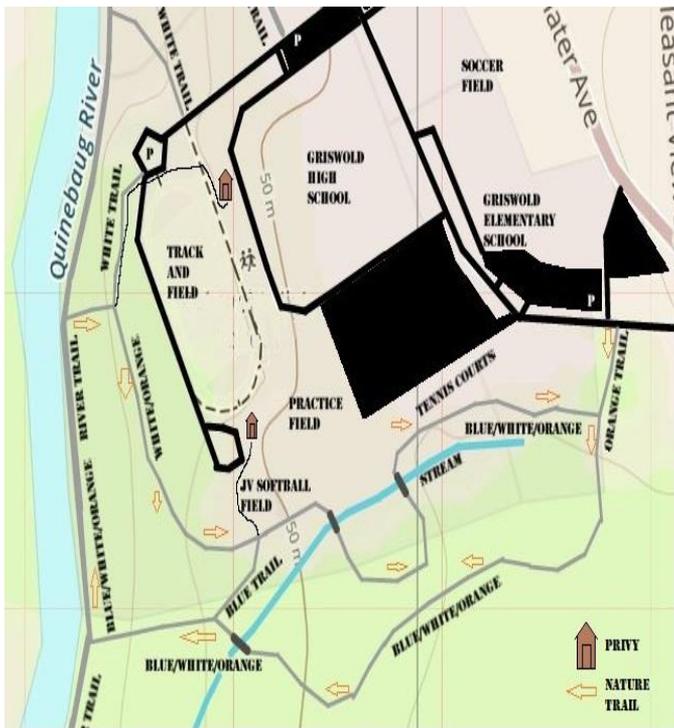


# GRISWOLD CAMPUS NATURE TRAIL GUIDE BOOKLET





Elevation Profile



This trail was made to preserve the wood and wetlands that surround our campus.

The students of Griswold High school examined the many plants and wild life species found along the trail.

This trail guide booklet will help you to discover what our students have found and help you rediscover the wonders of nature.

Use this booklet along with the trail map provided inside this booklet.

Wood posts on the trail are numbered to show you where the students made their discoveries.

Please help us in preserving our woods by keeping pets on a leash and removing any trash that you generate.

Please sign our logbook with any comments or suggestions you would like to make about the trail.

## Ticks



**Now that spring is here, many people are hitting the hiking trail. But before you head for the wilds, you should take some special precautions, especially if you live in a part of the country where Lyme disease is prevalent.**

It's been nearly two decades since medical detectives discovered that an outbreak of what looked like juvenile rheumatoid arthritis in Lyme, Conn., was actually a spirochetal (bacterial) infection spread by tick bite. Today we know enough about the tick and its infective cargo to avoid Lyme disease or stem its effects early. FDA regulates several products used to help diagnose and to treat this complex illness, but doctors sometimes still have a hard time diagnosing it.

Although most people can recall the tick bite that transmitted the bacteria responsible for their Lyme disease, 1 of 3 cannot remember being bitten. This is not surprising, because the responsible tick (of species *Ixodes dammini* or *Ixodes pacificus*) is as small as a poppy seed. It is often not seen or felt. If the tick stays attached and maintains contact with a person's blood for at least six hours, bacteria called *Borrelia burgdorferi* can travel from the tick's gut to the person's bloodstream. The bacteria soon migrate to specific areas of the body where they later may produce symptoms: within the skin at the bite site, in the synovial fluid of the joints where bones meet, and into nerve tissue.

In up to 80 percent of cases, a distinctive large, red rash called erythema chronicum migrans, appearing at the site of the bite three to 30 days after contact. The lesion expands and may develop a clear area in the center, like a bulls-eye. Then, flu-like symptoms may set in, including headache, muscle ache, fatigue, and joint pain.

### Prevention Tips

**Wear protective clothing in woods and grasslands. Wear long pants and long-sleeved shirts that are tight about the ankles and wrists; tuck pants into socks; wear shoes that cover the entire foot; and wear light-colored clothing so that the ticks can be easily seen.**

**Use repellent containing permethrin or DEET, but don't overdo it; children can have difficulty breathing from too much bug spray.**

**If you visit the woods, do tick checks when the day is done. Closely check hairy parts of the body, and examine pets, too. Ticks prefer rodents and deer, but will hop onto almost anything warm and furry, and while wild animals can harbor the spirochete without becoming ill, domestic animals do develop symptoms of Lyme disease.**

**If you find a tick, remove it with tweezers, being careful not to squeeze it. Apply antiseptic to the bite area. If possible, bury, burn or flush the tick.**

## FERNS



Ferns have been with us for more than 300 million years and in that time the diversification of their form has been phenomenal.

Ferns grow in many different habitats around the world. The ferns were at their height during the Carboniferous Period (the age of ferns) as they were the dominant part of the vegetation at that time. During this era some fern like groups actually evolved seeds making up perhaps half of the fern like foliage in Carboniferous forests and much later giving rise to the flowering plants. Most of the ferns of the Carboniferous became extinct but some later evolved into our modern ferns.

There are about 12,000 species in the world today. The frond is the part of the fern that we see as we wander through the woods it is the "leaf" of a fern. It is divided into two main parts;

- the stipe is the leaf stalk
- the blade is the leafy expanded portion of the frond

The blade may be undivided to finely cut, each degree of division having a specific term. "Pinnate" blades are divided into leaflets, with each leaflet narrowly attached to the central stem. Blades more divided are designated as bipinnate or even tripinnate with some divided four or five times. The ultimate divisions are called pinnules. Another type of division is one where the green leafy tissue isn't completely separated from the rachis but rather it spreads along the rachis, instead this degree of division is called "pinnatifid".

Fronds vary greatly in size, from tree ferns with 12 foot fronds on the mosquito ferns with fronds only 1/16 of an inch long.

### Habitat: The Need for Deadwood



A dead tree can be as beneficial to wildlife as a live tree. According to the U.S. Forest Service 85% of the species of birds in North America use dead trees. The brown creeper depends on finding insects and makes its nest beneath strips of loose bark. Woodpeckers will excavate their own nests in dead wood, and other birds such as chickadees use old woodpecker holes for their homes.

The type of birds attracted to a dead tree depends on the habitat surrounding the area of the tree. Bluebirds prefer old snags in meadows and open fields. White-breasted nuthatches, and woodpeckers prefer to nest near orchards, gardens, or in mixed woods. Chickadees, titmice and house wrens prefer snags found along woodland edges.

Birds of prey enjoy the higher branches of dead snags. This gives them a vantage point to survey before descending to capture their prey.

As many as 80 animal species depend on dead trees; raccoons, squirrels, and mice all use cavities to take shelter in the dark days of winter, and raise their young during spring. Amphibians, birds, butterflies, and beetles rely on the rich fungal and bacterial life provided by dead trees.

On your journey through the woods, count how many deadwood snags you are able to recognize.

## White oak



The oak family name is linked to descriptions of the family and its genera, and tables of all North American species in the family. White oak hybridizes with other members of its section

Among the most abundant oaks, white oak occurs on upland sites from coves to ridge tops. It can be found on almost any kind of site except for bottomlands. Growth is good on nearly all sites except the driest ridge tops. White oak is moderately intolerant, and is a gap-phase species. White oak occurs in pure stands, or, more commonly, in mixture with other oaks, hickories, and many other upland hardwoods. White oak frequently regenerates in pure or nearly pure stands after logging or fire. The stems are fairly venerable to fire, and trees commonly have basal fire scars.

White oak regenerates largely from seeds, and to some extent from stump sprouts. Wind-pollinated flowers are borne in spring, just at the time of leaf out. Acorns mature in the fall of the same year. Acorns are dispersed by gravity and by small mammals, notably gray squirrels. White oak, like nearly all oaks is a mast-fruiting species, producing huge crops of acorns at intervals of 3-5 or more years. Embryos are frequently damaged or killed by weevils. Seeds germinate in the fall, putting down a deep root before becoming dormant, but producing no shoot growth. Growth resumes in the spring, when the shoot begins to grow. Deer and other mammals usually browse the shoots, and a new stem repeatedly sprouts. This may go on for many years before a shoot finally escapes predation, so that the root system is often 10 or more years older than the shoot system. Early growth is rapid provided light intensities are high enough; at lower intensities, seedlings become suppressed and die rather quickly. Canopy trees live to great age, over 1000 years in some cases, and reach very large size; Typical 90'x4'; Champion 107'x11'.

An important species for mast, supporting squirrels, turkey and a wide variety of other species; also an important deer browse when young. Susceptible to gypsy moth defoliation, which reduces growth rates. Chronically or severely stressed trees are usually killed by two-lined chestnut borers, *Agilus bilineatus*, or by the shoestring fungus, *Armillaria* spp.

### Decomposing Logs and their habitats



Take some time to explore the fallen logs you come across. Encourage your kids to use their senses to listen (tap the log — does it sound hollow or solid?), smell (does it smell wet or dry? like anything they've smelled before?), and feel the log (hard or soft? rough or smooth?). Look for insect holes or nibble marks. Remember that decomposing logs are habitat for living creatures, so carefully replace any logs you turn over.

Logs on the forest floor are an often-overlooked component of old-growth stands. They are important for a variety of reasons, including the return of nutrients to the soil and providing habitat. Logs are used for shelter, feeding, reproduction, basking and nesting. They are important habitats for many invertebrates, reptiles, and provide travel routes for small mammals, as well as being a concentrated source of invertebrates. They may offer nest protection for ground-nesting birds. Their moisture content makes them particularly important as amphibian habitats, including refuge area during fires. Fruiting bodies of mycorrhizal fungi are often found in decomposing logs and stumps. These provide insects and mammals with nutrients and energy. Logs are predominant among the debris in streams of old-growth forests where they provide shelter, fish and frog spawning sites and increased substrate diversity.

## American Bittersweet



**(NOTE: The trail has been altered. This site is located at the top of the hill to your right on the blue trail. Return back down the trail to continue the nature trail walk.)**

**(common names.**—False bittersweet, climbing bittersweet, shrubby bittersweet, fevertwig, fever-twitch, staff tree, climbing staff tree, staff vine, waxwork, Roxbury waxwork, yellowroot, climbing orange-root, Jacob's-ladder)

American bittersweet is a woody and shrubby climber, growing over trees or fences. It has smooth thin leaves 2 to 4 inches long and about half as wide. The small greenish-white or greenish-yellow flowers are produced in June in short clusters. The fruit is a roundish, orange-yellow capsule, which opens in autumn, disclosing the scarlet-colored seedpod. The seed capsules remain on the plant well into the cold season and provide food for birds in the winter.

Fruits eaten by many birds and animals in late winter. **Fruits should NOT be eaten by humans.** While not extremely toxic, they will "clean you out at both ends".

## Multiflora Rose



The multiflora rose is a thorny, perennial shrub with arching stems (canes), and leaves divided into five to eleven sharply toothed leaflets. The base of each leaf stalk bears a pair of fringed bracts. Beginning in May or June, clusters of showy, fragrant, white to pink flowers appear, each about an inch across. Small bright red fruits, or rose hips, develop during the summer, becoming leathery, and remain on the plant through the winter.

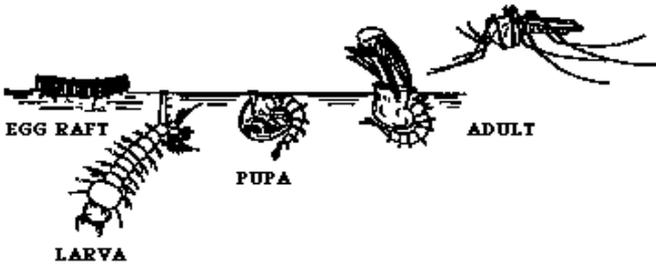
The multiflora rose is extremely prolific and can form impenetrable thickets that exclude native plant species. This exotic rose readily invades open woodlands, forest edges, successional fields, savannas and prairies that have been subjected to land disturbance. It has a wide tolerance for various soil, moisture, and light conditions. It occurs in dense woods, prairies, along stream banks and roadsides and in open fields and pastures.

The multiflora rose was introduced to the East Coast from Japan in 1866 as rootstock for ornamental roses. Beginning in the 1930s, the U.S. Soil Conservation Service promoted it for use in erosion control and as "living fences" to confine livestock. State conservation departments soon discovered value in multiflora rose as wildlife cover for pheasant, bobwhite quail, and cottontail rabbit and as food for songbirds and encouraged its use by distributing rooted cuttings to landowners free of charge.

Its tenacious and unstoppable growth habit was eventually recognized as a problem on pastures and unplowed lands, where it disrupted cattle grazing. For these reasons, multiflora rose is classified as a noxious weed in several states, including Iowa, Ohio, West Virginia, New Jersey and here in Connecticut.

The multiflora rose reproduces by seed and by forming new plants that root from the tips of arching canes that contact the ground. Fruits are readily sought after by birds, which are the primary dispersers of its seed. It has been estimated that an average multiflora rose plant may produce a million seeds per year, which may remain viable in the soil for up to twenty years

## Mosquitoes



### What's the Buzz?

Mosquitoes are insects, related to lice, fleas, and flies. They have six legs, a pair of wings, compound eyes, and a large antenna. The female mosquitos have a problematic proboscis which is used for sucking blood. The male mosquitos do not suck blood however they do eat nectar.

All mosquitoes need water as a place where they can lay their eggs. The eggs hatch into a larvae about three days after being laid. The larvae live in the water for 7 – 10 days. Next they turn into pupal for only 2 -3 days, then they turn into adults and fly away and mate. The male and female mosquitoes find each other by the buzzing which is made by their wings. The female wings make a higher pitch buzz. Each female mosquito can lay anywhere from 100 – 400 eggs, this is why we have so many mosquitoes in a very short time.

### How to protect yourself from mosquitoes.

**Wear enough clothing to cover as much exposed skin as possible. Most repellents contain diethyl toluamide (DEET). It can be applied to clothing and exposed skin, except for your face. This will usually protect you for a certain amount of time.**

**The mosquitoes are attracted to light, warmth, perspiration, body odor, and carbon dioxide. The more you wave your arms the more they are attracted to you.**

### Shagbark Hickory



Shagbark Hickory can grow from 70 to 80 feet tall. It is found in rich soil of slopes and valleys. The wood of the hickory is strong and is used for tool handles. It is valuable fuel wood and is used to give a smoked flavor to meats.

The kernel was crushed by Native Americans and used as cooking oil and resulting flour for bread.

The leaves are alternate, compound 8" – 14" long, with five leaflets, dark yellowish green above. Paler often beneath, its margins are finely toothed. Shagbark twigs are gray-brown to reddish brown, stout and often hairy. Its buds are large with 3 or 4 smooth, dark brown, loosely fitting outer scales and velvety inner scales. Its fruit are round with a thick husk that splits into 4 pieces when ripe. White nut is pointed at one end and has a sweet kernel. The bark on younger trees is gray and smooth. When the tree gets older the bark breaks into long plates giving the trunk a shaggy appearance.

### Sassafras Tree



Four different leaf shapes can be found on one sassafras tree: three lobed, elliptical, two-lobed/right side, and two-lobed/left side. The deciduous leaves can grow up to six inches by four inches, and the tree itself may grow up to about 30 feet on Assateague, and even up to 60 feet elsewhere. In the spring, small yellowish green flowers develop with the leaves; oval-shaped, blue fruits of less than half an inch follow.

The American Indians and early settlers used this amazing tree for a great many medicinal purposes. The roots, bark, and leaves of the sassafras have a spicy scent and the oils extracted from them have been used in soap making and in flavoring drinks, such as sassafras tea, and as a candy flavoring. Although it is not a valuable lumber tree, it is used to make perfume soaps and rubbing lotions. It is also used to make an orange dye for wood, barrels, canoes and fuel. The oil obtained from the root bark does contain Saffrole. Which according to our government has carcinogenic activity. Although there is research that shows that it is less likely to cause cancer than alcohol. The oil is poisonous in large doses. Externally it has been used to control lice and for insect bites. Irritation to the skin has occurred to some people. The leaves when young are a great addition to a salad. Both young and old leaves can be used as a thickening agent for soups. Ground up into a powder it is called "File", used in Cajun Gumbo's. They were also used to sleep on, since it was once believed the aroma would keep insects away.

The stories from the Folklore states that Sassafras when boiled to make a tea was once used as a tonic in the spring to cleanse blood. It was also known as a tonic, gastrointestinal complaints, colds, kidney ailments, rheumatism, gout and skin eruptions. When boiled with sugar till it thickens to a paste it is then used as a condiment. Using the pith from the twigs as a poultice or eye wash for eye ailments and brewing a tea for chest, liver and kidney complaints.

So as you can see, there are many uses for this old tree that has been around for many years. There is no caffeine, has less than one calorie per serving. Not only can it be served hot or cold, there is also a recipe for making hard tack candy. Try some for yourself and see why Americans today are enjoying what our Fathers once did.

## American Beech



The American Beech is a deciduous tree, it is one of the most known tree's in New England. The smooth gray bark of this grand tree is familiar to many. Also distinctive are the long, slender, pale chestnut-brown buds, readily visible during the winter.

The tree prefers deep, fertile, well drained but moist soils. It is found particularly in mature woods where prairie grasses originally dominated plant growth, the American Beech will grow in rich, well-drained soil on bottomlands and slopes.

This tree is usually confused with sugar maple, yellow birch, and hemlock. The tough, strong wood is used for flooring, furniture and other woodenware.

Hollows in beech trees provide shelter for many animals. Many mammals and birds, including deer, bear, squirrels, grouse and turkey, feed on the nuts. The smaller European Beech is widely planted in the United States as an ornamental tree.

## THE QUINEBAUG RIVER



**General Description:** The Quinebaug river, which drains the Griswold basin, and whose middle waters divide Griswold from Lisbon, begins in Holland Massachusetts and winds through Brimfield, Sturbridge, Southbridge and Dudley before entering Connecticut through Thompson, Putnam, Danielson, Plainfield, Griswold, and Norwich traveling south where it empties into the Thames River. The river is 76 miles long,.

**Major fish species:** Trout, smallmouth bass, largemouth bass, northern pike, panfish.

**The last green valley:** The Quinebaug and Shetucket Rivers Valley of south central Massachusetts and northeastern Connecticut has been called "the last green valley" in the sprawling metropolitan Boston-to-Washington corridor. Congress recognized the Quinebaug and Shetucket Rivers Valley National Heritage Corridor and designated the region as a unique national resource. And in 1999, because of the same kind of grassroots efforts, Congress enlarged the National Heritage Corridor to include towns in the Quinebaug and Shetucket Rivers Valley in both Massachusetts and Connecticut.

### Great Blue Heron



AKA: Big cranky, blue crane, crane, gray crane, long john, poor joe.

The great blue heron lives in and around salt and freshwater environments. They may be found all along the coast, the rivers, streams and lakes. Blue gray in color with a black stripe above each eye extending to the back of the neck as a plume. Black streaks occur on a white foreneck. The bill is long, large and yellowish. The legs are long and grayish with reddish thighs. Great blue herons are between 38 and 54 inches in length. Males are slightly larger than females. They have a wingspread of up to 6 feet and weigh between 5 and 8 pounds. Sixty-nine percent of newborn great blue herons die in their first year.

The oldest known great blue herons have lived 23 years, 3 months and 20 years. They have a cruising speed between 19 and 29 miles per hour. Great blue herons eat fish, frogs, salamanders, snakes, small mammals, land insects, birds, and some plants. Their diet consisted of 71.55% fish, 8.15% insects, 8.91% crustaceans, 4.25% amphibians and reptiles, 4.66% mice and shrews, and 2.48% miscellaneous animal and plant matter. Great blue herons nest together in colonies, otherwise known as a heronry, and are sensitive to the effects of human disturbances. The great blue heron hunts for fish by day as well as by night and employs two methods, "Standing" and "Walking Slowly." When "Standing" it will stand motionless in a shallow pool of water, waiting patiently until a fish comes close enough to pluck from the water. When "Walking Slowly" it carefully treads its way through the water, keeping its neck stretched outward and forward. If it catches a small fish it will immediately swallow it. If the fish is too large the heron will take it onto the shore, kill it first by beating it into the ground, then pick it apart by biting off bits and pieces.

## MALLARDS DUCKS



The male can be recognized by its distinctive glossy green head, white neckband and rusty colored breast. The female is a mottled brown. Both sexes share a blue speculum (a bright blue rectangle of color) and a white bar on both sides at the hind end of the wing where it joins the body. The male has very curly tail feathers and bright orange feet. Mallards can range in size from 20-28 inches long with a wingspan reaching between 30 and 40 inches. The male is larger than the female. This is most noticeable when they are out of the water

Nesting takes place primarily in the prairie provinces of Canada. The Mallard winters as far north as there is open water. It generally avoids salt water and prefers any shallow body of fresh water. In March and April the Mallard begins its migration northward towards its breeding grounds, which are typically in the numerous lakes of the prairie provinces of Canada or northern United States. It may nest as early as February along the Pacific Coast where it is warmer.

The nest is usually built on the ground among dead grasses, reeds, edges of lakes, reservoirs, on muskrat houses, in marshes or marshy ground and sometimes far from the water on higher ground. They also nest among dense stands of phragmites reeds, on islands or bulrushes of swampy creeks, or even in the hollow of a tree. The female produces between 8 and 10 light green eggs, which she incubates for 30 days. The ducklings are led to water as soon as their soft, downy feathers are dry and they first fly about 2 months after hatching.

The mallard feeds by "tipping up" and reaching below the surface with its bill in the shallows of ponds, lakes, streams and swamps. Mallards can feed anywhere that water is a foot or two deep, although they can reach for food in deeper water if necessary. Mallards are primarily vegetarians who eat various seeds including corn, wheat, barley, bulrushes, wild rice, primrose, willow, seeds of water elm, oak, hackberry and other trees of swamps or river bottoms. Mallards will also eat some mollusks, insects, small fish, tadpoles, freshwater snails and fish eggs

## VERNAL POOL



### **Physical description of a vernal pool**

A vernal pool is a contained basin depression lacking a permanent above ground outlet. In the Northeast, it fills with water with the rising water table of fall and winter or with the meltwater and runoff of winter and spring snow and rain. Many vernal pools in the Northeast are covered with ice in the winter months. They contain water for a few months in the spring and early summer. By late summer, a vernal pool is generally (but not always) dry

### **Biological description of a vernal pool**

A vernal pool, because of its periodic drying, does not support breeding populations of fish. Many organisms have evolved to use a temporary wetland which will dry but where they are not eaten by fish. These organisms are the "obligate" vernal pool species, so called because they must use a vernal pool for various parts of their life cycle. If the obligate species are using a body of water, then that water is a vernal pool. In New England, the easily recognizable obligate species are the, the mole salamanders and the wood frog.

### **Wood frogs are an amphibian species of upland forests.**

They venture to vernal pools in early spring, lay their eggs, and return to the moist woodland for the remainder of the year. The tadpoles develop in the pool and eventually follow the adults to adjacent uplands. The presence of evidence of breeding by wood frogs (chorusing or mating adults, egg masses or tadpoles) indicates that a pool is a vernal pool.

### **The mole salamanders are also upland organisms.**

They spend most of their lives in burrows on the forest floor. Annually, on certain rainy nights, they migrate to ancestral vernal pools to mate and lay their eggs. They soon return to the upland. The eggs develop in the pool and, by the time the pool dries, the young emerge to begin their life as a terrestrial animal. Evidence that mole salamanders breed in an area make that water body a vernal pool. Breeding evidence would be a breeding congress, spermatophores, egg masses or larvae.

## THE RED FOX DEN



Discovered in the Spring of 2001

Within this den is a grass-lined nest, dug under the tree in front of you, four well-furred but blind babies, called kits, were born after a gestation of 53 days.

**Life history:** Red foxes breed during February and March. The den is a hole in the earth, 15 to 20 feet long, usually located on the side of a knoll. It may have several entrances. Sometimes foxes dig their own dens. More often, though, they appropriate and enlarge the homesites of small burrowing animals such as marmots. They also will use abandoned wolf dens. Conversely, wolves may enlarge and use a foxes den. A litter of four kits is common, though a litter of ten is not a rarity. At birth, kits weigh about 4 ounces. Normally only one litter is born each year. The kit's eyes open 8 to 10 days after birth. The young leave the den for the first time a month later. The mother gradually weans them, and by the time the kits are 3 months old, they learn to hunt. Both parents care for the young. The family unit endures until autumn, when it breaks up and each animal is on its own.

**General description:** Red foxes are members of the dog family, Canidae, and their general appearance is similar to dogs, wolves and coyotes. The European fox is the same species as the American red fox. The red fox is usually recognized by its reddish coat, its white-tipped tail, and its black stockings, although the species does have many color variations. The white tip on the tail will distinguish this fox from other species, regardless of its color phase. Red is the most common color, but the hair may be from light yellowish to deep auburn.

**Food:** The red fox is omnivorous. Although it might eat muskrats, squirrels, hares, birds, eggs, insects, vegetation, and carrion, voles seem to be its preferred food. Foxes cache excess food when the hunting is good. They return to these storage sites and have been observed digging up a cache, inspecting it, and reburying it in the same spot. Apparently, they want to be sure that their food is still there.

**Distribution:** The red fox is common in most of North America. It is throughout Alaska, except for some of the islands of Southeast Alaska, the western Aleutians, and Prince William Sound. It is native to Kodiak Island but is an introduced animal on many islands in the state as a result of fox farming operations in the early 1900s. The fox prefers broken country, extensive lowland marshes and crisscrossed hills and draws.

**Importance:** In areas where foxes have had little contact with humans, they display cautious curiosity. Even less fear is shown where contacts with humans are very common. Foxes are very adaptable to a wide range of habitats and thrive close to humans, but prefer wild settings.

### Autumn Olive



Autumn olive is a spreading, upright, nitrogen-fixing shrub, growing to about 15 feet. The brown or yellowish brown bark is smooth except on very old stems, where it is somewhat scaly. Twigs are spurred. There is a deep taproot. The small, alternate leaves vary in shape from narrow to moderately wide, with wavy edges. Leaf color is pale olive-green with a silvery cast; the latter is especially typical of the underside. Flowers are small, trumpet-shaped, pale yellow, and abundantly scattered in clusters along the twigs. The fruits contain one soft, ridged pit. They vary from dull to bright red, minutely speckled. They usually mature in August or September. Annual fruit production starts at about five years and ordinarily is very heavy.

Autumn olive produces fruits eaten by four species of upland game birds, two migratory game birds, twenty non-game birds, and four mammals. It is browsed by deer and barked by cottontail rabbits and meadow mice. It is a good nesting and protective cover plant. Autumn olive is useful in stabilizing strip mine spoil; screening unsightly areas; hedging fields, ponds, and other tracts; bordering woods; and creating windbreaks. It is an attractive ornamental, having fragrant bloom and edible but astringent red fruits. It was introduced to the United States from eastern Asia.

### Eastern White Pine



The height of a mature tree in nature is 80' – 110'. The spread is 20' – 40'. The White Pine is the only five-needle pine native to eastern North America. “Wind Blown” or a symmetrical look; it's a large, long cones; and its five needles per cluster. The climate for White Pines is cool and humid. The Best soil is well-drained sandy sites of low to medium site quality. Also it's good in soils along rivers and streams.

The pine tree grows to be about 100 feet tall and 3 feet wide. It reproduces by the seeds, which are carried in the cone. The leaves are needles. They are soft, flexible, and blue green. 2''- 4'' long, three sided, in bundles of five. When the bark is young it is smooth gray. It then gets gray and brown, and deeply furrowed with broad ridges of irregularly rectangular purple tinged scale plates. It darkens and thickens with age. Twigs are slender, flexible, pale red brown, with rusty hairs when young. As they age they are gray and smooth.

The White pine tree produces both male and female cones. The staminate consists of several yellow spikes up to 1/3 inches long that develop into tiny male cones in the spring of the year. These tiny cones contain huge amounts of pollen. These cones open slowly and the pollen is carried by the wind of the larger female cones. The female cones are woody, sticky and gummy. The pollen sticks to the seeds. Here they fertilize and are nurtured by the seeds in the woody cones. It takes about 2 years for the white pine seeds to mature. The mature seeds have winged parts that twirl and float away in the wind. Many seeds produced but only a few grow into trees.

**IRONWOOD**

Ironwood is a small understory tree with extremely dense wood common in well-drained sites throughout eastern U.S. except for the Atlantic coastal plain land Mississippi delta.

The leaves are medium to dark green, overall shape is ovate to pyramidal when young, older trees are rounded leaves about 2" to 5" long and half as wide. In the fall they turn a yellowish brown to orange color. The gray brown trunks and main branches develop a fluted or "muscle-like" appearance and features are ornamentally attractive. The bark is smooth and reddish-brown when young; later breaking into thin, shaggy plates that give it a characteristic shreddy appearance. Twigs are slender with buds that are ovoid with scales striated longitudinally.

The Fruits are nutlets borne in a papery sac suspended in strobiles resembling clusters of hops, hence the alternate name, Hophornbeam.

## Skunk Cabbage



As you walk through this part of the woods you find you are nearing a swampy place. Poking up through the snow (if there's any left) you're likely to see a most unusual plant. If you can get close enough, take a sniff. Whew! Does this plant stink? You've just encountered skunk cabbage a plant that actually generates enough heat to melt the snow around it. The skunk cabbage blooms long before any other spring wildflower. It also looks very different from most other wildflowers. Instead of having petals, there is a single leaf-like looking sheath called a "spathe." It is hood-shaped and maroon streaked with greenish-yellow. (Can you find it) The spathe protects the "spadix," which is a fleshy club-shaped spike. The spadix looks fuzzy because it is crowded with tiny flowers with no petals. Its bad odor attracts bees, flies, and gnats, which pollinate it. Large leaves emerge later and grow to the size of rhubarb leaves.

**The plant is used for medicinal action and uses such as;** Antispasmodic, diaphoretic, expectorant, narcotic. Large doses cause nausea, vomiting, headache, vertigo and dimness of vision. It has been used with alleged success in asthma, chronic catarrh, chronic rheumatism, chorea, hysteria and dropsy. It is said to be helpful in epilepsy, and convulsions during pregnancy and labor. It is an ingredient in well-known herbal ointments and powders. Externally, as an ointment, it stimulates granulations, eases pain, etc.

**RED MAPLE**

The maple tree; a family of aceraceae, is a medium to fast grower to forty feet in a landscape with a spread slightly less than height.

One of the first signs of spring is the flower of the Red Maple. The profusion of tiny, red flowers against its smooth gray bark is a beautiful sight. Red Maple is also one of the first trees to change color in the fall.

The bark is smooth and gray, especially when young. The leaf is simple, generally 3 lobed, medium to dark green above, paler beneath with hairy veins. Petioles are distinctly red. Stems become red as winter advances. The fall color can be varied and is not consistent through seedlings but is generally a varying intensity of red.

The flowers are 1/8' long and red, occurring in clusters along the twig. It is very distinct in appearance. From a distance the tree can appear as if in a red haze.

### The Common Juniper



Other common names include: dwarf juniper, mountain common juniper, old-field common juniper, and prostrate juniper

Typically found on dry, rocky, wooded hillsides or exposed slopes. A variety of soil types including acidic and calcareous sands, loams, or marls. It can be found as a coniferous shrub or columnar tree. Throughout most of North America it grows as a low, mat-forming shrub 2'-5' tall and 7'-13' across. In parts of New England it can occasionally reach 25' tall. The American robin and black-capped chickadee feed on the berries whenever available.

The leaves are stiff and arranged in whorls of three with pungent odor. Younger leaves tend to be more needlelike whereas mature leaves are scale like. The twigs are a yellowish or green when young, turn brown and harden with age. The bark thin, shreddy or scaly, often exfoliating into thin strips.

Indians used the common juniper as a blood tonic. Native Americans from the Pacific Northwest used tonics made from the branches to treat colds, flu, arthritis, muscle aches, and kidney problems. Indigenous peoples from Eurasia made tonics for kidney and stomach ailments and rheumatism. Common juniper extract, which can be fatal in even fairly small amounts, was used to make gin and as a meat preservative.

### Red Maple Swamp



**Description:** A swamp is actually a small forest, which is often covered by water. In order for a wetland to be a swamp, it needs to have about thirty percent tree cover. Over one hundred years ago, loggers and developers reduced the number of swamps by thirty-five percent without understanding the damage they were causing.

Swamps are wetlands in which trees are the dominant vegetation. These are forested wetlands. In Connecticut and throughout southern New England, the most common type of wetland is a red maple swamp. Fully 80% of Connecticut's freshwater wetlands are *Acer rubrum* swamps. Red Maple, which derives its name from the plant's red flowers, fruits, petioles and fall foliage, grows to a height of 60-90 feet and a diameter at breast height (DBH) of 2 1/2 feet. While it grows in dry upland sites, it is most abundant and most closely a monoculture species (single species stands) in swamps or along stream banks. It is widely distributed throughout the eastern United States.

#### What do swamps do?

1. They control floods; when rivers flood, swamps help control the overflow by holding water longer.
2. They help to clean the water. As the water flows, plant root strap pollutants and sediment which then sinks and settles on the bottom. Cleaner water then flows out.
3. They support food chains; plants in the swamp process nutrients, which help to feed wildlife down stream.

**Plants;** Sedges, Skunk Cabbage, Arrow Arum, Cowslip, Yellow Iris, Larger Blue Flag, Speckled Alder, Red Maples, Cinnamon Fern, Yellow Flag, Slender Blue Flag, native to wet meadows and marshes of the northeast. Arrow Arum, and Violet.

**Wildlife;** Whitetail Dragonfly male, Green Frog, Common Snapping Turtle, Red-winged Blackbird, Virginia Rail, Beaver and Muskrat



Family: Anacardiaceae

Common names: poison ivy, poison oak

Poison ivy is most abundant in floodplain forests, but is often found in other habitats. The shrub form is usually called poison oak and the trailing or climbing forms are called poison ivy. All the forms or varieties are capable of causing a severe dermatitis, with itching and swelling of the affected parts. Toxicodendron is Greek for "poison tree"; radicans refers to its climbing habit. It grows upright, trailing, or high-climbing woody vine or shrub. When climbing, the stems cling to surfaces with aerial roots. Leaves compound, with three large acute or acuminate leaflets. The flowers are greenish, in auxiliary panicles and the fruits are small, whitish or grayish.

Learn to recognize and avoid this plant. Under no circumstances should you burn the plant; the smoke is as potent as the plant itself. "Inhaling the smoke can produce a systemic reaction, including potentially serious lung inflammation."

**If you become exposed, wash the affected area as quickly as possible with soap and cold water (hot water is reputed to cause the pores to open and allow the oak oil in). The oil is very easily spread, and can persist in crystalline form on clothing or other contacted items (including pets) for many months (years?), so you should wash anything you may have touched. Scratching affected areas after symptoms develop can not spread the infection, but different levels of exposure, and secondary exposures, can cause delayed reactions (2-3 days) in adjacent areas, giving the impression of spreading.**