

## THE MANAGEMENT OF UPLAND GAME ON PUBLIC LANDS IN VIRGINIA

By JAMES E. THORNTON

*Supervising Game Biologist*

*Virginia Commission of Game and Inland Fisheries*

Harrisonburg, Virginia

Today the population of the United States stands at about 180,000,000 people. It doesn't take a genius to predict that this figure will continue to rise for some time to come, with a predicted population of around 332 million individuals by the year 2000. In 1955 the U. S. Fish and Wildlife Service estimated that of the persons 12 years of age and over in the United States, 18 percent went fishing and 10 percent went hunting. Thirty-five percent of all the households in the United States had one or more fisherman or hunter in the family. By 1980 it is estimated that 68 million people will spend more than a billion man-days for the purpose of outdoor recreation, including hunting and fishing. License increase in Virginia follows this trend of population increase. Hunting and fishing license sales covering a period from 1949 to 1959 shows a 55 percent increase in resident hunting license, 145 percent increase in the county combination hunting and fishing license, and 76 percent increase in the sale of National Forest Stamps (a stamp or permit to hunt, fish, or trap on Virginia National Forests).

It is only reasonable to assume in the face of increasing populations and a corresponding increase in the demand for outdoor recreation, that it will become increasingly difficult to find places to hunt and fish. With an increasing population and an increasing demand for public hunting and fishing areas on the one hand and a constantly shrinking wildlife habitat on the other, the problem will become increasingly acute as time goes by.

This paper deals primarily with the experiences and problems we have encountered in Virginia in connection with the acquisition, management, and control of hunting pressures on public lands. To get some ideas as to what other states in the Southeast are doing in this field, a short questionnaire was sent to all of the states in this area. It came as somewhat of a surprise to me to find that there is so much land available for public hunting in this section of the country. While I could be wrong in interpreting some of the figures I received, there is no doubt that anyone wanting to go hunting in any of our states can surely find a place to hunt if he takes the trouble to look into the matter. For example, in the Southeast there are 8,735,646 acres of National Forest land, 776,849 acres of State Forest land, 816,061 acres of Game Commission-owned lands, 3,258,013 acres of private land which is managed under a cooperative agreement with the State Game Departments, and 2,352,243 acres of other lands, including land belonging to the U. S. Army, Navy and Air Force, U. S. Corps of Engineers, TVA, Flood Control Districts, and other public agencies. (See Table I.) This is a grand total of 15,938,812 acres open to public hunting in the Southeastern States. It may be that we are not as bad off in this field as we once thought we were.

Virginia has been in the business of managing public land for public hunting and fishing for quite some time. The first big step in this direction was taken in 1938 when the Virginia Game Commission and the U. S. Forest Service entered into a cooperative agreement to jointly manage the wildlife on the 1,500,000 acres of National Forest land within the State. This "Coop Agreement" has proven to be one of the best things that ever happened to game management in Virginia. The wildlife management phase of the program is supervised directly by the Commission's game and fish biologists, the Forest Service retaining control through approval of development plans in advance. The work is financed through the sale of National Forest Stamps, Pittman-Robertson Funds, and funds derived from the sale of hunting licenses. The only requirement to hunt, fish, or trap on the National Forest land in Virginia is that the individual have a National Forest Stamp and an appropriate hunting or fishing license.

Game management practices on the Virginia National Forests include the creation of wildlife clearings and the seeding of same to small grain, clovers

TABLE I  
PUBLIC HUNTING AREAS, SOUTHEASTERN UNITED STATES \*

State	National Forest	State Forest	Coop. Hunt Areas **	State Game Lands	Others
Alabama	185,712		205,738	9,335	31,355 (2) 68,000 (5)
Arkansas	2,000,000	14,000	7,000	160,000	148,000 (3) 7,000 (1) 568,000 (4)
Florida	1,074,742	196,525	1,404,300	112,000	725,000 (6) 70,000 (7)
Georgia	730,000	40,000	100,000	20,000	
Louisiana	95,000		301,000	66,000	37,000 (1)
Kentucky	462,000	34,724	18,000	20,250	64,145 (1, 2)
Maryland		124,240	7,525	34,272	44,426 (9)
Mississippi	1,132,601	1,760	1,000,000	13,750	278,897 (1) 6,000 (8)
North Carolina	373,317		19,000	178,080	50,000 (9)
South Carolina	587,274	122,600	87,550	14,000	12,000 (1) 5,700 (1) 22,970 (2)
Tennessee	595,000	200,000	62,000	125,000	42,000 (4) 117,000 (3)
Virginia	1,500,000	43,000	45,900	63,374	54,750 (1)
TOTAL	8,735,646	776,849	3,258,013	816,061	2,352,243

\* Acres (3) U. S. Army (7) State Armory Board  
 \*\* Private Land (4) U. S. Air Force (8) U. S. Park Service  
 (1) U. S. Corps of Engineers (5) U. S. Navy (9) U. S. Fish & Wildlife Service  
 (2) Tennessee Valley Authority (6) Flood Control Districts

and grasses, the building of water holes, restoration of existing clearings, old home sites and other openings in the forest canopy through mowing, brushing and selective use of herbicides. The construction and maintenance of hunter access and work access roads and trails are also important management tools since it is through such access ways that the distribution of hunting pressure is accomplished. The acquisition and development of rights-of-way to National Forest lands is another activity of increasing importance and has placed much forest land in reach of the average hunter.

Our only experience in controlling hunting pressure on the National Forest was in 1951. At that time the Big Levels Federal Game Refuge, in the George Washington National Forest, had reached the point where the deer herd was getting out of hand. Public opinion in general was against opening the area to any form of hunting, but crop damage around the edge of the Refuge was excessive and action was demanded. The area was thus opened to deer hunting on a permit basis. The area was open for five days, antlerless deer being legal for the first three days. An attempt was made to limit the kill of antlerless deer to 150. Actually, 85 antlerless deer were killed, of a total of 120 of both sexes. A quota of 650 permits was issued, with a limit of 125 hunters per day. Hunters were selected on a lot basis, 60% of the permits being reserved for residents of the county with 40% for State and non-resident hunters. Hunters were required to check in and out of the area each day. The administrative problems connected with the hunts were enormous—and the end result was that there were more unhappy than happy people. The following year the permit system was dropped and a specific number of hunters were permitted to hunt the area each day on a first come, first serve basis. This obviously was not the answer. The next year the gates were thrown open and all comers admitted. Hunting pressure dropped to near normal after the first day—and today the Big Levels is just another hunting area on the National Forest.

In the central Piedmont area of Virginia the Virginia Division of Forestry owns approximately 43,000 acres of land which it inherited from the old Re-

settlement Administration. This area now makes up three State forests, the Prince Edward, the Buckingham-Appomatox and the Cumberland State Forests. Originally, much of this land was open, having been made up of abandoned farmlands, interspersed with forest land. About twenty years ago the Commission entered into a "Coop Agreement" with the Virginia Division of Forestry to manage the wildlife on the area on a cooperative basis. The Commission has between four and five hundred acres of land under intensive management. Plantings include small grain and clover, Korean lespedeza, annuals and corn. Large tracts are leased to local farmers to assist in keeping more of the area open. Other management practices include mowing, predator control and posting.

Initially, the area was open to public hunting for only one week during the entire season, usually the first week in December. Hunters were required to purchase a \$1.00 permit to hunt on the area and were required to check in and out of the area each day. There was always a considerable amount of hunting pressure during this week and in order to properly administer the area the services of a large number of personnel—both biologists and wardens, was required. Within the last few years the Division of Forestry has agreed to permit hunting on the area for the full length of the season and to do away with the requirements to check in and out of the area. The \$1.00 permit is still a requirement. Since this has been in effect, the hunting pressure has dropped to a point which is considered normal and almost no personnel is required to administer the area during the hunting season. During the past season over 3,000 hunters utilized the area and bagged the largest total of deer and turkey in the history of the forests.

The Virginia Commission of Game and Inland Fisheries was for many years reluctant to get into the business of providing public hunting and fishing through ownership of such areas. Initially, such lands as were purchased were for waterfowl refuges or for demonstration purposes. In all instances, the first thing that was done after purchase was to string a wire around it and make an inviolate sanctuary out of the area. The first real venture into the role of acquiring land for public hunting came in 1958 when the Commission purchased the Gathright Wildlife Management Area consisting of 18,350 acres in the northwestern part of the State. The Commission had come to realize that areas for hunting and fishing were rapidly passing out of the picture and, if it were to continue to meet its obligations to the sportsmen of the State, it must begin to acquire land for public hunting and fishing while it was still available.

There are certain advantages that go along with the outright ownership of land, the principal one being direct control of the area in all phases of management. All income from the sale of timber or other resources accrue to the owner and the use of the property as a public hunting area is not subject to cancellation on the whims of the owner. Problems, we have found, also come with land-ownership. One is protection from forest fires. In Virginia, so long as a tract of land is in private ownership, the Division of Forestry will assume full responsibility for fire suppression, including the actual cost of suppression. Once it becomes public property, the cost of fire suppression must be absorbed by the agency responsible for its administration. Boundary location and marking can be a headache, too, as the Commission is obligated to the sportsmen to locate and mark the property boundary on the ground. The condition of the boundary lines of some of the large tracts of mountain land leaves a lot to be desired. Again, in Virginia, land purchased with sportsmen money, including PR or other funds, may not be used for anything other than hunting or fishing. No picnicking, swimming, or camping is permitted. It certainly does not seem a wise use of the State's resources to prohibit such activities on State-owned land. The best camping sites in the western part of the State are to be found on some of the Commission-owned property. From a local point of view, once land is purchased by the Commission, it is lost to the county for tax purposes. The loss of this tax revenue is sometimes quite a blow to some of the small rural counties who already are facing financial difficulties because of decreasing populations and loss of other tax revenue.

Timber and other wood products are the largest potential source of income on Commission-owned land. The appraisal report submitted prior to the purchase of the tract, in some cases, gives a very optimistic picture of this resource and the impression that this resource was "ready for the plucking." The value is there in most cases—but represents a "crash value." To properly manage

this resource is a time-consuming job and to date we have not had sufficient time or personnel to properly market the forest products on the areas. Some minor sales have been made, and such sales will increase substantially in the near future. Management will be on the basis of priority for wildlife values—with revenue being of secondary importance. Many of our game biologists received their basic training in forestry and we are taking full advantage of this. We also enlist the help of the State Division of Forestry and the U. S. Forest Service as the need arises.

As for control of hunting and fishing pressures on Commission-owned lands, we have operated on the premise that the less controls the better. What little experience we have had in controlling pressures has indicated that the administrative cost and headaches connected with such attempts at controls are not worth the trouble. Attempts to limit the number of hunters using an area brings more hunters and attaches such an attractiveness to the area that it creates artificial pressures. If left to seek its own level pressures have been above average initially, but after the first few days level off to average and in some cases below average.

This is borne out by our experiences with the controls of hunting pressure used on the Big Levels Federal Refuge as previously described, on the Hog Island Waterfowl Refuge where bow hunting for deer is permitted each year, and on the recently purchased Gathright Area. In all cases, as controls were dropped or moderated, hunting pressure dropped and eventually found its own level. On the Gathright Area controls were limited from the start to close checking by game biologists and law enforcement personnel the first year, and through the establishment of a sanctuary as an insurance against overshooting. Hunting pressure on that area was nothing like that which was expected but such controls as were set up proved adequate. This year the sanctuary is being reduced to a few acres around the manager's residence. Additional areas are being made accessible through opening more roads and trails and the construction of swinging bridges across the Jackson River which blocks off a considerable portion of the area. It is felt that these additional access points will compensate for the abolishment of the sanctuary through the dispersion of hunting pressure.

The only requirement to hunt or fish on any Commission-owned land is the possession of a bona fide hunting or fishing license. One area, namely the Gathright Wildlife Management Area, is closed to turkey hunting at present as surplus wild turkeys are trapped from the area for release in unoccupied turkey range in Southwest Virginia. With a few exceptions, the season and bag limits are the same as for the rest of the State. On the areas "west of the Blue Ridge" the seasons and bag limits conform to regulations covering National Forest land. With minor exceptions the possession of a firearm is prohibited both on National Forest land and on Commission-owned land except during the general open hunting season.

At the present time access to some of the remote areas of Commission-owned lands presents a problem. Most of these problems can be solved with time through the purchase of rights-of-way across private land, by trail and road construction, or through the construction of ways and means to cross major barriers such as rivers.

The Commission now has approximately 63,300 acres which have been purchased outright for public hunting and fishing. The bulk of this acreage is in the western part of the State simply because that is where it was available at a reasonable price. Ideally, it would have been desirable to have this land, or some of this land, in the Tidewater or Piedmont section of the State, nearer the larger centers of population. It simply is not available in large tracts in these areas and if it were available cost would be prohibitive. The Commission-owned land is divided into eight tracts, the largest being the Gathright Area, consisting of 18,350 acres, and smallest being the Wunder Tract, consisting of 1,500 acres. Several other tracts of land in the extreme southwestern part of the State are under consideration for purchase.

Another very real opportunity for public hunting is the land belonging to the large pulp and timber companies and the military installations in Virginia, as well as most other states in the Southeast. Virginia, along with the other southeastern States, has taken advantage of this opportunity and at the present time has about 46,000 acres of private land under cooperative management. In addi-

tion, 117,000 acres of land belonging to the U. S. Army, and 54,750 under control of the U. S. Corps of Engineers are under cooperative management and open to public hunting and fishing. A considerable amount of public hunting is permitted on some of the large pulp company holdings, even where no cooperative arrangement exists. In many ways the advantages of managing such lands under a cooperative basis for public hunting and fishing outweighs the disadvantages of not owning the land outright. For example, fire protection and suppression are responsibility of the Division of Forestry and the cost is borne by that agency. Surveying and line location are an owner responsibility. Timber management is the owner's responsibility. The county still benefits from the tax revenue. The management cost on these cooperative areas is very low, thus we can provide a lot more land for public hunting for a lot less money than by purchasing outright. The chief disadvantage of this type of hunting area is that it is subject to being cancelled by the owner at his discretion, sometimes after the State has made a considerable investment in the area.

These large landowners, like the Commission, are interested in taking advantage of the wildlife resource on their property. The primary reason for permitting public hunting on their property, however, is to develop a favorable relationship with the public in the interest of protecting their property against forest fire and timber theft. A friendly public makes the protection of this property much easier and assures help when it is needed.

No charge is made for hunting on private land or on military installations under cooperative management at this time. Only the proper license is required. On military reservations (Camp Pickett and A. P. Hill) the hunter is required to obtain a free permit, obtainable at a check station on the post. In return for permitting hunting and fishing for game species by properly licensed hunters and fishermen, the Commission has agreed, in most cases, to erect signs marking the area as a cooperative hunting area and to develop and maintain the area to benefit wildlife in accordance with an annual work plan. The plan is approved by proper representatives of the Commission and the company or the post commander. The Commission agrees to patrol the land during the hunting and fishing season and during periods of high fire danger. The agreement with private landowners, which may be terminated by either party on 60 days notice, runs for 3 years and is subject to renewal at the end of that time. In the case of the military reservations, the agreement runs indefinitely or until revoked by the Commission or the military authorities. In addition to services offered by the Commission in return for public hunting rights, at least one state (Florida) pays the landowner \$.02 per acre per year for this privilege plus "protection and good will." Virginia pays no cash for this privilege.

Based on our experience in Virginia, it would seem that the least amount of controls over a public hunting area that we can get by with, the better for all concerned. Limitation on the number of hunters using an area may be justified in some cases, but these cases are rare. By permitting unlimited hunting on a specific area some over-harvesting of game may take place, but it is usually on a local level. Hunting pressures may usually be controlled through the management of access routes. A survey conducted on one ranger district by questioning hunters that were successful in bagging a deer showed that practically all deer were killed less than six-tenths of a mile away from a road. Controlling the distribution of hunters through opening and closing access roads will normally prevent overshooting of an area. While permits must be obtained to hunt on the military reservations, none are required for hunting on the private cooperative areas. No charge is made for these permits at this time although there is nothing inherently wrong about an individual "paying his way" in the field of hunting as in any other field of endeavor. Many of the southeastern states do charge a fee for the privilege of hunting on managed areas, to help cover the cost of habitat improvements and as a means of control of hunting pressure.

Managing the area to produce maximum crops of wildlife has been given the full treatment here and need not be covered except in general terms. One of the main problems we have encountered on some of the Commission-owned and cooperative areas is to keep them from reverting to brush. Every bit of the work we can get from tenants in keeping a large percent of the area open by cultivation or other means releases our men for other jobs that need to be done,

such as timber management, trails and road construction, and law enforcement work. By leasing all land suitable for crops to qualified individuals under conditions which constantly improve the quality of the land and leaving it in a condition beneficial to wildlife, we get the job done in a more economical way than if we attempted to do the job ourselves.

Where the area is large enough to justify it a resident manager should live on the area. This is particularly important where there is a considerable investment in equipment and buildings. From a public relation point of view it is also important to have someone on the area to answer questions, provide the necessary protection from poachers and to be around to provide assistance to the public as desirable. The man on the ground should have full authority to administer the area within the general guidelines and policies laid down by the Commission. In acquiring land for public hunting or fishing it must be kept in mind that certain additional expenses and costs are inevitable. It is not realistic to acquire land and expect it to look after itself. The ownership of land entails certain additional responsibilities and these must be met if the State agencies are to fulfill their obligations. To a degree, this applies to cooperative areas as well. In this connection it would seem logical that some sort of staff position for a specialist in land management problems other than game management be set up to assist the field men with specialized problems having to do with landownership. Some of these are the actual acquisition, options on the property, appraisals, boundary surveying and marking, roads and access problems, timber management and marketing, and long-range planning. Virginia does not have such a position at present, and we have to blunder along ourselves or go outside of the organization for help.

To sum it up, it is apparent that all of the states in the southeast have embarked on a land acquisition program in an effort to provide public hunting areas for upland game as well as for waterfowl. An aggressive program to obtain land for public hunting through cooperative arrangements with large landowners, both public and private, is currently under way in just about every state in the southeast. Virginia, while a relative newcomer in the field, has approximately 283,000 acres of public and private land under cooperative game management, exclusive of National Forest land and State Forest lands. The picture is equally bright in the southeast as a whole with a total of at least 15,900,000 acres of land available for public hunting.

## WHERE YOU CAN HUNT IN VIRGINIA

### TIDEWATER VIRGINIA—

*Saxis Wildlife Management Area:*\* 5,000 acres of Chesapeake Bay marsh (half refuge) 12 miles east of Temperanceville in Accomack County; signs indicate portions open to hunting along routes 695 and 719, open only on Tuesday, Friday and Saturday.

*Mockhorn Island Wildlife Management Area:*\* 9,110 acres of Atlantic Coast salt marsh in Northampton County; high land is posted refuge; must be reached by boat from Oyster (via routes 13 and 639) or Town's End Landing (via routes 13, 600 and 655, good only at high tide).

*Hog Island State Waterfowl Refuge:*\* 2,100-acre island in the James River north of Bacons Castle in Surry County; open only to bowhunters during archery season for deer.

### CENTRAL VIRGINIA—

*Camp A. P. Hill:* 70,000-acre cooperative wildlife management area in Caroline County; write to Headquarters, Camp A. P. Hill, Virginia for Hunting Information Bulletin with application and permit regulations.

*Goodwin Brothers Cooperative Wildlife Management Area:* 1,100 acres of hardwood forest 22 miles west of Fredericksburg in Orange County; routes 611, 614 and 601 north of Locust Grove go through the area.

*Cumberland State Forest:* 15,105-acre cooperative wildlife management area located north of Cumberland along route 622; special one-dollar permit from Division of Forestry, Farmville, required.

*Buckingham-Appomattox State Forest:* 18,534-acre cooperative wildlife management area located east of Appomattox off of route 24; special one-dollar Division of Forestry permit required.

**SOUTH-CENTRAL VIRGINIA—**

*Prince Edward State Forest:* 6,365-acre cooperative wildlife management area located north of Green Bay between routes 696 and 360; one-dollar Division of Forestry permit required.

*Camp Pickett:* 47,000-acre cooperative wildlife management area located east of Blackstone along route 40 in Brunswick, Dinwiddie and Nottoway Counties; free permit, obtainable at post on arrival, required.

*Union Bag-Camp Cooperative Wildlife Management Area:* 15,000 acres in small tracts in southeastern Brunswick County.

*Kerr Reservoir Cooperative Wildlife Management Area:* 50,000 acres in Mecklenburg County along route 58.

*Philpott Reservoir Cooperative Wildlife Management Area:* 4,750 acres near where the boundaries of Franklin, Patrick and Henry Counties come together.

*Fairy Stone Farms Cooperative Wildlife Management Area:* 6,000 acres adjoining Fairy Stone State Park and Philpott Reservoir in Patrick and Henry Counties.

**SOUTHWEST VIRGINIA—**

*Thomas Jefferson National Forest:* 600,000 acres managed cooperatively for wildlife, accessible from routes leading off of route 11; one-dollar national forest stamp required; free map available from Box 1642, Richmond.

*Haven Wildlife Management Area:*\* 6,264 acres on Fort Lewis Mountain in Roanoke County, accessible from route 311.

**NORTHWEST VIRGINIA—**

*George Washington National Forest:* 900,000 acres in the Alleghany, Blue Ridge and Massanutten Mountains managed cooperatively for wildlife, accessible from routes 11, 60, 250, 33 and 211; one-dollar national forest stamp required; map available from Box 1642, Richmond.

*Gathright Wildlife Management Area:*\* 18,500 acres in southwest Bath County and northwest Alleghany County, about 15 miles north of Covington; map available from Box 1642, Richmond.

*Lehigh Portland Cooperative Wildlife Management Area:* 6,100 acres in Augusta and Rockbridge Counties, southwest of Staunton and adjoining Little North Mountain area (below).

*Little North Mountain Wildlife Management Area:*\* 4,600 acres in Augusta County seven miles southwest of Staunton off of route 42.

*Ward-Rue Cooperative Wildlife Management Area:* 8,500 acres in Madison and Greene Counties adjoining Shenandoah National Park; one 2,800-acre tract is on route 622 north from route 230 between Madison and Stanardsville; another 5,000 acres is 10 miles north of Stanardsville on route 667; an additional 700 acres are found by following South River north from where route 621 leaves route 230 north of Stanardsville.

*Aylor-Berry Cooperative Wildlife Management Area:* 500 acres on route 667, 10 miles north of Stanardsville.

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For further information about any of these areas, contact local game warden. Names, addresses, and telephone numbers of all of the game wardens and technical personnel of the Virginia Commission of Game and Inland Fisheries as well as names, addresses and telephone numbers of U. S. Forest Service forest supervisors and district rangers are included in the leaflet "Tell Me Warden" available free from the game commission at Box 1642, Richmond, Virginia.

\* Land owned by the Virginia Commission of Game and Inland Fisheries.