



# BEAVERS AND WATER

Bailey 1936

The report of the district forester for Oregon, dated February 14, 1930, says:

The open season on beavers in Oregon has proved an expensive mistake and every effort should be made to repeal the law. The present law allows trapping everywhere except on the national-forest land. However, the patented land is so intermingled that this restriction has no effect. A check on the raw furs shows that most of the beaver were caught before the fur was prime. This was because every trapper was afraid every other trapper would get in ahead of him. The number of beaver in the State has been reduced almost to the vanishing point and this has affected stream flow, fish, grazing, and erosion to a serious degree. The beaver dams originally held back the run-off on the heads of streams, supplying the irrigation sections of eastern Oregon. The dams are now gone. These dams originally formed rearing ponds for the small fish and helped to restock the streams. \* \* \* Erosion followed and many of our best grazing areas have changed in type from wet meadows of high carrying capacity to a dry, rapidly eroding type of extremely low or no carrying capacity.

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NORTH AMERICAN FAUNA

[No. 55]

The following notes in the Portland Oregonian of June 1, 1931, by Ranger Ralph Elder of the Ochoco National Forest in semiarid northeastern Oregon give some idea of the beaver in conservation of water:

The removal of beaver has been a large factor in the shortage of water during the drought through which we are passing. Streams have dried up below former beaver dams to an alarming extent and water for stock has been reduced. \* \* \* During 1914, as forest guard, I assisted Forest Ranger Anderson and Homer Ross, supervisor, to survey a road across a virtually dry draw just below the Cold Springs ranger-station cabin. It was decided that a bridge was unnecessary, as not enough water ran across the proposed road location to justify building one. During 1920 beaver moved into this draw and constructed a dam just above the proposed road location, near a large spring. Since that time these dams have been increased, and at present approximately 2 acres are wet beaver meadows and swamps, and springs have developed 300 yards below this. During the past season, the driest on record, water was plentiful for a distance of a quarter mile below the beaver dams, and springy places were increased all down the draw. \* \* \* The actual improved area is hard to estimate and the increase in water for the dry part of the season can only be guessed at, but there is plenty of water for a band of sheep at all seasons and at least 20 acres of land that were dry in the very wet season of 1914 are kept fairly moist.

Another example of more recent date is at Little Summit ranger station. This area was formerly full of beaver, but the last, as far as we could tell, were trapped out about 1925. From that date to 1929 the old ditch and the entire meadow were fast becoming a dust bed. During 1928 and 1929 no water ran out at the lower end of the station. \* \* \* Some beaver moved back in 1929 and by the fall of 1930 the meadow in the pasture was 75 percent irrigated. The old ditches were full of water and a nice stream was running at the lower end of the station. While hardly sufficient handily to water a band of sheep this much had been accomplished during two summers. I believe, from the evidence of a number of dams, that several beaver are there, which is probably the result of moving in rather than of natural increase. I have every reason to believe that by 1932 this entire meadow will be irrigated and that there will be plenty of water for a band of sheep at all seasons, below the station fence. \* \* \* Water stored in this ground during the earlier part of the season will go a long way toward raising the water table for a considerable distance below, and, as the country is flat, it will undoubtedly improve the forage on an area of at least 40 acres, in addition to the land actually surface irrigated. It will also provide water for sheep one-half mile farther down the stream than has existed before.

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**Finley 1937**

Let me give you an example. Two trappers took out 600 beaver pelts one winter from the headwaters of silver Creek and its tributaries in the southeastern part of the Ochoco National Forest in eastern Oregon. With no beaver engineers left to take care of the dams, the ponds disappeared. Grassy meadows built up by sub-irrigation died out. Instead of 15,000 tons of pasturage along the streams, worth \$3 to \$5 a ton, the amount was reduced to a few hundred tons. Each year the water supply lessened. Good trout streams disappeared. Ranchers had to dig wells and pump water for their stock. Farmers lower down who had used the water for irrigation watched their ranches revert to a desert.



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SMITH 1938

On the Ochoco Forest in Region 6, a survey was conducted to ascertain the effect of beaver removal from upland pasture and hay areas. Quoting direct from their report we find the following:

"It is apparent from casual observation that the loss of beaver through poaching since the present beaver law became effective has been a very important factor in the reduction of the carrying capacity of the Ochoco ranges."

"The vegetation produced through the irrigation activities of the beaver as well as the ponds formed above their numerous dams tends to hold back the runoff, thus conserving the water for irrigation of the hay crops along the streams below. There are many instances of this kind in the vicinity of the forest, a typical example being the ranches along West Branch Creek, where water from beaver ponds was depended on to irrigate an additional crop of hay. Since the destruction of the beaver colonies along this creek, the ranches have been exceedingly short of water, with no recourse to remedy the situation. The importance of the beaver from this viewpoint on a forest like the Ochoco, where there are no lakes and where intensive use is made of the vegetation, can hardly be overestimated. If an accurate tabulation could be made of the value of this water, it would be astounding, even to those familiar with the situation. Ranchers not given to analyzing a problem of this kind from a scientific viewpoint, of course, attribute all their difficulties to drouth conditions, even where the loss of the beaver is the chief factor involved.

"We have a very excellent example of the effect of the activities of these animals in water conservation at Cold Springs ranger

station, just east of Big Summit prairie. This colony, being near the ranchers who believe in law observance, has survived, although spring sources the past season have been the lowest in history. Ranger Elder reports that the flow of water at this point was even greater than formerly, notwithstanding the fact that the normal supply here is very small indeed. Water impounded by the few remaining colonies has proved important in supplying stock on the range. This has, of course, been impressed upon us during the past very dry years, when beaver ponds in some instances have been the only available water supply. An example of this is the beaver pond on Marks Creek, where impounded water made it possible to use the range in that vicinity."

Since there was no concrete data available to show just what has happened, a report was called for from the rangers. The following tabulation summarizes their estimates:

Acreage originally sub-irrigated.....	10,400
Tons of forage originally produced by their activities....	9,900
Acreage sub-irrigated by beaver at present.....	100
Tons of forage produced at present.....	120

Estimated value of original beaver population

Annual value of forage produced around beaver ponds (1 ton per acre at \$3.00 per ton).....	\$30,000
Annual value of water conserved for irrigation further downstream.....	39,000
Annual value of beaver ponds as a water supply for domestic stock.....	14,200
Annual value of beaver ponds as a factor in fish conservation.....	15,500

(I am not sure how these last figures were secured, but there is certainly a value there that should not be overlooked.)