

CONSERVATION

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CONSERVATION has come to mean but one thing to the reading eye of the Anglo-Saxon. It is a simple name for the intricate problem of saving our natural resources from total destruction. That we must save them is a necessity but latterly recognized. That the salvage must be accomplished without too drastic interference with industry, is what makes the problem intricate.

Though minerals may be classed under the head of most valuable natural resources, it is hardly practicable for man in his brief span of existence to attempt to promote their growth. In this department of conservation we have to content ourselves with the most approved methods of extraction of values—all values—in the ore. The scientists are almost hourly finding by-products of by-products that were in themselves great discoveries but a few months ago. They are constantly finding new uses for old rock. They are conservationists of the first rank. But as the Irish guide once said after a very long tramp with a footsore sportsman: "Some spalpeen has cut the end off the trail—!" The mineralogists have but the manufacturing end to work upon. They may garner on one end, but cannot promote growth on the other. Hence the subject of conservation of natural resources, as it will be alluded to in this article, will refer only to the forests, game and fish. In saving these much contingent wealth will be conserved. In promoting growth new wealth is created.

Tree growth is probably the most significant characteristic of this star called earth. Upon our trees all life depends. Without tree or shrub our land would be inundated by flood at each rainfall, and a desert between the squalls. There would be no shade, and hence no natural storage of moisture. The water in the hills would all go rushing down to the sea as fast as it fell from the clouds, and it is doubtful if entirely treeless mountains would act as an important attrahent to rain clouds. Fresh water fish could not exist under such conditions. The country would be all sea or marsh slime, while dinosaurs and other prehistoric hobgoblins would be rushing about wondering what it was all coming to.

A sophisticated reader may hold that the above statement of facts regarding trees and their importance is but a reiteration of

something of most common knowledge. In agreeing with him the writer is constrained to point out that such repetition by many writers has not yet had the desired effect, inasmuch as the public is still wasting the natural resources to an alarming extent, or encouraging such waste by commerce with those who illegally or thoughtlessly destroy.

How many good people are there who would have the moral courage, for example, to refuse to eat at a friend's table game illegally killed? Indeed, how many are there who know or care anything at all about game laws? How many honest housewives would refuse to accept a nice gift of short lobsters if brought right to the door, or who would refuse to purchase a brace of plump partridges at a bargain price even though the season were closed or the sale of game prohibited? Who will stand by the young spruce, and refuse to buy them for Christmas trees, though being well aware that each tree if left to grow would be worth many dollars to posterity? The man who cuts them gets only about thirty-five cents for a bunch of three or four. It is admitted that he too is to blame; but if he cannot sell them, he will not cut them until they make valuable timber or pulp.

The average man or woman treats the subject of conservation in a most detached manner. It is like politics. Many preach, but few practise. Natural resources seem to be classed with air in the mind of the great majority; there is plenty, and it is free for the taking. In fact, the natural resources of the forest division of such a continent as North America seem so vast when put in figures that the average reader can see no end to them. For instance, take one item, pulpwood. In the Pulpwood Commission Report of Canada for 1923 we find it estimated that there are in Canada one billion 275 million cords of pulp (paper) wood. In dollar value this is worth at least 5 times the above figures on the stump. As pulp when ground it is worth at least 25 times one billion 275 million or over \$31,000,000,000.00. In terms of manufactured paper it is worth from three to ten times that figure in dollars, or too many figures to write. It seems inexhaustible. And yet the experts tell us in their report that after deducting the annual cut, plus the loss by fire and bud worm, Canada has a mere twenty-five years supply of wood on hand and growing.

Taking at random another natural resource and another country and another set of figures, we are again impressed by the importance of "wild" assets; the fur catch in the U. S. A. and Alaska for 1926 is reported as \$65,000,000.00, of which but \$2,500,000.00 was from Alaska. With the forests gone there would be practically

no fur. There are now in most of the states and provinces of North America drastic laws protecting fur-bearing animals at breeding time, as well as limiting the annual crop taken for market. It is a sad commentary on our short-sightedness that we now have to admit that many wise laws for the protection of fur-bearing animals were not enacted until after the game had been exterminated. In other words, politicians currying votes would not press protective measures as long as one constituent wished to live in freedom on the products of forest and stream.

It has been the outsider, the financier, the newspaper statistician, the dreamer and the sportsman who have seen and fought the danger of neglecting to control natural resources. Most people are not thrifty. The average trapper would trap all the fur he could catch in or out of season, provided the product was marketable. The lumberman has proved that he will, if left alone, cut his land without thought of future growth, and leave in his wake a fire hazard of extreme peril to present life and property and posterity. The market gunner, uncurbed, has proved that he is a hog when it comes to killing game. He would kill at any season as long as someone would buy his loot. The shore fisherman, unrestrained, would market shell fish or game fish at all possible seasons, with no regard for the future generations.

There are exceptional characters in all lines of endeavour, but the present menace of exhaustion of all forest products and the many contingent branches of wealth, not excepting scenery and natural playgrounds, has proved beyond possibility of error that human beings uncontrolled by law will kill, cut and burn without stint or thought of the future. Few men will forego the satisfaction of taking a dollar to-day so that the child of a neighbour may have ten dollars when he reaches manhood. Yet that is the principle involved in conservation. Hence it takes Dick to mind Harry's business, while Tom must see to it that laws are passed and enforced so that Dick himself may not reap without again plowing the land for sowing. In the meantime Tom must be watched by both. Natural resources have been, until lately, everybody's business. Few have busied themselves with the conservation of those resources. Now that complete extermination is starkly in sight, the world has begun to take notice.

The remedies for the case, however, are not so simple as the average man might think.

Take the case of the lumberman as an example. It is easy enough for the man in the street to propose passing laws to force the lumber operator to clear up and burn the slash (tops and limbs

ordinarily left in the woods when the logs are taken out) so that as time goes on, such refuse may not be set afire by a careless match with a resulting holocaust and great loss of contiguous timber and, possibly, of life. If such a law were to take effect in the north-eastern part of North America for example, it could not be enforced. If it could be enforced, there would be no lumbermen. The questions of market price and financing here intrude and give the theoretical conservationist a smart setback. Where the lumberman may borrow money from his bank for cutting timber and getting it to market, no bank has ever yet lent any money to an operator for the purpose of burning slash at, say, a cost of ten dollars per acre. In fact there is but little timberland that has a security value for logging purposes of ten dollars per acre. If a lumberman could borrow enough money to clean up the slash, he would have to add it to the cost of production and enter the market with a higher cost than his competitors. In fact his slash clearing and burning would probably nearly equal his cost of logging, and he would be out of business before he got well started. Still, the very man who insists on such a law would be the first one to object to the high cost of timber and its various products, such as paper or furniture.

The case cited is only one of many by which the constructive conservationist is faced. It is not hopeless by any means. In time timber land will be treated like farm land, or like flocks and herds. A crop will be taken off each year. Instead of roads being built in order to conduct one season's operation and all charged to that year's cut of timber, the roads will be used each year and their cost spread over the life of the forest. The same will be done with camps, offices and other improvements. Trees will not be cut until they reach a certain size. But for insects and fire or blight, the forests thus treated would last for ever.

A good sportsman wishes to have the streams full of salmon and trout; or the outdoor enthusiast (and who is not?) insists on having preserved and conserved the natural beauties of lake and hills. The selfsame person is also in favour of cheap hydro-electric power. It is reasonable to expect these good folk to influence legislation to preserve waterways and lake shores as the Almighty made them. Yet just here another tangle may be encountered. The hydro-electric engineer must build high dams, must artificially store water against drought, must install waterwheels and turbines which are deadly to passing fish. In doing all this he must blast and drill and cut timber until he has literally destroyed the river from a fishing standpoint. The fish cannot pass his dams. The timber on the borders of the once beautiful lakes has been killed

by high water, and ugly flats are exposed at low water. Fish die in stagnant pools, and spawning beds are laid bare. From a standpoint of sport and scenery, a watershed may become about as beautiful as a coal pile while it is used for the same purpose, viz., to generate power.

The case is not entirely hopeless for the conservationist, though admittedly complicated. Fish passes or ladders are being built; shore lines are being cleaned up and protected before flooding; areas are being preserved for spawning beds which are not subject to hurtful changes of water levels; scenery has its place in the mind of the great engineer; structures are being erected for dam and flume and fish ladder that are not altogether unlovely; there are some compensations for the destructive march of civilization. But serious difficulties do arise.

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A certain beautiful lake system near a thriving town of western America had, for years, attracted the attention of tourists and some local folk who loved natural beauty and liked to fish for trout. A railroad company with a main line through this section listened to the ambitious plans of some local capitalists, and joined with them in developing a soundly engineered hydro-electric power plant on the river at the outlet of the above mentioned chain of charming lakes. It was the purpose to run an electric car line over a scenic route among the lakes and hills, and have the terminus at a favourite picnic ground where a large hotel was constructed. The project was financed and carried out as conceived. But the flowage from the new dam killed so much timber at high water and exposed so much ugly shore line and flats at low water that the scenery was spoiled, the fish were killed, and people would patronize neither the place nor the line. The power is now used for town lighting and city industries.

Here arises an important problem for the conservationist; has the locality in question used its natural resources to the best advantage? From a purely practical standpoint, perhaps the district would have taken in more outside money from tourists who would come and admire the beautiful scenery and enjoy the fishing, than it can possibly acquire from the sale of manufactured articles in a locality not particularly adapted to meet competition. From a spiritual point of view, there is no doubt at all that the locality would have contained more happy people in season and out with their unspoiled landscapes, their sparkling lakes, their nimble trout and their spreading trees, than ever will be there again.

It is well to balance the relative value of any undeveloped "resource" against its possibilities after development. Sometimes it would seem wiser to leave it as God made it, and grant it intensive protection to that end. Scenery is a very real natural resource. It has tremendous money value. More people will spend money to go and see some mossy old grist mill tucked away in an historic ravine than will travel to look at a modern concrete power plant of a million horsepower. The leaky old dam, the tumbling brook, the creaky overshot waterwheel and the hovering willows form a picture that appeals. The scene sweeps the heart strings, and the chords are heard in deep places of the mind.

A Canadian editor of a first-class magazine, with columns devoted to the saving of forest and game, says:

"What ails the cause of forest conservation is a state of mind, the legacy of generations fed on distorted information—"

He obviously refers to the Canadian state of mind. Broadly speaking, it has not been distorted information, but entire lack of information regarding the need of conservation which has been the negative element in the business up to a few years ago. In the United States of America the late President Theodore Roosevelt is named by the officials of the American Game Protective Association as the original promoter of conservation of both forest and game. Roosevelt's labours for this purpose are too well known to need naming here. He asked for support, and demanded favorable legislation. He got both. Not that many other men and women did not also work diligently to save forest, scenery and game; but Roosevelt was equipped by nature and position to accomplish much while others talked. He focused public attention on the need of conservation, and then proceeded to use the influence thus gained to push through protective laws. He was no dilettante as a naturalist, and no stranger to lumber woods or range. When he talked he knew his subject. Also, he was responsible for a large amount of informative publicity. His sons are now carrying on the work.

History proves that it takes a long time for individual thought to group and move for the public good. It takes some considerable period of time to work up a revolution. Much injustice has first to be perpetrated. The need for conservation has been driven home in just that way. In Europe large estates and anti-trespass laws have done much to save both forest and game. Dire need, over populated countries and actual lack of natural resources have forced the controlling powers to tree planting, game breeding and enforcement of conservation laws. In Africa stringent game laws have gone

into effect only now that the vast game herds are threatened with extermination. In the Argentine new laws are now being passed which will at least tend to restrict local and visiting hunters. Outside of the north-west corner of Europe, the immediate conservation of coniferous forest is more essential to man in North America than in any other country. In America, and that includes Canada and Newfoundland, the cutting of conifers for paper and lumber leaves the land as a vast fire hazard of the most dangerous kind. The editor of *Forest and Outdoors*, a Canadian magazine devoted to conservation, states that in Canada alone 800,000 square miles of forest have been burned up through the careless use of matches by the public. The sad part of this is that much of the land so burned is destroyed beyond redemption. It has been burned to bedrock. The original deposit of loam, upon which the primitive forest had taken root, represented centuries of slow accumulation of rotting moss, tiny plants from seeds dropped by birds, or wind blown thistle-down. No tree planting can take place in these burned areas ever again. With the fire kept out and the trees properly cropped, this vast forest would last for ever. As a game refuge, this type of burned land is done.

At this point it is well to remember that in North America the coniferous forests must be preserved first, if game and water-powers and scenery are to be conserved. Game is like scenery. Besides being an attraction to the hunter, it has tremendous value as an attractant to the tourist and the camera. At one point in Nova Scotia, for example, in the Lake Rossignol district, \$26,000.00 was spent in one season of six weeks by moose hunters. Twenty-six moose were brought in. That means that a live moose is worth on the hoof to the province of Nova Scotia one thousand dollars. But figures mislead. During the same season twice that figure was spent by summer visitors with cameras. All asked about their chances of getting pictures of moose. In making reservations, I am informed, nearly all had enquired about the possibility of hunting with the camera. The advent of the moving picture camera with the telescopic lense, for amateur use, is a sure sign of the times. Many a hunter of experience will state quite frankly that he would rather get a picture of a bear or a lion or a moose than kill it. This fact alone is one of the most practical reasons for conserving forest, scenery and game. Often local folk in country districts are the worst enemies of conservation. Lack of education and insight is responsible. But show the man that a live deer is worth a million dead ones in actual dollars in his pocket, and let him experience this by guiding the tourist or selling him farm produce or rendering other

service for which he gets money, and there is immediately a good prospect for the propaganda of the conservationists.

The axe-man himself, the actual operator who fells the tree, is responsible for the retarding of natural reforestation in many cases. The writer has stood by an axe-man on some occasions and seen him chop down maybe half a dozen sapling spruce and pine to make room to swing the axe in his attack on a ripe conifer. In chopping these saplings the man had destroyed trees which had already been growing from five to fifteen years. They would have made an excellent start toward retimbering the land. People do not think and care less. When the land owners are educated about conservation needs, when proper laws are passed and enforced, when contractors are held to rigid restrictions as to size of tree to be cut, when children are taught to revere trees and plant them, then, and then only, can one expect to make an impression on the actual axe-man who does the chopping.

Reforestation, either natural or artificial, is beginning to attract attention. This is one of the encouraging signs. The writer had some correspondence with the late Luther Burbank regarding the growing of "paper trees". Burbank states in his letters that it is possible to grow a "sixty-year old" conifer in ten years actual growing time, and that the tree will have a better fibre than any natural tree now has. He did the same thing with a walnut tree. He also said it was a job for a government or an endowment, as many years would be required to accomplish the selective processes necessary to establish planting stock.

It is something to think about. No doubt it could be done.

On the side of conservation much is being accomplished. In the opinion of the secretary of the American Game Protective Association, the anti-sale laws have been most effective in checking the illegal killing of game. The famous Migratory Bird Law in, which Canada and the U. S. A. combine, has been very effective in protecting ducks, geese and other game birds. The establishment of great forest reserves and game sanctuaries is playing a most important part in conservation. Propaganda by magazine and newspaper in favour of conservation is doing a great deal, and the school children are being taught the meaning of it all. Stocking streams and lakes with fish from public hatcheries is an established success, and restraining laws are beginning to be enforced in spite of local politics. A glance at the late laws being passed in nearly all the states and provinces in North America shows keen appreciation of the requirements of conservation. Nearly all cities and states have conservation commissioners. Last year 25,000,000

young coniferous trees were distributed by the New York State Conservation Commission to schools, towns, clubs and municipalities for planting. These trees were grown in nurseries.

Nova Scotia has passed the only reactionary law relating to game that has come to the notice of the writer in some years. This law permits the killing of female moose and deer for ten days in December. How such a mistake could be made, it is hard to conceive. Perhaps they are legislating down to the poacher. All the authorities outside of Nova Scotia with whom it has been the writer's privilege to discuss this Nova Scotia law say that politics should be kept out of "conservation". But mayhap politics must be reckoned one of the big problems to be met.