

# BEAVER PELT DAMAGE IN MISSISSIPPI

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*Abstract:* Beaver pelts from the Mississippi Beaver Cooperative fur sale held during March 1980 were examined to determine both the extent and origin of the damage responsible for downgrading. Of 1,914 pelts in the sample, 1,255 (65.6%) were significantly damaged. Damage inflicted by beaver accounted for 27.5% of the total. Skinning and fleshing cuts accounted for 31.5% of the damage. All other types plus those of unknown origin totaled 41.0%. Methods of dealing with the damage problem are discussed.

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Beaver (*Castor canadensis*) populations in Mississippi have increased greatly during the past 3 decades and now have reached nuisance levels throughout much of the state. Historically, beaver populations were controlled by commercial trapping, but the low prices commanded by pelts during recent years have resulted in insufficient trapping pressure to check population growth. From near extinction in the 1930's (Cook 1941), beaver have increased to the point that by 1978 the acreage of impoundments in the state totaled nearly 30,000 ha (Arner and Dubose 1978). Hill (1977) estimated that beaver are responsible for an annual loss of \$124.7 million to the economy of the state as a result of damage to timber alone. If the damage to agriculture and other enterprises was included, this figure would be much higher.

The price an individual pelt brings depends on its size and on a grade assigned it based on the quality of the fur and the skin. Except for some animals taken early in the trapping season before their pelts become prime, the major reason for downgrading is poor skin condition. Of particular interest and importance is damage caused by intraspecific fighting and by improper handling during processing. The purpose of this study was to determine the significance of the different types of damage and to suggest management practices that might alleviate these problems.

## METHODS

All damaged pelts at the Mississippi Beaver Cooperative fur sale held in March 1980 were examined to determine the major cause of downgrading. Pelt sizes ranged from very large (blanket) to kits, with intermediate classifications including extra large, large, large medium, medium, and small. Based on the condition of the skin, pelts within each of the size classes were graded from 1 (best) to 6 (worst). Grades 1 and 2 were perfect or near perfect so that the overall value of the pelt was not reduced appreciably. As a result, these 2 grades were not included in this survey.

Damage to the skins was classified into 1 of 3 categories. They included the following:

*Aggressiveness* — Damaged by territorial fighting or by beaver inflicting wounds on dead beaver in traps. Bite marks have a characteristic elliptical shape and a ridge on the underside of the skin. With practice one can readily distinguish bites from other types of cuts or marks.

*Handling* — Damaged by cuts made during the skinning or fleshing processes. These cuts are circular and are generally surrounded by a thin area of skin that is easily seen when examined closely.

*Other* — Pelts damaged by all other causes. Types of damage were bullet and shotgun pellet holes, greasy pelts and decayed pelts, as well as cuts or marks of unknown origin. Some pelts, especially grades 5 and 6, exhibited 2 or more types of damage. When multiple damage occurred, the pelt was assigned to the category that was most responsible for the downgrading. For example, an individual pelt that had several beaver bites in the middle of the back and a skinning hole near one of the legs would have been placed in the Aggressiveness category since holes near the center reduced the value more than holes near the edge.

## RESULTS

Of the 1,914 pelts in the sample, 1,255 (65.6%) were sufficiently damaged to be classified in grades 3 through 6. Aggressiveness by other beaver accounted for 27.5% of the total in these 4 grades. Bites were usually on the back or neck although in some cases were found on the sides or head. Handling problems accounted for 31.5% of the damage. Cuts were most common near the head or legs, areas difficult for inexperienced trappers to skin consistently. One point that should be noted was that knife cuts often occurred at the site of an old bite mark. The skin is more susceptible to cutting at these areas, thus the damage due to fighting indirectly increases another type and becomes even more significant. The Other category was the largest of the 3 and accounted for 41.0% of the total. We did not determine the individual percentages of damage types within this category although all of the ones previously mentioned were common. It is likely that beaver aggressiveness and skinning damage made up a portion of the unknowns in this classification.

## DISCUSSION AND MANAGEMENT RECOMMENDATIONS

This study showed that a high percentage of the beaver trapped in Mississippi are reduced in grade and value as a result of intraspecific fighting, improper handling, or other causes. For all pelt sizes there was an average decrease of 9.9% (SE = 2.6%) in value between successive grades. For example, using January 1981 prices there is a 39.4% reduction in value between the average of a #1 and #2 large pelt and a #6 large (Table 1). This sharp decline in value from a perfect or near perfect pelt to one of a lower grade probably has a significant adverse influence on the attitude of trappers or potential trappers toward beaver.

There is currently little incentive for trapping beaver at an average price of \$8 to \$10 (1981 prices) given the difficulty, expense, and labor required to trap and

Table 1. Grade and average value of "large" beaver pelts in Mississippi<sup>a</sup>.

Grade	Value (Dollars)
1 & 2	11.34
3	9.23
4	8.28
5	7.35
6	6.87

<sup>a</sup> Value based on January 1981 prices paid through the Mississippi Beaver Cooperative.

properly prepare a beaver pelt. A Mississippi trapper survey (Guynn et al. 1977) estimated that during the 1976 - 77 season only 16,541 (SE = 1615) beaver were sold in the entire state. This total was less than for several other common furbearers and generated significantly less income (Table 2). Compounding the low value of beaver pelts is the "damage factor" built into the pricing structure of the fur market. Beaver pelts cannot be properly graded until they have been fleshed and stretched so the buyer (who is aware of the high percentage of damaged pelts) pays a lower price to the trapper to compensate for this damage.

Table 2. Estimated total sale and value of common furbearers in Mississippi, 1976 - 77 (after Guynn et al. 1977).

Species	Total Pelts Sold	Standard Error	Value (Dollars)
Raccoon ( <i>Procyon lotor</i> )	62,611	3,567	882,189
Mink ( <i>Mustela vison</i> )	20,037	1,404	238,240
Bobcat ( <i>Felis rufus</i> )	3,942	401	235,377
Red Fox ( <i>Vulpes vulpes</i> )	5,357	420	195,852
Muskrat ( <i>Ondatra zibethicus</i> )	34,918	2,955	179,479
Gray Fox ( <i>Urocyon cinereoargenteus</i> )	4,959	809	165,928
Beaver ( <i>Castor canadensis</i> )	16,541	1,615	136,463
Opossum ( <i>Didelphis virginiana</i> )	44,521	2,772	129,111

Several simple measures can be taken to deal with the pelt damage problem. Information on proper handling and preparation should be made available to the public by fish and wildlife agencies, extension services and trappers associations. Trapping and handling techniques that result in high quality pelts are well known and should be made available so that even inexperienced trappers have a better chance of receiving a premium price for their efforts. Inclusion of a table showing the price differential between grades should encourage the trapper to exercise greater care during skinning and pelt preparation.

Damage caused by intraspecific strife is a more difficult problem to control. Although comparable data from other areas of the country were not available, William Schaffer (pers. commun.), 112 Arbor St., Honesdale, Pa. 18431, observed that during his many years as a furbuyer in Pennsylvania, a state with a relatively low beaver population, the percent damage caused by bites generally averaged

only about 10%. We feel the high beaver density in Mississippi results in increased intraspecific strife and a corresponding increase in the percentage of damaged pelts. Any actions that result in an increased beaver harvest and a reduction in the population should be beneficial in reducing this type damage. Higher prices due to improved handling should contribute positively in this regard. More frequent checking of traps should reduce the damage inflicted by other beaver on dead animals.

#### LITERATURE CITED

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