

THE ECONOMICS OF VIRGINIA'S DEER TRANSPLANTATION PROGRAM

By Charles H. Peery III
District Game Biologist
Commission of Game and Inland Fisheries

ABSTRACT

Since 1930 Virginia has either purchased deer for restocking or has carried out transplantation programs in various sections of the state. In 1967-68, detailed records of costs of a transplantation program indicate the average cost per head for white-tailed deer captured by box trap to be \$51.68. This trapping program was initiated to, (1) alleviate an over population, (2) determine if malnutrition was evident, and (3) fill the demand for brood stock in under populated areas. Most southeastern states have, at one time or another, participated in similar transplantation programs with equal success and accrued costs. Other methods of capture were prohibited in the study area due to industrial working conditions and security measures required by the U. S. Army. Malnutrition was not evident in the confined herd. The program did alleviate the over population currently. Costs of \$50.00 per head for transplanted deer is reasonable and justified in Virginia.

INTRODUCTION

Virginia, along with twelve (12) southeastern states have, at one time or another, become involved in deer transplantation programs. For the most part, records of numbers of deer, and the incurred cost per head, whether purchased or trapped in state, have been lost in time. Beginning in the 1930's the ultimate goal for most of the southeast was to establish huntable herds of deer for the sporting public. Management costs then, as now, were important but in the early days budgets were not as strained with expenditures more commonly found today, and the price of a new deer herd was never too high. In the southeast, the cost per head for out-of-state deer ranged from forty dollars, plus transportation charges, to one hundred fifty dollars plus. Virginia came upon a new source of white-tailed deer in 1967 when the Radford Army Ammunition Plant, in the southwestern part of the state, requested that deer be removed from their industrial complex due to hazards to moving vehicles, and the fear that malnutrition might exist in the confined herd. Firearms, and even bow and arrow are forbidden in the area, requiring the use of box traps. Since February 1967 one hundred thirty three (133) deer have been removed and detailed accounting records were kept during the winter trapping period of 1967-68.

DESCRIPTION OF TRAPPING AREA

The Radford Army Ammunition Plant is located on the banks of New River in Montgomery and Pulaski Counties. The 2700 acres are enclosed by a guarded, industrial type fence which virtually confines the deer herd. The topography is gently rolling and ground cover consists of Ky. 31 fescue and orchard grass with ten percent of the area in woodland cover. The area has an excellent network of paved roads. Industrial activity around buildings and safety bunkers prevented trapping of such areas, even though a few animals had become accustomed to the routine disturbance.

METHODS

Twenty (20) Cohick-type box traps were employed, using a sensitive trigger mechanism devised by Cross and Peery in 1948. Two game managers, assisted by local game wardens and one laborer, formed the trapping party. Baiting was done with low grade apples and a sprinkling of horse and mule feed was added. Care was given the baiting operation and not until a trap was frequently used was the trigger mechanism activated.

Deer were transferred from trap to vehicle by means of a narrow crate with drop slide doors on each end. A standard one half ton pickup truck, with fitted plywood hauling rack, served as the means of transportation for captured deer.

Bait stealing rabbits, opossums and skunks were removed with small box traps prior to baiting of deer traps.

Deer were observed to feed more actively just before inclement weather and during periods of uniform mild weather, but not during heavy snow or rain storms.

The normal reporting procedures required by the Virginia Game Commission made the task of determining costs of the operation relatively simple.

Initial efforts to ear tag each captured deer was discontinued due to losses from shock and physical injury. A maximum of seven (7) deer were transported at one time and a number of times as many as three (3) animals were held over night in the truck prior to release several miles away.

To compare Virginia's deer transplantation program with that of other states, a questionnaire was circulated to thirteen southeastern states, with excerpts being quoted in the results following.

RESULTS

From December 1967 through March 1968 eighty five (85) healthy deer were successfully transplanted. Seven (7) additional deer were removed but were lost due to shock and injury. There was no apparent evidence of malnutrition (Mosby and McGinnes). Forty eight (48) deer were transplanted the previous winter, but without maintenance of cost records.

Operation cost breakdown is as follows:

Salaried Personnel (2)	1162 hours	\$2,551.30
Laborer (1-2)	982 hours	1,227.50
Vehicle Operation (2)	20,595 miles	448.96
Subsistence and Lodging		126.28
Bait (43 bu. apples, H-M Feed)		<u>38.95</u>
		\$4,392.99

\$4,392.99 = \$51.68 Average cost per head

85 (Deer)

The time contributed by game wardens was incidental and no expense to the program, and the twenty (20) deer traps has been paid for some years previous. Incidental to the program was the trapping of 215 rabbits (108 donated to V.P.I. graduate student research project), 9 opossum, 6 skunk, 3 squirrel, and 4 vulture.

Game management officials of the states of Alabama, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas and West Virginia were polled by a questionnaire relating to the subject. Excerpts as follows — None of these states have deer for sale. Six (6) states have purchased deer, six (6) have not, and one (1) abstained. *Florida* bartered by trading one turkey for two deer to North Carolina, Louisiana, Pennsylvania and Texas. *Georgia* purchased deer from the King Ranch in Texas for \$75 per head. Kentucky paid \$150 per head for Showalter deer from Wisconsin. *Louisiana* paid \$125 per head. *Mississippi* has not purchased deer with state funds but has transported them from Wisconsin for private clubs that paid \$40 each. *Tennessee* bought Showalter deer at \$125 each prior to 1951, and *West Virginia* also bought Showalter deer at \$52 for fawns and \$62 for adult animals.

Twelve (12) states have carried out deer transplantation programs, and one (1) has not. The numbers of states using various types of capturing devices are as follows:

- 12—Box Trap
- 2—Corral Trap
- 6—Tranquilizer Gun
- 3—Oral Tranquilizer
- 1—Drop Net
- 1—Air Boat

Few states maintained accurate cost records of capturing operations. Those reporting include *Alabama* which accounted for 2800 deer moved by box trap with

no cost records. *Florida* indicates a cost of \$30 each for box trap, \$40 for corral trap, and \$50 per head when using the tranquilizer gun. *Georgia* estimated their costs at \$60 per head for box trap, and \$50 with the gun. *Kentucky* has moved several hundred deer with box trap methods varying in cost from \$14 to \$34 per head. *Louisiana* estimates it has box trapped 1500 deer at a cost of \$75 each, and the use of the gun ran costs to \$100, while the oral tranquilizer and air boat methods kept costs to \$50 each. This state is fond of the technique of herding deer into coastal marshes with helicopter and then capturing from air boats. *Mississippi* declares they have captured 4000 deer in box traps at an average cost of \$25. *Missouri* reports an average cost of \$6 per head but admits that complete cost records were not maintained. *North Carolina* has used three capture methods but without cost records. *South Carolina* estimated cost of box trapped deer at \$75 each, and \$35 each when corral and tranquilizer gun were used. *Tennessee* estimates they have captured about 3000 deer with box traps, costing \$110 each. *Texas* reports as many as 9441 deer moved with box trap at \$93 each, and this was the only state using the drop net method at a cost of \$70 per head. *West Virginia* incurred an estimated cost of \$200 per head for box trapped deer. Deer capturing methods in eastern *Virginia* indicate box trap costs at \$71 and the use of tranquilizer gun at \$113, with oral tranquilizer running the costs to \$197 per head.

CONCLUSIONS

1. Recent cost records of Virginia's deer translocation program, using box traps, represents a cost of \$51.68 per head in the southwestern region and \$71 each in eastern region.
2. Trapping costs in Virginia appear commensurate with those of other states in the southeast.
3. Malnutrition was not evident in the southwestern trapping area.
4. Box traps can be used to alleviate over populations of deer in confined habitat.
5. Translocation costs at \$50 to \$75 per head is reasonable and justified in Virginia.

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