

Conservation

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Curtailling Waste in Water Supply

Meter Systems Eliminate Carelessness and Compel Attention to Leaks

Much evidence is manifest throughout Canada of the necessity of immediate action to curtail waste in water supply systems. In some cases the consumption is almost double the amount of water actually required. The effect of the waste is realized by the officers in charge when the limit for which the system was designed has been reached. Costly extensions are then necessitated to supply the wasted water and the rates for water must be readjusted upward. These high rates must be applied indiscriminately both to the careful and the careless user.

One of the larger cities in British Columbia recently narrowly averted a water famine caused by excessive waste during a dry period and steps have now to be taken to provide an additional supply at considerable expense. In another city, in Alberta, the cost of carrying each flat-rate consumer has been noted to increase by \$1.20 during the past year. The City Commissioner, urging the installation of service meters to remedy conditions, officially reports that "there are many hundreds of houses where water is being supplied at flat rates which are less than cost, and, on the other hand, there are many flat-rate payers paying considerably more than the cost of the water which they are using."

Mr. G. A. Johnson, Consulting Engineer, New York City, asserts that, as an integral part of the program of conservation, water waste prevention is of cardinal importance. The saving that can be effected by intelligent and persistent effort in this direction is not sufficiently appreciated.

Hazen, in his book "Meter Rates for Water Works," says in part: "When a water-works system is first installed all the plumbing fixtures in houses are new and they are in general reasonably tight; people will ordinarily draw only the amounts of water that they need, and waste is comparatively small in amount. As time goes on, rust, corrosion, the hardening of rubber valves, and other changes result in leakage from plumbing fixtures. Small leaks running constantly make little impression on people who do not

realize their significance. Yet a leaky water closet may waste without attracting attention as much water as would supply twenty families.

"As time goes on people become accustomed to the waste of water in their houses and indifferent to it; and it is the experience of American cities where the meter system has not been used that the consumption always increases more rapidly than the population. It may be a long time before the output becomes double the legit-

Positive Action in Game Conservation

Mere Restrictions are Not of Themselves Adequate to Preserve Wild Life

The aim of game conservation may be said to be the perpetuation, in adequate numbers, of every valuable species of wild life. To achieve this result, it is not sufficient that our policy be simply negative, as, for instance, in imposing bag limits, restrictions on

nesting places will invariably attract birds. The provision of safety requires protection from enemies, including the gunner and his dog. In this case, the Ontario government assisted the owners by putting up notices, in the autumn of 1917, forbidding all shooting on the property. The place is ideal for grouse and ducks, and shore birds congregate in a sheltered bay on the lake front. Nest-boxes have been put out for smaller birds and as much protection as possible given against birds and beasts of prey.

On the now well-known farm of Jack Miner, wayside hospitality has been provided for the wild geese and ducks during their northward and southward migrations. The sagacious Canada goose has come to know the place, and now thousands of these birds stop at Mr. Miner's place every season.

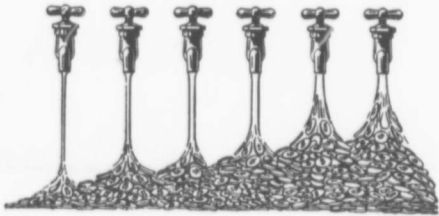
These are examples of the constructive effort in wild life conservation which is becoming increasingly necessary as our country becomes more densely settled year by year.

NATIONAL EXHIBITION OF FUR-BEARING ANIMALS

An exhibition of fur-bearing animals that are being "farmed" in Canada will be held in Montreal on the 24th, 25th and 26th of November. This project is an outcome of the conference of fur farmers held in Montreal last winter, under the auspices of the Commission of Conservation. Widespread interest is being shown by fur farmers in different portions of Canada, notably in Prince Edward Island, where the industry is mainly centred. It will be the first national exhibition of its kind to be held in Canada, and it is confidently expected that, at least, it will equal in quality and extent of exhibits the similar exhibition held last year in the United States.

The exhibition is being arranged under the direction of the Commission of Conservation with the co-operation and support of the Federal Department of Agriculture and of the Provincial Governments. The fur-producing and marketing interests also are lending their active and enthusiastic support.

The monetary value of the mineral output of British Columbia for 1919 was \$33,296,313, as compared with \$41,732,474 in 1918. There was a decrease in quantity in the minerals, but, owing to the high prices of silver, that metal showed a monetary increase.



UNDER AVERAGE WATER RATES AND PRESSURES THIS IS THE WAY LEAKS RUN INTO MONEY

Each 1-44 inch leak wastes 2 gallons per hour and costs..... \$6. per day
Each 1-32 inch leak wastes 3 gallons per hour and costs..... 9. per day
Each 1-16 inch leak wastes 34 gallons per hour and costs..... 26. per day
Each 1-8 inch leak wastes 372 gallons per hour and costs..... 216. per day
Each 1-4 inch leak wastes 314 gallons per hour and costs..... 181. per day
Each 1-2 inch leak wastes 2,057 gallons per hour and costs..... \$12.84 per day

imate use; but after that point is reached, the rate goes on with greater acceleration until three-quarters of all the water that is furnished is wasted.

"The only limit to the increase is that a time comes when the new works required to supply the ever-increasing waste become so large and cost so much to build, that the burden cannot be further borne."

It does not require 100 gallons of water daily to cleanse the person and surroundings of the average citizen, carry away his sewage, cook his food and provide him with drink, or to furnish his share toward the water needs of the industries in his community. The New York water authorities seem to think that 80 gallons per capita is enough water for all the domestic, municipal and industrial needs of that city. There seems to be no good reason why one city should have an actual water consumption record of 70 or 80 gallons per capita daily, and another of approximately the same size and industrial activity show a water consumption of three times that amount. And yet such occurrences are not uncommon.—L. G. Denis.

methods of killing, close seasons, etc. We need also to do something positive in the way of directly encouraging the propagation of game.

The wild life sanctuaries now established here and there are steps in this direction. The buffalo and the prong-horn antelope, to mention only two species, have been rescued from extinction by the Dominion parks. But we need many more such sanctuaries and we need to have them much more widely distributed.

A sanctuary need not always be of large area, like the big National parks in Alberta. Nor is it necessary that it be maintained by any government, either Federal or Provincial. Some private sanctuaries are already in existence, as the Peasemars Farm in Grey county, Ont., and Jack Miner's farm near Kingsville, Ont. Governments can do much, and at very little expense to the public, to assist in the propagation of valuable wild life, simply by giving proper encouragement to private owners who desire to protect the game and the insectivorous birds on their own property.

At Peasemars, it has been found that safety and suitable