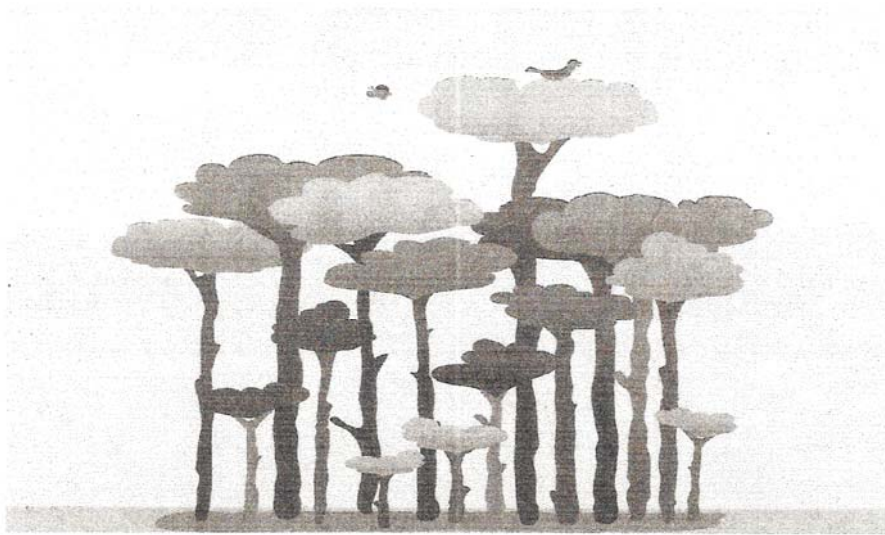


Dickens



Woods

This field guide for Dicken Woods is a collaborative effort of the Friends of Dicken Woods, the Leslie Science and Nature Center and NAP. (Natural Area Preservation)

It is intended to benefit the children of the school and all who come to enjoy the Woods.



A special thank-you to Mary Strickler from the Leslie Science and Nature Center who compiled this guide ~ 2008

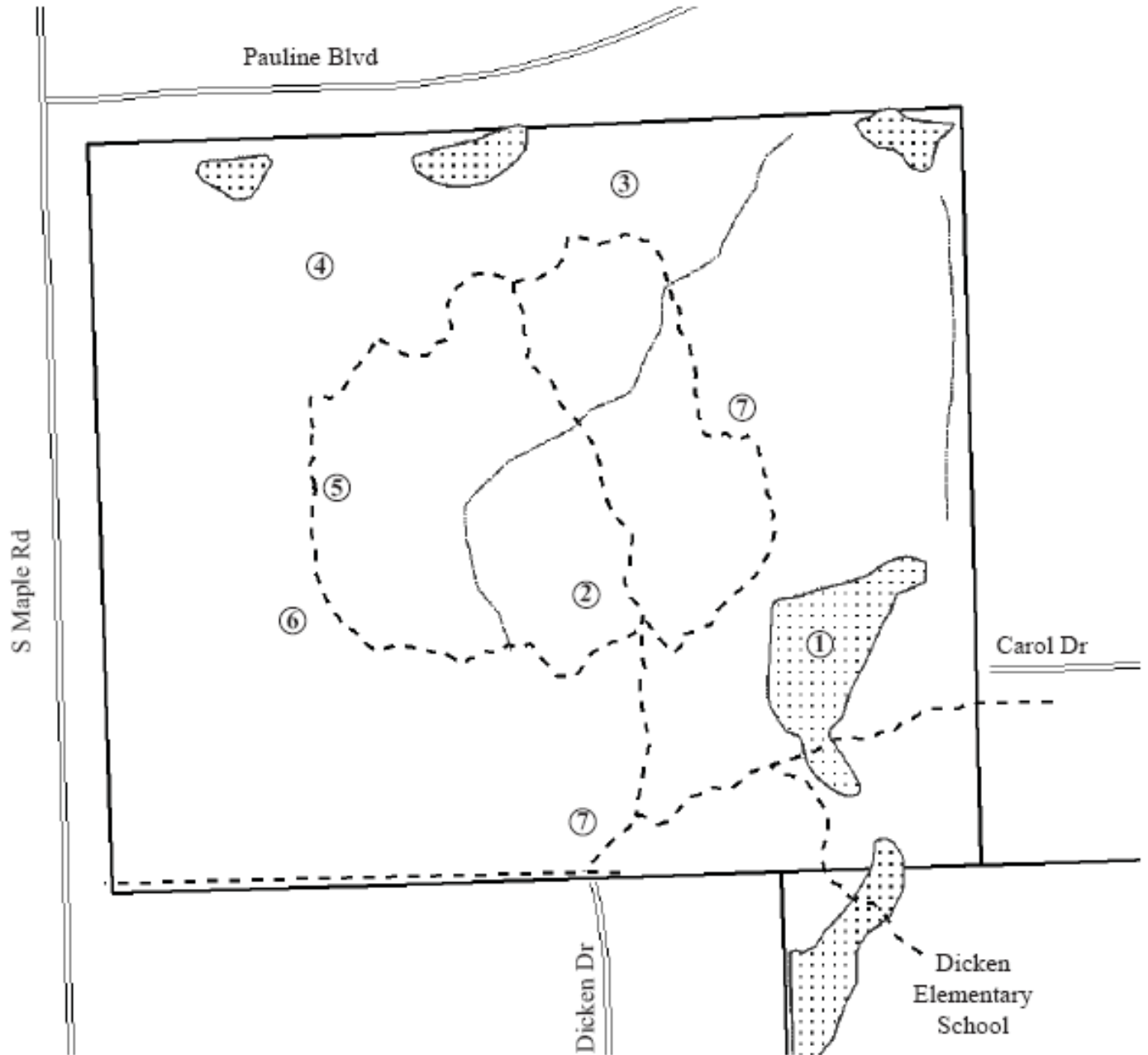
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The History of Dicken Woods

This ten-acre natural area consists of woodlands and wetlands. The land was purchased by the city early in 2004, after a group of neighbors known as the Friends of Dicken Woods came together to save it from development. The headwaters of Allen's Creek and the creek shed of Mallet's Creek lie within this area. These are both important environmental entities within the city. Once the property became part of the city's system, stewardship and restoration became the focus of the Friends of Dicken Woods. Their goals are to protect, preserve and improve the property.

Map of Dicken Woods



Interpretive Trail:		
① Vernal Pond	⑤ Old Apple Orchard	▨ Vernal Ponds
② Shrub Thicket	⑥ Wet Meadow	~ Creek
③ Oak-Hickory Woods	⑦ Old Field	— Preserve Boundary
④ Walnut-Cottonwood Communities		- - Trails

Points of Interest

1. **Seasonal Pond** This area holds water from spring rains and the run-off of melting snow. It does not have its own water source. It lasts well into the summer and is a spring stop-over for migrating birds and home to nesting mallard ducks. Frogs and toads breed here in the spring.
2. **Shrub Thicket** The central area was once an open and disturbed site used for farming. Evidence remains of an irrigation system and many strawberry plants can be found. The area is now thick with woody species. Buckthorn and honeysuckle, two invasives, are being removed. Oaks are being planted and will mingle with the dogwood and hawthorn already here.
3. **Oak-Hickory Woods** This section of the nature area is dominated by oak and hickory trees. It takes hundreds of years for a hardwood forest to evolve and these trees evolved from a row of mature oaks once planted along the property line. In some places the canopy opens allowing enough sunlight through so that grasses and wildflowers grow. In the spring trout lily and spring beauty can be seen here.
4. **Walnut-Cottonwood Community** Ash and elm trees have died in this area, but black walnut trees are seen on the higher ground where soil is dryer and cottonwoods can be found in the poorly drained bottomland. This is an example of a successional community where one species takes over as another dies out. The ashes died between 2003 and 2008 because of an emerald ash borer infestation. Raspberries grow under the walnut trees where ground chemicals formed from these trees exclude other plants.
5. **Old Apple Orchard** A farmhouse was on the property near here until the early 1980's. Its foundation is still intact and cultivated flowers can be found surrounding it. Apple trees from the old orchard are scattered throughout the area.
6. **Wet Meadow** Wet meadows are open sites with few shrubs or trees. This meadow is part of a wetland that is almost an acre in size. Wetlands provide habitat for diverse plant and animal communities, and are natural water treatment systems because they catch and hold rain water and run-off. This area remains wet well into the summer. The plant with the huge leaves and late summer yellow flowers is Elecampane, a plant originally from England.
7. **Old Field Communities** These small but open sites are home to a mixture of wildflowers, grasses and scattered shrubs. They are great places to look for birds and butterflies. Plants found here include aster, goldenrod, thimbleweed, chicory, Queen Anne's lace, milkweed, and sunflowers.

Mammals Seen in Dicken Woods

White-tailed deer

Red Fox

Raccoon

Opossum

Cottontail Rabbit

Chipmunk

Squirrel

Mouse

Bat



Signs of Animals

Nests

Droppings

Cracked nuts

Nibbled leaves

Well-worn paths

Holes in trees or logs

Stripped away bark

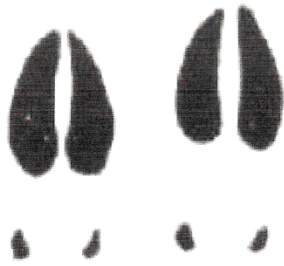
Clean bite marks

Food leftovers

Piles of feathers

Foot prints

Burrows in the ground



White-tailed deer



Red Fox



Raccoon



Opossum



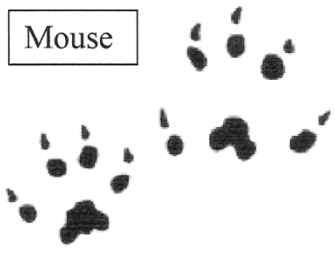
Cottontail Rabbit



Chipmunk



Mouse



Squirrel

Wildflowers in Dicken Woods

Chicory

Thimbleweed

Common Milkweed

Thistle

Butterfly Milkweed

Dame's Rocket

New England Aster

Spring Beauty

Heal-all

Wild Geranium

Yellow Trout Lily

Wild Strawberry

Queen Ann's Lace

Goldenrod

The Friends of Dicken Woods have planted:

May Apple

Solomon's Seal

Beard Tongue

Foxglove

Culver's Root

Smooth Aster

Woodland Sunflower

Black-eyed Susan

Nodding Wild Onion

Dogbane

Yellow Coneflower

Monarda

Golden Alexander

Trees in Dicken Woods

*Red cedar, Scotch pine and apple trees are not part of the mature Michigan ecosystem. They were probably planted by farmers many years ago.

Red Cedar*	White Oak
Scotch Pine*	Red Oak
Apple*	Black Oak
White Pine	Silver Maple
Cherry	Red Maple
Black Walnut	Hop Hornbeam
Hickory	American Elm
Shagbark Hickory	Hawthorn
Red-osier Dogwood	Serviceberry
Cottonwood	Choke Cherry
American Wild Plum	

Birds Surveyed in Dicken Woods **(City bird surveys of 2006 and 2007)**

Most birds have several different calls. These are the most common.

Many other birds have been seen in Dicken Woods, but not during the official city counts.

Mourning Dove - "Oo-wah-hooo, hoo-hoo"

Cedar Waxwing - "Zeeet"

Red-bellied Woodpecker - "Chuck, chuck, chuck"

Flicker - "Teeuw"

Downey Woodpecker - "Pick"

Mallard Duck - "Quack, quack, quack"

Eastern Phoebe - "Chip" or "Tsyp"

Blue Jay - "Shaar" or "Shek"

Brown-headed Cowbird - "Glug-glug-gee"

American Robin - "Tut- Tut- Tut"

Baltimore Oriole - "Hew-li" or "Cheh"

Black-capped Chickadee - "Chick-a-dee-dee"

Common Grackle - "Chack"

House Wren - "Cheh-Ceh"

American Goldfinch - "Per-chik-or-ree" or "Bay-bee"

Carolina Wren - "Jeet"

Northern Cardinal - "Purdy" or "Chip"

White-breasted Nuthatch - "Yank-Yank"

Indigo Bunting - "Sweet, sweet"

Ruby Crowned Knight - Excited,
musical chattering

Red-eyed Vireo - "Nyaah"

Rufous Sided Towhee - Long, buzzy
"Chweee"

Blackpoll Warbler - "Tseet"

Song Sparrow - "Madge-Madge-
Madge, put on your tea kettle-ettle-
ettle"

Common Yellowthroat – "Tchat"

White Crowned Sparrow - Short
series of clear whistles followed by
buzzy notes

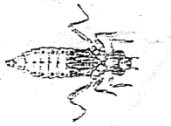
Gray Catbird - "Mew"

Nashville Warbler - "Teebit, teebit,
teebit - chipper, chipper, chipper,
chipper"

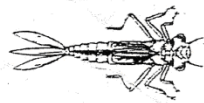


Common Aquatic Invertebrates

Dragonfly Nymph



Damselfly Nymph



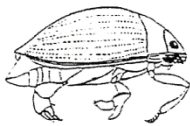
Water Scavenger Beetle (Adult)



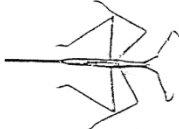
Whirligig Beetle Larva



Whirligig Beetle (Adult)



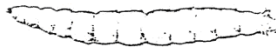
Water Scorpion (Adult)



Black Fly Larva



Crane Fly Larva



Water Penny (Beetle Larva)



Scud



Aquatic Sowbug



Mosquito Larva



Water Strider (Adult)



Dobsonfly Larva



Midge Larvae



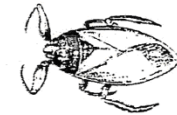
Waterboatman (Adult)



Backswimmer (Adult)



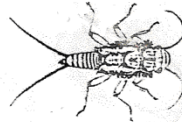
Giant Water Bug (Adult)



Mayfly Nymph



Stonefly Nymph



Caddisfly Larva



Pond Identification Sheet

These are some of the creatures you might find in the seasonal pond in Dicken Woods.

Group 1- Sensitive to pollution, found in good quality water



Mayfly Larva



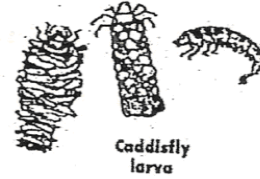
Fairy Shrimp



Dobsonfly Larva



Salamander Larva



Caddisfly larva



Water Flea or Daphnia

Group 2- Tolerant of some pollution, found in mediocre quality water



Leech

small, hair-like, swims in "S"-shape



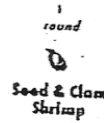
Nematode or Threadworm



Horsehair Worm



Springtail



Seed & Clam Shrimp



Pond Snail

Group 3- tolerant of pollution, found in poor quality water



Predaceous Diving Beetle Larva



Pill or Fingernail Clam



Damselfly Larva



Dragonfly Larva



Backswimmer



Tadpole



Water Strider



Mosquito Larva



Mosquito Pupa

Life Cycles in Dicken Woods

Dicken Woods is a dynamic (living) place with its own life cycle of sparse spring growth, heavy summer greening, falling leaves and bare winter branches.

- Life goes on from generation to generation.
- Plants and animals are both forms of life.
- Each stage of the life cycle is a different living stage.
- There are many different types of life cycles that can be found in Dicken Woods.

-Frog.... egg....tadpole.... frog

-Tree.... fruit.... seeds....seedlings....tree

-Butterfly....egg....larvacaterpillar.... pupa....butterfly

-Grasshopper.... egg....small nymph....adult grasshopper

-Bird....egg....baby bird (nestling)adult bird

-Mammal....live baby....adult

-Moss....haploid spore....protonema....gametophore

Other Things to Look For

Invaders! When left on its own, nature has a wonderful system for keeping itself in balance, but sometimes plants move in that don't belong. They invade places where native plants are growing and quickly take over. These plants are called **invasives**. They have no enemies, animals don't like to eat them and they grow quickly shading out the good plants. In Dicken Woods one of the main invasives is buckthorn. This is being removed by volunteers and new trees are being planted in its place.

Mean Walnut Trees? All plants need sunlight, water and healthy soil to grow. Some plants, like the walnut tree, have developed ways of giving them an advantage over the plants around them. The walnut tree has a special chemical called **juglone** which goes into the soil through the roots and prevents other plants from growing. In this way the walnut tree can give itself plenty of space to grow. One plant that can grow with the juglone is raspberries. That is why so many raspberry patches in Dicken Woods grown under the walnut trees.

Poison Ivy! This is another plant like the walnut tree. It produces a chemical to protect itself called **urushiol**. Birds can eat the berries of poison ivy and deer can eat the leaves, but humans can get a bad reaction if they get urushiol on their skin.

Dead Wood? Dead wood isn't really dead at all. It is no longer a living tree but it has become a home or a food source for a wide variety of fungi, bacteria, insects and birds. The wood also holds moisture that makes it possible for moss and seedlings to grow when the forest floor is too dry. All of these things are working together to decompose the wood and return the nutrients to the soil. Standing dead trees are called **snags** and are favorite homes for woodpeckers.

Fungus! There are many kinds of fungus, or non-green plants, in Dicken Woods. **Brachet** or shelf fungus grows on trees, and **mushrooms** can be found growing on the ground. **Black knot fungus** encircles twigs and is often called "poop on a stick."

Galls? A gall is an unusual growth of plant tissue found on a stem. It is caused by a parasite. The parasite can be a fungi, bacteria, insects or mites. The parasite causes the plant to grow extra tissue in a specific area so that the stem of the plant looks as if it has swallowed a marble. Insects cause galls by injecting a chemical into the plant.

Tips For Teaching Outside

Planning

Choose a topic you love.

Permission slips send a message of importance.

Use parent volunteers.

Keep outdoor time short at first.

Before going out

Use the bathroom.

Dress for weather, mud and insects.

Play "What if...?"

What if a bee lands on you?

What if you trip and fall?

Take a first aid kit.

Have students go in pairs. You pick the partners.

Outside

Stay on the trails.

Be careful of what you collect. Every object has a purpose right where it is.

Pay attention to the sun. It shouldn't shine in anyone's eyes when you are talking.

Have adults at the beginning and end of the group.

When you talk, walk to the center of the group.

Play "switch" where the first in line go to the end of the line.

Plan further study of "unknowns".

OTHER THOUGHTS

View changes in plans as opportunities. Nature has a way of surprising us. Imagine that on your way to study trees you come across an earthworm convention in the mud. Trying to get the kids to ignore the worms with the promise of something just as exciting down the path will probably not be successful. Even if the event in no way fits your plan, let it be an environmental interlude and enjoy the earthworms.

Be Flexible. When heading outside what you plan to study might be the opposite of what you actually do study. Perhaps you are walking to the berry patch because you have been studying colors, or fruit, or seed production. When you get to the berry patch the berries are totally gone. In this case, turn the lesson into one of analysis. What happened to the berries that were here yesterday?

If you must teach a topic that does not appeal to you, try to find an approach that works. For example, snakes might not be your favorite topic, but there is value in students learning about them. The idea of a snake search might be met with great enthusiasm. The chances of actually seeing a snake are slim to none; and if there is a snake nearby, it will feel the vibrations of you coming and be long gone before you get anywhere close. But, the students will think you are brave, you will have sparked an appreciation for a reptile and you will have built some momentum that will carry over to the next outdoor session.

You can say you don't know. Not only is it OK to say you don't know the answer, sometimes it is beneficial to do so. When this happens there is an opportunity for closer observation and further exploration. If you have a question that isn't easily answered, plan further study. Let students look for more information and share it with the group. If students can answer their own questions, they will have an added sense of accomplishment.

Use your senses for learning. One of the simplest ways to appreciate nature is to simply walk in it. There are no wrong answers and all the student has to do is be aware of the moment.

Children and Nature - What the Research Shows

Research-based Indicators of the Nature Deficit

Children today spend less time playing outdoors than any previous generation. Eighty-two percent of mothers with children between the ages of three and twelve cited crime and safety concerns as one of the primary reasons they do not allow their children to play outdoors. (Clements, 2004)

Today's children have a more restricted range in which they can play freely, have fewer playmates who are less diverse, and are more home-centered than any previous generation. (Karsten, 2005)

Children's free play and discretionary time declined more than seven hours a week from 1981 to 1997 and an additional two hours from 1997 to 2003, totaling nine hours less a week of time over a 25-year period in which children can choose to participate in unstructured activities. (Hofferth and Sandberg, 2001; Hofferth and Curtin, 2006)

Children between the ages of six months and six years spend an average of 1.5 hours a day with electronic media, and youth between the ages of 8 and 18 spend an average of 6.5 hours a day with electronic media. That's more than 45 hours a week. (Kaiser Family Foundation, 2005 and 2006)

Sixty-two percent of children do not participate in any organized physical activity and twenty-three percent do not participate in any free-time physical activity. (Centers for Disease Control and Prevention, 2003)

The percent of children who live within a mile of school and who walk or bike to school has declined nearly twenty-five percent in the past thirty years. Barely twenty-one percent of children today live within one mile of their school. (Centers for Disease Control and Prevention, 2006)

While seventy-one percent of adults report that they walked or rode a bike to school when they were young, only twenty-two percent of children do so today. (Beldon Russonello and Stewart Research and Communication, 2003) Children & Nature Network 2

Ninety- four percent of parents say that safety is their biggest concern about whether to allow their children to play out of doors. (Bagely, Ball and Salmon, 2006)

Children predominantly play at home, with their activities monitored and controlled by adults, compared to children a generation ago. Only three percent of today's children have a high degree of mobility and freedom in how and where they play. (Tandy, 1999)

Children can identify twenty-five percent more Pokemon characters than wildlife species at eight years of age. (Blamfold, Clegg, Coulson and Taylor, 2002)

Research-Based Indicators of Nature's Benefits to Children

Contact with the natural world can significantly reduce symptoms of attention deficit disorder in children as young as five years old. (Kuo and Taylor, 2004)

The greener a child's everyday environment, the more manageable are symptoms of attention deficit disorder. (Taylor, Kuo and Sullivan, 2001)

Access to green spaces for play, and even a view of green settings, enhances peace, self-control and self-discipline within inner city youth, and particularly in girls (Taylor, Kuo and Sullivan, 2001)

Green plants and vistas reduce stress among highly-stressed children in rural areas, with the results the most significant where there are the greatest number of plants, green views and access to natural play areas. (Wells and Evans, 2003)

Proximity to, views of, and daily exposure to natural settings increases children's ability to focus and enhances cognitive abilities. (Wells, 2000)

Nature is important to children's development in every major way - intellectually, emotionally, socially, spiritually and physically. Play in nature is especially important for developing capacities for creativity, problem solving, and intellectual development. Therefore, changes in our modern built environments should be made to optimize children's positive contact with nature. (Kellert, 2005)

Children will be smarter, better able to get along with others, healthier and happier when they have regular opportunities for free and unstructured play in the out-of-doors. (Chawla, 2006)

Children who experience school grounds with diverse natural settings are more physically active, more aware of nutrition, more civil to one another, and more creative. (Bell and Dymont, 2006)

Outdoor experiences for teens result in enhanced self-esteem, self-confidence, independence, autonomy and initiative. These positive results persist through many years. (Kellert with Derr, 1998)

Studies show that schools that use outdoor classrooms produce gains in many subject areas. One study found that students in outdoor science programs improved their science testing scores by 27 percent. (American Institutes for Research, 2005)

Studies of children in schoolyards with both green areas and manufactured play areas found that children engaged in more creative forms of play in the green areas, and they also played more cooperatively. (Bell and Dymont, 2006)

Top 5 Reasons to Keep Your Dog on a Leash in Our Parks

5. **It is the law.** Fines begin at \$50 for first offenses.

4. Dog feces are an unpleasant experience for all park visitors. With up to 100 dogs a day visiting some parks, the natural balance of the ecosystem is disrupted by the excess nutrients being added to the ecosystem.

3. Some park visitors feel scared or uncomfortable when they encounter free roaming dogs.

2. Keeping your dog on designated trails helps prevent erosion and destruction of trailside plants.

1. Wildlife may not survive an encounter with a free roaming dog. Even a friendly and obedient dog may innocently destroy the homes of ground-nesting birds or stress smaller animals.