TRAILS
GRAND MENARD DISCOVERY TRAIL

Lolo National Forest

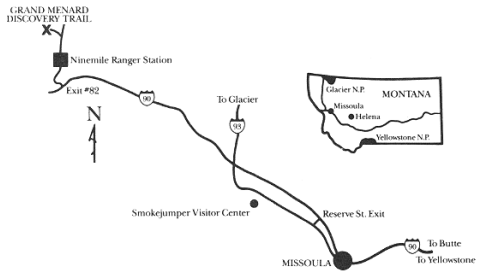
The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means of communication of program information (braille, largė print, audiotape, etc.) should contact the U.S.D.A. Office of Communications at 202-720-2791 (voice), or 800-855-1234 (TDD).
To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 800-245-6340 (voice), or 800-855-1234 (TDD). U.S.D.A. is an equal employment opportunity employer.

Lolo National Forest
Ninemile Ranger Station
20325 Remount Rd
Huson, MT. 59846
(406) 626-5201

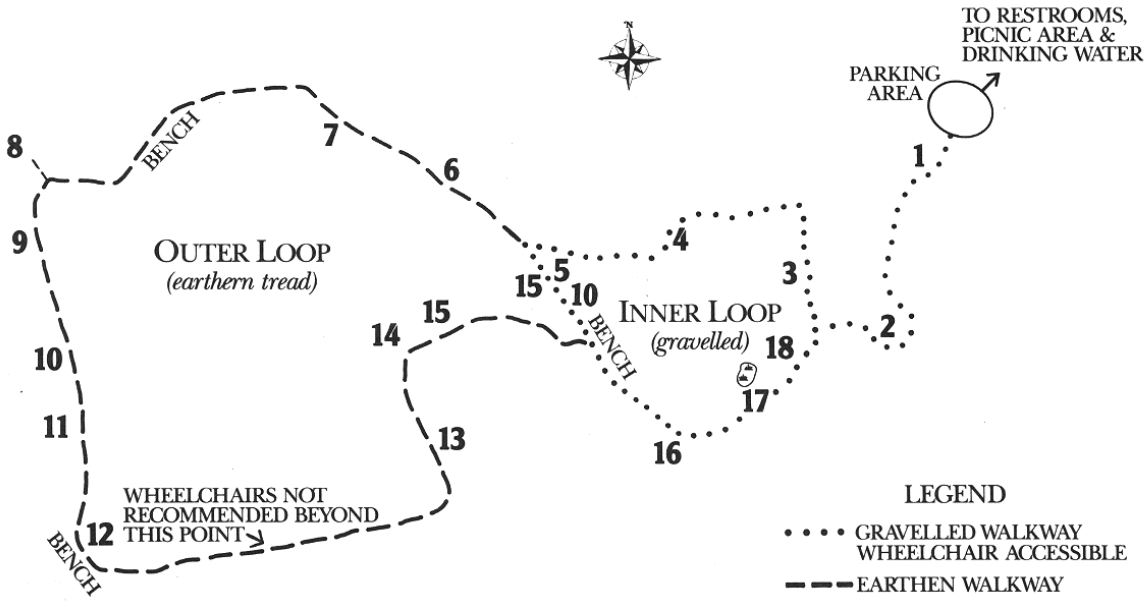
Printed on Recycled Paper **R1-97-100**

GRAND MENARD DISCOVERY TRAIL

WELCOME TO THE GRAND MENARD DISCOVERY TRAIL, A SELF-GUIDED TOUR WINDING THROUGH A FOREST OF DOUGLAS-FIR AND PONDEROSA PINE TREES. THE INTERPRETIVE TRAIL HAS BOTH AN INNER AND OUTER LOOP. TAKE THE GRAVELLED INNER LOOP FOR A 2/3-MILE, WHEELCHAIR-ACCESSIBLE WALK OVER GENTLE TERRAIN (ALLOW 30 TO 45 MINUTES). THE OUTER LOOP LEADS YOU AN ADDITIONAL 2/3 OF A MILE OVER TERRAIN THAT IS GENTLE AND WHEELCHAIR ACCESSIBLE TO THE HALFWAY POINT (SEE MAP BELOW). AFTER THE HALFWAY POINT, THE TRAIL WINDS THROUGH SOMEWHAT STEEPER TERRAIN AND IS NOT MAINTAINED FOR WHEELCHAIRS. ALLOW ANOTHER 45 MINUTES TO COMPLETE THE OUTER LOOP.



OPEN YOUR SENSES—LOOK, LISTEN, SMELL AND TOUCH AS YOU WALK THE TRAIL. REMEMBER, LEAVE ONLY FOOTPRINTS AND TAKE ONLY MEMORIES!



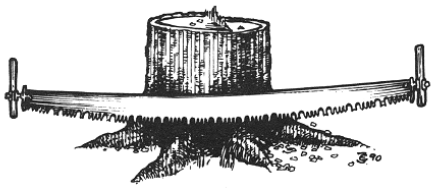
1. ALL LIVING THINGS ARE CONNECTED

When you look around, you may not see much action. But this forest community brims with life. Elk, northern flying squirrels and white-tailed deer, pileated woodpeckers, black-capped chickadees and barred owls; serviceberries, bunchgrasses, and hawthorn—these are just a few of the hundreds of species of animals and plants that live in this forest.

Everything that lives here depends on other members of the forest community for survival. As you walk along this trail, you will discover examples of the countless connections among the plants and animals living here.

2. LAND OF MANY USES

Though the forest you're walking in is now set aside for recreation and nature study, it has been used for many purposes over the years. Look carefully for signs of human activity as you walk. Once owned by the Anaconda Company, the forest was logged around the beginning of the century. Therefore most of the trees you see are 90 years old or less. The scattered older trees you will see along the trail were left by the loggers because they were considered "defective." As you walk along and look at the older trees, can you see why they were spared from the saw?



The Forest Service bought this land in 1930 to raise horses and mules necessary for packing men and equipment into back-country fires. Ditches were trenched through the forest to carry irrigation water to hay meadows. Some of these ditches are still used, as Ninemile remains a working ranch that grows hay and winters stock from across Montana and Idaho. For a more complete history of the area, stop at the Ninemile Ranger Station Visitor Center.

3. Knapweed Invader

The stout-stemmed, rough-textured plant growing in this sunny clearing is called spotted knapweed. Knapweed was accidentally introduced into our country from Eastern Europe or Asia, and has been in Montana only since 1925. Knapweed is considered a noxious weed because it interferes with agricultural crops and replaces grasses that domestic livestock and some wildlife prefer to eat.

This adaptable plant has out-competed many of the native grasses that grow on sunny sites like this. Knapweed's competitive advantage is partly due to the absence of natural insect and disease enemies. Recently, several insects have been collected in Eurasia and released here for biological weed control. Chickadees often dangle from stems or break off the flower heads to eat the recently introduced insects.

Did you notice spotted knapweed in the shady portions of the trail? Probably not, since knapweed is a sun-loving species.

4. Elk Rub

What rubbed the bark off these alder shrubs along the irrigation ditch? At the beginning of the mating season in September, bull elk hold sparring matches with these shrubs. If you were to witness one of these matches, you would see the bull elk lower his magnificent antlers and rake the tines up and down the bark, sometimes uprooting or otherwise destroying the shrub.

Besides intimidating any bull listening or watching, antler rubbing strengthens neck muscles for later duels and rubs velvet off the antlers. These shreds of velvet serve as a source of food for the smaller mammals of the forest such as mice and chipmunks. Whitetail bucks created the smaller rubs on the lower part of the shrubs.

5. Plentiful Seeds from Grandfather Pine

All the little ponderosa pines in front of you grew from seeds released from the big pine in the middle. Over its lifespan of roughly 350 years, a single ponderosa can produce over four million seeds! Most of the seeds are eaten by squirrels and birds like the Clark's nutcracker, pine grosbeak and grouse.

Of the seeds that put down roots and grow to be seedlings, only one in ten survives beyond its first ten years. It's not easy being a pine tree!

6. Pine Nut Feast

Red squirrels are active residents of this forest throughout the year. In late summer and fall the squirrels are busy climbing trees. They cut cones, the cones fall to the ground, and the squirrels haul them to their storage site, called a "cache." When winter arrives and the squirrel wants a snack, it will go to the cache, carry the cone to its favorite eating spot and peel off the scales of the cone to eat the seeds inside. In the process of extracting the nutritious seeds, large pine-cone scale piles form.

7. The Crooked Path to the Sky

What might have made this ponderosa pine grow this way? When this tree was young, another tree may have fallen on it, bending it to the ground. Because the central stem, or leader, of most plants orients itself vertically, away from the earth, this tree resumed its upward growth after being bent, creating the curved trunk you see now.

A porcupine may have killed the terminal leader on the forked pine to your left.

Typically one of the lower branches will assume "dominance" when the terminal leader is killed. In this case it was a tie as both branches raced for the sky!

8. THERE'S LIFE IN DEAD TREES!

Dead trees, called "snags," are an essential part of the forest community, sheltering many species of plants and animals. Look at the holes in this dead ponderosa pine. They were made by a pileated woodpecker searching for bugs to eat. Woodpeckers also make nesting holes in snags. When woodpeckers abandon their nests, the holes become home to flying squirrels, owls and small birds like chickadees and nuthatches. On the Lolo National Forest, over 40 species of animals depend on snags for food and shelter.

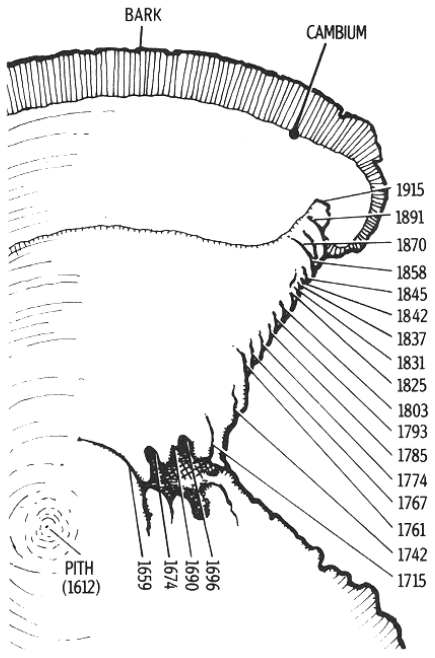
9. A FOREST WITHOUT FIRE

Look around you now. You can see many small, short-needled Douglas-firs growing beneath the long-needled ponderosa pines. Before settlers moved into this area and began putting out forest fires, lightning-caused fires burned through the forest every 8-10 years. These fires crept along the ground, burning away shrubs, fallen branches and young trees. The frequent fires created an open park-like forest dominated by large thick-barked ponderosa pine.

When fire suppression began around the turn of the century, this natural cleansing process ended and shade-tolerant Douglas-fir seedlings grew up among the ponderosas, creating the scene you see today.

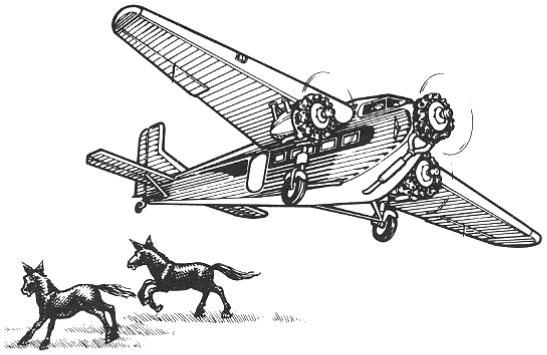
10. VANILLA TREE

Under the thick, scaled outer bark of the ponderosa pine grows a thin, living layer of bark, called the "cambium." Salish and Kootenai Indians used to remove large sections of the outer bark in early spring to reach this sweet, edible cambium, which they scraped off in long strips. If you press your nose into one of the cracks in the outer bark and take a deep sniff, you'll probably smell the cambium's sweet fragrance. What does the smell remind you of? Some people liken its smell to butterscotch, others to vanilla.



11. TRACES OF FIRE

Fire creates large, blackened triangles at the base of trees. If you look around, you'll see that many of the pines around you have these scars, called "catfaces." On which side of the trees do you find the catfaces? Most catfaces occur on the uphill or leeward side of the trees, where the fire swirls and concentrates its heat. Each fire leaves its mark on the tree rings at the edge of the catface, creating a chronology of fire history for the scientist to interpret.



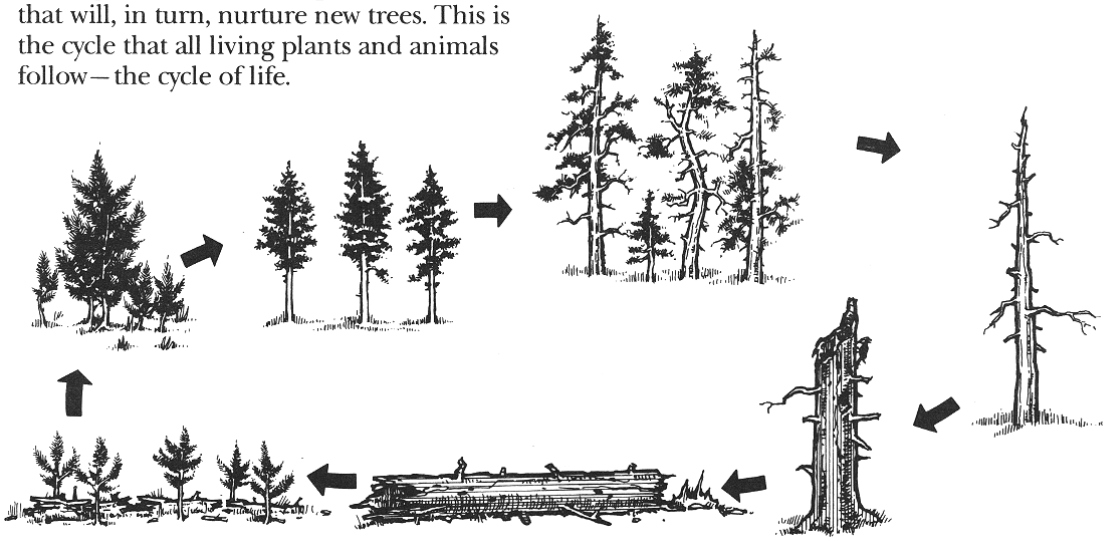
12. Ninemile Valley

The meadow you see through the trees is called the airport pasture. The Civilian Conservation Corp (CCC) cleared the field of rocks in 1933, creating the rock fence across the pasture. Smokejumpers trained here in their early years. Often, droning Ford Tri-Motor airplanes had to buzz the field to clear it of grazing mules before the jumpers could hit the silk! Smokejumpers continue to practice here and the Ranger District still cuts hay and grazes livestock in the airport pasture.

As you look across the Ninemile Valley to the west, can you see the fire lookout on Stark Mountain? Perched at an elevation of 7,352 feet, the lookout is staffed during the summer fire season.

13. Lifecycles

The log in front of you was once a living tree, and before that, a seed in the soil. Now insects and microorganisms are feeding on it and breaking it down into soil that will, in turn, nurture new trees. This is the cycle that all living plants and animals follow—the cycle of life.



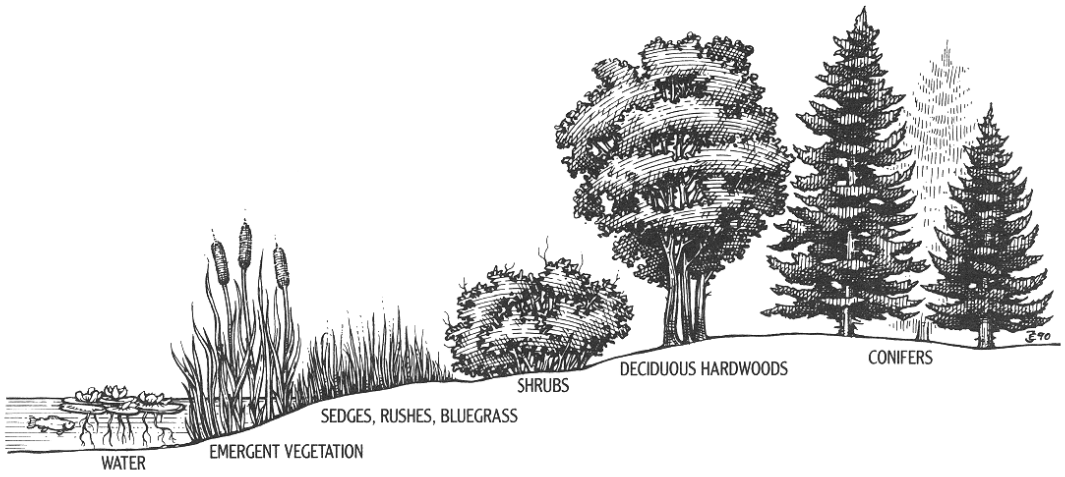
14. Lifeblood of the forest

Many animals drink from this stream. Perhaps the elk that rubbed the alder you saw earlier stopped just below the bridge in early light for a cool drink of water.

But do not drink the water yourself! An invisibly small protozoan, giardia, is waiting for an animal like you to drink the water so it can live and reproduce in your small intestine. Though many animals can carry giardia without being affected, humans usually become quite sick.

15. Bearded branches

It's easy to see why the dark hairy lichen hanging from the limbs of the trees around you has the common name "goat's beard." Unlike giardia, which is parasitic and damages its host, goat's beard uses the tree only as a place to grow, doing no harm to the tree or its branches.



Although goat's beard does not look very appetizing, the Salish Indians ate it regularly. Families ate up to 25 pounds of it a year!

Elk and deer feed on the nutritious lichen. Can you see a "browse line" on the surrounding trees from the removal of goat's beard? A browse line is created when animals eat all the lichen within their reach.

16. SERVICEBERRY—NATURE'S PANTRY

The delicate white flowers of this shrub bloom in May and develop into sweet, juicy, blue-black berries that are devoured by songbirds, squirrels, bears and people. In the past, Native Americans made pemmican, a hard cake consisting of dried meat, serviceberries and animal fat. Today, people still eat serviceberries in pies and jellies, or straight from the bush. Other animals, like deer and elk, forage on the shrub's tender buds and twigs. No wonder this plant is called "service" berry; it provides food for so many different animals.

17. CHANGING FACES OF A POND

Many years ago, this marsh was a clear, deep pond. Over the years, sedges, mosses and cattails started growing at the water's edge. As these plants grew and died and accumulated around the edges, the pond slowly became smaller and shallower. Eventually it will completely fill in and look like the rest of the forest. Then the diversity the marsh provides in this forested environment will be lost. Look for red-winged blackbirds and marsh wrens among the cattails.

18. DOUGLAS FIR—THE SOFTEST TREE IN THE FOREST

These huge gray-barked, flat-needled trees above you are Douglas-firs. If you look around on the forest floor, you'll probably see plenty of their small ragged cones. Because its cones and its flat, short needles are soft to the touch, the Douglas-fir is known as the "friendly fir." Touch one of the small Douglas-firs nearby and see if you agree.

Both the cones and the foliage of this tree provide food for a wide variety of forest animals. The ripe seeds are eaten by rodents, such as squirrels, mice and wood rats, and by birds like pine siskens and red crossbills. The foliage feeds blue grouse, beaver, mule deer, white-tailed deer, elk, mountain goats, and bighorn sheep. People use its wood for building, admire its beauty, and rest in its shade, as many people do right here!

We hope you've enjoyed your walk along the Grand Menard Discovery Trail. To return to the starting point, simply follow the trail markers ahead of you. If you'd like more information about things to do in the Ninemile area, stop in at the Ninemile Ranger Station.