

Introduction

When people think of Philadelphia, they think of commerce, education, culture, and industry. They probably do not associate Philadelphia and the Delaware Valley with nature and the out-of-doors. Perhaps they should.

There is an abundance of natural places to explore in and around Philadelphia. Within only an hour or so of the city limits, you can find dense forests on isolated mountain ridges; bogs and swamps; wide-open meadows; rivers, streams, waterfalls, and lakes. Scattered here and there is evidence of early farmsteads and pre-industrial settlements. You can clamber across a ringing boulder field from the last ice age. Or you can visit the restored homes and trails hiked by John James Audubon and Daniel Boone. By walking quietly through the habitats of a wide variety of birds and animals, you may also be fortunate enough to observe at close hand the wildlife that thrives in the Philadelphia area.

This book is intended to introduce you to some of these delights. The trails described range from 1.0 to 12.6 miles in length. They are suitable for the novice hiker in average physical condition, although for such a person we recommend a few of the shorter hikes to start. At the beginning of

each description we have included introductory information to help you decide where to hike first, or where to go after a week of rain, or where to take your visiting in-laws. Once you get started, you may find you want to do them all.

Distance The total distance in miles is given for each hike. Sometimes it is possible to shorten or lengthen a hike; if so, these directions are included, although we have not indicated such changes in the mileage totals. In deciding how difficult the hike is likely to be, you should couple mileage information with the information about elevation. Five miles on the flat may seem much easier than a 3-mile hike, half of which is uphill.

Elevation Elevation refers to cumulative gains in elevation—in other words, how much climbing is included in the hike. The total may accrue from one long uphill climb or several shorter ones.

Time to hike We offer only an estimate of the time required for a person in average condition to walk the distance. Most people can walk a mile in 20 to 30 minutes, depending on how rocky the trail is. Add another 30 minutes for each gain of 1000 feet in elevation. These estimates do not include rest stops or breaks for birdwatching or exploring along the trail. We suggest that when people hike together, they have the slower person lead on the trail. It is not enjoyable to be continually struggling to keep up. Also, be sure to allow enough time to return to your car before dark.

Surface There are some very rocky trails in Pennsylvania, especially along the Appalachian Trail. Sometimes you may need to cross a stream on stepping stones. For hikes like these, boots with ankle support are essential. For other surfaces you can probably get by with comfortable walking shoes or sneakers.

Interesting features Each hike has been chosen because of some unusual or interesting feature. Some hikes may have historic interest. Others feature unusual terrain, geologic formations, interesting flora and fauna, or other special characteristics.

Facilities We have included information on the availability of water, rest rooms, and picnic facilities. Do not drink from a stream or lake; you have no way of knowing the water purity.

Disability access We did not select these hikes for disability access, but information on access is included for those who may be interested. Of the forty hikes, thirteen have some accessibility and five are completely accessible from start to finish. (See Appendix B, Hikes by Disability Access.)

Hunting Pennsylvania is a major hunting state, especially for deer. It is unsafe to be out in the woods when hunters are around, especially in state game lands during deer season.

Fall is a beautiful time of year to hike, but it is also the most common time for hunting. The Pennsylvania Game Commission sets game hunting seasons each year. In general, the season for big game (bear, deer, turkey) runs from the last week of November to the first week of January. Bow hunting begins the last week of September and lasts till the first week of January. Small game season (squirrel, grouse, rabbit, pheasant, quail, raccoon, fox) runs from mid-October to the last week of January. There is also spring hunting for turkey in May.

Happily for hikers, hunting is not allowed anywhere in Pennsylvania on Sundays. Except on Sundays, during hunting season you should not hike on state game lands or in other areas where hunting is allowed. Wear blaze orange at all times of the year when hiking on game lands.

Fortunately, hunting is not permitted at all on many of the trails described here.

Directions to trailhead In using the directions for driving to the start of each hike, first refer to the locator map, which will help you find each hike in relationship to your own location. Detailed directions to each trailhead begin from a major road and nearby community. Except where noted, the directions work traveling from either direction on the major road.

Safety on the trail The difficulty of each hike depends on distance, elevation changes, and trail surface. You will find, as we did, that as you become better conditioned, you will be able to hike greater distances. Do not attempt one of the longer and more arduous hikes at first. These hikes are intended for your enjoyment. Begin with a short hike on a level surface. From this beginning you should be able to tell whether you can progress rapidly to more difficult hikes or move gradually through the intermediate hikes first. (See Appendix A, Hikes by Length.)

These hikes are located in national forests, state game lands, state parks, county parks, and wildlife refuges. In general, the trails are well blazed and maintained. However, do remain alert for trail markings. Double blazes indicate a turn. Equestrian trails are often marked with strips of yellow or orange plastic at the rider's eye level, about ten feet off the ground. Be prepared for changes from the routes described here; sometimes trails are relocated. Do not walk past "no trespassing" or "private property" signs.

In the unlikely event you find yourself off the trail, backtrack until you find the blazes again. If that fails, follow a stream or power line cut; these will lead you eventually to a road.

Hiking is a generally safe activity, but there are certain hazards in the out-of-doors that are not encountered elsewhere. These warnings should

not discourage you from hiking, but you need to remain aware of the risks to avoid unpleasant or even dangerous situations.

Insects In moist areas when temperatures are warm, Pennsylvania mosquitoes can be ferocious. Come prepared. Insect repellent containing deet can be applied directly to skin. Repellents containing permethrin should not be used on the skin but are effective on clothing; be sure to reapply frequently.

Gnats, or "no-see'ums," are frequently a nuisance in late summer. They are attracted to moisture in your exhaled breath and to your eyes. A visor or hat with a bill to which you apply insect repellent containing permethrin does seem to keep them away from your face.

People who are allergic to bees and wasps should always carry the appropriate emergency kit when hiking.

A most serious insect threat is a bite from a deer tick infected with the bacteria that causes Lyme disease. The deer tick is very small, and its bite may go undetected. An early symptom of Lyme disease is an unusual splotchy rash, which is easily treated with antibiotics. Later, more serious symptoms can include cardiac and neurologic problems, as well as arthritis. Lyme disease at all stages requires treatment by a physician.

Recently, two new tick-borne illnesses, human granulocytic ehrlichiosis (HGE) and babesiosis, have been reported in several states, including Pennsylvania. These are quite serious diseases with severe flu-like symptoms and a fairly high reported death rate. Unlike Lyme disease, which can be treated with several antibiotics, HGE is sensitive only to tetracycline; babesiosis may respond to quinine plus an antibiotic. These diseases also require medical attention.

The first line of defense against all tick-borne diseases is to wear a long-sleeved shirt and long

pants and to use effective insect repellents. The second line of defense is to inspect your own skin and, if possible, have someone help you in checking your neck, the backs of your legs, and your back when you return to your car. An infected tick must be attached to you for many hours to pass infection on. If you find a tick, remove it immediately, including mouthparts, with tweezers. If symptoms occur—whether you detect a tick or not—see your doctor.

Animal hazards Snakes will not seek a confrontation with you, but they do not like to be disturbed, either. You are most likely to encounter them sunning on warm rocks. When hiking or climbing on rocky terrain, be careful where you put your hands and feet. Wear hiking boots, which offer some protection, when you are hiking in such areas.

Rabies is endemic in many wild animals, especially squirrels, foxes, raccoons, and bats. Avoid any animal, wild or domestic, that acts strangely or seems unafraid of you.

Hypo- or hyperthermia Becoming either overheated or chilled can be risky for the hiker. To prevent either situation, dress appropriately for the weather. Consider dressing in layers so that you can adjust your clothing to changes in temperature or weather. In cold weather, take along an extra pair of socks in case your feet get wet. Carry a small bottle of water with you on longer hikes, and remember to drink plenty of liquids, especially in warm weather. If rain is a possibility, take a poncho and waterproof hat to keep you dry.

Lightning During thunderstorms, do not seek shelter under a tall tree, especially at the top of a ridgeline. Whenever possible, move to a lower elevation and seek shelter under a group of smaller trees.

Poison ivy Some people develop severe allergic reactions

to any exposure at all to poison ivy, oak, or sumac; others seem immune or experience only a mild, localized rash. The best way to avoid the discomfort is to learn to recognize the plants and avoid them.

Poison ivy and oak varieties exhibit compound leaves divided in three leaflets and grow as a climbing or trailing vine, a shrub, or a ground plant, several inches to 2 feet high. Poison sumac has seven to thirteen alternate leaflets and grows as a small tree 6 to 20 feet high; in the spring the leaves are shiny and light green, becoming dark green in the summer. In the fall, all three plants produce white berries, and the leaves turn colorful shades of red. They seem to prefer damp soil and the light-to-medium shade along trails.

Long pants and long-sleeved shirts offer good protection. However, the sap, or urushiol, can remain on clothing or pet fur and later can then be transferred to your skin, producing the reaction. Removing the urushiol immediately with plain water, before the reaction has set in, can prevent the rash. Severe cases may require an oral dose or an injection of cortisone, either available by doctor's prescription.

General safety Whenever you set out on a hike, let someone know where you are going. Hike alone only for short distances in well-traveled areas; for all other hiking excursions, we recommend you hike with a companion.

Footwear and clothing When choosing footwear for any hike, consider both the terrain you will encounter and any personal history of injury and weakness in your feet, ankles, knees, hips, or back. When the sole of your foot strikes the ground, the impact is transmitted through your weight-bearing joints. These joints not only absorb the forces, they must also adjust your posture, maintaining your center of balance

over your base of support. The joints of the ankle and feet are normally quite well suited to accommodate the demands of uneven terrain. They allow the postural adjustments necessary to maintain your dynamic balance.

Pennsylvania's rockier and steeper trails place additional stress on ankle joints to repeatedly absorb these forces. For most people, stabilizing the ankle with a high-top boot helps to prevent injury and improve comfort. However, a stabilized (immobile) ankle transmits forces to the knee, hip, and back, forcing these less flexible joints to adapt. If you have a history of knee injury, consider wearing a brace to support the knee and a low-top or soft high-top boot to allow more ankle flexibility.

Fit is most important. When you shop for hiking shoes or boots, try to find an experienced salesperson. After you have made your purchase, wear your hiking footwear around the house for a few days to test them and break them in. Most stores will allow you to return boots that have not been worn outside. Do not set out on a hike wearing brand-new shoes or boots.

The clothing you should wear on a hike depends on the weather and the season. In cold temperatures, dress in layers. Dressing to protect yourself against hypo- or hyperthermia is discussed above. In all seasons and weather conditions, we also recommend that you wear a long-sleeved shirt and long pants, for four very good reasons—protection from scratches, ticks, mosquitoes, and poison ivy.

What to take along For the hikes in this book under 10 miles, you do not need to carry a backpack; a waist or fanny pack should be enough, unless you plan to carry a meal with you.

Water is an absolute essential, whatever the

weather or distance. Light snack food or a sandwich is welcome for hikes over about 5 miles. A compass and watch come in handy. For the allergic, a bee sting kit is also essential.

The need for other equipment depends on the weather and the season. From spring to first frost, take along insect repellent. Even in the winter and spring, when there may be little shade even in the woods, sun screen is useful. A hat or visor provides sun protection and shades the eyes. Optional items include small cameras, binoculars, and field guides for identifying birds, plants, or trees.

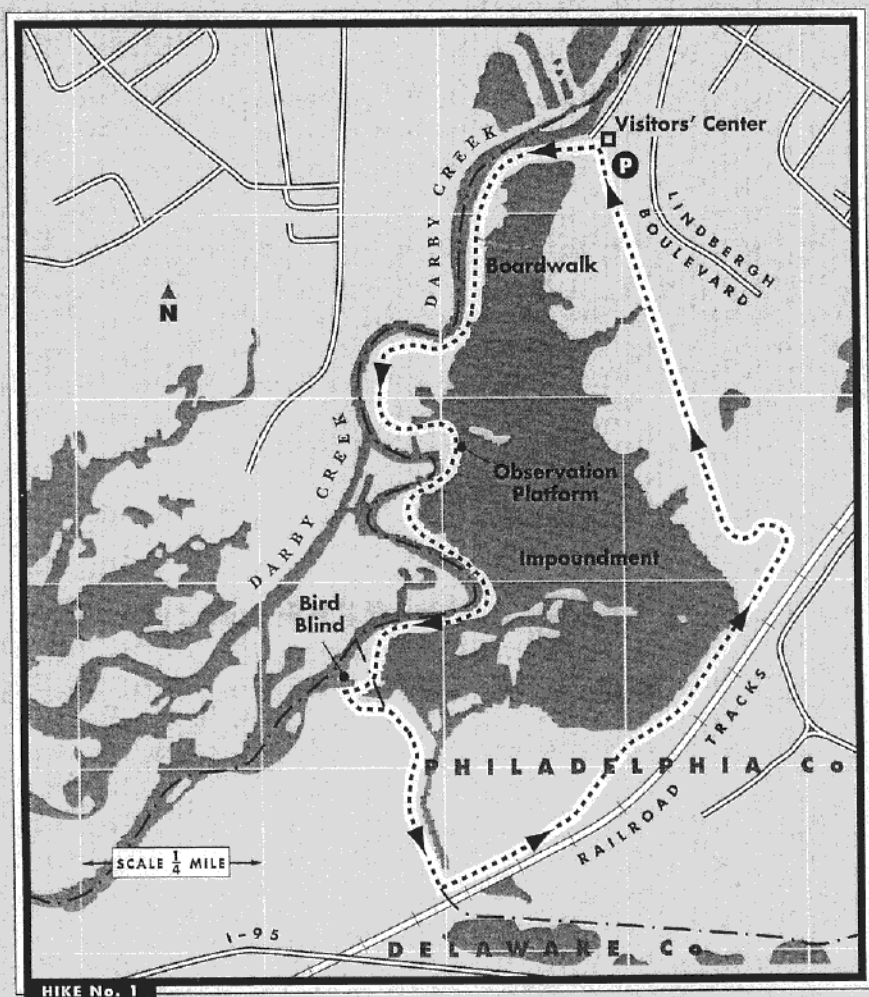
The latest in navigation aids for the high-tech hiker is a global positioning system, or GPS. A hand-held receiver collects signals from a constellation of navigation satellites. The device then computes a position fix, in latitude, longitude, and altitude, for anywhere on earth. Additional features of the GPS allow you to compute and continuously update your position, and set and navigate a route. These devices are now priced at less than \$200, and with competition the price is likely to fall even further. For your convenience, we have included the coordinates for each trail-head, which you may find useful in locating the start of each hike. For Hike 26, Nolde Forest, we have added intermediate coordinates that you can use to navigate along the entire hike route.

Finally, don't forget a trail map! The ones we have provided will be fine. In the descriptions of individual hikes, we have also described any maps or guides that are available at the site. State Game Lands maps are available by writing to the State Game Commission, Dept. MS, 2001 Elmerton Avenue, Harrisburg, PA 17120-9797, or Southeast Region Headquarters, Box 2584, R.D. #2, Reading, PA 19605. The maps are \$1.00 each including tax; specify which game land map you are requesting.

We think you will find that the experience of

hiking is both challenging and enjoyable. Hiking provides physical exercise, the direct experience of nature, and the fun of discovering what lies just around the bend. You may find that you decide to go on a hike for one reason and then continue hiking for many others. Let this book be your guide. Many interesting places ready for your discovery are close by.

Note to the hiker Trails and trail conditions often change. Although the information here is accurate to the best of our knowledge, hikers should be aware that conditions may be different at the time of their hike and prepare for that possibility.



HIKE No. 1

No. 1

Heinz Wildlife Refuge

John Heinz National Wildlife Refuge at Tinicum

86th Street and Lindbergh Boulevard
Philadelphia, PA 19113
(215) 365-3118

- Distance** 3.2 miles
- Elevation** less than 10 feet
- Time to hike** 1½ hours
- Surface** dirt, gravel and grass, wide two-track; can be muddy in early spring
- Interesting features** only National Wildlife Refuge in eastern Pennsylvania; 1,200 acres of fresh-water tidal and nontidal marsh, fields, and woodlands, all within the city limits of Philadelphia; on the migratory route for waterfowl and thus a nesting and feeding site; nature walks and programs
- Facilities** water, rest rooms in visitors' center, many benches along trail; no picnic facilities; wear long pants and long-sleeved shirt to protect against poison ivy, mosquitoes, and ticks, and wear insect repellent
- Disability access** The wide, level trail is wheelchair accessible; permission for persons with disabilities to drive through the preserve on the Impoundment Trail obtainable at the visitors' center
- Hunting** no

Directions from I-95 traveling north:

1. take exit 10 (PA 291-airport), drive east for 1.0 mile to Bartram Avenue, turn left
2. drive 1.6 miles to 84th Street, turn left
3. drive 0.7 mile on 84th to Lindbergh Boulevard, turn left
4. drive 0.2 mile on Lindbergh to the refuge on the right

from I-95 traveling south:

1. take exit 12 (Bartram Avenue), drive north for 1.4 miles to 84th Street, turn right
2. drive 0.7 mile on 84th to Lindbergh Boulevard, turn left
3. drive 0.2 mile on Lindbergh to the refuge on the right

Coordinates 39°53'32"N; 75°15'26"W

The Heinz National Wildlife Refuge is a tidal fresh-water marsh, a wide, flat wetland close enough to the ocean to be under tidal influences, yet the water is fresh, not salt. It is the habitat of many types of birds, especially waterfowl and wading birds, and it is the largest remaining example of this type of ecosystem in eastern Pennsylvania. It has been underappreciated for many years, considered fit only as a landfill site, but has been largely rehabilitated through efforts of the U.S. Fish and Wildlife Service, and many volunteers.

The visitors' center, a small stone building, is staffed by a guide from the Fish and Wildlife Service who offers maps, information on recent bird sightings, and friendly advice on the trail conditions. The trail begins to the left of the visitors' center. This pleasant, easy hike is well marked. Keep the impoundment to your left and you will have no chance of getting lost. The trail as described is 3.2 miles long. If you would like a longer hike of 8.5

miles, ask for the map of the entire refuge. The longer hike will take you directly through the marsh on a ten-foot-wide berm adjacent to Darby Creek. You also have the option of taking a shorter loop by using the boardwalk described below.

The Impoundment Trail is easy, level walking on a dike; the fresh water impoundment is to your left and Darby Creek is on your right. Darby Creek is under tidal influences; there is a difference of about 5 feet between high and low tide at the visitors' center. Behind the center is the launch point for a 4.5-mile canoe trail, navigable only at high tide. High tide actually reverses the flow of the creek, into the marsh. At low tide the water flows back into Darby Creek from the marsh.

After walking past some benches, note a gate to your left and one straight ahead. The gate to the left marks your return route. Continue straight ahead on the Impoundment Trail. At 0.25 mile you pass a boardwalk across the northern end of the impoundment. You may take this across for a short loop walk of 0.75 mile. This short route is easy walking but not really disability accessible because of the nine steps down to reach the boardwalk from the Impoundment Trail.

Continuing on the main trail, you will encounter a large two-tier observation platform at 0.75 mile. A changing display features posters on the wildlife to be found at each time of year. Nesting boxes along both sides of the trail (at the impoundment and along Darby Creek) attract a variety of birds.

In winter you may see white-tailed deer, Canada geese, northern harriers (marsh hawks), song sparrows and chickadees, northern mockingbirds, sea gulls, and small mammals including rabbits, raccoons, squirrels, and foxes. In spring and summer you may see waterfowl that nest here: grebes, teals, wood ducks, common pintails, and northern shovelers, as well as wading birds, including species of heron, egret, and ibis. Migrating warblers pass through in large numbers in the spring and fall.

As you continue on the trail you will see that Darby Creek on the right widens to a tidal marsh at 1.0 mile. Mulberry trees, honeysuckle shrubs, and blackberries line the trail and attract many songbirds. At 1.2 miles you reach a bird blind, a good spot to view the birds there. Tree swallows compete for the nesting boxes. Red-winged blackbirds and American goldfinches are also common.

The well-marked trail turns sharply left. (You would continue straight ahead to follow the longer walk through the marsh.) The marsh on your right was used as a landfill from 1956 to 1974; this interesting wetland habitat was considered as nothing more than a dump and a mosquito-breeding nuisance. An underground pipeline also passes through the refuge. These disturbances to the natural environment have resulted in the proliferation of giant reed or phragmite, a 6- to 8-foot tall grassy weed with brown plumes, which has taken over much of the marsh. Efforts have been made to dredge a channel through some of the area and create ponds. The purpose is to encourage native plant species, such as cattails, sedges, and rushes, which provide a better variety of food and cover for wildlife.

On the impoundment side, the problem is an overabundance of spatterdock. Spatterdock, which grows in the water and has large, glossy leaves and a yellow flower, by June may cover up to 30 percent of the impoundment. An experiment of the Fish and Wildlife Service in 1994 to control it by a "dewatering" project using a water bladder was not effective because Darby Creek flooded the drained area of the impoundment. In the latest control effort, two test plots were sprayed with "Rodeo," or glyphosate, an enzyme inhibitor, followed by the aerial spraying of 80 acres. This allows the preferred wildlife vegetation to germinate. Spraying seems to be a control method that will work.

Purple loosestrife, a plant introduced by European settlers in the early 1800s, has also

spread, crowding out other plants and reducing diversity. It is a poor source of food and cover for wetland wildlife. Five species of weevil and beetles that feed on the plant have been propagated at Tinicum, and it is hoped that these insects will limit the spread of this plant.

Botulism, a fatal bacterial food poisoning, is sometimes a serious problem at Tinicum. Shore birds, at the top of the food chain, are especially susceptible to the toxin produced by this bacteria, which proliferates in stagnant ponds where species on which the birds feed thrive. If botulism recurs, the water level of the impoundment can be somewhat controlled by pumping water from the impoundment to the creek, or allowing the flow of water from the creek into the impoundment.

The trail again turns sharply to the left. This next section could be nicknamed "planes, trains, and automobiles." Railroad tracks lie only 70 feet away to the right; just beyond is traffic on I-95; and beyond that, you can see airplanes flying into and out of Philadelphia International Airport. After only a few hundred feet, though, these signs of civilization fade away. You can see many inlets to the left, and several trails will take you directly to the water's edge. The edge of the impoundment looks rather swamplike, with water-loving trees such as willows, alders, locusts, and red ("swamp") maples. Insects abound, as well as the birds that feed on them. There are also at least fifty species of wildflowers that bloom here at various times. In spring and summer, especially, you can see many varieties of butterflies as well. The mourning cloak butterfly, dark purple-brown with wings edged in yellow and with bright blue spots, is the earliest to appear in March.

At 3.0 miles, you will pass a trail to the left that leads to the eastern end of the boardwalk over the impoundment. At 3.2 miles, you return to the visitors' center and the parking area.