

More information is also needed on the habits and basic requirements of alligators. Louisiana and Florida have done a great deal in alligator research over the past 10 years, yet much remains unknown. A continuation of this research work is essential with special emphasis in the future placed on determining habitat requirements and ecology of the reptile. As the wetland habitat continues to give way to agriculture and industry, more intensive management of the remaining wetlands will determine the success of the alligator's future.

Enforcement will be as important in the future as it has been in the past. Without adequate enforcement, laws and regulations are useless. Whenever the welfare of a resource is in jeopardy, most people are honest enough to abide by laws set up to protect the resource. However, a few people are not and without adequate enforcement, by the courts as well as game agents, this small segment of violators will continue to operate. Then in reality all you will have is a private hunting club for the lawless element. Therefore, in deciding what's next for the alligator the importance of a rigid, well-coordinated enforcement must be emphasized.

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### COOPERATION BETWEEN CIVILIAN AND MILITARY GAME LAW ENFORCEMENT

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The subject of Cooperation Between Civilian and Military Game Law Enforcement has been chosen because it is felt that this unity is certainly needed all over the United States and because of the outstanding relations in the Quantico area. For years many of the military reservations have been big areas on the map that were restricted to most everyone and everything. It was hard to even enter some bases and certainly not to hunt or fish. These restricted areas were certainly needed and many still are. However, with the passing of Public Laws 86-799 and 85-337, many of the bases are now open to the public for hunting and fishing. These laws pertained to the cooperative management of fish and wildlife programs between military, state, and federal

agencies. Many military installations now have cooperative management plans with the state and federal agencies for the protection, preservation and management of fish and wildlife.

The Marine Corps Schools, Quantico, Virginia, executed a cooperative agreement in 1962 with the Virginia Game Commission and the Bureau of Sport Fisheries and Wildlife. In return for aid furnished by the state and federal agencies, Quantico implemented a fish and wildlife management program and permitted a limited number of hunters and fishermen to use the facilities on the base. We feel that great strides have been made in our management program and today about 9,000 hunting man-days and 12,000 fishing man-days are furnished yearly. Of these, about 40 percent are civilians.

Quantico is comprised of about 62,000 acres of land and about 800 acres of water. It is located about 35 miles south of Washington, D. C. and lies within three counties of Virginia. With the location of Quantico being near densely populated areas, the easy access of the base, and the number of hunters and fishermen, one of the uppermost needs was the enforcement of game and fish laws. The Virginia Game Commission was ready and willing to cooperate. The base game law enforcement is mainly comprised of the Base Game Warden and Wildlife Manager. Both are Deputy U. S. Game Wardens. All of the Game Wardens from Northern Virginia have helped on the base. This includes the Assistant Chief of Law Enforcement, one supervisor, three Game Warden Area Leaders, and 10 Game Wardens. To give you an example of the effectiveness of this cooperation, during the past year, we have made 106 game cases and 96 fish cases on the base. Out of these 202 cases, 187 were convictions for a total of \$5,191.50 in fines. These cases varied from trespassing to spotlighting. Most of these cases were tried before County Courts with the rest being taken before the U. S. Commissioner.

To show the coordination and cooperation between the military and civilian authorities, a couple of cases are cited. The first case involves a night hunting charge. One night last spring, a car was observed by a Military Policeman turning on to a restricted road. When checking the car a few minutes later, no persons were seen in the area. However, a shotgun and an empty buckshot shell were found on the seat of the car. Another empty shell was found on the ground near the car. The Military Policeman, thinking this could be a game case, called the Wildlife Manager. Upon arriving, the area was checked but nothing was found. Two men were later picked up near the scene who admitted owning the car. After questioning them with no results they were released. The next morning, after daylight, the area was rechecked. This time a dead doe was found about 200 yards from the position where the car had been parked. At this time two state wardens were called and we again checked the area. From the position of the dead deer, we backtracked a trail where the deer had dragged herself to a point 15 steps from the position of the car. The deer was skinned and some buckshot and small shot were found in the carcass. Also found were the wads from two shotgun shells and some branches with shot holes were taken from behind where the deer was standing when shot. With this evidence, the Commonwealth's Attorney was contacted and permission was obtained to get a warrant and pick up the shotgun that was found in the car the night before. After obtaining the gun, it and the shells, shot, wads, and branches were taken to the FBI lab in Washington. Their report stated that both shells were fired from the gun, the wads were the same as those used in the shells, the buckshot and smaller shot were the same size as those used in the shells and the holes in the branches were the same size as the shot in the deer and those used in the shell found on the ground. With this evidence, the two men were arrested, and tried and convicted. Here we have seen three separate agencies working in close harmony to enforce the game laws.

Another case involved staking out most of the base trying to catch spotlighters. This specific night one District Supervisor, three Game Warden Area Leaders, and six Game Wardens worked with the base wardens. The use of one helicopter to help spot the offenders was obtained. During the night, 27 citations were written. To keep this from being a one-sided affair, the base Game Warden and Wildlife Manager

also go off the base and give the State Wardens a helping hand in their areas. This includes game, fish, waterfowl and boating law enforcement.

Another phase of coordination and cooperation is the instruction of hunter safety courses to school children. The Virginia Game Commission has an outstanding program for school children of Virginia. Their safety course is a four-hour course that teaches guns, gun safety, hunting safety, game laws and sportsmanship. The Base Game Warden and Wildlife Manager have qualified to instruct this course. Last year over 2,000 children were instructed on the base and in the city and county schools in the Northern Virginia area. Also, over 20 teachers were trained to qualify them as instructors.

Gentlemen, this is not all work. We have a lot of fun also. Each year a game warden's hunt and banquet is held at Quantico. The Virginia Game Commission personnel, Commonwealth Attorneys, County Judges, and other members of the Virginia Law Enforcement Staff meet at Quantico for a full day of hunting followed by a big feast afterwards. Also, each year the Virginia Game Wardens have a big hunt and all the Quantico game law enforcement personnel are invited.

With the outstanding help given by the Virginia Game Commission and the Bureau of Sport Fisheries and Wildlife, we have an excellent program at Marine Corps Schools. Without this cooperation it could not have been so. We have tried to show the outstanding relations in the Quantico area and it is sincerely believed that it can work on all bases.

## THE HELICOPTER

### A Versatile Management and Enforcement Tool

By JOSEPH W. FERROUX

We need only repeat its title to summarize the contents of this paper. Yet with all its versatility, the helicopter should not be viewed as a full substitute for all other vehicles used in wildlife management operations. With a minimum of accessories, it is readily adaptable to many uses by which both time and manpower can be most productively employed.

During the 1963 waterfowl season, a small helicopter was rented by U. S. Game Management Agents and used for enforcement in the marshes of south Louisiana. This limited use indicated the helicopter's potential for wildlife enforcement purposes. In 1965, the Bureau of Sport Fisheries and Wildlife purchased its first machine. Subsequently, it has been used extensively on the breeding grounds of Canada, and in enforcement along the Gulf and Atlantic Coasts. This broader employment further substantiated its utility as a management and enforcement tool.

The helicopter is available in several models, from single seat to 35-passenger capacity. Each has its limitations and capabilities. As with other means of transportation, the user may choose a model best suited to a particular job or need. Over 40 models are available from at least 10 different manufacturers. The price range is quite wide, upward to \$500,000. Machines suitable for wildlife management purposes are available in the \$40-\$60,000 bracket. This may seem exorbitant, but when compared with cost of equipment now in use and considering its potential for broader usage, it could be a bargain. Today, even a small airplane costs \$10,000, and cost alone should not be a deciding factor.

The helicopter is not new. It was conceived as early as the 16th Century. The autogiro, a sort of half helicopter and half airplane, has been flying since the early 30's. The true helicopter was perfected just prior to World War II. Although testing continued during the war, none was produced for other than experimental use until 1947. Wide use during the Korean War established the machine as a practical piece of