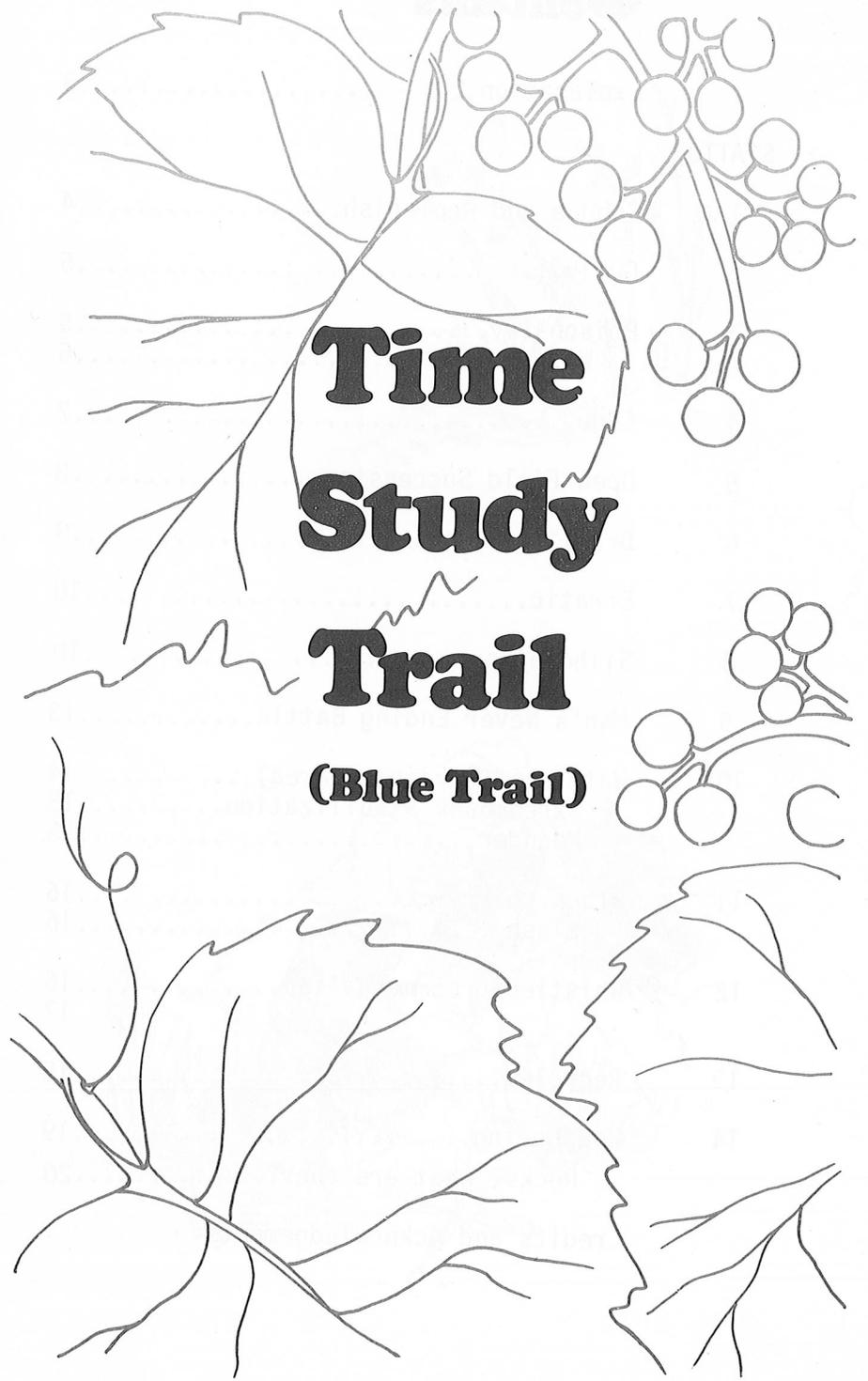
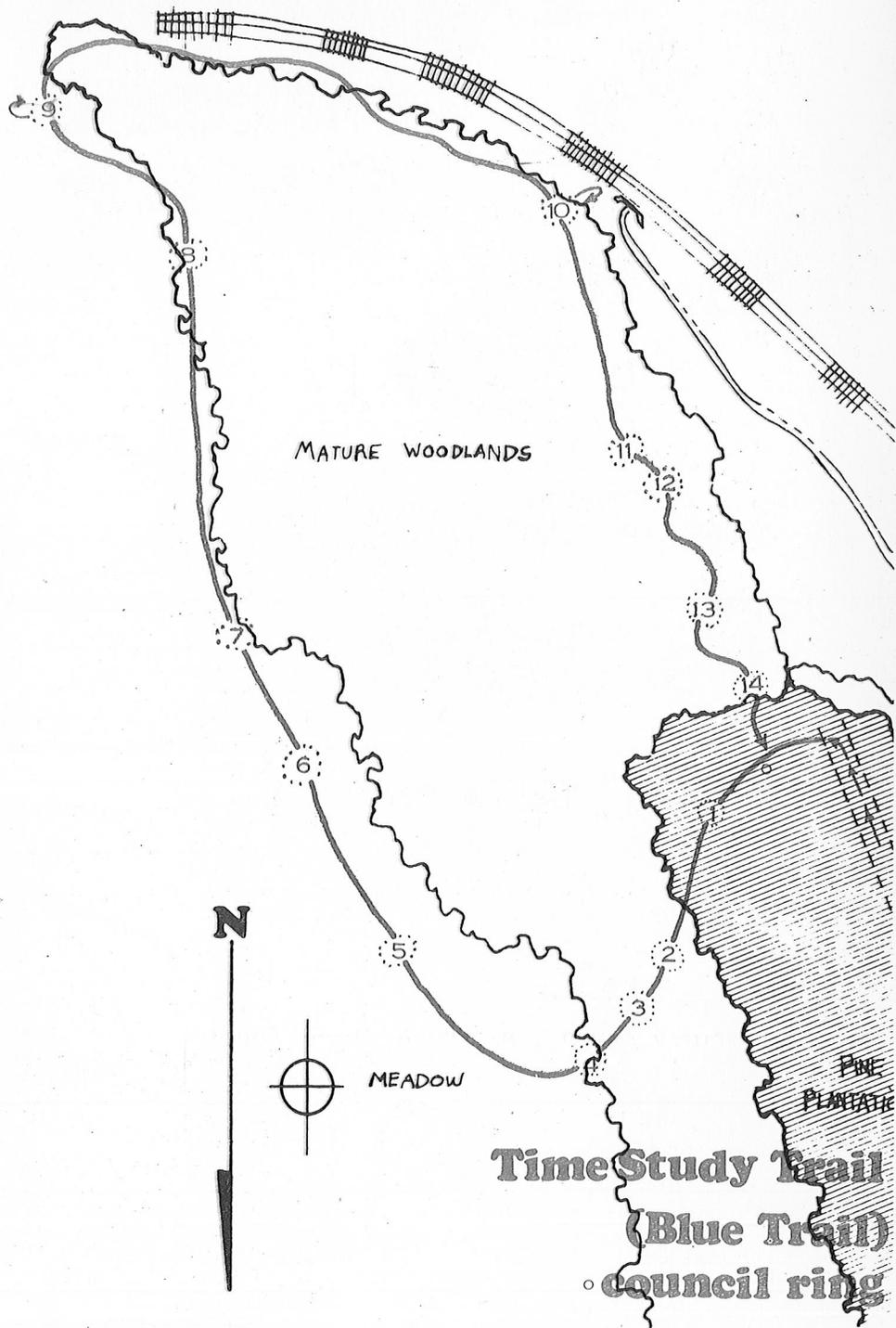
The background of the page is decorated with line art illustrations of grape leaves and clusters of grapes. The leaves have serrated edges and prominent veins. The grape clusters are composed of numerous small, dark, circular grapes hanging from thin stems. The text is overlaid on this background.

**Blue Cut
Nature
Center**

**Time
Study
Trail**

**(Blue
Trail)**



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Everything Changes...

The earth has not always been as we see it today; it is constantly changing, though slowly, before our eyes. Geologists know that mountains as high as the modern Rockies once towered over what are now the low uplands of northern Wisconsin, Michigan and Minnesota. Only the roots of these mountains are left. The great peaks have long since disappeared. Geologists explain that the ancient mountains were destroyed by rain and running water, wind and creeping glaciers, landslides and slowly moving rubble and that these processes acted essentially as they do now in our present-day world.

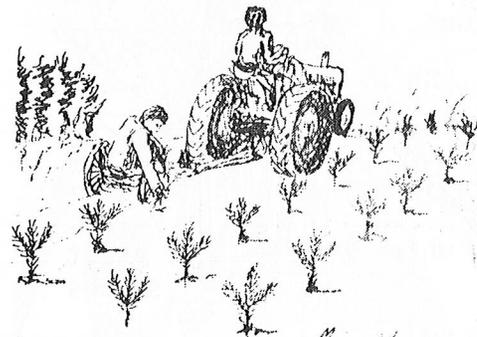
This is where the factor of time comes into the picture. It is true that the small, almost immeasurable amount of erosion that takes place in a human lifetime has little effect; when the erosion during one lifetime is multiplied by thousands and millions of lifetimes, however, it becomes clear that mountains can be destroyed. Time reveals the reality of the supposedly impossible. In the vastness of geologic time, everything changes, nothing is permanent.

I Subdue & Replenish



FIRST LOGGED - 1860's

THEN FARMED - 1900's



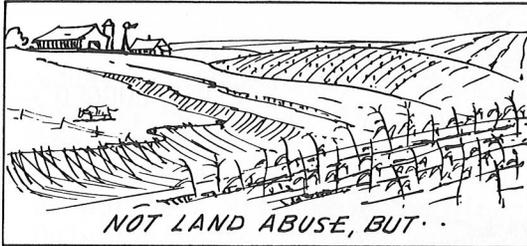
NOW REFORESTED
1940's

2 Gully

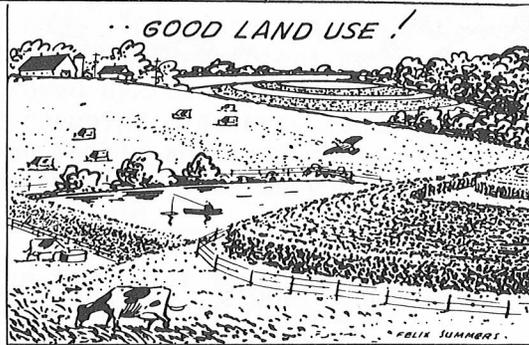
U. S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Alternative



NOT LAND ABUSE, BUT



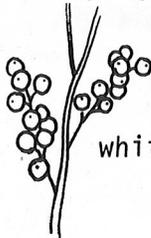
GOOD LAND USE!

FELIX SUMMERS

3 Poison Ivy

DANGER: DO NOT TOUCH THIS PLANT!!

All parts contain a dangerous skin irritant. The old saying "leaflet three, let it be" should be well heeded.



white berries

can be vines or erect shrubs

Wild Grapes



This tangle of vines is one of Nature's best wildlife benefactors.

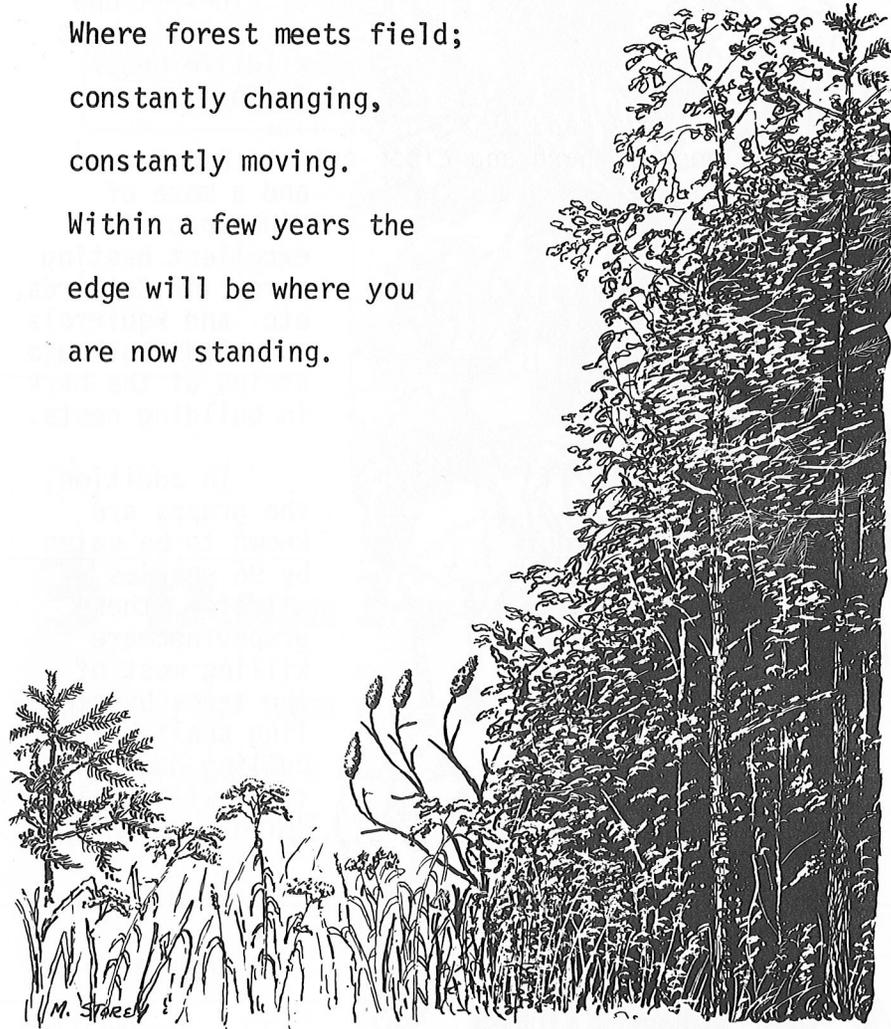
Big leaves and a maze of vines provide excellent nesting cover for Catbirds, etc. and squirrels and birds both use strips of the bark in building nests.

In addition, the grapes are known to be eaten by 96 species of wildlife, these grapevines are killing most of the trees by stealing sunlight and pulling down the trees with their weight.

4 Edge...

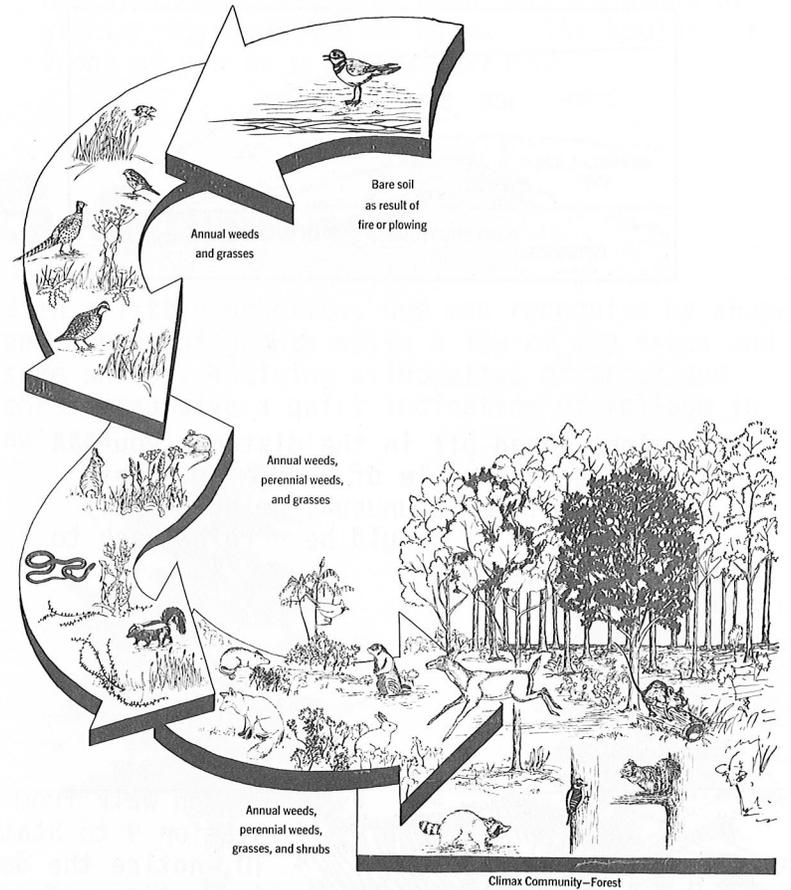
Where forest meets field;
constantly changing,
constantly moving.

Within a few years the
edge will be where you
are now standing.



5 Open Field Succession

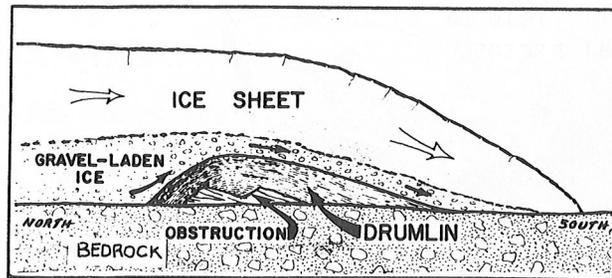
Succession being the orderly process by
which natural communities change.



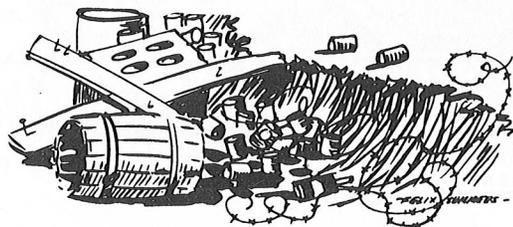
PLANT AND ANIMAL SUCCESSION - FOREST

6 Drumlin Formation

While creeping forward, the thin ice at the glacier's edge often overrode boulders and rock outcrops. As the ice pushed over them it left gravel and clay deposits on the obstacle's opposing side. Layer after layer of clay and gravel were plastered on until a long oval hill, or drumlin was formed.



Straight ahead off in the distance you can better see a profile of a drumlin. This drumlin profile is unusual being exactly opposite what it should be - refer back to the above sketch.



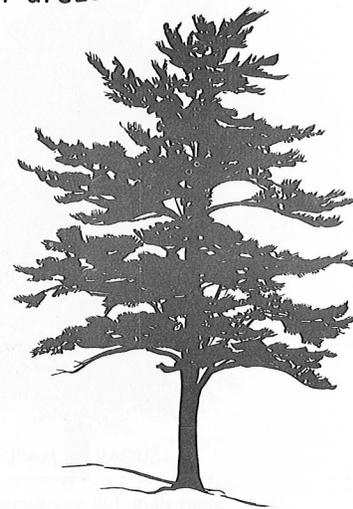
As you walk from Station 9 to Station 10, notice the debris, indications of man's intrusion upon nature.

7 Erratic

A stone or boulder that has been carried from its place of origin by a glacier and left stranded on bedrock of a different composition is called an "erratic". The term is used whether the stone is embedded in a till deposit or rests directly on the bedrock. Some erratics weight several tons. Although most erratics have traveled only a limited distance, many have been carried along by the glacier for hundreds of miles. The boulder in front of you is a glacial erratic.

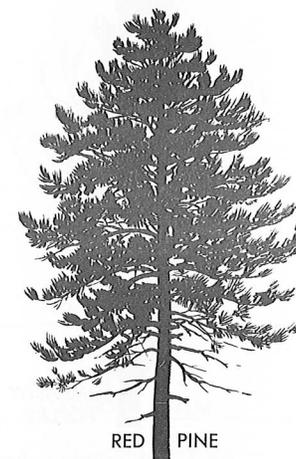
8 Silhouettes

With a little practice, one can recognize by shape and manner of growth quite a few of the trees and some shrubs. Noticing silhouettes of trees and shrubs can give a quick indication of foliage in an area.



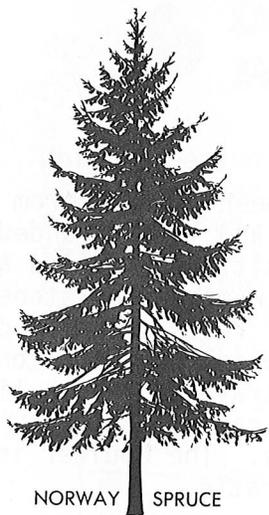
WHITE PINE

Tall dark trunk; spreading horizontal limbs; delicate spray-like foliage



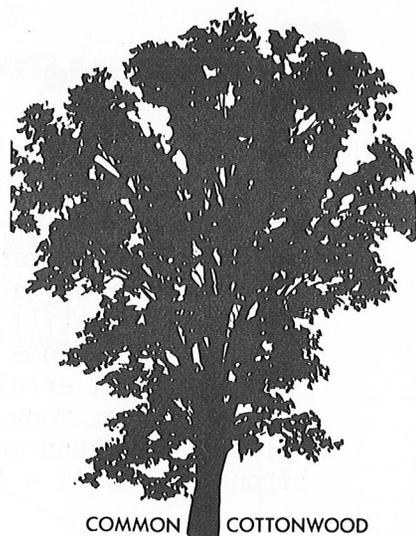
RED PINE

Tall, erect trunk; stout right-angle branches, symmetrical crown; long dark green foliage, ascending tips



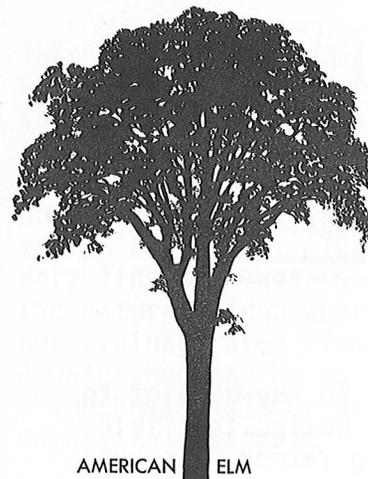
NORWAY SPRUCE

Usually near houses; pyramidal; strongly drooping lateral branchlets



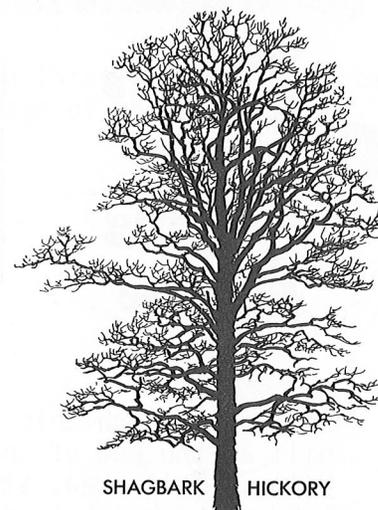
COMMON COTTONWOOD

Wide-spreading open crown (shaggier than Elm)



AMERICAN ELM

Vase-shaped; trunk divided into large outspreading limbs



SHAGBARK HICKORY

Oblong; very shaggy bark (may be less twiggy, longer trunked)



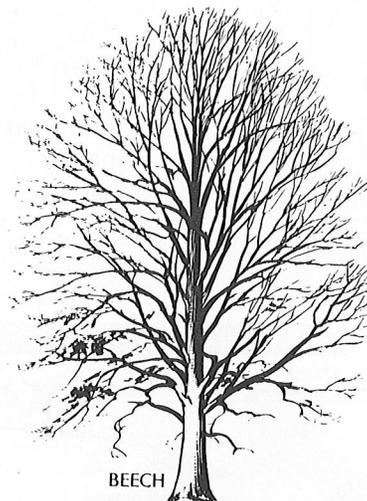
LOMBARDY POPLAR

Tall, slender; trunk continuous; many hugging branches



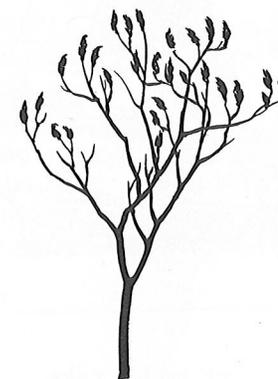
SUGAR MAPLE

Short stem; full egg-shaped head



BEECH

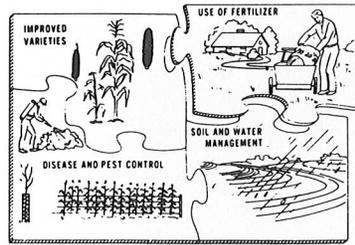
Smooth light gray bark; dense ovate head; often a few persistent leaves



STAGHORN SUMAC

Small, straggling, forked, flat-topped; erect red fruit clusters

9 Man's Never Ending Battle



THESE MUST FIT TOGETHER FOR GOOD PLANT MANAGEMENT

As you approach this area, go to the edge of the hill at the end of the path. Notice the field below. This area, still being farmed, has been subdued by man but only temporarily. With all our technical know-how we still haven't permanently altered the landscape. It will only remain as it is as long as it is maintained. If unwise conservation practices were used, it would shorten the life of this area for cropland.



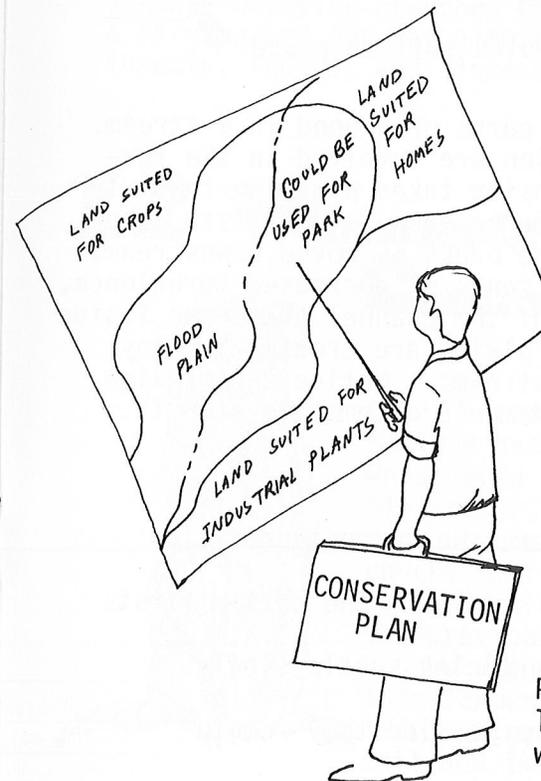
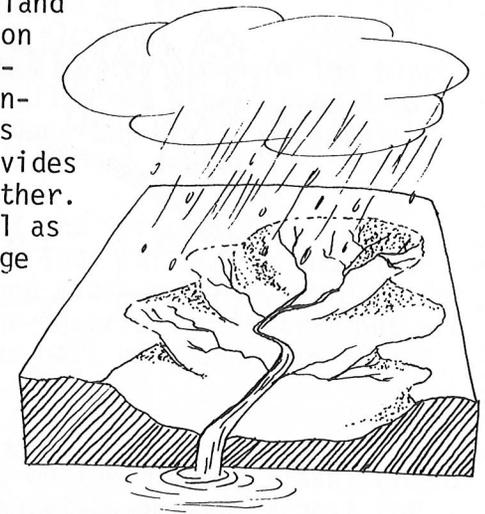
It took brawn to conquer the land.....

...it will take brains to keep it!



10 Watershed (drainage area)

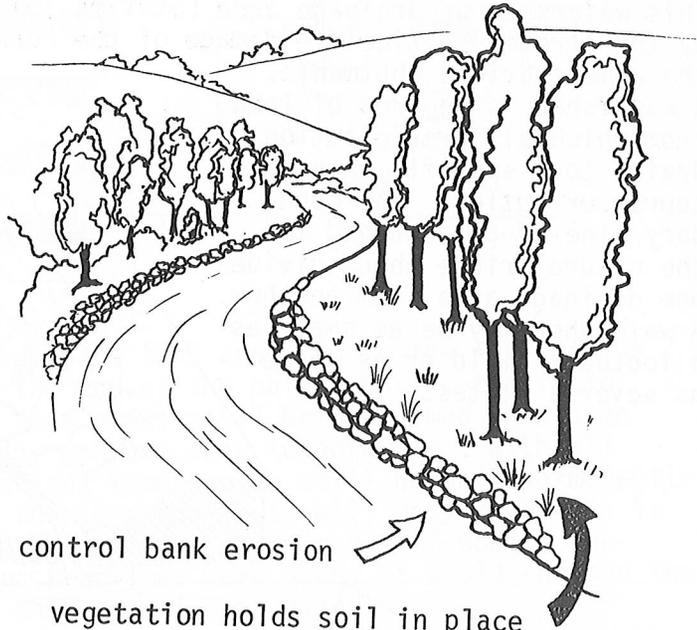
This watershed or drainage area (Station 10) is located by the stream. Notice the damage of the currents to the cement bridge abutments. A watershed is an area of land from which all precipitation drains to a specific water-course or outlet. The boundary line of a watershed is the natural ridge which divides one drainage area from another. A watershed may be as small as a football field or as large as several states.



FLOODPLAIN: An area bordering a stream, over which water spreads in time of flood. You are standing on the flood plain now. Floodplains should be avoided as possible building sites.

Prudent people plan to use land for the purposes for which it is best suited.

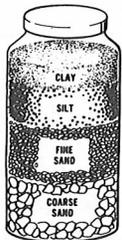
STREAMBANK STABILIZATION



rocks control bank erosion

vegetation holds soil in place

MEANDER: A meander is a curve or a bend in a stream. Both erosion and deposition are involved in the formation of a meander. Erosion takes place on the outside of each bend where turbulence is greatest. The material detached from the banks is moved downstream, there to be deposited in zones of decreased turbulence, either along the center of the channel or on the inside of the next bend. Flood plains are created in many instances by meandering streams. Notice the erosion along the stream bank and man's attempt to stop it.



In water, the largest particles
always settle to the bottom first.
Fine particles settle slowly.
Some are so fine they remain
indefinitely in suspension.

11 Black Cherry

Notice that the area shaded by the crown of the black cherry is completely devoid of red pine. What does this indicate about the need for available sunlight for the establishment of red pine seedlings?

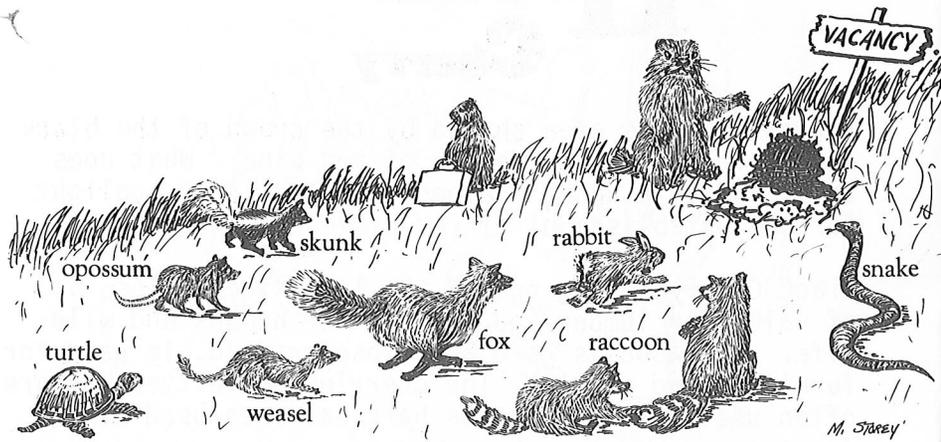
Black Cherry, being one of the largest cherries, is of value for lumber and as food for humans and wildlife. The wood is hard and close-grained, is used for furniture and veneer. The cherries are bitter but are often used for jelly. The bark has been used as a flavoring.

SLASH: Decaying branches on the ground (slash) create a fire hazard for the plantation and are a host for insects, fungus, and disease which may attack the trees

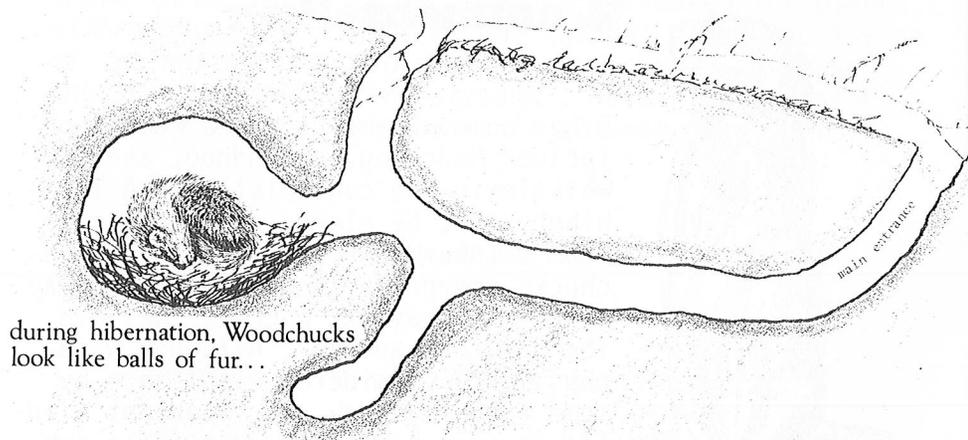
12 Whistlepig Commensalism



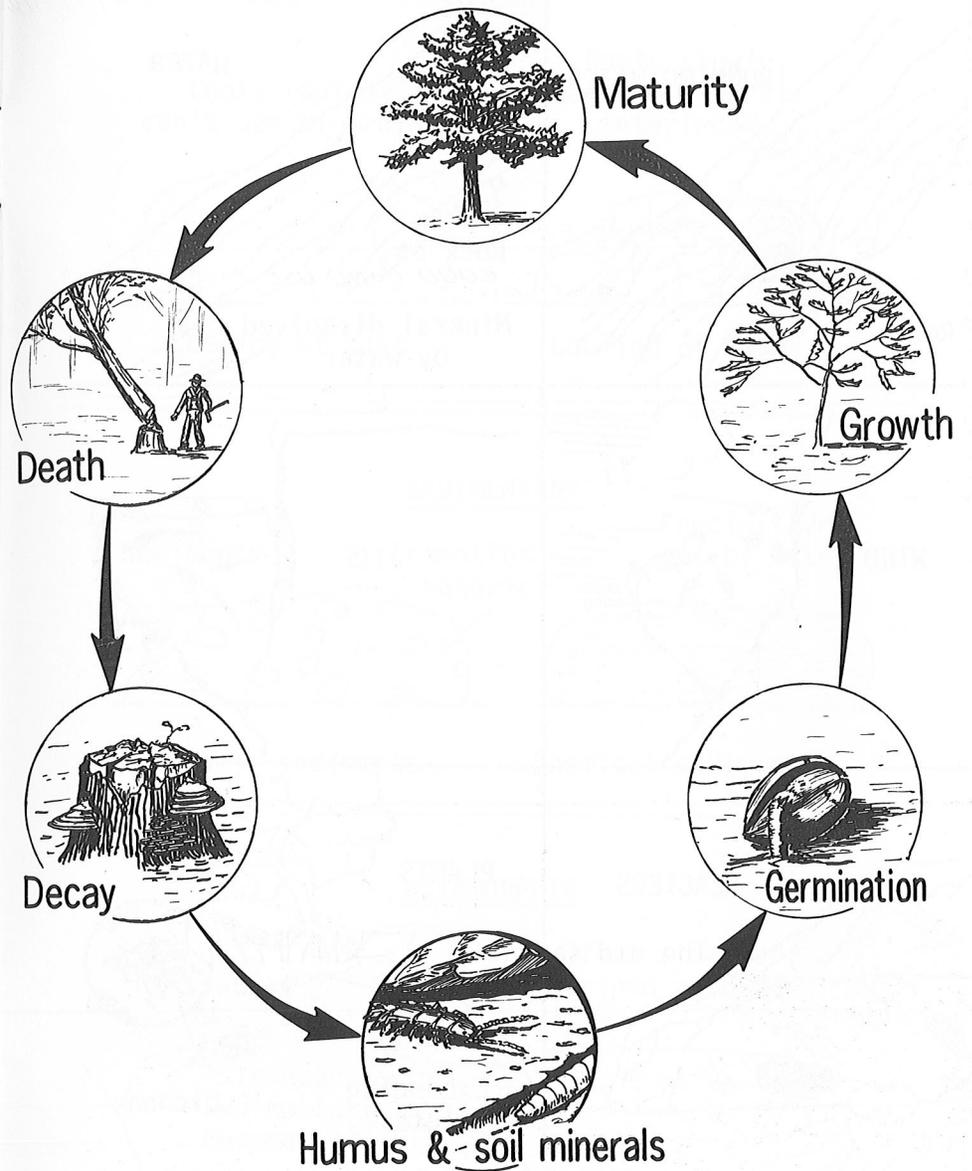
Other common names for the woodchuck include hedgehog, groundhog, and whistlepig (he can whistle). A true hibernator, he sleeps out the winter from October to February. When woodchucks emerge in the spring, they may weigh only half as much as they did the previous autumn. Although woodchucks are considered a nuisance by some farmers, they are important wildlife engineers. They expose the subsoil and improve internal drainage.



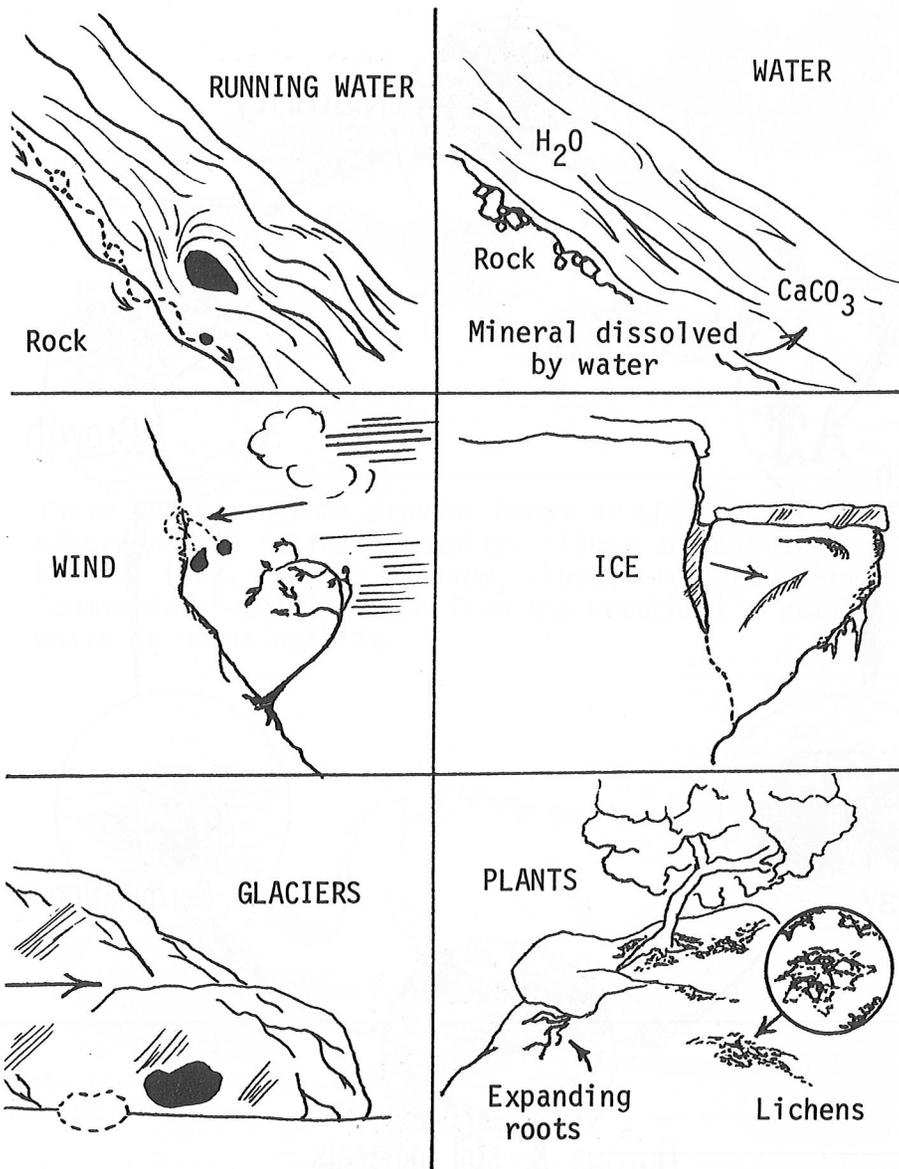
Their vacant burrows provide homes or shelter for many other animals in the community. Those animals that benefit (fox, rabbit, opossum, skunk, etc.) are termed "commensals"-gaining much from the woodchuck's activity, while he gains nothing.



during hibernation, Woodchucks look like balls of fur...



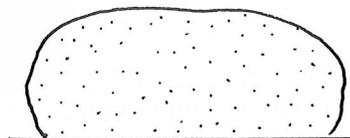
14 Weathering



Rocks, what are they?

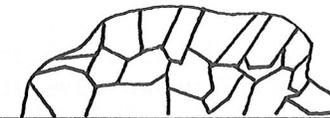
IGNEOUS

Cools rapidly,
can't see minerals



Cooling of Lava

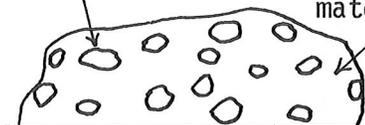
Cools slowly,
can see minerals
interlaced



Cooling of Magma

SEDIMENTARY

Sediments



Clastic sediments

Cementing
material

Precipitated
out of water

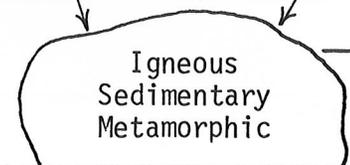


Chemical sediments

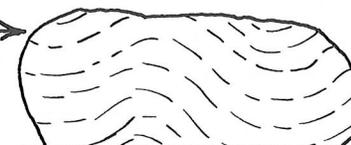
METAMORPHIC

Pressure

Heat



Often streaked,
striped or banded



Metamorphic

Acknowledgements

These trail guides are a result of a coordinated effort between the Wayne County Planning Board, the Wayne County Cooperative Extension Service-4H Division and the Soil Conservation Service under the auspices of the CEED Committee. Technical assistance by the SCS was provided through the Wayne County Soil and Water Conservation District.

Credits

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