-Grow Perennials, Shrubs and Trees
 for Attracting Birds to Children's Gardens**

1. American beautyberry *Callicarpa dichotima*
2. Blueberry *Vaccinium* spp.
3. Purple coneflower *Echinacea purpurea*
4. Dogwood *Cornus florida*
5. Cornelian Cherry *Cornus mas*
6. Miscanthus *Miscanthus sinensis*
7. Sunflower *Helianthus annuus*
8. Sweetbay magnolia *Magnolia virginiana*
9. Coreopsis *Coreopsis* spp.
10. Purple-top verbena *Verbena bonariensis*

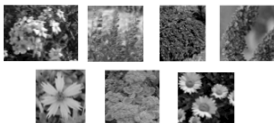


Sample Plans



- PLANT LIST
- A. 3 Phlox paniculata 'Eva Cullum'
 - B. 2 Penstemon 'Prairie Dusk'
 - C. 2 Bee balm (Monarda 'Petite Delight')
 - D. 1 Butterfly bush (Buddleja davidii 'Nanho Blue')
 - E. 3 Coreopsis auriculata 'Nana'
 - F. 1 Sedum 'Brilliant'
 - G. 2 Daisy (Leucanthemum 'Becky')

Better Homes and Gardens (www.bhg.com)



Butterfly Container Garden Ideas



Pentas 'Butterfly Red'



- A. Bronze fennel
- B. Naturnium
- C. Sweet potatoe vice
- D. Sage

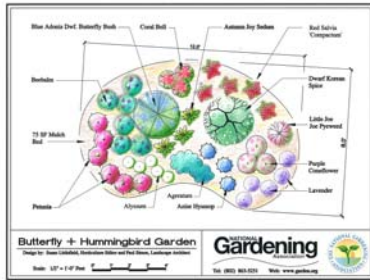


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Better Homes and Gardens (www.bhg.com)

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Butterfly and Hummingbird Garden



Learning Activities in the Garden

Whole child development -

Literacy, math, science, language,
 social studies, geography, arts,
 dramatic play

- Bird watching
- Life cycles of butterflies
- Relationship between animals and plants
- Plant pollinators
- Wildlife safari
- Nature journals



Nature Detectives

- Journaling.
- Scavenger hunt.
- Observation skills.
- Simple tools (magnifiers, binoculars, containers).
- Make predictions, record data, draw conclusions.
- Create schoolyard field guide.
- Teacher take photos.
- Create project approach to learning.



Place-Based Education: Connecting Classroom and Communities, David Sobel

Children's Books



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Resources

- Project Wild (www.projectwild.org/GrowingUpWILD/htm)
- Nest boxes: <http://migratorybirds.fws.gov/pamphlet/pamphlets.html>;
- North American Bluebird Society (www.nabluebirdsociety.org)
- <http://www.audubonathome.org/schoolyard/>
- <http://www.kidsgardening.com/growingideas/projects/>
- <http://www.ncsu.edu/goingnative/index.html>
- North Carolina Botanical Garden
<http://ncbg.unc.edu/plants-and-gardening/>



Schoolyard Habitats Program
National Wildlife Federation
11100 Wildlife Center Drive
Reston, VA 20190-5362



Children and Nature

"As a child, one has that magical capacity to move among the many eras of the earth; to see the land as an animal does; to experience the sky from the perspective of a flower or a bee; to feel the earth quiver and breathe beneath us."



Valerie Andrews, A Passion for this Earth



Questions?

Check out the Green Desk
www.naturalearning.org