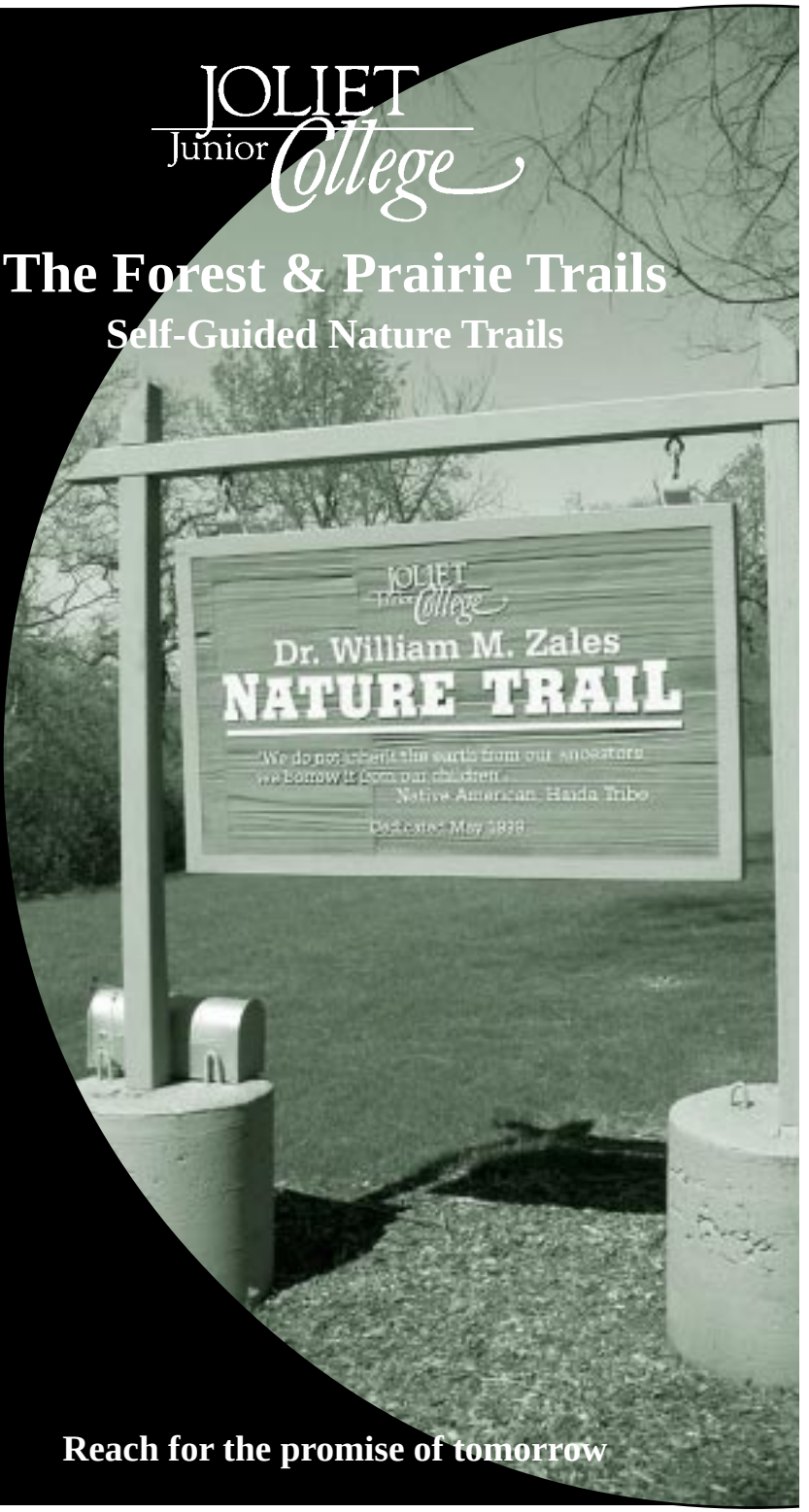
JOLIET Junior College

The Forest & Prairie Trails

Self-Guided Nature Trails



Reach for the promise of tomorrow

General Information

Explore the self-guided prairie and forest trails on Joliet Junior College's Main Campus. There are many legendary landmarks such as the limestone wall that was built by Confederate Civil War prisoners. Also, there are granite boulders, brought down from the north by a glacier 12,000 years ago.

Wild animals, including deer, opossums, squirrels, raccoons, snakes and skunks live in the preserve. Many different species of birds also live here, such as swallows, flycatchers, bluebirds, kingfishers and herons.

The College has 2.75 miles of paved trail and 2.0 miles of unpaved nature trails. The paved trail is part of the Rock Run Trail and represents a cooperative agreement between JJC and the Will County Forest Preserve District. The Rock Run Trail connects to the 61-mile I & M Canal Trail. All the trails are beautiful. Cyclists, walkers, runners, and skaters can use the paved trail. **The unpaved nature trails are foot paths only**. Motor Vehicles are PROHIBITED from using all of the trails. Violators are subject to fines. Please respect these valuable resources.

Students enrolled in the Fitness Center (HPR-101) can check out a pedometer and a litterbag, walk two miles, and receive a visit for the day. Contact the Fitness Center for details at (815) 280-2437 or stop in room G-1018.

The trails are open from dawn to dusk, whenever the campus is open.

Rock Run Trail (Paved) - 4.4 km (2.75 miles)

Nature Trails (Unpaved)

Forest Trail - 2.1 km (1.3 miles)

Prairie Trail - 0.8 km (0.5 miles)

Walking Difficulty: Easy

1. Trailhead Sign

This trail is part of the Joliet Junior College Ecological Preserve and Outdoor Laboratory. We are proud of its beauty, heritage and scientific value. Besides organized college research projects being carried on throughout the preserve, wild plants and animals are maintaining their own "balance of nature."

In 1999, the college renamed the nature trail and the arboretum the Dr. William M. Zales Nature Trail and the Dr. William M. Zales Arboretum. These special honors commemorate Dr. Zales' years of service to the college as a member of the Natural Science Department. This sign is acknowledgment of his hard work.

Enjoy the natural habitats of our campus, but please do not disturb anything.

Take only memories or photos-leave only footprints. Collection of flora or fauna is prohibited without permission from the Natural Science Department.

2. JJC Campus Lake (Eastside) & Ravine

Exposed bedrock formations are Silurian Dolostones, aged at approximately 425 million years old. These formed in shallow marine environments similar to the tropical coral reef environments of today, when North America was located near the equator. The JJC Campus would have been located in the inter-reef area at that time.

The bottom of the lake was formed over 12,000 years ago as a thick cover of ice called a glacier which melted and cut a narrow valley through the bedrock. Much later, the surface water from the surrounding area channeled itself into what is now Rock Run Creek to the west. The narrow valley left by the glacier has been blocked by a constructed dam which holds the water in the lake.

3. Erratics

These granite boulders are called "erratics" since they are different from the bedrock found in this area. They were brought here by a glacier as part of a "boulder train" — a long line of similar rocks laid down in the direction during which the glacier was moving about 12,000 years ago.

4. Old Oaks

Over 200 years ago, an acorn sprouted and grew into this magnificent Bur Oak (*Quercus macrocarpa*). In 1901, the seeds of the junior college concept in education were planted here in Joliet. This tree is a monument to the swiftly diminishing deciduous forests of the Midwest.

5. Deciduous Forest

Two hundred years ago the forests of Illinois were restricted to hilly areas in the northwest and south "groves" of the vast prairies (the origin of names like Downers Grove, Elk Grove, etc.) or along the rivers and streams. Oak trees were used by early settlers for roof shingles, barrel staves, furniture and strong construction lumber. Animals of the forest such as deer, opossums, squirrels, raccoons, blue jays, woodpeckers and owls (all living on our Main Campus today) used these oaks for food and shelter. Some of these oaks celebrated their 200th birthday during our nation's bicentennial in 1976. The footbridge on the westside of the trail accesses the forest trail, trail marker #5 to #15.

6. Flood Plain Vegetation

This land may flood periodically, making it unsuitable for development. Ironically, this and most flood plains are dry most of the time, enticing people to live near rivers and streams. This results in damage to the flood plain and eventually more severe flooding downstream. The vegetation that exists here is suited to the damp, shaded conditions. Flood plains in their natural condition are the best protection we have against floods. If they must be "used," recreation and limited lumbering may be considered.

7. Old Stone Wall

Limestone is very abundant here, but who would take the time and effort, and for what reason, to build such a well-constructed fence? Since the wall runs north-south, it may have been a property boundary. It is high enough for a cattle fence, yet it does not enclose a pasture. Fences in the Eastern U.S. were often made of stones removed from farm fields, but the stones found here are not the typically round glacial stones found in local fields. History tells of camps with Confederate Civil War prisoners who were made to work and local legend indicates this was reason for a similarly constructed wall at Smith's bridge five miles south of JJC. However, exploration of our area with a metal detector, has not revealed any artifacts of Civil War vintage.

8. Vernal Pond

Spring rains fill this small depression with enough water to produce myriads of insects. Birds, snakes and animals come to drink and feed on the larvae. As the pond dries, insects emerge to become prey for other animals. Deer, skunk, opossum, raccoon and bird tracks can be seen in the mud. When the pond is dry, plants grow through the cracked soil, and birds take baths in the dust to fluff their feathers.

9. Shallow Soil

The bedrock under most of northern Illinois is limestone. Here is a type called "Joliet Dolomite." It was originally formed as sediments of a vast ocean that covered this area 425 million years ago-a time when few land plants existed and vertebrates (animals with backbones) were just beginning to evolve. This stone, widely used for construction in the past, is today quarried and crushed for gravel. The soil on the Main Campus is very thin or "shallow" and in many places the dolomite forms "outcrops" of bare rock. Vegetation continues to grow over and eventually cover the bedrock. More about this process, called succession, will be explained later.

10. Fen

This low wet area is not a swamp or a marsh but a fen. Swamps are forests growing in the water. Marshes are generally shallow ponds dominated by rushes and cattails. Fens are an unusual type of prairie ecosystem in Northern Illinois on calcareous seeps. Water seeping through the limestone becomes alkaline and limits the plant species to those that can survive this environment. Fens are rare because many have been destroyed by draining for filling which has made fen plant species rare in Illinois.

11. Prairie Restoration

Hundreds of years ago, the nomadic Plains Indians lived within a stable climax ecosystem that covered 70% of Illinois and one-third of the continent, and persisted almost without change until settlers came in the early 1840s. With their devotion to progress and need of plowed land, the pioneers found the thick sods, terrifying fires, and poor drainage of the tall grass prairie barriers that had to be destroyed before they could raise crops. As sod was broken, the native prairie grasses and flowers gave way to wheat and corn. In the course of time, the wind and water have stolen rich humus that has been building up among the grass roots for hundreds of years. Today, only a few acres of prairie remain scattered along railroad tracks, in abandoned cemeteries, and in small, undeveloped plots of land. The faculty, staff and students from the Natural Sciences and Physical Education Department are restoring this portion of the campus to demonstrate the appearance of a prairie, and to provide a permanently protected refuge for rare and endangered prairie species.

12. Succession

Notice how the forest is encroaching upon the prairie and fen. These “invading plants” are called pioneer species. In pre-settlement times, forests were eliminated by water-logged soil in spring, drought in the summer and fires at any time. The large and deep roots of prairie plants could survive all these calamities. Agricultural development increased drainage and halted the forest, which set the stage for forest succession. Now, we see invasion by pioneer plants like willow and dogwood in the fen and cherry, rose, and hawthorne in the prairie. When these plants mature, they will provide a cooler, more moist environment for a sequence of tree species replacing each other over a very long time, eventually resulting in a stable forest ecosystem called a climax forest. This orderly sequence of replacement is called succession.

13. Forest Edge Ecology

Here is another short unconnected segment of the stone wall discussed in #7. Notice the transition zone between forest and prairie. This zone is called ecotone. Ecotones contain plants of intermediate size such as shrubs, vines and small trees which form a gradual wall of leafy vegetation from the ground up to the forest canopy. Here are American Hazelnut (*Corylus americana*) and Prickly Ash (*Xanthoxylum americanum*), shrubs typical of the forest prairie ecotone. Many animals live in this zone where food and shelter are more abundant than in either the forest or the prairie.

14. Fire

This low hillside has few large trees and a different association of forest floor plants than in other woods on the Main Campus, which indicates some disturbance in the past. The stumps of some trees indicate that this disturbance was fire. Also, notice again how close the limestone bedrock is to the surface.

15. Old Farm Pond Dam

This earth dam was built many years ago, probably to provide water for livestock pastured in the northwest part of the Main Campus where the soil is too shallow to plow for crops.

16. Forest in the Midwest

Forests that grow on rocky hills or flood plains in the great Midwest prairie are called mixed deciduous forests. Deciduous means that the plants lose their leaves each fall and we see here a good mixture of tree species: Basswood (*Tilia americana*), Bur Oak (*Quercus macrocarpa*), Wild Black Cherry (*Prunus serotina*), and American Elm (*Ulmus americana*). Deciduous forests in the Midwest are usually not dominated by large numbers of a single species. This diversity of plant species provides abundant food and numerous habitats for a great diversity of animal life from the decomposing leaves and branches on the ground, to the trunk, stem and leaves above. The complex interaction and interdependence of plants and animals with their physical environment is what ecology is all about. These fascinating ecosystems have, for the most part, been replaced by rows of single plant crops where other plants and animals have been eliminated.

17. Old Pasture

Thorn-bearing plants indicate that this area was grazed by cattle. Cattle selected and ate the thornless plants, allowing those with protective thorns to dominate. Along the trail you will see:
Crab Apple – *Malus ioensis*
Cock-spur Hawthorne – *Crataegus crusgalli*
Osage Orange – *Maclura pomifera*
Juniper – *Juniperus virginiana*
Prickly Ash – *Xanthoxylum americanum*
Multiflora Rose – *Rosa multi flora*
Carolina Rose – *Rosa carolina*
Gooseberry – *Ribes cynosbati*
Black Raspberry – *Rubus occidentalis*
Barberry – *Berberis thunbergii*
Greenbrier – *Similax hispida*
European Buckthorn – *Rhamnus cathartica*

18. Boardwalk

This portion of the trail may be wet in the spring or after a rain due to the expanses of flat limestone near the surface. The boardwalk provides favorable passage through this section of the trail for the "all-season" hiker.
It is also usually very hot here. The trees block breezes and provide little shade. Keep moving!
Growing on this portion of the trail is Path Rush (*Juncus tenuis*) a distant cousin to the grasses in its own Family.

19. Shaded Forest

Feel the coolness? Shade from the trees and moisture in the leaf litter of the forest floor produce natural air conditioning. The plant and animal associations living here are totally different from those a few meters back in the heat and sun.

20. Section Lines

The original survey of Illinois divided the state into townships containing 36 sections, each section being one square mile. Most county roads follow the boundary between sections. The old stone wall mentioned in #7 and #13 lies on the "section line" between sections 22 and 23 in Troy Township. To establish property boundary, sections are divided in half and in quarters. One-sixteenth of a section contains 40 acres and is called a "forty." This row of oaks was at one time a property boundary, or fence line, exactly one "forty" away from the old stone wall. The small glacial boulders or field stones were carried out of the fields and dumped in this fence row many years ago.

21. Bare Rock Succession

Several stages of plants succession can be seen here. The limestone is usually hot and dry. Yet, after a rain, mosses, lichens and even algae establish colonies. They build an organic litter in which grasses become established. In 1996, 57 species in 39 genera of Lichens were found growing on campus. Two lichen species are found nowhere else in Will County, *Xanthparmelia cumberlandia* and *Trapelia involuta*.After many years, shrubs and small trees can get a start in the shallow soil. Come back here in 100 years and you will see these small black walnut trees (*Juglans nigra*) dominating a cool shaded forest very similar to station #19.

22. Seed Dispersal

Pioneer plants (invading plants in early stages of succession) and prairie plants have seeds that are spread by the wind. Forest plants generally have larger seeds that depend on animals to disperse them. Osage Orange, Walnut and Oak seeds are dispersed by squirrels. Many shrubs on the Main Campus are dispersed by birds, including some ornamental shrubs that have "escaped" from cultivation.

23. Wire Fence

Although the size and kind of plants are similar on both sides of the trail, this barbed wire fence indicates that the campus was grazed by cattle. It was the grazing that caused the wooded areas to be open and the pastures to grow into thorny thickets (see #17).

24. Basswood Reproduction

American Basswood (*Tilia americana*) is a common tree in Will County. Its soft wood is excellent for cabinet work. Indians used its inner bark to make rope, and its flowers are important in honey production and also make a stimulating tea. As an old tree dies, it usually produces a ring of shoots which eventually replaces the parent with a thick stand of new trees as we see here.

25. A Break in the Forest

Construction of this trail has allowed sunlight to penetrate which has changed the vegetation. Notice the difference in plants on the path, at the edge of the path, and those blending into the woods. We have created a forest-edge community (see #13). The path also attracts many birds for sunning, dusting and feeding, as well as their predators like the Cooper's Hawk.

26. Erratics

This is another large glacial erratic (see #3). These exotic rocks came from Canada and states north of here. Colorful and glittering granites, banded gneisses, and other veined and streaked igneous and metamorphic rocks appear out of place in grassy knolls, forests, and prairies. Many erratics are of notable size and beauty. Their "erratic" occurence is the reason for their interesting name.

27. JJC Campus Lake (Westside)—Dam & Sunshelter

The JJC Lake is an extension of the Biological Science Laboratory, and is an aesthetic focal point for the architecture of the Main Campus. Thus, its main value is for educational usefulness and scenic beauty. The lake is not managed to develop maximum fish production, but rather to maintain a fertile biological diversity and a naturally beautiful appearance. Continuing studies of the plant and animal life in the lake are in progress.

Recreational fishing is open to the public. An Illinois Fishing License and JJC Permit are required. (See JJC Fishing Regulations.)

The footpah to the east will access campus buildings on the northside of the lake.

The sunshelter was generously made possible through a

28. Value of a Dead Tree

Just because a tree has died does not mean its value is lessened. Aesthetically, the skeleton of this monarch of the forest stands in beautiful contrast to the green of the surrounding trees. Its limbs serve as perches for predatory birds like swallows, flycatchers, kingfishers, and herons. Its slowly rotting wood serves as nourishment for fungi which support insect populations, which in turn nourish other animals. The hollow trunk will serve as a home for honeybees, woodpeckers, swallows, squirrels, wood ducks, and eventually raccoons. Even though it may fall, the tree will continue to provide protection for fish in the lake and a sunning spot for turtles. If it falls on land, a whole new series of environments will be created for plants and animals. Eventually, a dead tree will become totally recycled back into the soil, improving its texture and providing mineral nutrition for the plants of the forest floor.

29. Old Oak Savanna Restoration

Many plants and animals were brought to America intentionally, some to remind the settlers of their homeland, and some for their usefulness or supposed usefulness. Many others were brought here accidentally. These non-native or exotic species have escaped from their original landing site, have become established in their new community and have become weeds. Most of our agricultural weeds are foreigners. These Buckthorne (*Rhamnus cathartica*) are used as hedges in Europe, but are a nuisance here. Also of concern are Amur Honeysuckle and Garlic Mustard (*Alliara petiolata*).

Prairies with scattered large oaks are called savannas. Bur Oak (*Quercus macrocarpa*) can even survive occasional prairie fires. The result is a very open woodland with a great diversity of tall grasses and showy flowering plants. This campus has been "protected" from ground fires which have allowed undesirable plants to flourish. At this site, faculty, staff, and many volunteers are removing non-native trees and shrubs, and reintroducing plants that would occur in an

Illinois savanna. Restoration efforts include starting intentional fires or controlled burns as a management method to control weeds and exotic species. You are at the end of our Nature Trail. We hope you have enjoyed it. Please come back again and experience the Forest and Prairie Trails during a different season of the year.

30. Wildlife Viewing Area

The nature trail ends here, but not your journey. Continue walking on the lakeside of G-Building, (in front of the Fitness Center). This is a designated Wildlife Viewing Area. Several bird and squirrel feeders attract a variety of avian visitors, and many other opportunistic guests. The observation of birds and other wildlife not only contribute to our pleasure and enlightenment, but leads inevitably to environmental awareness. The feeders are maintained and funded by the volunteer effort of Brenda Zeborowski, a member of the NS/PE Faculty.

Please Do Not Disturb the Wildlife

31. Walkway-Bridge Underpass

Follow through the wildlife viewing area to the Walkway. In the fall of 2002, a walkway was constructed under the bridge to connect the east and west sides of the trail. As you continue east under the bridge, you will pass the **Flagpole and Bell Tower**. During the JJC Centennial Celebration, a time capsule was buried here. The open spaces here provide a great picnic area to enjoy nature and to meet with friends. The path eastward leads back to the Trailhead.

One final point of interest is the **Cronin Schoolhouse**. Built in 1863, the authentic one-room country school is a living history museum. The Larkin family donated the schoolhouse to the JJC Foundation in 1987. Since 1991, thousands of school and community groups have visited the one-room schoolhouse. The Cronin Schoolhouse is open year-round and offers tours by appointment.

Joliet Junior College Lake

The lake is an extension of the JJC Biological Science Laboratory and the aesthetic focal point for the architecture of the campus. Thus, its main value is educational usefulness and scenic beauty. The lake is not managed to develop maximum fish production but rather to maintain a fertile biological diversity and a naturally beautiful appearance.

Biology faculty and staff have been participating with the Illinois Environmental Protection Agency in the Illinois Volunteer Lake Monitoring Program since 1994. Data is collected twice a month from May to October. The volunteers learn a great deal about the lake's overall ecology and health. With this information, current water quality can be determined as well as long-term trends. This data can be used to document water quality impacts and factors that affect the quality of the lake and watershed ecosystems. It is a vital tool for effective lake management decision-making.

JJC Fishing Regulations

Recreational fishing in JJC Lake is a privilege. The following rules and regulations should be followed when fishing in the Campus Lake.

1. Fishing hours are 7 a.m. to 30 minutes after sunset.
2. Fishing is open to the public.
3. Anglers must carry a valid Illinois Fishing license (unless exempt by law) and a JJC fishing permit. JJC fishing permits may be purchased at the Service Center (J-1002). These must be presented to Campus Police Officers upon request. Two guests per JJC permit holder will be allowed when accompanied by the permit holder. Guests and permit holders must comply with Illinois and JJC fishing regulations.
4. Shore fishing is only permitted on the north side of the lake from the bridge by J-building west to the dam and on the dam. The south shore and everything east of the bridge is closed to fishing. NO boating or wading is permitted.
5. All Illinois Fishing Regulations apply to fishing in the Campus Lake. Refer to the current Illinois Department of Natural Resources Fishing Information Booklet for complete details. We advocate “catch and release fishing”.
6. Only artificial bait and/or earthworms will be allowed in the Campus Lake. Minnows are PROHIBITED.
7. Littering or damage to college property will result in permanent loss of fishing privileges.
8. Ice fishing is NOT permitted.
9. Possession or use of alcoholic beverages is prohibited.
10. Parking is permitted in established lots only.
11. Fishing is at your own risk, and the JJC assumes no responsibility for accidents or personal injury.
12. Any violation of the above rules and regulations will result in permanent loss of fishing privileges.
13. For further information, contact JJC's Natural Sciences and Physical Education Department at (815) 280-2420.

Restoration Project

A unique project is drawing faculty, students, staff, and community members together at JJC's Main Campus as volunteers work toward a single cause: to restore the college's oak savanna and prairie ecosystems.

Characterized by open groves of bur oaks, grasses and flowers that support many other forms of life, the balance of this natural area is in jeopardy as non-native and opportunistic plant species move in and take over locations where the native species once thrived.

At the start of a workday equipment is readied, and participants are given an introduction to tool usage and safety along with a brief overview of the area's natural history. Workers proceed through the designated area, carefully sawing and pulling non-native plants, allowing the native species to revive with additional sunlight and growing space. As native species thrive, an open grove of trees, or oak savanna, is created. This native environment is then void of non-native and opportunistic plant species and restored to its original biological diversity.

Benefits of the restoration efforts are many. Some of these include: a marked increase in native bird and butterfly population, improvement of water quality and retention and volunteers' enhanced awareness of preserving the native species in their environment.

About Dr. Zales

Dr. Williams M. Zales was a biology professor at Joliet Junior College from 1967 to 1999. He taught courses in botany, general biology, plant taxonomy, ecology, conservation and taxidermy. He received his bachelor's degree in 1966 and his master's degree in botany in 1967 from Eastern Illinois University. He also holds a Ph.D. in botany from the University of British Columbia in Vancouver, Canada.

Dr. Zales planned the nature trail, which was designed to demonstrate the ecological diversity of the JJC Campus. The trails were designed to provide easy access for biology class projects, recreational activities and public enjoyment.

All of Dr. Zales students participated in some aspect of outdoor education. It was a vital component of his coursework, rain or shine. For decades students learned the value of nature and how important it is to preserve it.

Dr. Zales retired in 1999. The college renamed its nature trail and arboretum in his honor.

Dr. Zales vision continues to grow. The bike trail has opened the backdoor to the college and connected the college to the "green spaces" of the Will County Forest Preserve District, the Rock Run Creek Corridor, and other state and federal lands to the south of the campus. Many members of the college community utilize the JJC Natural Areas. Students from geology, geography, horticulture, art, and the fitness center have all enjoyed the Jewels of JJC. Various community groups and individuals also visit the nature trails and arboretum each year.

The JJC Natural Area Committee continues the work initiated by Dr. Zales, and pledges to pursue his vision of preserving the Natural Areas of JJC for future generations to enjoy and discover the vast biological diversity that our unique campus offers.

Turtlehead
Chelone glabra

Side Oats Grama
Bouteloua curtipendala

Acknowledgements

The JJC "Forest and Prairie Trails Guide" was researched and written by Dr. Zales, JJC Natural Science and Physical Education faculty member. The trail guide was written to be a "self-guiding nature trail brochure". This brochure allows Dr. Zales to continue to share his vast knowledge of the JJC Natural Areas, biological diversity, ecology, and conservation with all who explore our campus.

This trail brochure was updated and edited in the spring of 2004 by Virginia Piekarski, Biology Lab Supervisor, the JJC Community Relations Dept. and members of the Natural Areas Committee.

Photo Credits: Virginia Piekarski