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BEAVER STUDIES SHOW FOREST
ENGINEERS HELP OTHER WILDLIFE

Beavers, famed animal engineers on woodland and forest streams, are active soil and wildlife conservationists, according to a recent report received by the Fish and Wildlife Service, United States Department of the Interior, from the Utah Fish and Game Commission.

The State commission reported the results of a Federal Aid in Wildlife Restoration project in which 380 active beaver colonies on 975 square miles in the Uinta Division of the Wasatch National Forest were observed for 22 months. The study included 1,505 beaver dams averaging 92 feet long and 2 feet high.

Beaver ponds resulted in many benefits, the commission reported. Dams built by beavers on the study area regulated and maintained the stream flow, reduced floods, prevented erosion, and caught the silt carried by streams, thus preventing the silt from entering reservoirs, lakes, and lower valleys. In addition, the formation of ponds generally benefited other wildlife, including muskrats, minks, deer, ducks, and upland game birds. There were few areas on the Wasatch Forest where the beavers' activities were not beneficial.

The beaver investigation was one of 12 Utah projects being carried on with the aid of Federal funds in accordance with the Pittman-Robertson Act of 1937. This act provides for Federal payment of 75 percent of the costs of wildlife restoration projects approved by the Fish and Wildlife Service and carried on by participating States in accordance with Federal standards.

Beavers Sometimes Detrimental

However, whether beavers are beneficial to an area depends in part upon the type of stream in which the colonies are located, officials of the Fish and Wildlife Service pointed out. As shown in the Utah study these fur animals are usually beneficial in rapid mountain streams. In lowlands, however, where streams are sluggish, the presence of beavers can be detrimental, as shown in a study conducted in Michigan by J. Clark Salyer, Chief of the Service's Division of Wildlife Refuges, when he was employed by the Institute for Fisheries Research.

In the Utah investigation, which was made on rapid mountain streams, Phillip Haas, Federal Aid project leader for the State commission, found that dams had little effect on fish migrations. "In Spring," Haas reported, "water was as a rule sufficiently high to permit the fish free passage up and down streams."

Salyer, who conducted his Michigan investigation in 1934, concluded that trout can and frequently do go downstream over a dam to spawn but that in most streams the better spawning areas are upstream near the headwaters. "Trout do not pass upstream over the ordinary beaver dam in Michigan waters," Salyer declared in a report published in 1935.

In Salyer's Michigan investigation it was found that beaver ponds eventually upset the chemical balance of the water, but in Utah observations at 157 chemical stations (106 operated in streams and 51 in beaver ponds) indicated that "beaver ponds are decidedly beneficial to trout."

It was also pointed out in the Michigan study that fish parasites increase as beavers become prevalent on a trout stream. In Utah, however, all fish examined were in a healthy condition.

Management Practices Needed

Why the findings of the Michigan and Utah investigations are divergent is explained not only by the fact that the types of streams were different but also by the fact that the beaver ponds in Utah were comparatively new. Salyer found that in the first few years beaver ponds are beneficial to trout but later are detrimental to the fish. Beaver dams, he concluded, have a beneficial effect on impoverished, especially sandy, streams.

"Beaver ponds are indispensable," Salyer declared, "in maintaining continuous trout fishing in the rocky, short, down-plunging streams."

Both beaver and trout are exceedingly desirable natural resources, Salyer and Haas agree. Proper management techniques are necessary to balance the supply of beavers and trout so that optimum conditions are maintained. Haas believes that the Uinta area, if properly managed, should support 3,700 beavers and yield an annual crop of some 1,500 pelts with a value of $10,000 to $20,000.