

## Experiments May Make Oyster Farming Successful

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succeeded in artificially fertilizing spawn from the female oyster with spermatozoa taken from the male, and in rearing some of the baby oysters to the age of four or five days. It was, however, extremely difficult to maintain the microscopic oyster larvae in tanks and at the same time have the water continually running as is necessary in order to supply food for the tiny creatures and take away the waste. In fact neither this pioneer investigator nor anyone else since has succeeding in rearing them to an age where they are ready to settle down and grow up.

The only method of increasing the oyster supply in the United States that has been at all successful is that of catching the young free-swimming oysters at the time when they are just ready to "set" and then transplanting them where they will develop best. The work of Dr. Galtsoff, it is believed, will give this old method a new impetus.

In order to find out the best ways of increasing the natural supply of oysters, Dr. Galtsoff experimented at Milford Harbor in Connecticut, which is typical of the coves and bays where oysters were found in great abundance when the early settlers came to America. Full-sized oysters were planted in the harbor which was not polluted to any serious degree. The tidal flats were planted with sticks and brushwood, shells and tiles. When the old oysters spawned and the eggs developed into young, it was found that these various objects used as collectors were very effective in catching "seed" oysters. Birch brush planted in rows was covered with tiny oysters for a distance of two feet from the bottom. When the oysters attained a fair size they were transplanted to deep water beds in the sound.

Baskets made of wire or lath were filled with shells and set on the tidal flats in the vicinity of the spawning beds. These proved to be the cheapest and best collectors of all. Each of the shells on the top, bottom and sides of the basket were covered with tiny oysters and even those on the inside had some. Each bushel of shells caught about 15,000 young oysters. These were divided up and planted off shore where the young had ample room to grow.

How to give the young a chance to grow is only half the problem. The sanitary control of the industry has always been a serious question

ever since the cities of the Atlantic seaboard discharged their waste materials into the coves and estuaries that once formed the natural oyster beds. Why the oysters in polluted beds contained more bacteria at one time of the year than at another was not clearly understood. Experiments by Dr. Galtsoff in New York showed that very few bacteria are retained by the gills when the oyster drinks its water, and that most of them pass on through the gill cavity.

The effect of temperature on the appetite of the oyster explains the fact that during the cold months oysters contain fewer bacteria than during the warm months. At the Woods Hole Experiment Station in Massachusetts recently Dr. Galtsoff built a special trap by means of which he measured the amount of water that flowed through an oyster's gills at any given time. At 77 degrees Fahrenheit he found that the oyster was most voracious of all and strained three-one-half and four quarts of sea water through its gills to collect the delectable bits that formed its food. At 48 degrees its appetite was reduced to zero and no water was taken in at all. When no water was taken in no germs could be taken in either. Below 41 degrees all motion in the oyster ceases, Dr. Galtsoff stated.

These facts about the oyster, such as the knowledge as to the cause of spawning, how to catch the infant oysters and distribute them when they are old enough, are expected by officials of the United States Bureau of Fisheries to solve the various practical problems that have hindered oyster farming and the sanitary control of the industry.

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### FORESTRY

## Permits to Forest Tourists

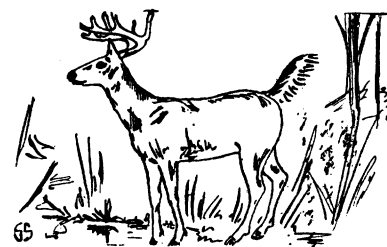
Licensing travelers through forests, as a means of protecting Canada's timber wealth from the ravages of fire, is advocated by the Canadian Forestry Association. A forest is potentially almost as dangerous as a powder magazine and the issuance of travel permits is advocated, without which no one would be permitted to travel through any forest region during those seasons when there is danger from forest fires.

The formality of securing a permit would bring forcibly to mind the real dangers of forest fires, and, since a permit can be revoked, the possibility of forfeit of the permit would make the traveler careful.

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## NATURE RAMBLINGS

By FRANK THONE



### Everybody's Pets

If an animal "popularity contest" were to be staged, the choice among the wild folk of our woods would almost certainly light upon the deer. From the very earliest times deer have been praised for their delicate beauty, for the quiet dignity of their carriage, for the daintiness of their gait, not only by poets but by the very hunters who sought their lives.

When the white men first came to America, the woods of the region east of the Mississippi were full of one of the finest of all the species, the white-tailed or Virginia deer. It was a hard life that the Virginia deer had to lead, stalked as they were not only by Indians but by fierce predatory animals such as wolves and panthers. Yet they were holding their own against them all.

But the terrible gunpowder of the whites, that dispossessed the Indians and all but wiped out many of the native animals, took terrible toll of the deer population as well. And the white man's ax and plow swept away the wilderness and destroyed their natural home over vast stretches of territory. To a large extent this destruction was inevitable and even justifiable, for pioneering is rough work; it cannot spare the forest nor the forest's inhabitants, and it must have meat.

But the day of the pioneer and axman has long passed, and civilization is making amends to the deer of today for the wrongs wrought against their ancestors. Rigid closed seasons permit shooting only during a fortnight or a month, and strictly limit the size of the bag of any one hunter. More important still, man's pitiless war on the enemies of his domestic animals has practically wiped out the predatory animals, and the Indians have almost all departed from their ancestral hunting grounds. So that the deer are left in almost undisputed possession of the woods they once inhabited in trembling and fear. The meek have inherited the earth.

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