APPENDIX TABLE III.

Steel-Trapped Bears Rendered Helpless by Intramuscular Injection [32]

Weight	*Sex*	*Age*[33]	*No. of Shots*	*Dose (mg.)*	*Length of Time Until Helpless (min.)*	*Mg./lb. of Body Weight*
			Capchur-Barb			
78	F	1½	2	1500	240	19
117	M	2½	1	1000	20	9
122	M	2½	1	1000	140	8
71	M	1½	1	1000	35	14
92	F	2½	1	1000	75	11
			Pentobarbital Sodium			
65	F	1½	1	1200	30	18
100	F	2½	2	1800	105	18
132	F	4½	1	1200	120	9
61	F	1½	1	900	45	15
162	M	4½	2	2400	144	15
92	M	2½	2	2400	270	26
140	M	2½	1	1200	85	9
264[34]	M	10½	1	1800	60	7
74	M	2½	1	1200	60	16
140[34]	M	3½	1	2100	45	15

[32] Only bears for which accurate weight records were known which were successfully handled are listed.

[33] Estimated.

[34] Second time caught.

MUTUAL BENEFITS IN COOPERATION BETWEEN FOREST AND GAME FISH MANAGEMENT

By RAY SHIRLEY
Georgia Forestry Commission

Cooperation between Forest and Game and Fish Agencies, organizations, companies and individuals should be a natural and mutual undertaking.

Forest and game go together. Any area where trees will grow game and fish can also abound. The success of a joint endeavor depends on the basic understanding of forest values and the need of game food and protective cover for wildlife. The landowner's primary purpose for his forestland will depend upon maximum game population or maximum tree growth. However both can live together in reasonable harmony if they desire and work toward it.

State and federal agencies, we believe, should be the leaders in any cooperative forest and wildlife program where land areas and facilities make cooperation possible.

In fact, enemies of the forest are also natural enemies of games, such as wild fire, insect and tree diseases and others. We must, therefore, work together on these natural enemies. The first requirement, therefore, of any state or federal forest organization is the prevention and control of forest fires and insects and diseases.

The Forestry Commission has, therefore, made its state forest available for a game refuge area for the Georgia Game and Fish Commission to stock, protect, plant food areas and other uses for game and fish conservation.

We find this to mutually benefit us in a number of ways.

1. It insures maximum game and fish population for local and area residents.
2. Wildlife and game population is well balanced by restocking depleted game species.
3. It permits multiple use of the forest area.
4. A well stocked forest with game provides for a better control of insects, which plays a part in the spread of many tree diseases.
5. Unauthorized people are less likely to use an area, such as poachers, timber thieves and others.

Another profitable cooperative undertaking in our State is the Commission's production of bicolor lespedeza in its forest tree nurseries for the Game and Fish Commission. We have well established nursery facilities and qualified personnel for producing bicolor lespedeza and similar game plants for the Game and Fish Commission. These plants are produced at cost and this year we are producing approximately five million plants which will be packaged for the Commission as per their instructions. These plants are then delivered by the Game and Fish personnel to land owners. This cooperative endeavor has assisted the Commission to utilize its nursery facilities to mutually benefit both state agencies. We believe the cost of producing these plants is much less than would have been possible for the Game Commission to have produced inasmuch as they were grown in conjunction with our forest trees.

We also cooperate with the Game and Fish Commission in making our forest fire investigators available to help police and supervise some of the large hunting events on state and federal lands.

There is a great need for closer relationship between forest and game groups due to the changing forest land pattern in Georgia and I believe the same pattern applies equally in many other southern states due to the reduction in crop land needed for agricultural row crops. Large acreages of cultivatable land has and is being planted in pine trees. We in Georgia have planted 1½ million acres in the past five years. The forest area of Georgia now comprises of more than 24 million acres. Our commercial forest land of which 92% is in private ownership and of that amount 73% is owned by persons having less than 500 acres. The average ownership is only 113 acres.

Another factor of vital concern to forest land owners is that we have approximately 45 thousand acres of pine forest land being converted to hardwoods each year due to harvesting practices and normal reproduction tendencies. Most of these areas have only weed tree species and must receive a treatment to rid the area of the worthless trees if a commercial tree crop is to be realized. We are converting in Georgia approximately 20 thousand acres per year by means of chemical and or mechanical programs. The chemical being used is not detrimental to game and we believe that this site preparation is making much more game food available and thereby will increase game rather than the reverse. We have approximately 16 million acres in pine and 8 million in hardwood.

We have every reason to believe that the present trend is to a better understanding between game production and forest growth. We believe the trend is toward more game preservations with very little private land available for free hunters. From our mutual efforts we will have an increasing amount of game in the future.

A THREE-YEAR STUDY OF THE FALL MIGRATION AND ROOSTING-FLIGHT HABITS OF THE WOOD DUCK IN EAST-CENTRAL NORTH CAROLINA

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ABSTRACT

Late afternoon counts of wood ducks *(Aix sponsa)*, as they came to roost in woodland ponds, were made in the fall and early winter months of 1953, 1954, and 1960, near Wendell, North Carolina.

The numbers of wood ducks which came to roost increased rapidly during October of each year and peak numbers generally were recorded during late October and very early November, in correlation with the regular fall migration of these birds to and through the state from more northern areas. The roosting populations decreased during November and December and few wood ducks remained in the region during the winter months.

Most flights consisted of small numbers of ducks. Flocks of two birds were most common and comprised 35.5% of all 814 flocks observed. Only