



Mountain sheep that roam the highlands will find greater protection when the new forestation system is completed on great Government reservations

Wild Primitive Beasts again to Roam Forests

By G. K. Spencer

Government Scientists to Call on Grizzly Bears, Mountain Lions and Other Carnivorous Animals to Help in Battle Against Floods and Fires

"BALANCED forests" in the natural equilibrium which prevailed when America was primitive, with the recognition that animal life is vital to the health of the trees, are now sought by the National Forest Service as a cardinal objective in the attack on the great flood and erosion problem at the very source of the trouble.

Engineers and agronomists who are now tenaciously attempting to hold the soil from wastage into the sea with their nation-wide field works and check dams are merely holding the front lines until vast primitive areas can be re-established on the mountain watersheds. In these "primitive areas," specifically defined as such by the National Forest Service, great carnivorous animals will again roam, preying on herbivorous animals, as they did when America was young.

Not all American forest regions will harbor the mighty beasts of prey again, but only those regions farther removed from civilization. Present plans call for retention of such "primitive areas" at the remote headwaters of the great river systems.

In such regions the spread of the coyote, fast becoming recognized as a national peril, will be checked by natural biological defense. To meet the coyote in States where it has now appeared—notably New York, Pennsylvania, Tennessee, South Carolina, Georgia, Florida and Alabama—other measures must be devised. Disappearance of larger animals in these States laid the way open for the coyote, which is now inflicting serious annual losses on farmers and livestock owners.

Feasible methods for restocking our new primitive areas, however, with beasts of prey recognized as necessary in a balanced scheme of nature, have been proposed and are still under further study by George M. Wright, Joseph S. Dixon and Ben H. Thompson, of the Wild Life Survey.

IN CO-OPERATION with the National Park Service, it is proposed to buy out the properties of individual private land owners in and near the primitive areas, so the stock and animals of such individuals will not suffer from the occasional depredations of carnivorous beasts.

It has now been recognized that there is a limit to the elimination of wild animals beyond which a peril rises for humankind. Vast floods in the Mississippi Valley, in the Sacramento Valley and the Ohio Valley can easily be traced to forest denudation and the disappearance of "ground cover" which in long-past decades held rain and snow moisture and released it slowly the year round.

But the place of wild animal life in maintenance of tree health and porous topsoil is a new discovery.

Even rodents normally considered quite obnoxious, such as the gopher, have a large and important role in maintenance of the porous topsoil which absorbs and holds moisture.

Along with predacious animals, there must be restored the animals, such as deer and mountain sheep, on which they feed.

It is admitted by the Forest Service and National Park Service that the restoration of primitive conditions, even in our more remote watershed regions, will involve some losses for man, but these are to be checked against and balanced with the immensely vaster losses by flood and the national peril if erosion continues on its present scale. Even the great investment in our mighty dams is threatened by rapid silting of their basins, a silting which can be somewhat ameliorated by engineering works in the

streams above the dams, but which can only be successfully attacked at the source, in the remote regions where the waters originate.

Man cannot have an ideal condition for himself alone; he must discover nature's balance and in that discovery may lie his only insurance against fatal peril to his civilization.

In areas where glacier remnants are found, as around Rainier, the primitive condition which formerly existed can be



This is one of the reasons why America suffers from great floods. Improper logging methods have denuded the hillsides, leaving the land exposed to the elements and water runs away instead of being absorbed by the soil

easily learned by studies of animals found preserved in the ice. In other areas there are historical records available as to conditions which prevailed when the forefathers began clearing out the forests and the animals with them.

And another thing: The United States has large numbers of deer and elk now on an annual winter "dole" of hay and grain which is carted to them in various parts of the West. With the proper number of carnivorous animals, the numbers of these dole-fed herbivorous beasts will be held to healthful limits, even though their total census will be

greater than at present because they will have natural food in the new primitive areas. Their very feeding, under natural conditions, helps maintain tree health.

Then, too, we have thousands of grown bears and even numerous great grizzlies on a "dole" diet in National Parks. These bears, under national conditions, would fit in with a primitive scheme and also perform their bit toward forest health without necessity for unearned doles from man.

In other words, animals now dole-fed as part of the tourist scenery of National

A contented American family, a mother grizzly and her cubs. Animals of this species will be encouraged to multiply under the new forestry set-up.

Parks are to be made to take their natural place in Nature's scheme—and their scientific place in man's scheme to avert floods and perilous erosion at the source.

IT HAS long been recognized that the serious problem posed by destruction of valuable trees and other herbage by grazing animals in the National Parks is due to swollen numbers of grazing animals because of lack of control by carnivorous animals. Thus, many problems will be solved by restoration of predacious animals.

How will this encouraged reforestation affect humans?

The Wild Life Survey has this to say: "A very few park animals are dangerous to human life. A few more are merely offensive. No species except certain poisonous reptiles are to be considered dangerous at all times. Whenever it is necessary to act at all against them, man's retaliation should be governed by a full realization that his ultimate interest is best served by preserving the fauna intact."

Even the lynx is suggested for restoration in many areas. Fur-bearing animals are very definitely to be encouraged.

Tall tales of "the pioneers" about grizzlies are now discounted largely, because it has become known that grizzlies still not go out of their way to attack mankind. However, they will not brook interference with their own family life. Yet photographers often take pictures of grizzly mothers and their cubs at

close range without trouble of any kind.

Mountain lions, on which there has been a heavy bounty for many years, are now being encouraged to return in certain specified areas. They will continue to be cleared out on other areas, however. These animals, too, shun man and attack only when closely pressed, and then very infrequently; they want to put as much distance between themselves and man as possible.

Only with cunning and persistence can hunters get close to them, and they have been destroyed up to date because of their destructive attacks on range cattle. With restoration of their normal wild herbivorous prey, it is expected they will not be pressed into approaching man's habitations or his ranges.

Though one-third of the area of the United States is forest land or potential forest land, such a wide expanse will not be required for prevention of floods and perilous erosion. At present the National Forests comprise some 192,000,000 acres and private forests some 430,000,000 acres, with other large potential forest areas which have been denuded by logging and man's agricultural activities. Large acreage in such categories is to be returned to forest.

Underbrush, within safe limits, will be permitted to accumulate as conducive to animal life. This goes for predacious and preyed-upon bird life, also. The heron and the osprey, the eagle and the cormorant are wanted back.

ONE cardinal difference between the forests which covered primitive America and the new forests will be that the new forests will be protected from fires set by lightning and man's carelessness by an amazing futuristic system of fire control.

It is known that forest fires almost of continental proportions used to rage over America a thousand years ago. To prevent destruction of the work now in progress the new forests and the present ones, regardless of national, State or private ownership are to be protected by a reticulate system of roads, on which work is now proceeding at a furious pace, over which scientifically equipped forest-fire-fighting armies will move to attack or, if temporarily defeated, will be withdrawn in orderly and safe manner.

Standard specifications have been established for great 120-foot fire-observ-

ing towers, to be erected in all important forests, regardless of ownership. It is recognized that it is to the public interest to protect even private forests if owners are unable to find funds to do it for themselves.

Some 300 of these high towers have been erected in the last two years and the Forest Service estimates that a thousand more will be required, with observers on day and night relays in every one of them.

In the great California forests, observers for such towers are now being trained. Deliberate fires are set, under many different conditions of weather and visibility, to train the eyes of the men in spotting fires.

Circular handsaws—really portable power saws—which can be carried by one man have been devised for quick penetration through dense undergrowth.

THOUGH the public has scarcely realized it, within the last few years the Forest Service has gone scientific in a big way. It has had to develop many instruments peculiarly fitted to its work, including tractors which cannot tip over on steep mountainsides.

Tactics in moving men up in front of fires and in drawing them away safely have been originated.

The idea is to save men or, if casualties must be inflicted, that they be held to a minimum.

As in real war, casualties are expected. Seventeen men were killed in action last year, suffering deaths comparable to those by flame-throwers in military war.

These men were not mere amateurs, either. They included John S. Everitt, supervisor of the Shasta National Forest in California, a veteran of veterans in fire-fighting. He perished in the flames, fighting for America as truly—even more so, in real fact—than a soldier on front-line action against a foreign enemy.

Forest-fire flames frequently reach several hundred feet into the air. As a great fire burns it heats the surrounding air, which is forced upward by descending columns of cold air, thus creating huge powerful winds over great areas, winds in which not even airplanes a thousand feet in altitude can exist. These winds add oxygen to the fires and whip them up. Often the fires leap a mile ahead in a single huge step!

Last year the greatest forest fires of our history occurred; this year may find amelioration in the situation due to the immense plans and wide system for checking such fires.