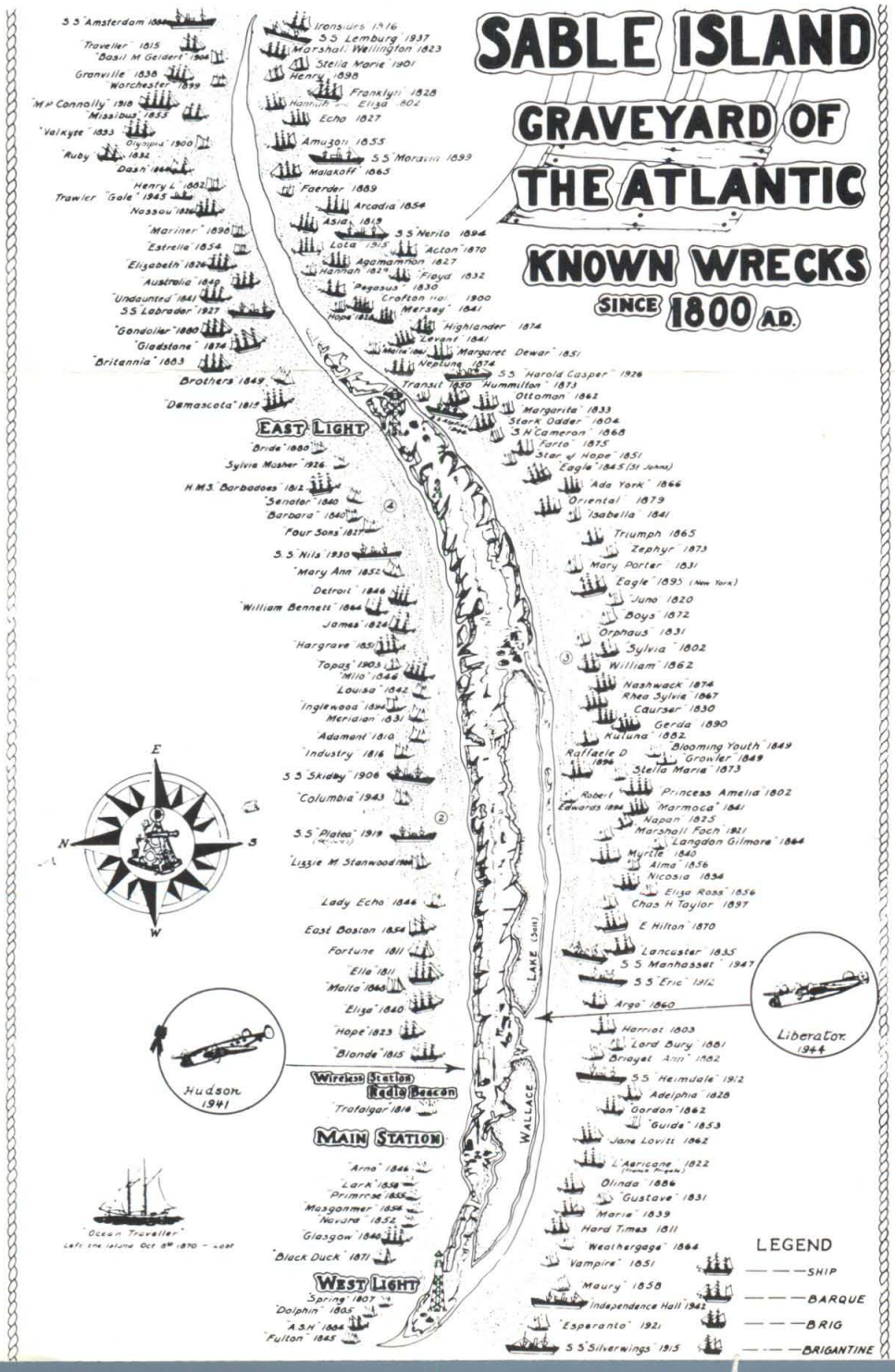
The
Young Naturalist

YOUNG NATURALISTS CLUB F. O. N.

VOL. 11 — NO. 5 PUBLISHED BY THE FEDERATION OF ONTARIO NATURALISTS MAY, 1969

Where Is Sable Island?



From the coast of Nova Scotia the floor of the ocean extends eastward like a giant shelf for about one hundred miles. Beyond the edge of this shelf, the water becomes very deep. The story that follows is about a tiny island near the edge of this giant shelf.

What formed this island and how long did it take to form? Just here the coast line of North America is very irregular: the huge St. Lawrence River empties into the sea; the rocky island of Newfoundland stands out by itself; Nova Scotia is almost cut away from the mainland. Other disturbing features are the currents in the ocean. The Gulf Stream, a warm current, comes sweeping up from the south and swings out to sea; the cold Labrador and Belle Isle currents swing down from the north around the coasts of Newfoundland, toward Nova Scotia.

Where all these forces meet or pass one another, the sediments carried along with them appear to have been deposited to form the sandy layer beneath the sea. Along the outer part of the sand shelf, the force and direction of the currents have formed the surface of the sand into many long, parallel ridges about 60 miles long. These lie mainly just under the water, so close to the surface that the waves break over them and no ship is safe in that vicinity.

One twenty-five mile section of one of these ridges is actually above water at all times. Here an island has formed, rising in some places to sixty feet above sea level. How long has it been there? No one knows. It was marked on the earliest known maps 450 years ago and called "Isle aux Sables"—island of sand.

See ISLAND — Page 2

ISLAND — from Page 1

We know it as "Sable Island". Only about a mile wide, it is partly covered with grasses and low plants. Who knows, perhaps some of the other ridges were once above water and were washed away—or was Sable the only one which grew into an island? Perhaps hundreds of years ago a sailing ship foundered on one of the ridges, more sand and more debris accumulated and so the island could have grown.

This is by no means a peaceful area of the Atlantic Ocean. The strength of the ocean currents, the meeting of cold air with warm, the broken coast line—all these help to produce wild winds, storms and heavy fog.

No wonder the waters around this tiny island are called "The Graveyard of the Atlantic". Records show that 203 brigantines, fishing schooners and other ships were wrecked here between 1800 and 1947. There is no way of knowing how many disasters occurred before that. Now, most wrecks have settled beneath the water and the sands and only a very small part of two of them is still to be seen above the water.

Remember that in those days ships had no radio or radar to guide them, only compasses and telescopes. The strong currents, heavy winds and fog were too much for them. Blown off their regular course they were swept onto the sandbars and broken to pieces by huge waves. The names of the lost ships read like a story book.

Before 1800, pirates used to hide on this island to rob the victims of the wrecks, often murdering them to get their valuables. Cargo was taken from the foundering ships, or collected as it washed up on the shore of the little island, to be sold on the mainland.

These crimes ceased when the Canadian Government sent a rescue crew to live on the island in about 1800. Lumber was taken to the island for buildings for the rescue crew as well as to build a shelter for victims of shipwrecks.

For nearly 150 years, the life-saving crews lived on this isolated island, patrolling the 40-50 mile sandy shoreline on foot, or riding the small wild horses, some of which were descended from victims of shipwrecks hundreds of years earlier. On fine days the life-savers could sit in roughly constructed wooden towers to watch the sea and shoreline.

Since the installation of a radio beacon, and the use of ship's radar in 1947, there have been no more disasters on Sable Island and no further need for a rescue station there.

The only people now living on the island are the ten people who tend the radio beacon and high light tower, and the Weather station.

From early records:

1583 — The first recorded disaster, the "Admiral", a ship sailing from Newfoundland, an armed vessel in the service of Queen Elizabeth I; 100 lives lost; swept by storm onto the sandbars.

1598 — Forty convicts brought on a ship from France were left on the island while the ship's captain looked for a good site to start a settlement on the mainland. The captain's ship was blown far off course and he returned to France and never came back. Five years later only a dozen people were left, found clothed in skins from seals and cattle.

JOAN L. GUNN

BLACK SQUIRRELS TELL WHEN SAP'S RUNNING

If you see black squirrels hanging precariously from the end branches, high in the sugar maple trees, they are likely drinking the sap from the end branches that they have nipped off to start the sap flow.

Maple syrup producers, especially those using plastic hose for sap transportation in areas where black and gray squirrels are plentiful, wish they would stay in tree tops. They don't! When clear plastic sap hoselines are used the squirrels seem to be attracted by the small air bubbles that can be seen floating through the lines, and as a result bite holes in the lines, virtually mutilating them in some cases.

Some companies are manufacturing a plastic sap hose that can't be seen through. This is said to be the most practical means of getting rid of the squirrel menace.

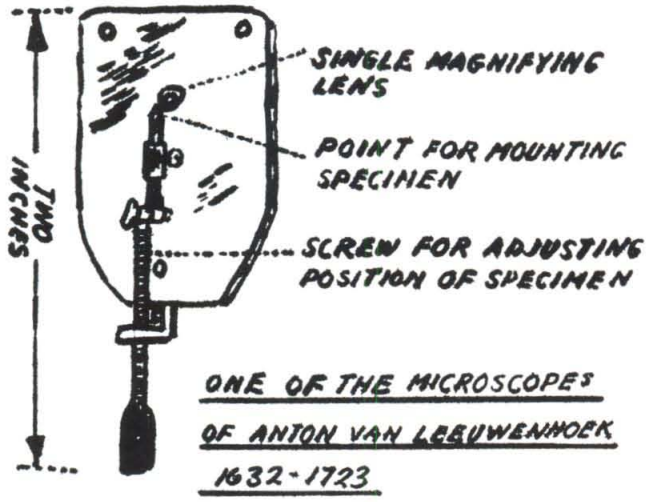
NEWSLETTER
ONTARIO DEPARTMENT OF LANDS AND FORESTS

How many of us realize how susceptible young trees, growing in grassy places, are to sudden and severe heat? All trees are thin-barked when young, even a few seconds exposure to flames will kill the cambium or growing layer beneath that thin protective layer of bark. Heat rises and the twigs and buds have even less protection than the main trunk. Trees not killed outright must be weakened to some extent, thus making them more liable to attack by harmful insects and by fungus diseases.

Isolated half-hidden timbers, hint of the burials of hundreds of vessels in the past — Sable Island, Nova Scotia.

THE YOUNG EXPERIMENTER

A WORKING MODEL OF THE FIRST MICROSCOPE



ONE OF THE MICROSCOPES OF ANTON VAN LEEUWENHOEK 1632-1723

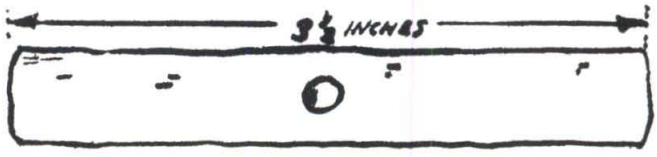
LEEUWENHOEK GROUND HIS OWN LENSES. YOU CAN GET A USABLE LENS FROM A TEN CENT PENLIGHT BULB. (CAN. TIRE STORE).

MAKE A FILE MARK HERE AND CRUSH THE REST OF THE LAMP UNDER WATER.

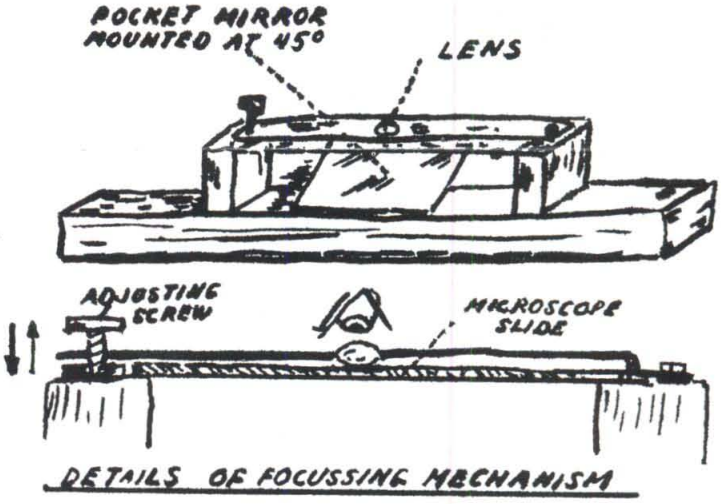
SNAP OFF JAGGED EDGES WITH TWEEZERS. (AGAIN, UNDER WATER!)

FILE OFF ROUGH EDGES WITH A FILE.

YOU NOW HAVE A 50-100X LENS!

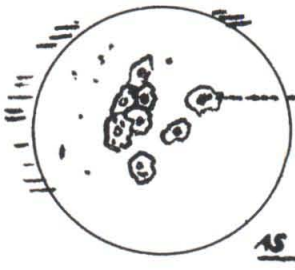


CUT A STRIP OF METAL FROM A SOFT DRINK CAN AND DRILL A HOLE HAVING A DIAMETER SLIGHTLY LESS THAN THAT OF THE LENS. MOUNT THE LENS IN THE HOLE USING HOUSEHOLD CEMENT.



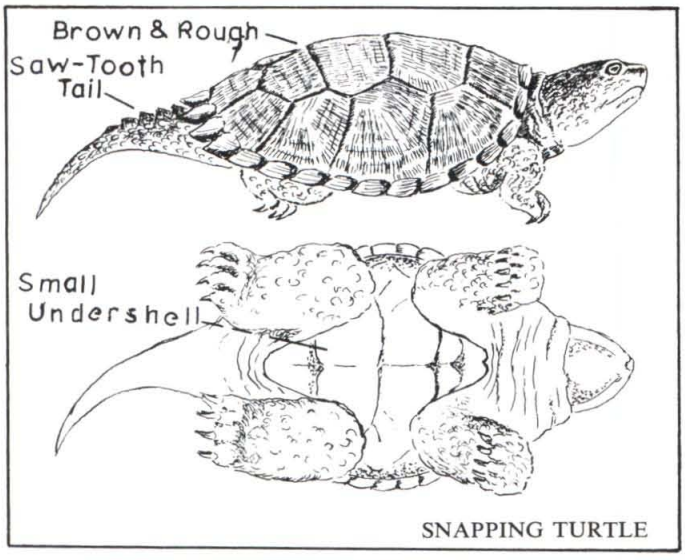
DETAILS OF FOCUSSING MECHANISM

LOOKING AT BODY CELLS WITH THE NEW MICROSCOPE: SCRAPE THE INSIDE OF YOUR CHEEK OR THE OUTSIDE OF YOUR LIP WITH A TOOTHPICK. SMEAR THE GREY MATERIAL ON A MICROSCOPE SLIDE, ALLOW TIME FOR DRYING AND PLACE IT UNDER THE LENS.

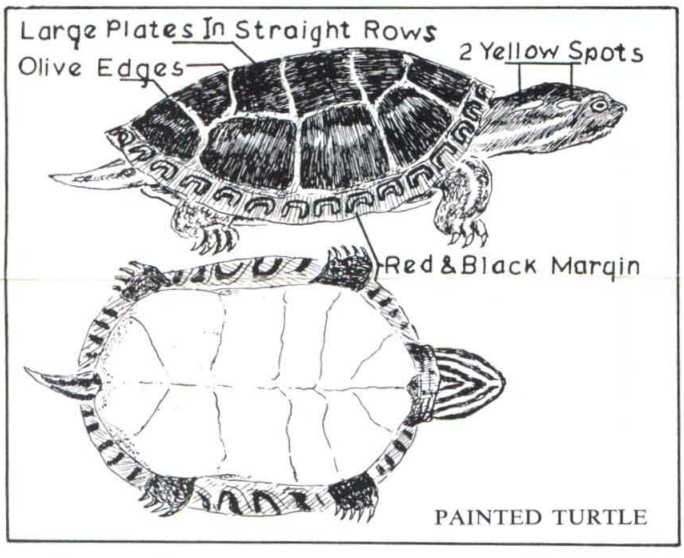


CELLS LINING CHEEK AS SEEN UNDER THE LENS.

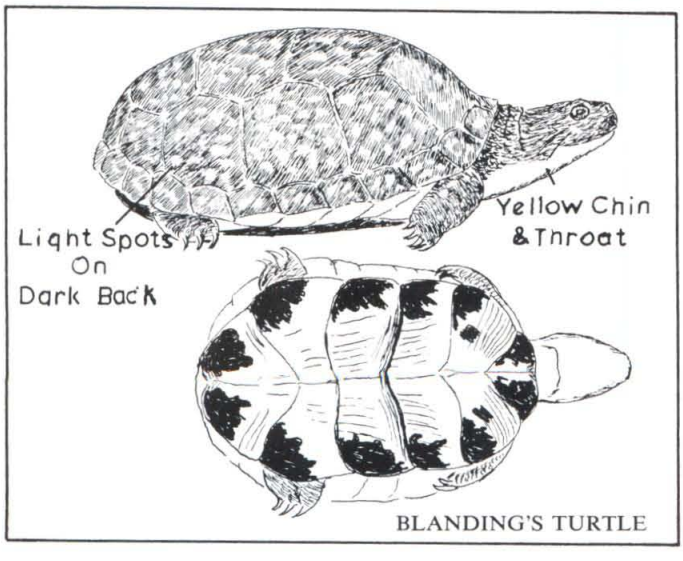
THIS MONTH: focus on TURTLES



SNAPPING TURTLE

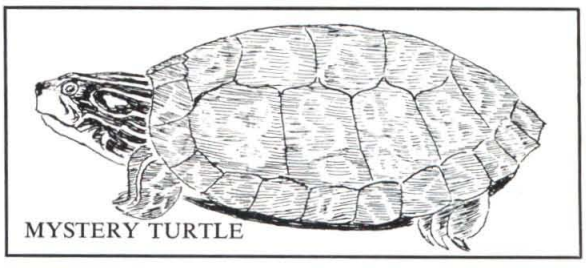


PAINTED TURTLE



BLANDING'S TURTLE

Did you know that turtles are long-lived reptiles? . . . Reptiles are clad in scales, shields, or plates, and their toes bear claws? . . . They are cold-blooded, deriving heat from outside sources and controlling their body temperatures by moving to cooler or warmer environments as necessary? . . . A box turtle has been recorded as living 138 years? . . . Turtles lay their eggs on land? . . . In some species, females grow much larger than males? . . . Turtles are omnivorous, that is, they eat both plant and animal matter? . . . Box turtles are dry-land turtles that close their shells tightly when danger threatens? . . . Captive reptiles pose problems for their proper care to keep them in good health and that they have a difficult time enough to survive in their vanishing habitat without enduring the miseries of captivity?


MYSTERY TURTLE

ACTIVITY PROJECTS

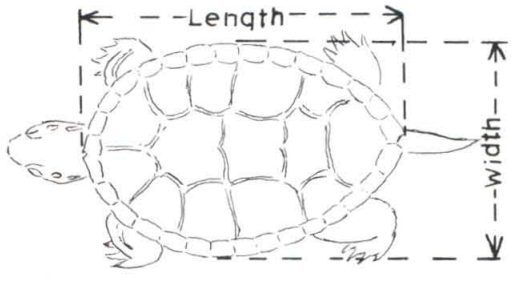
ACTIVITY PROJECT #2 PAINTED TURTLES

1. What is the average length and weight of the Painted Turtles in your part of Ontario? (Measure and weigh as many as possible).
2. What was the longest turtle?
3. What was the heaviest turtle?

ACTIVITY PROJECT #2 ALL TYPES OF TURTLES

1. What species of turtles live in your area?
2. List the species you found with the most common turtle at the top. (Don't forget to write your totals beside each turtle).

HOW TO MEASURE A TURTLE



The first three young naturalists to correctly identify the mystery turtle will receive for their school resource centre the book *Field Guide to Reptiles and Amphibians*. Be sure to include name and address of your school. PLEASE MAIL ALL REPLIES AND RESULTS to: Mr. B. GRIFFITHS, c/o Federation of Ontario Naturalists, 1262 Don Mills Rd., Don Mills, Ontario.

EDITOR'S NOTE: This continuing series is designed to provide information and activity ideas for teachers who want to encourage their pupils to become actively involved in nature study as an exciting feature of their outdoor education program. Text by *Barry Griffiths and Gerald McKeating*, sketches by Don Foxall.

Club News

M. E. Evans of the Kingston Junior Naturalists has kept us up-to-date on their club. He writes: "About a dozen members are now attending meetings regularly. Hawks and owls were the subject of the January meeting. Shane Webster brought along a mounted Sawwhet Owl to show everybody.

At the February meeting two films were shown, the first was "Birds of Migration" and the second "Darwin's Finches". Both were excellent colour films and enjoyed by all present.

A walk across the ice to explore Cedar Island made an interesting field trip although few signs of life were found on the island. Two Chickadees, a few squirrels, and a mouse were all that could be found."

GERALD B. MCKEATING

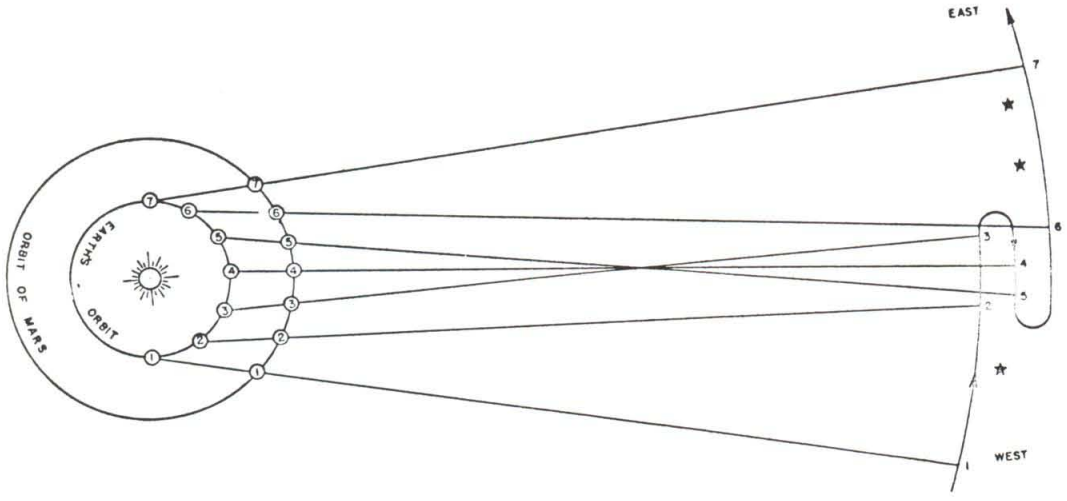
Earth Passes Near Mars

During the next two months, the planets Earth and Mars will be closer together than they have been for ten years. You can easily spot Mars in the southeastern sky any evening after 10 p.m. You can't miss it for it is the brightest "star" in the sky except for Jupiter. You can't mistake the two. Mars is deep orange and Jupiter is brilliant yellow-white and is farther to the west.

Fairly close to Mars is a fainter red star named Antares. You will be able to watch the motion of Mars by comparing the positions of the planet and the star Antares. The stars, of course, never change positions over hundreds of years. But Mars, like the other planets near the Earth, appears to move slowly among the stars from night to night.

The procedure for observing Mars is

See MARS — Column 3



The closer a planet is to the sun the greater is its velocity. The earth's speed is 18½ miles a second, while that of Mars is only 15 miles a second. As the earth overtakes Mars, the latter seems to move backward. This is shown by the lines which indicate the direction of Mars as seen from the earth. The stars are hundreds of thousands of times farther away than the planets and form a fixed background, against which Mars appears to move backward when the earth passes it.

The direct motion of Mars to the east is shown at positions 1, 2, and 3, backward motion to the west at 4 and 5, and direct motion to the east again at 6 and 7. The wide loops in this path are not intended to indicate any change in distance of the planet from the sun. They are meant to show only the forward and backward motion in the sky.

MARS — from Column 2

simple. Go outside and identify Mars. On a piece of paper, draw Mars and Antares and some of the bright surrounding stars. Take the same drawing outside about a week later and you should notice that Mars has changed its position. Repeat the observation every week. If you have binoculars you will be able to detect the change in position from one night to the next. The motion you will notice is from east to west. In early July, Mars will appear to stop and then begin to move from west to east. The diagram helps to explain why this happens.

Since the earth has a smaller orbit and is moving around the sun faster than Mars, it passes the slower planet about once every two years. For about two months Mars appears to move "backwards" (east to west) when viewed against the background stars. This occurs during the period when the Earth is overtaking and passing Mars. The rest of the time Mars moves "forwards" (west to east). To use an everyday comparison, remember the last time you were in the family car on the highway. As you passed slower moving cars they seemed to go backwards for a time. They are really going almost as fast as you are but they *appear* to go backwards when viewed against the distant horizon. Think of your car as the Earth, and the slower car as Mars. Make the distant horizon become the background night sky of stars and you have the picture.

More about Mars next month.

TERENCE DICKINSON

In earth's long history one species after another of animal and plant has disappeared, and one culture after another has passed to oblivion, because of its inability to adjust to environmental change.

Today it is necessary for mankind to regulate his use of resources and to manage earth's remaining capital more creatively if he is to survive.

We can adapt ourselves understandingly if we go into our open places, to learn by personal experience in field and forest, on mountains and beside the streams, that mankind is dependent upon the living resources of the earth and must do his part to conserve them.

The Royal Bank of Canada Monthly Letter

WOODLORE
FOR THE NATURALIST

John Macfie

Finding a Campsite on a Canoe Trip

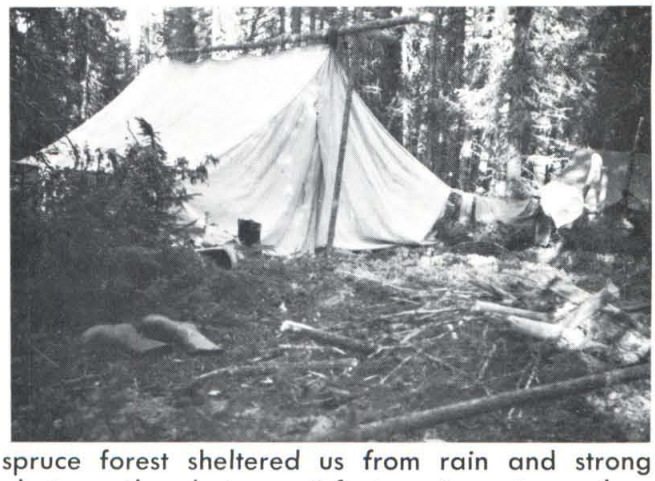
One cool, wet summer a friend and I made a canoe trip from the interior of Northern Ontario to Hudson Bay. Our Indian guides usually chose campsites in thick spruce groves that offered protection from wind and rain, sometimes a lot of axe work was needed to clear a place for a tent. Had that summer been hot and dry, we would have camped instead on the grassy, treeless and breezy points that were frequent along the river. Such factors are among the many to be considered in selecting a campsite.

I like to camp at the beginning or end of a difficult portage, because you then have the morning or evening to carry your equipment over in leisurely fashion. One member of the crew may do camp chores while the other does some portaging.

Previously-occupied campsites are common on well-travelled canoe routes, but there will be times when you must make your own. You need a level, well-drained site with enough soil to set tent pegs in the ground. A moss-covered flat rock will do if you substitute a log for tent pegs, but choose a natural clearing large enough for the tent. A wind-swept point or island offers some relief from insects in the fly season. In cold weather you should look instead for a sheltered site on the lee shore. As a rule this will be the west shore, since prevailing winds are from the west. In windy weather place your tent out of reach of large dead trees that might blow down during the night. The availability of dry wood for fuel, and of course suitable water, are other factors to consider.

In dry weather you must take special precautions against starting a forest fire. Look for a spot that offers a beach or a flat rock at the water's edge on which a campfire can be placed.

Scavenging bears patrol campsites on some popular Ontario canoe routes, so if you are nervous about bears, camp on a small island instead of the mainland. And be sure *you* burn your garbage and thus avoid attracting bears to bother the next fellow. Every canoeist should make a game of leaving as little as possible evidence of his passing, as the canoeists of centuries ago did as a matter of necessity in order to escape the notice of hostile tribes. Make your trip in this way and our Ontario wilderness will stay wild longer.



I took these two photographs on the same canoe trip. The spruce forest sheltered us from rain and strong cold winds. The fly-free beach site was ideal for camping in hot weather but unsatisfactory in wet weather.

THE YOUNG NATURALIST is published ten times a year by the Federation of Ontario Naturalists for the Young Naturalists Club. Reprinting of text only is permitted provided credit is given to *The Young Naturalist*. Editor: Donald Young, 1262 Don Mills Road, Don Mills, Ont.

SUBSCRIPTION (one year) to *The Young Naturalist* and membership in The Young Naturalists Club may be obtained by sending your name, address, and a cheque or money order for $1.50 payable to the Federation of Ontario Naturalists, 1262 Don Mills Road, Don Mills, Ontario.