

CLASSIC LIVING BOOK

OUR NATIONAL
PARKS

John Muir

COMPLETE AND UNABRIDGED

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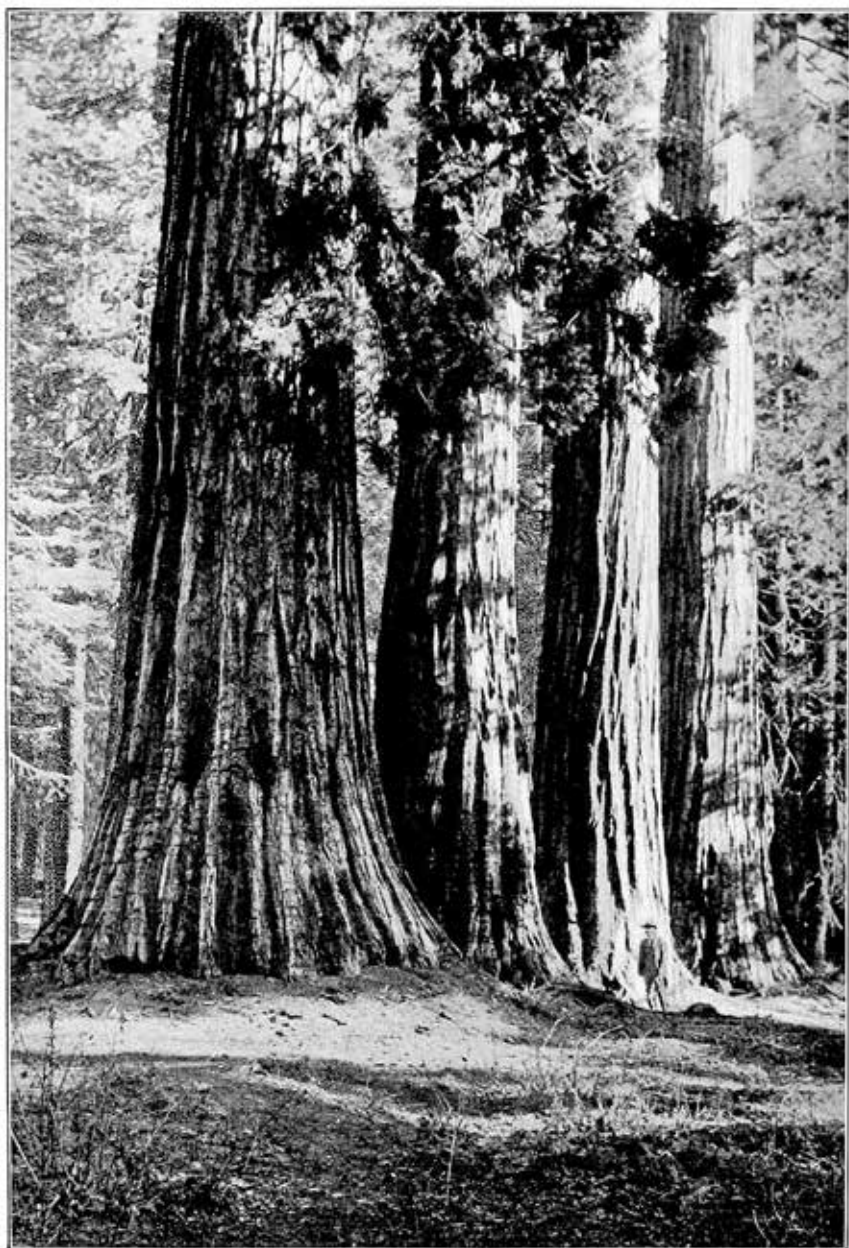
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Our National Parks

by

JOHN MUIR





SEQUOIAS , MARIPOSA GROVE (PAGE 134)

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Preface

In this book, made up of sketches first published in the Atlantic Monthly, I have done the best I could to show forth the beauty, grandeur, and all-embracing usefulness of our wild mountain forest reservations and parks, with a view to inciting the people to come and enjoy them, and get them into their hearts, that so at length their preservation and right use might be made sure.

MARTINEZ, California
September, 1901

CHAPTER I

The Wild Parks and Forest Reservations of the West

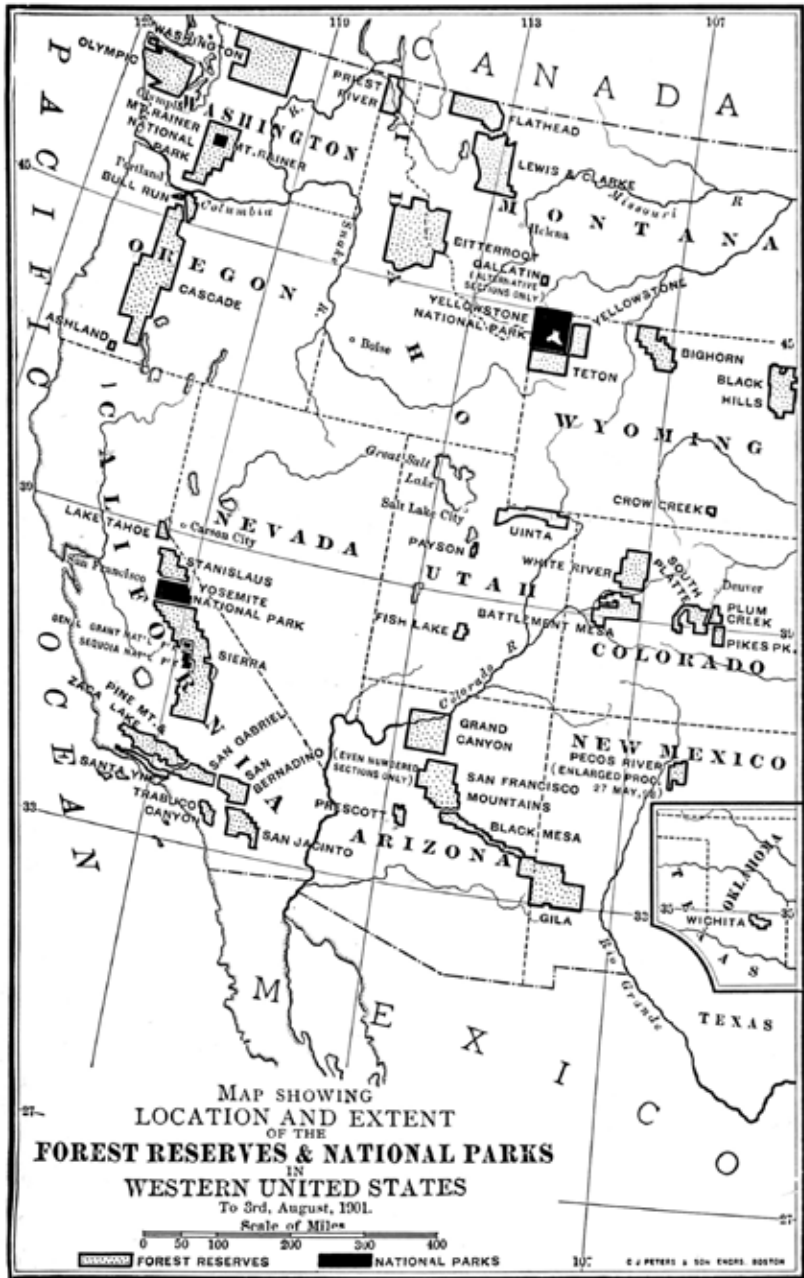
“Keep not standing fix’d and rooted,
Briskly venture, briskly roam;
Head and hand, where’er thou foot it,
And stout heart are still at home.
In each land the sun does visit
We are gay, whate’er betide:
To give room for wandering is it
That the world was made so wide.”

The tendency nowadays to wander in wildernesses is delightful to see. Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home; that wildness is a necessity; and that mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life. Awakened from the stupefying effects of the vice of over-industry and the deadly apathy of luxury, they are trying as best they can to mix and enrich their own little ongoings with those of Nature, and to get rid of rust and disease. Briskly venturing and roaming, some are washing off sins and cobweb cares of the devil’s spinning in all-day storms on mountains; sauntering in rosinny pinewoods or in gentian meadows, brushing through chaparral, bending down and parting sweet, flowery sprays; tracing rivers to their sources, getting in touch with the nerves of Mother Earth; jumping from rock to rock, feeling the life of them, learning

the songs of them, panting in whole-souled exercise, and rejoicing in deep, long-drawn breaths of pure wildness. This is fine and natural and full of promise. So also is the growing interest in the care and preservation of forests and wild places in general, and in the half wild parks and gardens of towns. Even the scenery habit in its most artificial forms, mixed with spectacles, silliness, and kodaks; its devotees arrayed more gorgeously than scarlet tanagers, frightening the wild game with red umbrellas,—even this is encouraging, and may well be regarded as a hopeful sign of the times.

All the Western mountains are still rich in wildness, and by means of good roads are being brought nearer civilization every year. To the sane and free it will hardly seem necessary to cross the continent in search of wild beauty, however easy the way, for they find it in abundance wherever they chance to be. Like Thoreau they see forests in orchards and patches of huckleberry brush, and oceans in ponds and drops of dew. Few in these hot, dim, strenuous times are quite sane or free; choked with care like clocks full of dust, laboriously doing so much good and making so much money,—or so little,—they are no longer good for themselves.

When, like a merchant taking a list of his goods, we take stock of our wildness, we are glad to see how much of even the most destructible kind is still unspoiled. Looking at our continent as scenery when it was all wild, lying between beautiful seas, the starry sky above it, the starry rocks beneath it, to compare its sides, the East and the West, would be like comparing the sides of a rainbow. But it is no longer equally beautiful. The rainbows of to-day are, I suppose, as bright as those that first spanned the sky; and some of our landscapes are growing more beautiful from year to year, notwithstanding the clearing, trampling work of civilization. New plants and animals are enriching woods and gardens, and many landscapes wholly new, with divine sculpture and architecture, are just now coming to the light of day as the mantling folds of creative glaciers are being withdrawn, and life in a thousand cheerful, beautiful forms is push-



WASHINGTON
OLYMPIC
Mt. Rainier National Park
Columbia
Portland
Bull Run
Priest River
Flathead

OREGON
CASCADIA
ASHLAND

NEVADA
LAKE TAHOE
Carson City
STANISLAUS
YOSEMITE NATIONAL PARK
SIERRA
SAN GABRIEL
SAN BERNARDINO
SAN JACINTO
PRYSCOTT

UTAH
PAYSON
SALT LAKE CITY
GREAT SALT LAKE
FISH LAKE
BATTLE MOUNTAIN MESA
GRAND CANYON
SAN FRANCISCO MOUNTAINS
BLACK MESA
GILA

MONTANA
LEWIS & CLARKE
BITTERROOT
GALATIEN (ALTERNATIVE SECTIONS ONLY)
YELLOWSTONE NATIONAL PARK
TETON
YELLOWSTONE

WYOMING
CHOW CREEK
BIGHORN
BLACK HILLS

COLORADO
WHITE RIVER
PLATEAU
PLUM CREEK
PIKES PK.
Pecos River (ENLARGED PROOF 27 MAY, '98)

NEW MEXICO
WICHITA

ARIZONA
TRABUCCO CANYON
SANTO YNEZ
PINE MOUNTAIN
SANTA YNEZ
SANTA YNEZ

TEXAS

IDAHO
BOISE

CANADA

MEXICO

110 115 107
45 40 35 30 25
120 125 130 135 140 145 150 155 160 165 170 175 180 185 190 195 200

ing into them, and new-born rivers are beginning to sing and shine in them. The old rivers, too, are growing longer, like healthy trees, gaining new branches and lakes as the residual glaciers at their highest sources on the mountains recede, while the rootlike branches in the flat deltas are at same time spreading farther and wider into the seas and making new lands.

Under the control of the vast mysterious forces of the interior of the earth all the continents and islands are slowly rising or sinking. Most of the mountains are diminishing in size under the wearing action of the weather, though a few are increasing in height and girth, especially the volcanic ones, as fresh floods of molten rocks are piled on their summits and spread in successive layers, like the wood-rings of trees, on their sides. New mountains, also, are being created from time to time as islands in lakes and seas, or as subordinate cones on the slopes of old ones, thus in some measure balancing the waste of old beauty with new. Man, too, is making many far-reaching changes. This most influential half animal, half angel is rapidly multiplying and spreading, covering the seas and lakes with ships, the land with huts, hotels, cathedrals, and clustered city shops and homes, so that soon, it would seem, we may have to go farther than Nansen to find a good sound solitude. None of Nature's landscapes are ugly so long as they are wild; and much, we can say comfortingly, must always be in great part wild, particularly the sea and the sky, the floods of light from the stars, and the warm, unspoilable heart of the earth, infinitely beautiful, though only dimly visible to the eye of imagination. The geysers, too, spouting from the hot underworld; the steady, long-lasting glaciers on the mountains, obedient only to the sun; Yosemite domes and the tremendous grandeur of rocky cañons and mountains in general,—these must always be wild, for man can change them and mar them hardly more than can the butterflies that hover above them. But the continent's outer beauty is fast passing away, especially the plant part of it, the most destructible and most universally charming of all.

Only thirty years ago, the great Central Valley of California, five hundred miles long and fifty miles wide, was one bed of golden and purple flowers. Now it is ploughed and pastured out of existence, gone forever,—scarce a memory of it left in fence corners and along the bluffs of the streams. The gardens of the Sierra, also, and the noble forests in both the reserved and unreserved portions are sadly hacked and trampled, notwithstanding, the ruggedness of the topography,—all excepting those of the parks guarded by a few soldiers. In the noblest forests of the world, the ground, once divinely beautiful, is desolate and repulsive, like a face ravaged by disease. This is true also of many other Pacific Coast and Rocky Mountain valleys and forests. The same fate, sooner or later, is awaiting them all, unless awakening public opinion comes forward to stop it. Even the great deserts in Arizona, Nevada, Utah, and New Mexico, which offer so little to attract settlers, and which a few years ago pioneers were afraid of, as places of desolation and death, are now taken as pastures at the rate of one or two square miles per cow, and of course their plant treasures are passing away,—the delicate abronias, phloxes, gilies, etc. Only a few of the bitter, thorny, unbitable shrubs are left, and the sturdy cactuses that defend themselves with bayonets and spears.

Most of the wild plant wealth of the East also has vanished,—gone into dusty history. Only vestiges of its glorious prairie and woodland wealth remain to bless humanity in boggy, rocky, unploughable places. Fortunately, some of these are purely wild, and go far to keep Nature's love visible. White water-lilies, with rootstocks deep and safe in mud, still send up every summer a Milky Way of starry, fragrant flowers around a thousand lakes, and many a tuft of wild grass waves its panicles on mossy rocks, beyond reach of trampling feet, in company with saxifrages, bluebells, and ferns. Even in the midst of farmers fields, precious sphagnum bogs, too soft for the feet of cattle, are preserved with their charming plants unchanged,—*chiogenes*, *Andromeda*, *Kalmia*, *Linnæa*, *Arethusa*, etc. *Calypso borealis* still hides in the *arbor vitæ* swamps of Canada, and away to the southward

there are a few unspoiled swamps, big ones, where miasma, snakes, and alligators, like guardian angels, defend their treasures and keep them as pure as paradise. And beside a' that and a' that, the East is blessed with good winters and blossoming clouds that shed white flowers over all the land, covering every scar and making the saddest landscape divine at least once a year.

The most extensive, least spoiled, and most unspoilable of the gardens of the continent are the vast tundras of Alaska. In summer they extend smooth, even, undulating, continuous beds of flowers and leaves from about lat. 62° to the shores of the Arctic Ocean; and in winter sheets of snowflowers make all the country shine, one mass of white radiance like a star. Nor are these Arctic plant people the pitiful frost-pinned unfortunates they are guessed to be by those who have never seen them. Though lowly in stature, keeping near the frozen ground as if loving it, they are bright and cheery, and speak Nature's love as plainly as their big relatives of the South. Tenderly happed and tucked in beneath downy snow to sleep through the long, white winter, they make haste to bloom in the spring without trying to grow tall, though some rise high enough to ripple and wave in the wind, and display masses of color,—yellow, purple, and blue,—so rich that they look like beds of rainbows, and are visible miles and miles away.

As early as June one may find the showy *Geum glaciale* in flower, and the dwarf willows putting forth myriads of fuzzy catkins, to be followed quickly, especially on the dryer ground, by *mertensia*, *eritrichium*, *polemonium*, *oxytropis*, *astragalus*, *lathyrus*, *lupinus*, *myosotis*, *dodecatheon*, *arnica*, *chrysanthemum*, *nardosmia*, *saussurea*, *senecio*, *erigeron*, *matrecaria*, *caltha*, *valeriana*, *stellaria*, *Tofieldia*, *polygonum*, *papaver*, *phlox*, *lychnis*, *cheiranthus*, *Linnæa*, and a host of *drabas*, *saxifrages*, and *heathworts*, with bright stars and bells in glorious profusion, particularly *Cassiope*, *Andromeda*, *ledum*, *pyrola*, and *vaccinium*,—*Cassiope* the most abundant and beautiful of them all. Many grasses also grow here, and wave fine

purple spikes and panicles over the other flowers,—poa, aira, calamagrostis, alopecurus, trisetum, elymus, festuca, glyceria, etc. Even ferns are found thus far north, carefully and comfortably unrolling their precious fronds,—aspidium, cystopteris, and woodsia, all growing on a sumptuous bed of mosses and lichens; not the scaly lichens seen on rails and trees and fallen logs to the southward, but massive, roundheaded, finely colored plants like corals, wonderfully beautiful, worth going round the world to see. I should like to mention all the plant friends I found in a summer's wanderings in this cool reserve, but I fear few would care to read their names, although everybody, I am sure, would love them could they see them blooming and rejoicing at home.

On my last visit to the region about Kotzebue Sound, near the middle of September, 1881, the weather was so fine and mellow that it suggested the Indian summer of the Eastern States. The winds were hushed, the tundra glowed in creamy golden sunshine, and the colors of the ripe foliage of the heathworts, willows, and birch—red, purple, and yellow, in pure bright tones—were enriched with those of berries which were scattered everywhere, as if they had been showered from the clouds like hail. When I was back a mile or two from the shore, reveling in this color-glory, and thinking how fine it would be could I cut a square of the tundra sod of conventional picture size, frame it, and hang it among the paintings on my study walls at home, saying to myself, "Such a Nature painting taken at random from any part of the thousand-mile bog would make the other pictures look dim and coarse," I heard merry shouting, and, looking round, saw a band of Eskimos—men, women, and children, loose and hairy like wild animals—running towards me. I could not guess at first what they were seeking, for they seldom leave the shore; but soon they told me, as they threw themselves down, sprawling and laughing, on the mellow bog, and began to feast on the berries. A lively picture they made, and a pleasant one, as they frightened the whirring ptarmigans, and surprised their oily stomachs with the

beautiful acid berries of many kinds, and filled sealskin bags with them to carry away for festive days in winter.

Nowhere else on my travels have I seen so much warm-blooded, rejoicing life as in this grand Arctic reservation, by so many regarded as desolate. Not only are there whales in abundance along the shores, and innumerable seals, walruses, and white bears, but on the tundras great herds of fat reindeer and wild sheep, foxes, hares, mice, piping marmots, and birds. Perhaps more birds are born here than in any other region of equal extent on the continent. Not only do strong-winged hawks, eagles, and water-fowl, to whom the length of the continent is merely a pleasant excursion, come up here every summer in great numbers, but also many short-winged warblers, thrushes, and finches, repairing hither to rear their young in safety, reinforce the plant bloom with their plumage, and sweeten the wilderness with song; flying all the way, some of them, from Florida, Mexico, and Central America. In coming north they are coming home, for they were born here, and they go south only to spend the winter months, as New Englanders go to Florida. Sweet-voiced troubadours, they sing in orange groves and vine-clad magnolia woods in winter, in thickets of dwarf birch and alder in summer, and sing and chatter more or less all the way back and forth, keeping the whole country glad. Oftentimes, in New England, just as the last snow-patches are melting and the sap in the maples begins to flow, the blessed wanderers may be heard about orchards and the edges of fields where they have stopped to glean a scanty meal, not tarrying long, knowing they have far to go. Tracing the footsteps of spring, they arrive in their tundra homes in June or July, and set out on their return journey in September, or as soon as their families are able to fly well.

This is Nature's own reservation, and every lover of wildness will rejoice with me that by kindly frost it is so well defended. The discovery lately made that it is sprinkled with gold may cause some alarm; for the strangely exciting stuff makes the timid bold enough for anything, and the lazy destructively industrious. Thousands at least

half insane are now pushing their way into it, some by the southern passes over the mountains, perchance the first mountains they have ever seen,—sprawling, struggling, gasping for breath, as, laden with awkward, merciless burdens of provisions and tools, they climb over rough-angled boulders and cross thin miry bogs. Some are going by the mountains and rivers to the eastward through Canada, tracing the old romantic ways of the Hudson Bay traders; others by Bering Sea and the Yukon, sailing all the way, getting glimpses perhaps of the famous fur-seals, the ice-floes, and the innumerable islands and bars of the great Alaska river. In spite of frowning hardships and the frozen ground, the Klondike gold will increase the crusading crowds for years to come, but comparatively little harm will be done. Holes will be burned and dug into the hard ground here and there, and into the quartz-ribbed mountains and hills; ragged towns like beaver and muskrat villages will be built, and mills and locomotives will make rumbling, screeching, disenchanting noises; but the miner's pick will not be followed far by the plough, at least not until Nature is ready to unlock the frozen soil-beds with her slow-turning climate key. On the other hand, the roads of the pioneer miners will lead many a lover of wildness into the heart of the reserve, who without them would never see it.

In the meantime, the wildest health and pleasure grounds accessible and available to tourists seeking escape from care and dust and early death are the parks and reservations of the West. There are four national parks,¹ —the Yellowstone, Yosemite, General Grant, and Sequoia,—all within easy reach, and thirty forest reservations, a magnificent realm of woods, most of which, by railroads and trails and open ridges, is also fairly accessible, not only to the determined traveler rejoicing in difficulties, but to those (may their tribe increase) who, not tired, not sick, just naturally take wing every summer in search of wildness. The forty million acres of these reserves are in

1 There are now (1909) twelve parks and one hundred and fifty forest reservations, besides twenty “national monuments.”

the main unspoiled as yet, though sadly wasted and threatened on their more open margins by the axe and fire of the lumberman and prospector, and by hooped locusts, which, like the winged ones, devour every leaf within reach, while the shepherds and owners set fires with the intention of making a blade of grass grow in the place of every tree, but with the result of killing both the grass and the trees.

In the million acre Black Hills Reserve of South Dakota, the easternmost of the great forest reserves, made for the sake of the farmers and miners, there are delightful, reviving sauntering-grounds in open parks of yellow pine, planted well apart, allowing plenty of sunshine to warm the ground. This tree is one of the most variable and most widely distributed of American pines. It grows sturdily on all kinds of soil and rocks, and, protected by a mail of thick bark, defies frost and fire and disease alike, daring every danger in firm, calm beauty and strength. It occurs here mostly on the outer hills and slopes where no other tree can grow. The ground beneath it is yellow most of the summer with showy *Wythia*, *arnica*, *aplopappus*, *solidago*, and other sun-loving plants, which, though they form no heavy entangling growth, yet give abundance of color and make all the woods a garden. Beyond the yellow pine woods there lies a world of rocks of wildest architecture, broken, splintery, and spiky, not very high, but the strangest in form and style of grouping imaginable. Countless towers and spires, pinnacles and slender domed columns, are crowded together, and feathered with sharp-pointed Engelmann spruces, making curiously mixed forests,—half trees, half rocks. Level gardens here and there in the midst of them offer charming surprises, and so do the many small lakes with lilies on their meadowy borders, and bluebells, anemones, daises, *castilleias*, *comandras*, etc., together forming landscapes delightfully novel, and made still wilder by many interesting animals,—elk, deer, beavers, wolves, squirrels, and birds. Not very long ago this was the richest of all the red man's hunting-grounds hereabout. After the season's buffalo hunts were over,—as described by Parkman, who, with a

picturesque cavalcade of Sioux savages, passed through these famous hills in 1846,—every winter deficiency was here made good, and hunger was unknown until, in spite of most determined, fighting, killing opposition, the white gold-hunters entered the fat game reserve and spoiled it. The Indians are dead now, and so are most of the hardly less striking free trappers of the early romantic Rocky Mountain times. Arrows, bullets, scalping-knives, need no longer be feared; and all the wilderness is peacefully open.

The Rocky Mountain reserves are the Teton, Yellowstone, Lewis and Clark, Bitter Root, Priest River and Flathead, comprehending more than twelve million acres of mostly unclaimed, rough, forest-covered mountains in which the great rivers of the country take their rise. The commonest tree in most of them is the brave, indomitable, and altogether admirable *Pinus contorta*, widely distributed in all kinds of climate and soil, growing cheerily in frosty Alaska, breathing the damp salt air of the sea as well as the dry biting blasts of the Arctic interior, and making itself at home on the most dangerous flame-swept slopes and bridges of the Rocky Mountains in immeasurable abundance and variety of forms. Thousands of acres of this species are destroyed by running fires nearly every summer, but a new growth springs quickly from the ashes. It is generally small, and yields few sawlogs of commercial value, but is of incalculable importance to the farmer and miner; supplying fencing, mine timbers, and firewood, holding the porous soil on steep slopes, preventing landslips and avalanches, and giving kindly, nourishing shelter to animals and the widely outspread sources of the life-giving rivers. The other trees are mostly spruce, mountain pine, cedar, juniper, larch, and balsam fir; some of them, especially on the western slopes of the mountains, attaining grand size and furnishing abundance of fine timber.

Perhaps the least known of all this grand group of reserves is the Bitter Root, of more than four million acres. It is the wildest, shaggiest block of forest wildness in the Rocky Mountains, full of

happy, healthy, storm-loving trees, full of streams that dance and sing in glorious array, and full of Nature's animals,—elk, deer, wild sheep, bears, cats, and innumerable smaller people.

In calm Indian summer, when the heavy winds are hushed, the vast forests covering hill and dale, rising and falling over the rough topography and vanishing in the distance, seem lifeless. No moving thing is seen as we climb the peaks, and only the low, mellow murmur of falling water is heard, which seems to thicken the silence. Nevertheless, how many hearts with warm red blood in them are beating under cover of the woods, and how many teeth and eyes are shining! A multitude of animal people, intimately related to us, but of whose lives we know almost nothing, are as busy about their own affairs as we are about ours: beavers are building and mending dams and huts for winter, and storing them with food; bears are studying winter quarters as they stand thoughtful in open spaces, while the gentle breeze ruffles the long hair on their backs; elk and deer, assembling on the heights, are considering cold pastures where they will be farthest away from the wolves; squirrels and marmots are busily laying up provisions and lining their nests against coming frost and snow foreseen; and countless thousands of birds are forming parties and gathering their young about them for flight to the southlands; while butterflies and bees, apparently with no thought of hard times to come, are hovering above the late-blooming goldenrods, and, with countless other insect folk, are dancing and humming right merrily in the sunbeams and shaking all the air into music.

Wander here a whole summer, if you can. Thousands of God's wild blessings will search you and soak you as if you were sponge, and the big days will go by uncounted. If you are business-tangled, and so burdened with duty that only weeks can be got out of the heavy-laden year, then go to the Flathead Reserve; for it is easily and quickly reached by the Great Northern Railroad. Get off the track at Belton Station, and in a few minutes you will find yourself in the midst of what you are sure to say is the best care-killing scenery

on the continent,—beautiful lakes derived straight from glaciers, lofty mountains steeped in lovely nemophila-blue skies and clad with forests and glaciers, mossy, ferny waterfalls in their hollows, nameless and numberless, and meadowy gardens abounding in the best of everything. When you are calm enough for discriminating observation, you will find the king of the larches, one of the best of the Western giants, beautiful, picturesque, and regal in port, easily the grandest of all the larches in the world. It grows to a height of one hundred and fifty to two hundred feet, with a diameter at the ground of five to eight feet, throwing out its branches into the light as no other tree does. To those who before have seen only the European larch or the Lyall species of the eastern Rocky Mountains, or the little tamarack or hackmatack of the Eastern States and Canada, this Western king must be a revelation.

Associated with this grand tree in the making of the Flathead forests is the large and beautiful mountain pine, or Western white pine (*Pinus monticola*), the invincible contorta or lodge-pole pine, and spruce and cedar. The forest floor is covered with the richest beds of *Linnæa borealis* I ever saw, thick fragrant carpets, enriched with shining mosses here and there, and with *Clintonia*, *pyrola*, *moneses*, and *vaccinium*, weaving hundred-mile beds of bloom that would have made blessed old Linnæus weep for joy.

Lake McDonald, full of brisk trout, is in the heart of this forest, and Avalanche Lake is ten miles above McDonald, at the feet of a group of glacier-laden mountains. Give a month at least to this precious reserve. The time will not be taken from the sum of your life. Instead of shortening, it will indefinitely lengthen it and make you truly immortal. Nevermore will time seem short or long, and cares will never again fall heavily on you, but gently and kindly as gifts from heaven.

The vast Pacific Coast reserves in Washington and Oregon—the Cascade, Washington, Mount Rainier, Olympic, Bull Run, and Ashland, named in order of size—include more than 12,500,000

acres of magnificent forests of beautiful and gigantic trees. They extend over the wild, unexplored Olympic Mountains and both flanks of the Cascade Range, the wet and the dry. On the east side of the Cascades the woods are sunny and open, and contain principally yellow pine, of moderate size, but of great value as a cover for the irrigating streams that flow into the dry interior, where agriculture on a grand scale is being carried on. Along the moist, balmy, foggy, west flank of the mountains, facing the sea, the woods reach their highest development, and, excepting the California redwoods, are the heaviest on the continent. They are made up mostly of the Douglas spruce (*Pseudotsuga taxifolia*), with the giant arbor vitæ, or cedar, and several species of fir and hemlock in varying abundance, forming a forest kingdom unlike any other, in which limb meets limb, touching and overlapping in bright, lively, triumphant exuberance, two hundred and fifty, three hundred, and even four hundred feet above the shady, mossy ground. Over all the other species the Douglas spruce reigns supreme. It is not only a large tree, the tallest in America next to the redwood, but a very beautiful one, with bright green drooping foliage, handsome pendent cones, and a shaft exquisitely straight and round and regular. Forming extensive forests by itself in many places, it lifts its spiry tops into the sky close together with as even a growth as a well-tilled field of grain. No ground has been better tilled for wheat than these Cascade Mountains for trees: they were ploughed by mighty glaciers, and harrowed and mellowed and outspread by the broad streams that flowed from the ice-ploughs as they were withdrawn at the close of the glacial period.

In proportion to its weight when dry, Douglas spruce timber is perhaps stronger than that of any other large conifer in the country, and being tough, durable, and elastic, it is admirably suited for ship-building, piles, and heavy timbers in general; but its hardness and liability to warp when it is cut into boards render it unfit for fine work. In the lumber markets of California it is called "Oregon pine." When lumbering is going on in the best Douglas woods,

especially about Puget Sound, many of the long, slender boles are saved for spars; and so superior is their quality that they are called for in almost every shipyard in the world, and it is interesting to follow their fortunes. Felled and peeled and dragged to tide-water, they are raised again as yards and masts for ships, given iron roots and canvas foliage, decorated with flags, and sent to sea, where in glad motion they go cheerily over the ocean prairie in every latitude and longitude, singing and bowing responsive to the same winds that waved them when they were in the woods. After standing in one place for centuries they thus go round the world like tourists, meeting many a friend from the old home forest; some traveling like themselves, some standing head downward in muddy harbors, holding up the platforms of wharves, and others doing all kinds of hard timber work, showy or hidden.

This wonderful tree also grows far northward in British Columbia, and southward along the coast and middle regions of Oregon and California; flourishing with the redwood wherever it can find an opening, and with the sugar pine, yellow pine, and libocedrus in the Sierra. It extends into the San Gabriel, San Bernardino, and San Jacinto Mountains of southern California. It also grows well on the Wasatch Mountains, where it is called "red pine," and on many parts of the Rocky Mountains and short interior ranges of the Great Basin. But though thus widely distributed, only in Oregon, Washington, and some parts of British Columbia does it reach perfect development.

To one who looks from some high standpoint over its vast breadth, the forest on the west side of the Cascades seems all one dim, dark, monotonous field, broken only by the white volcanic cones along the summit of the range. Back in the untrodden wilderness a deep furred carpet of brown and yellow mosses covers the ground like a garment, pressing about the feet of the trees, and rising in rich bosses softly and kindly over every rock and mouldering trunk, leaving no spot uncared for; and dotting small prairies, and fringing the meadows and the banks of streams not seen in general views, we find, besides

the great conifers, a considerable number of hard-wood trees,—oak, ash, maple, alder, wild apple, cherry, arbutus, Nuttall's flowering dogwood, and in some places chestnuts. In a few favored spots the broad-leaved maple grows to a height of a hundred feet in forests by itself, sending out large limbs in magnificent interlacing arches covered with mosses and ferns, thus forming lofty sky-gardens, and rendering the underwoods delightfully cool. No finer forest ceiling is to be found than these maple arches, while the floor, ornamented with tall ferns and rubus vines, and cast into hillocks by the bulging, moss-covered roots of the trees, matches it well.

Passing from beneath the heavy shadows of the woods, almost anywhere one steps into lovely gardens of lilies, orchids, heathworts, and wild roses. Along the lower slopes, especially in Oregon, where the woods are less dense, there are miles of rhododendron, making glorious masses of purple in the spring, while all about the streams and the lakes and the beaver meadows there is a rich tangle of hazel, plum, cherry, crab-apple, cornel, gaultheria, and rubus, with myriads of flowers and abundance of other more delicate bloomers, such as erythronium, brodiaea, fritillaria, calochortus, Clintonia, and the lovely hider of the north, Calypso. Beside all these bloomers there are wonderful ferneries about the many misty waterfalls, some of the fronds ten feet high, others the most delicate of their tribe, the maidenhair fringing the rocks within reach of the lightest dust of the spray, while the shading trees on the cliffs above them, leaning over, look like eager listeners anxious to catch every tone of the restless waters. In the autumn berries of every color and flavor abound, enough for birds, bears, and everybody, particularly about the stream-sides and meadows where sunshine reaches the ground: huckleberries, red, blue, and black, some growing close to the ground others on bushes ten feet high; gaultheria berries, called "sal-al" by the Indians; salmon berries, an inch in diameter, growing in dense prickly tangles, the flowers, like wild roses, still more beautiful than the fruit; raspberries, gooseberries, currants, blackberries, and straw-

berries. The underbrush and meadow fringes are in great part made up of these berry bushes and vines; but in the depths of the woods there is not much underbrush of any kind,—only a thin growth of rubus, huckleberry, and vine-maple.

Notwithstanding the outcry against the reservations last winter in Washington, that uncounted farms, towns, and villages were included in them, and that all business was threatened or blocked, nearly all the mountains in which the reserves lie are still covered with virgin forests. Though lumbering has long been carried on with tremendous energy along their boundaries, and home-seekers have explored the woods for openings available for farms, however small, one may wander in the heart of the reserves for weeks without meeting a human being, Indian or white man, or any conspicuous trace of one. Indians used to ascend the main streams on their way to the mountains for wild goats, whose wool furnished them clothing. But with food in abundance on the coast there was little to draw them into the woods, and the monuments they have left there are scarcely more conspicuous than those of birds and squirrels; far less so than those of the beavers, which have dammed streams and made clearings that will endure for centuries. Nor is there much in these woods to attract cattle-keepers. Some of the first settlers made farms on the small bits of prairie and in the comparatively open Cowlitz and Chehalis valleys of Washington; but before the gold period most of the immigrants from the Eastern States settled in the fertile and open Willamette Valley of Oregon. Even now, when the search for tillable land is so keen, excepting the bottom-lands of the rivers around Puget Sound, there are few cleared spots in all western Washington. On every meadow or opening of any sort some one will be found keeping cattle, raising hops, or cultivating patches of grain, but these spots are few and far between. All the larger spaces were taken long ago; therefore most of the newcomers build their cabins where the beavers built theirs. They keep a few cows, laboriously widen their little meadow openings by hacking,

girdling, and burning the rim of the close-pressing forest, and scratch and plant among the huge blackened logs and stamps, girdling and killing themselves in killing the trees.

Most of the farm lands of Washington and Oregon, excepting the valleys of the Willamette and Rogue rivers, lie on the east side of the mountains. The forests on the eastern slopes of the Cascades fail altogether ere the foot of the range is reached, stayed by drought as suddenly as on the west side they are stopped by the sea; showing strikingly how dependent are these forest giants on the generous rains and fogs so often complained of in the coast climate. The lower portions of the reserves are solemnly soaked and poulticed in rain and fog during the winter months, and there is a sad dearth of sunshine, but with a little knowledge of woodcraft any one may enjoy an excursion into these woods even in the rainy season. The big, gray days are exhilarating, and the colors of leaf and branch and mossy bole are then at their best. The mighty trees getting their food are seen to be wide-awake, every needle thrilling in the welcome nourishing storms, chanting and bowing low in glorious harmony, while every raindrop and snowflake is seen as a beneficent messenger from the sky. The snow that falls on the lower woods is mostly soft, coming through the trees in downy tufts, loading their branches, and bending them down against the trunks until they look like arrows, while a strange muffled silence prevails, making everything impressively solemn. But these lowland snowstorms and their effects quickly vanish. The snow melts in a day or two, sometimes in a few hours, the bent branches spring up again, and all the forest work is left to the fog and the rain. At the same time, dry snow is falling on the upper forests and mountain tops. Day after day, often for weeks, the big clouds give their flowers without ceasing, as if knowing how important is the work they have to do. The glinting, swirling swarms thicken the blast, and the trees and rocks are covered to a depth of ten to twenty feet. Then the mountaineer, snug in a grove with bread and fire, has nothing to do but gaze and listen and enjoy. Ever

and anon the deep, low roar of the storm is broken by the booming of avalanches, as the snow slips from the overladen heights and crushes down the long white slopes to fill the fountain hollows. All the smaller streams are crushed and buried, and the young groves of spruce and fir near the edge of the timber-line are gently bowed to the ground and put to sleep, not again to see the light of day or stir branch or leaf until the spring.

These grand reservations should draw thousands of admiring visitors at least in summer, yet they are neglected as if of no account, and spoilers are allowed to ruin them as fast as they like. A few peeled spars cut here were set up in London, Philadelphia, and Chicago, where they excited wondering attention; but the countless hosts of living trees rejoicing at home on the mountains are scarce considered at all. Most travelers here are content with what they can see from car windows or the verandas of hotels, and in going from place to place cling to their precious trains and stages like wrecked sailors to rafts. When an excursion into the woods is proposed, all sorts of dangers are imagined,—snakes, bears, Indians. Yet it is far safer to wander in God's woods than to travel on black highways or to stay at home. The snake danger is so slight it is hardly worth mentioning. Bears are a peaceable people, and mind their own business, instead of going about like the devil seeking whom they may devour. Poor fellows, they have been poisoned, trapped, and shot at until they have lost confidence in brother man, and it is not now easy to make their acquaintance. As to Indians, most of them are dead or civilized into useless innocence. No American wilderness that I know of is so dangerous as a city home "with all the modern improvements."

2 The outlook over forest affairs is now encouraging. Popular interest, more practical than sentimental in whatever touches the welfare of the country's forests, is growing rapidly, and a hopeful beginning has been made by the Government in real protection for the reservations as well as for the parks. From July 1, 1900, there have been 9 superintendents, 39 supervisors, and from 330 to 445 rangers of reservations.