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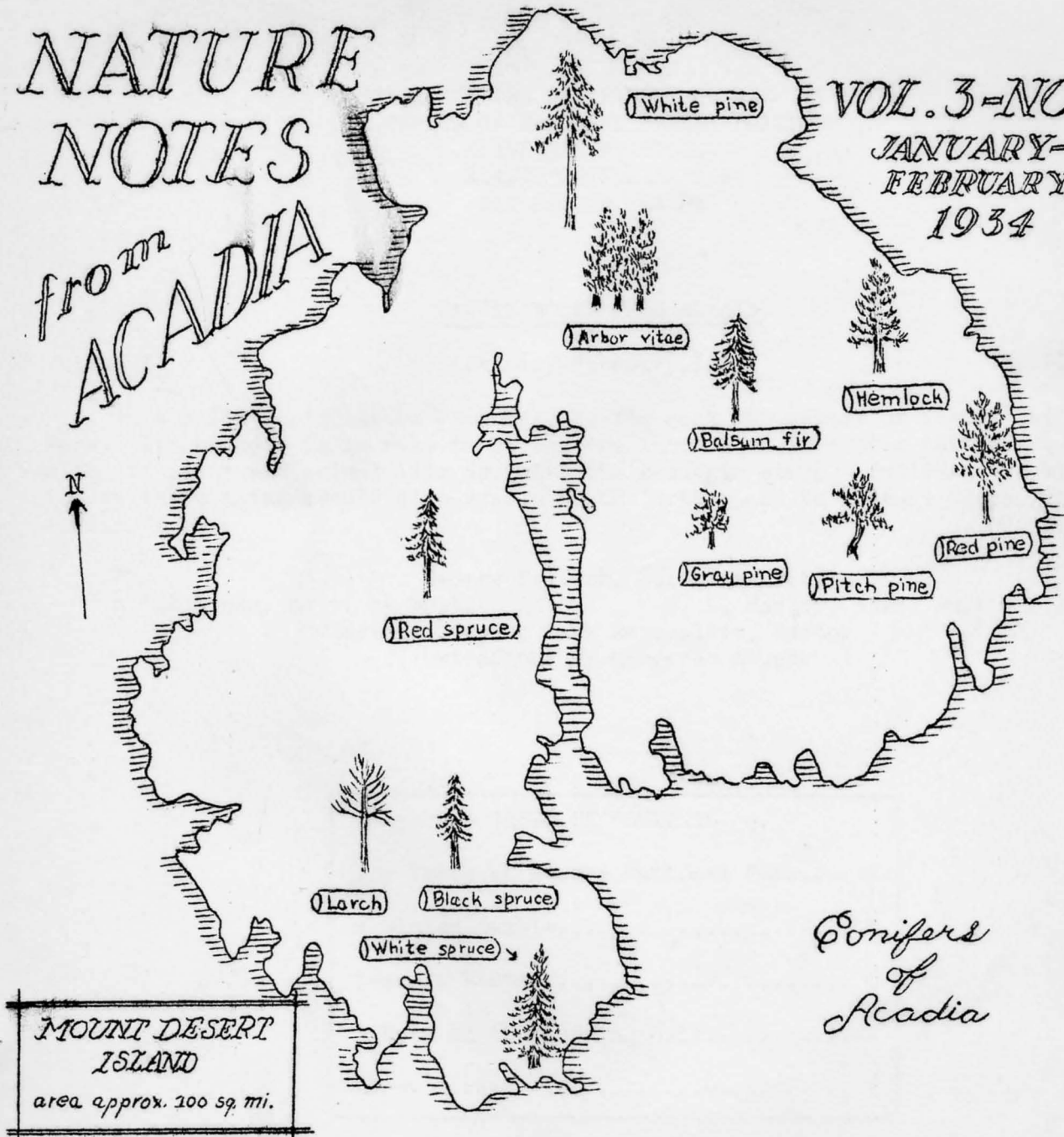
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# NATURE NOTES

from  
ACADIA

VOL. 3-NO. 1  
JANUARY-  
FEBRUARY,  
1934



*Conifers  
of  
Acadia*

## ACADIA NATIONAL PARK BAR HARBOR, MAINE

Department of the Interior; Office of National Parks, Buildings, & Reservations.

UNITED STATES DEPARTMENT OF THE INTERIOR  
OFFICE OF NATIONAL PARKS, BUILDINGS,  
AND RESERVATIONS.  
ACADIA NATIONAL PARK  
BAR HARBOR, MAINE

NATURE NOTES FROM ACADIA

Volume 3

January-February, 1934

Number 1

This bulletin is issued bimonthly by the park naturalist of Acadia National Park. Its purpose is to make those who are interested in Acadia better acquainted with its plant and animal life and with its geologic story. Publications wishing to use these notes should give credit to the writer and to "Nature Notes from Acadia."

George B. Dorr, Superintendent  
A. H. Lynam, Asst. to Supt.                      B. L. Hadley, Asst. Supt.  
Arthur Stupka, Park Naturalist, Editor  
Illustrations by Margaret Stupka

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THE TREES OF ACADIA NATIONAL PARK

By Arthur Stupka, Park Naturalist, Acadia National Park

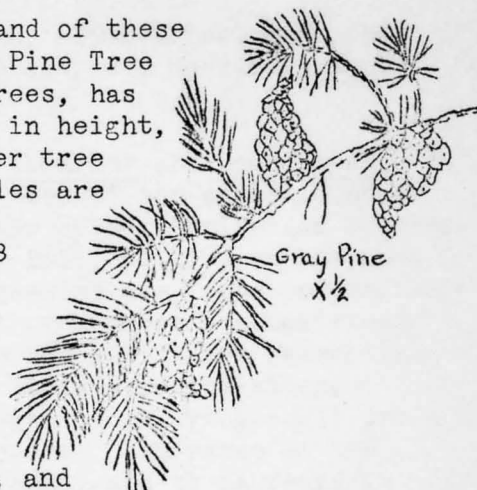
The trees of Acadia National Park, Mount Desert Island, Maine, are essentially northern in character, as the region belongs to the so-called Spruce and Northern Hardwoods division. Spruces are dominant, the red spruce making up a considerable portion of the coniferous stand over much of the island and the white spruce replacing it as the most abundant species along a large portion of the ocean front. Other trees which make up an appreciable amount of the total stand include white pine, red pine, white birch, gray birch, arbor vitae, balsam fir, red maple, red oak, hemlock, and aspen. Thoreau, with characteristic fitting and poetic phraseology, called this the "arrowy Maine forest."

SECTION I. THE CONIFERS

Key to the Conifers of Acadia National Park

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1. Trees with small, scale-like leaves..... Arbor vitae
  2. Needles evergreen, remaining on tree in winter; needles borne directly on branches..... 3
  2. Needles deciduous, dropping off tree in fall; needles borne on short spur-like side branches..... Larch
3. Needles borne in clusters of 2, 3, or 5..... 4
3. Needles borne singly on branches..... 6
  4. Needles 5 in a cluster, 2 to 5 inches long..... White pine
  4. Needles 3 in a cluster,  $1\frac{1}{2}$  to 4 inches long..... Pitch pine
  4. Needles 2 in a cluster..... 5
5. Needles 4 to 6 inches long; cones symmetrical, even-shaped..... Red pine
5. Needles  $\frac{5}{4}$  to 1 inch long; cones asymmetrical, incurved..... Gray pine
  6. Needles on all sides of branch, pointing outward in all directions; branches with needles, round in appearance; needles not lighter colored on under side..... 7
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7. Needles bluish-green or bluish, dull and blunt..... 8
7. Needles yellowish-green, shiny and sharp-pointed..... Red spruce
  8. Scales on ripe cones stiff and rigid, ragged-toothed..... Black spruce
  8. Scales on ripe cones flexible, not toothed..... White spruce
9. Needles pale green on under side with white line on each side of midrib; trunk of tree free from blisters; cones  $\frac{5}{4}$  inch long and pendant..... Hemlock
9. Needles pale green on under side with light dots; trunk of tree with resin blisters; cones 2-4 inches long and erect..... Balsam fir

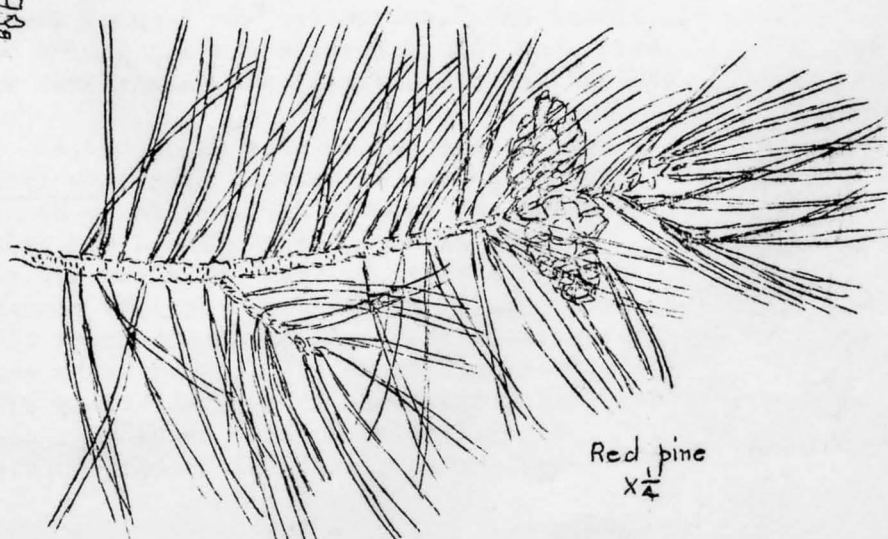
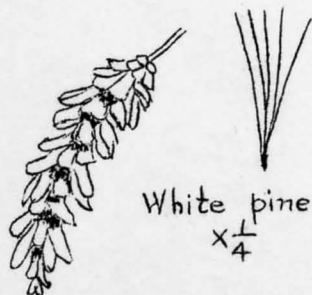
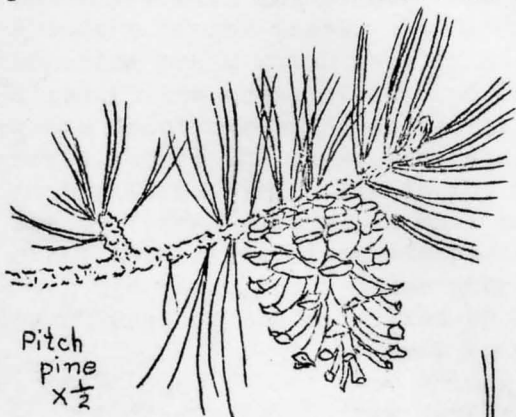
Four species of pines are native to the region and of these the white pine (*Pinus strobus*), emblem of Maine, the Pine Tree State, is most abundant. This, the noblest of our trees, has been known to exceed 4 feet in diameter and 150 feet in height, and has long been regarded as the most valuable timber tree in northeastern America. Its soft bluish-green needles are arranged in clusters of 5, the lateral branches are whorled, and the cones, usually measuring from 5 to 8 inches in length, are larger than those of any other native coniferous tree in the northeastern states.



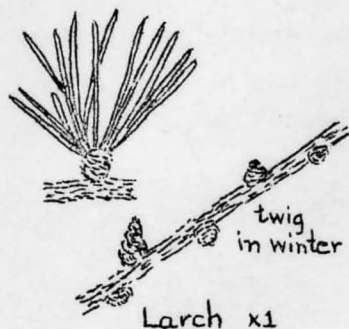
The red pine (*Pinus resinosa*), whose needles, 4 to 6 inches in length, are longer than those of any other of our needle-bearing trees, is tall and straight, with a pyramidal crown, dark green foliage, and reddish-brown bark. This bark, like the bark of the yellow pine of the west, tends to break up into broad reddish plates. The needles are arranged in bundles of 2. The symmetrical cones are somewhat spherical and about 2 inches long. It is valued highly as a timber tree and often goes by the name of "Norway pine."

The pitch pine (*Pinus rigida*), very picturesque in its exposed rocky habitats, is usually low-growing and has an irregular scraggly crown. Its ovate cones may persist on the gnarled branches for many years. This is the only native pine of Mount Desert Island whose needles are arranged in clusters of 3.

A boreal species, the gray, jack, or Labrador pine (*Pinus banksiana*), finds its southern coastal limit on Mount Desert Island. It is rare here, being represented by a small stand of trees to the south of Cadillac Mountain. On a portion of the Acadia National Park area which is located just across the bay on Schoodic Peninsula, this pine is an abundant species. For the most part it grows

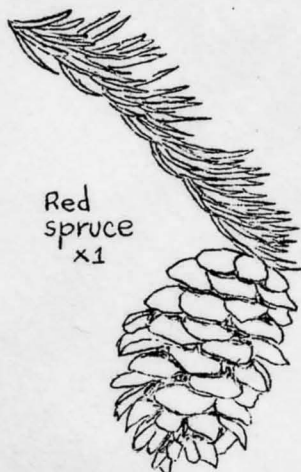


considerably dwarfed and shrubby, and its small, tough, asymmetrical cones may persist on the tree for many years. Its very short gray-green needles are arranged in clusters of 2.



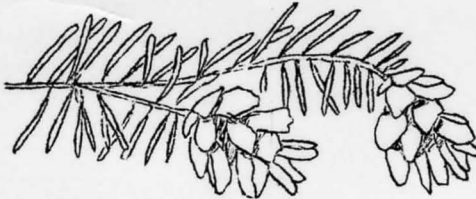
The larch, also known as tamarack and hackmatack (*Larix laricina*), is a common tree of the sphagnum bogs of the island. Unlike all other of our coniferous species, it sheds all its needles every fall, putting on new ones the following spring. These needles are borne on dwarf spur-like side branches. As it resembles a symmetrical pine in general form, the tree has a striking resemblance to a dead conifer in winter. It is a medium-sized, light-loving tree with a straight trunk, very small ovoid cones, and short clustered needles. The range of the larch extends across the continent, and it is found in the north within the Arctic Circle.

Three spruces are native to Acadia National Park. The black spruce, also known as swamp spruce (*Picea mariana*), is a tree characteristic of our sphagnum bogs, although it is not infrequently found in a more or less stunted condition on dry mountain slopes where it may appear ragged and uneven in its habit of growth. Usually it is smaller than the other native spruces and the scales on its ripened cones tend to be stiff, rigid, and ragged-toothed. It bears needles which are dull and blunt. The red spruce (*Picea rubra*) is one of the most abundant of our trees. It has a narrow conical crown and a straight slightly tapering trunk which usually attains a height of 60-80 feet. The branches are slender, the cones ovoid, and the needles a shining dark green or yellowish-green about one-half inch long. Whereas the other spruces have needles which are blunt at the ends, the needles of the red spruce are sharp-pointed. Next to the white pine, this is the most valuable timber tree in Maine. The white spruce (*Picea glauca*), a tall handsome tree especially valuable for paper pulp, grows best right along the ocean front of Mount Desert Island. Its branches, long and stout, bear dense attractive grayish or bluish-green needles which sometimes are characterized by an odor which accounts for the local name of "skunk spruce" or "cat spruce." As in all spruces, the oblong cones are pendant, and when ripe, the cone scales are flexible and not toothed.



Although in cool moist ravines the hemlock (*Tsuga canadensis*) grows as far south as Alabama, it attains its greatest size and beauty in the Acadian region. In its preferred habitat it is a fairly common tree on Mount Desert Island where old specimens up to four feet in diameter are to be found. Its short flat needles are glossy dark green above and pale green beneath, there being a white line on either side of the midrib on the under



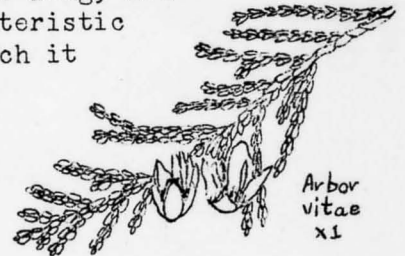


Hemlock x1

wren, one of the finest of our feathered songsters and the veritable spirit of the cool hemlock forest.

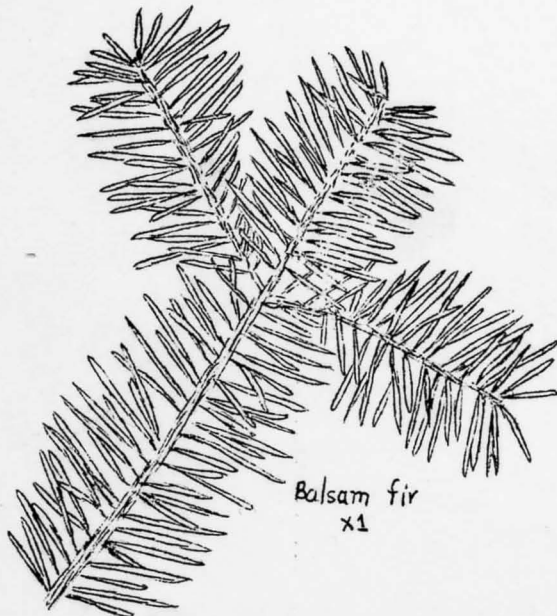
The balsam fir (*Abies balsamea*), the only fir native to Maine and the other New England States, is a common conifer in Acadia National Park. It is a tree of medium size, usually under 40 feet in height, and the trunk rarely exceeds 18 inches in diameter. Its bark, smooth and grayish-brown in color, is covered with projecting blisters which yield the pungently aromatic Canada balsam of commerce. The fragrant needles are arranged so that they give the twigs a flattened appearance. The dark purple cones, usually two or three inches long, are cylindrical and stand upright on the branches - a characteristic which distinguishes the fir from other conifers with which it may grow.

The arbor vitae, often known as white cedar (*Thuja occidentalis*), is a medium-sized tree which has its best development in swamps and bogs where it may be found in pure stands. Its trunk is tapering and the bark, often used by the red squirrel for the spherical nests which that animal builds, separates into long thin strips. The scale-like overlapping leaves, aromatic when crushed, are arranged to make a flat frond-like spray on which the small oblong cones are borne.



Arbor vitae x1

The dwarf juniper, creeping juniper, and American yew, sometimes confused with the young of some of the trees already mentioned, are low-growing evergreen shrubs with needle-like leaves. They are common in some portions of the park and are readily distinguished in that they do not bear cones. Their fruits are small and berry-like, those of the junipers being blue covered with a pale bloom while those of the yew are a bright scarlet in color.



Balsam fir x1

Note: Articles on the deciduous tree of Acadia National Park will appear in future issues of "Nature Notes from Acadia."

## A WINTER RAMBLE

"Come see the north-wind's masonry."

- Emerson

The coast of Maine lies gripped in the icy hold of one of the most severe winters on record. Harbors are ice-locked and deep snow everywhere blankets the out-of-doors. On clear days the ermine-coated summits of the Mount Desert Island mountains, heavily armored in snow and ice, glisten with such dazzling brilliance that one might almost be led to believe they had undergone some herculean polish in the night.

Let us buckle on our snowshoes at Sieur de Monts Spring - a place known to every Acadia National Park visitor - and make fresh tracks through the snowy woods in the general direction of the Tarn. Close to the Abbe Museum we cross the tracks of a gray squirrel - perhaps one of the same animals which harvested many of the acorns and beech nuts in that vicinity last autumn. Upon following these tracks we discover where the animal dug into the deep snow and fed upon a few acorns. Being in the habit of storing only small quantities of food here and there over the forest floor, the gray squirrel must necessarily dig deeply for his winter supplies. Surely, to find provisions which now lie buried under one and one-half to three feet of snow implies a remarkable memory. White-foot, the big-eared dark-eyed woods mouse, had likewise crossed the snow here but recently, leaving a dainty little tell-tale pattern which disappears under the low snow-laden limb of some conifer.

For a moment we stop to admire a grove of young beeches which still retain an appreciable number of their papery leaves. Whereas in summer these leaves were dark green in color and in autumn a rich coppery brown, they now are of a soft light fawn color - especially attractive against the snow.

The brook which flows from the nearby Tarn gurgles pleasantly in those few spots which remain open, as though defying the frigid fetters of winter in its own tongue. While listening to its cold icy murmur a mite of a dark brown stubby-tailed bird flies up nervously, complaining against our intrusion. He, the winter wren, has apparently lived through all these bitter cold months in this immediate territory, finding shelter under the many little bridges or under the streambanks where the roots of trees have been exposed. No doubt he finds a few stone flies and possibly other stream insects here. E. H. Forbush, in his classical "Birds of Massachusetts," makes the following interesting statement: "As a winter bird in the latitude of New England, this wren is a disappointment. A few remain here in mild winters, but those that attempt to brave out a severe one in New England usually perish miserably. In the spring their dead bodies are found occasionally under piles of lumber or wood. Most of them winter in the South." Our bird, therefore, must truly be some defiant hardy exception, for the present winter is one of the most severe ever to be recorded. Admiring the fortitude of this feathered elf, we proceed with our ramble.

Upon coming to the Tarn, now burdened with a considerable thickness of ice, we stop to view the heavily snow-and ice-coated slopes of Huguenot Head and Flying Squadron Mountains - the east and west sides of an ancient trough through



which the glaciers of many thousands of years ago pushed out into the sea. The former mountain, supporting a dense stand of pitch pines, appears very much as it does in summer, but Flying Squadron, with a comparatively sparse growth of spruces, has its eastern slope whitened by a heavy blanket of snow and ice.

From here we cross the nearby Otter Creek road and tramp over the drifted snow which lies in the little valley at the north foot of Huguenot Head. It is in protected valleys such as this one where, after a heavy snowstorm, the conifers stand arrayed in some of winter's most picturesque habiliments. In places young trees as high as one's head, completely draped in the snowy substance, appear as though they might be the tents in which the boreal troops are encamped, for winter concentrates his forces in these ravines as though they were strategic points.

Making a wide circle through the snowy valley we climb Little Meadow Hill, a stronghold for the pitch pines. Before going far through this quaint low forest the tracks of red squirrels, crossing and recrossing over the snow, hold our interest, and occasionally we come upon the temporary feeding places of these animals - a litter of cone scales, bark flakes, needle-bearing twigs, etc. Evidently a number of squirrels come here to feed on the abundant fruit of the pitch pines. While watching an impetuous chickaree dashing through the trees sending burdens of snow a-flying, a flock of about 20 red crossbills, twittering half-plaintively as they fly, suddenly wheel and settle in the top of one of these low scraggly pines. Approaching closely we admire the attractive brick red males who investigate the cones for the seeds which might be within. Only momentarily do they linger and then are off again in close formation, twittering as they disappear. These birds, along with the white-winged crossbills, have been on Mount Desert Island in goodly numbers during the present winter.

And so we ramble on, encountering other animals and seeing other sights. Hard though it may be for both man and beast, the winter has infinite charms.

- Arthur Stupka

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#### Deer in Winter

On February 18, park ranger O. Y. Thompson and I snowshoed to the upper reaches of the Triads where we came upon an encouragingly large number of white-tailed deer. Signs of the animals were encountered frequently, and in places their tracks were everywhere. First we saw four deer feeding near a clump of spruces on the south slope of Pemetic Mountain. While we watched them two others joined the group. A few moments later six more animals were scared up on the very summit of one of the Triads. Two more, and finally another herd of six brought the total number seen to 20.

The evergreen foliage of the arbor vitae constitutes a considerable portion of the winter food of these animals, especially when deep snow covers the ground. Ranger Thompson has cut a number of these trees for the deer in areas where the animals are concentrated. He tells me that when two arbor vitae are felled, one an old and the other a young tree, the deer will invariably defoliate the older tree first.

## A NOTE ON THE HERRING GULL

Captain Rodney Sadler of Bar Harbor, well known as an observant and capable mariner in these waters, tells me that some 35 or 40 years ago a group of about two dozen Passamaquoddy Indians would leave their homes above Eastport, Maine, and journey by canoe to Heron Island, 10 or 11 miles southwest of Mount Desert Island, where they would spend the entire summer shooting gulls. In those years there were no laws protecting these common birds of the ocean front, and the feather trade heaped great sums of money at the feet of an army of bird-butchers. The white-feathered breast of each mature gull, skinned and tanned, would be cut up into three pieces which, on the market, sold at four dollars per dozen pieces - hence one dollar per gull. After the skinning of the breast portion, the Indians discarded all that remained. At one time the Captain saw a pile of these discarded carcasses which he and his companion estimated as being "as big as five cords of wood."

Our herring gull is a bird which ranges far and wide. It is the commonest wintering gull along the coast of the North Atlantic states, and one of the most abundant of gulls in the Puget Sound region of the Pacific. It is also found in Europe. Here along the Maine coast it is steadily increasing in number and is extending its breeding range.

Like the common rat, the bear, the crow, and a few other animals, this gull has a great range of diet and for that reason is able to prosper, whereas somewhat similar forms of wild life whose diets are more or less restricted tend to occur in lesser numbers. As a result of our severe winter the favored hunting grounds of these birds has become an ice-armored barrens, and for that reason they continue to invade the towns, settling in snow-covered lawns and clearings close to the habitations of mankind. When the bountiful harvest of the sea becomes closed to them man, who in times gone by has been a dreaded foe, has a chance to redeem himself and to become the gulls' best friend.

- Arthur Stupka

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### Hardy Birds

A lone robin has spent this bitter cold winter in and about the haw hedge which grows on the Acadia National Park Office grounds, while an unusually approachable blue jay has been seen time and again at Sieur de Monts Spring. In Bar Harbor, in small pools of open water just off the wharf, flocks of buffleheads and goldeneyes defy the piercing winter blasts which sweep over the frozen expanse of the bay. Although under ordinary circumstances they are fairly approachable, these ducks, especially the attractive little buffleheads, appear almost wholly unconcerned about one's presence when strong biting winds send the mercury far below the zero mark. On February 9, with the mercury around 20° below zero, I was able to come within a few yards of some buffleheads which were resting in a little pool of open water.

-A.S.